CITY OF MORGAN HILL

Regular Meeting Agenda
Planning Commission

JOSEPH MUELLER	-	*CHAIR*
WAYNE TANDA	-	*VICE-CHAIR*
LIAM DOWNEY	-	*PLANNING COMMISSIONER*
MOHAMMAD HABIB	-	*PLANNING COMMISSIONER*
PAUL LAKE	-	*PLANNING COMMISSIONER*
MALISHA KUMAR	-	*PLANNING COMMISSIONER*
JAMES WILSON		*PLANNING COMMISSIONER*

Tuesday, May 23, 2023 7:00 PM

Council Chamber Building
17555 Peak Avenue, Morgan Hill, CA 95037

Morgan Hill Planning Commission meetings are held in person with the option for the public to attend by teleconference/video conference. Information on how the public may observe and participate in the meeting is located below.

MEETING GUIDELINES AND PUBLIC COMMENT

Planning Commission meetings will be live-streamed on Channel 17, on the City's website, and on the City's Facebook page.

Those members of the community that would like to participate in the meetings remotely may do so by joining the virtual meeting at: https://bit.ly/PlanningCommissionMtg or by calling: (669) 900-9128, then enter the webinar ID#: 862 0324 6251#. Public comment may be provided in the following ways:

- Provide public comment in-person
- Join the Planning Commission meeting virtually via the link above. When public comment is opened, raise your virtual hand and be called upon to speak for up to 3 minutes (YOU MUST BE RUNNING THE MOST CURRENT VERSION OF ZOOM TO BE UNMUTED)
- Join virtually by calling the number above, dial *9 to raise your hand, and be called upon to speak for up to 3 minutes
- Send public comments in writing to the Minutes Clerk at

pcpubliccomment@morganhill.ca.gov

* Please note that comments made on Facebook are not considered public comment.

CALL TO ORDER

ROLL CALL ATTENDANCE

DECLARATION Of POSTING

Pursuant to Government Code Section 54954.2

PLEDGE OF ALLEGIANCE

PUBLIC COMMENT

Members of the public are entitled to address the Planning Commission concerning any item within the Morgan Hill Planning Commission's subject matter jurisdiction. Public comments are limited to no more than three minutes. Except for certain specific exceptions, the Commission is prohibited from discussing or taking action on any item not appearing on the posted agenda. (See additional noticing at the end of this agenda)

ORDERS OF THE DAY

MINUTES APPROVAL

1. APRIL 25, 2023 MEETING MINUTES

Recommendation:

1. Accept Minutes

PUBLIC HEARINGS

2. SR2020-0010/SD2020-0003/EA2020-0007:HALF - DIVIDEND (CROSSWINDS): VESTING TENTATIVE MAP AND DESIGN PERMIT FOR A RESIDENTIAL DEVELOPMENT, COMPRISED OF 269 UNITS. THE PROPERTIES, IDENTIFIED BY ASSESSOR PARCEL NUMBERS 728-30-001, 728-30-002, 728-30-003, AND 728-30-004 ARE LOCATED AT THE SOUTHWEST INTERSECTION OF HALF ROAD AND MISSION VIEW DRIVE (THE CROSSWINDS AT MORGAN HILL, LLC, OWNER). CEQA: ENVIRONMENTAL IMPACT REPORT

Recommendation:

1. Open/close public hearing;
2. Adopt a Resolution recommending the City Council certify the Environmental Impact Report (EIR), approve the Mitigation Monitoring and Reporting Program prepared for the project, and adopt Findings of Significance and Statement of Overriding Considerations; and
3. Adopt a Resolution recommending the City Council approve a Vesting Tentative Map and Design Permit.

DIRECTOR'S REPORT/ANNOUNCEMENTS

ADJOURNMENT

NOTICE

Any documents produced by the City and distributed to the majority of the Planning Commission less than 72 hours prior to an open meeting, will be made available for public inspection at the front counter at City Hall located at 17575 Peak Avenue, Morgan Hill, CA, 95037 and at the Morgan Hill Public Library located at 660 West Main Avenue, Morgan Hill, California, 95037 during normal business hours. (Pursuant to Government Code 54957.5)

PUBLIC COMMENT

Members of the Public are entitled to directly address the Planning Commission concerning any item that is described in the notice of this meeting, before or during consideration of that item. If you wish to address the Planning Commission on any issue that is on this agenda, please complete a speaker request card located in the foyer of the Council Chambers and deliver it to the Minutes Clerk prior to discussion of the item. You are not required to give your name on the speaker card in order to speak to the Planning Commission, but it is very helpful. When you are called, proceed to the podium and the Chair will recognize you. If you wish to address the Planning Commission on any other item of interest to the public, you may do so during the public comment portion of the meeting following the same procedure described above. Please limit your comments to three (3) minutes or less.

Please submit written correspondence to the Minutes Clerk, who will distribute correspondence to the Planning Commission.

Persons interested in proposing an item for the Planning Commission agenda should contact a member of the Commission who may plan an item on the agenda for a future Commission meeting. Should your comments require Planning's action, your request may be placed on the next appropriate agenda. Planning Commission discussion or action may not be taken until your item appears on an agenda. This procedure is in compliance with the California Public Meeting Law (Brown Act) Government Code §54950.

City Council Policies and Procedures (CP 03-01) outlines the procedure for the conduct of public hearings. Notice is given, pursuant to Government Code Section 65009, that any challenge of Public Hearing Agenda items in court, may be limited to raising only those issues raised by you or on your behalf at the Public Hearing described in this notice, or in written correspondence delivered to the Commission at, or prior to the Public Hearing on these matters.

The time within which judicial review must be sought of the action by the Commission, which acted upon any matter appearing on this agenda is governed by the provisions of Section 1094.6 of the California Code of Civil Procedure.

For a copy of Commission Policies and Procedures CP 97-01, please contact the City Clerk's office (408) 779-7259, (408) 779-3117 (fax) or by email cityclerk@morganhill.ca.gov.

AMERICANS WITH DISABILITIES ACT (ADA)

In compliance with the Americans with Disabilities Act, if you are a disabled person and you need a disability-related modification or accommodation to participate in this meeting, please contact the City Clerk's Office at (408)779-7259, (408)779-3117 (fax) or by email cityclerk@morganhill.ca.gov. Requests must be made as early as possible and at least two-full business days before the start of the meeting.

CITY OF MORGAN HILL

Meeting Minutes

Planning Commission

JOSEPH MUELLER - CHAIR
WAYNE TANDA - VICE-CHAIR
LIAM DOWNEY - PLANNING COMMISSIONER
MOHAMMAD HABIB - PLANNING COMMISSIONER
PAUL LAKE - PLANNING COMMISSIONER
MALISHA KUMAR - PLANNING COMMISSIONER
JAMES WILSON - PLANNING COMMISSIONER

Tuesday, April 25, 2023 7:00 PM

Council Chambers
17555 Peak Avenue, Morgan Hill, CA 95037

CALL TO ORDER

Chair Mueller called the meeting to order at 07:00 p.m.

ROLL CALL ATTENDANCE

Minutes Clerk Jenna Luna called the roll at 07:00 p.m.

PRESENT	Joseph Mueller, Wayne Tanda, Mohammad Habib, Paul Lake, Malisha Kumar, James Wilson
ABSTAIN	None
ABSENT	None
EXCUSED	Liam Downey

DECLARATION Of POSTING

Minutes Clerk Luna declared the posting of the agenda at 07:00 p.m.

PLEDGE OF ALLEGIANCE

Planning Commissioner Wilson led the pledge of allegiance at 07:01 p.m.

PUBLIC COMMENT

Chair Mueller Opened the Public Comment Period at 7:01 p.m. The following individuals were called to speak:

- Caller ending in 709 (Zoom)

Hearing no further requests to speak, the Public Comment Period was closed.

ORDERS OF THE DAY

There were no changes made.

MINUTES APPROVAL

1. MARCH 28, 2023 MEETING MINUTES

Recommendation:

1. Accept Minutes

MOTION:
Accept the March 28 meeting minutes.

RESULT:	Passed
MOVER:	Planning Commissioner Habib
SECONDER:	Planning Commissioner Lake
AYES:	Mueller, Tanda, Habib, Lake, Kumar, Wilson
NAYS:	None
ABSTAIN:	None
EXCUSED:	Downey

PUBLIC HEARINGS

2. UP2021-0002/EA2021-0001: REQUEST FOR A CONDITIONAL USE PERMIT TO DEMOLISH AND REDEVELOP THE EXISTING GAS STATION AND CONVENIENCE STORE LOCATED AT 16720 MONTEREY ROAD (APN 817-

01-002). PROPOSED CEQA ACTION IS THE ADOPTION OF THE INITIAL STUDY/MITIGATED NEGATIVE DECLATATION AND MITIGATION MONITORING AND REPORTING PROGRAM (WORLD OIL)

Recommendation:

1. Open/close public hearing; and
2. Adopt the Resolution approving a Mitigated Negative Declaration, adopting a mitigation and monitoring reporting program, and approving a Conditional Use Permit for a gas station remodel.

Senior Planner Tiffany Brown presented the Staff Report at 7:06 p.m.

James Reyff with Illingworth & Rodkin, Inc. addressed the Planning Commissions' questions at 7:26 p.m.

Chair Mueller opened the Public Hearing at 7:45 p.m. The following individuals were called to speak:

- John Hundley - Applicant
- Ray Lemos
- James Reyff with Illingworth & Rodkin, Inc. - Consultant
- Javier Vega
- Joe Baranowski

Deputy Director for Engineering Scott Creer addressed the Planning Commissions' questions at 8:09 p.m.

Hearing no further requests to speak, the Public Hearing was closed.

The Planning Commission meeting recessed at 8:19 p.m.
The Planning Commission meeting reconvened at 8:27 p.m.

Chair Mueller re-opened the Public Hearing at 8:28 p.m. The following individuals addressed the Planning Commission:

- John Hundley - Applicant
- Ray Lemos
- Akoni Danielsen with David J. Powers and Associates, Inc.
- John Hundley - Applicant
- Alex Irshaid - Ramcam Engineering Group

Hearing no further requests to speak, the Public Hearing was closed.

Akoni Danielsen with David J. Powers and Associates, Inc addressed the Planning Commission questions at 8:56 p.m.

MOTION:
Adopt a Resolution approving the Mitigated Negative Declaration, Mitigation Monitoring and Reporting Program, and the Conditional Use Permit with the following added conditions: (1) Work with the adjacent property owners to discuss the height of the wall that will start at a minimum of 7 feet and incorporate trees with the landscape. The wall and landscape should be installed first, (2) Fuel deliveries should not occur between 9:00 p.m. and 6:00 a.m., (3) Tank locations should be located as far to the west as feasible, (4) The quietest air compressor available should be used and put inside an enclosure, (5) Communication with the adjacent residents regarding the construction process shall take place throughout the duration of the project to ensure residents stay informed. The Site Management Plan and the construction timing schedule shall be posted to the City's website and made available to the public. A contact person for the construction management team and the property owner shall be posted at the project site if anyone should have questions about the phasing of construction, and (6) Staff will explore possible mitigation measures for particulate matter that may have settled on surfaces and potentially require a condition that would help mitigate the issue post-construction as part of the Design Review.

RESULT:	Passed
MOVER:	Planning Commissioner Lake
SECONDER:	Planning Commissioner Wilson
AYES:	Mueller, Tanda, Habib, Lake, Kumar, Wilson
NAYS:	None
ABSTAIN:	None
ABSENT:	Downey

DIRECTOR'S REPORT/ANNOUNCEMENTS

Community Development Director Jennifer Carman made an announcement at 9:02 p.m.

ADJOURNMENT

There being no further business to discuss, Chair Mueller adjourned the meeting at 9:06 p.m.

MINUTES PREPARED BY:
Jenna Luna, Minutes Clerk

CITY OF MORGAN HILL

PLANNING COMMISSION STAFF REPORT
MEETING DATE: May 23, 2023

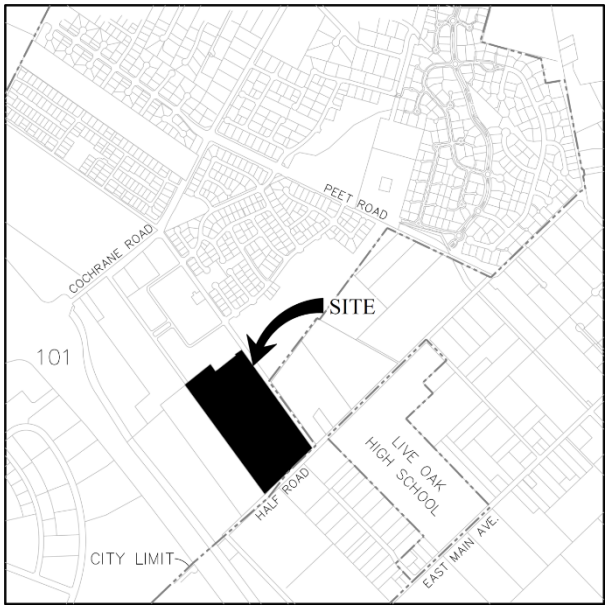
PREPARED BY:
Adam Paszkowski, Principal Planner
APPROVED BY: Jennifer Carman

SR2020-0010/SD2020-0003/EA2020-0007:HALF - DIVIDEND (CROSSWINDS): VESTING TENTATIVE MAP AND DESIGN PERMIT FOR A RESIDENTIAL DEVELOPMENT, COMPRISED OF 269 UNITS. THE PROPERTIES, IDENTIFIED BY ASSESSOR PARCEL NUMBERS 728-30-001, 728-30-002, 728-30-003, AND 728-30-004 ARE LOCATED AT THE SOUTHWEST INTERSECTION OF HALF ROAD AND MISSION VIEW DRIVE (THE CROSSWINDS AT MORGAN HILL, LLC, OWNER). CEQA: ENVIRONMENTAL IMPACT REPORT

RECOMMENDATION(S)

1. Open/close public hearing;
2. Adopt a Resolution recommending the City Council certify the Environmental Impact Report (EIR), approve the Mitigation Monitoring and Reporting Program prepared for the project, and adopt Findings of Significance and Statement of Overriding Considerations; and
3. Adopt a Resolution recommending the City Council approve a Vesting Tentative Map and Design Permit.

LOCATION MAP/PROJECT INFORMATION:



1.	Location:	Southwest intersection of Half Road and Mission View Drive identified by Assessor's Parcel Numbers: 728-30-001, 728-30-002, 728-30-003, and 728-30-004
2.	Site Area:	33 Acres

3.	General Plan:	Residential Attached Low
4.	Zoning:	Residential Attached Low Denisty (RAL 3,500)
5.	Request:	Request for a Vesting Tentative Map and Design Permit to allow 269 residential units, comprised of 56 single-family, 64 duets, and 149 condominiums.

BACKGROUND:
On June 16, 2020, Dividend Homes submitted applications for a Vesting Tentative Map and Design Permit for a 269-unit residential development.

The General Plan land use designation for the project area is Residential Attached Low with a net density range of 6 to 16 units an acre. The project proposes a density of 8.15 units an acre.

The project site is located in the Residential Attached Low Density (RAL 3,500) Zoning District. The purpose of the RAL zoning district is to provide locations for low density attached housing types. The RAL zoning district is divided into two subzones allowing for a range of permitted residential densities. The RAL 3,500 zoning district allows for a minimum lot area of 3,500 square feet.

The purpose of the residential attached zoning districts is to provide locations for attached housing types to meet the full range of housing needs in Morgan Hill. The residential attached zoning districts accommodate small lot single-family homes, townhomes, and multifamily dwellings at a range of densities. The residential attached zoning district increases housing options for seniors, young people, renters, and smaller households. The RAL zoning district allows for duets, single-family attached, and single-family detached dwellings, as well as accessory structures, as proposed by the applicant.

PROJECT DESCRIPTION:
The project proposes to construct a total of 269 residential units, comprised of 56 single-family, 64 duets, and 149 condominium units. The project would provide a total of 795 parking spaces, consisting of 538 covered parking spaces and 257 uncovered parking spaces (curbside and bay parking). Each unit would include a two-car garage on the ground floor.

The single-family detached residences would consist of clustered courtyard-style homes and would be constructed on the eastern and southern perimeters of the project site, along Mission View Drive and Half Road. The single-family courtyard residences would be two-stories and reach a maximum height of 30 feet. The two-story attached duets would be located in the center of the project site and would reach a maximum height of 30 feet. Three-story townhome-style condominiums would be constructed along the western and northwestern perimeters of the project site, along DePaul Drive and adjacent to a vacant parcel. The condominiums would reach a maximum height of 39 feet. There would be a total of 40 below-market-rate (BMR) units dispersed throughout the project and unit type.

The project would include recreational areas including a clubhouse, pool, children's play area, and barbeque/picnic areas. The project would also include pedestrian paths, and landscaping, including trees and lawn areas.

To create a pedestrian-friendly streetscape, no sound walls are proposed and entries and porches of the end units are oriented towards the street. The use of courtyard homes allows for the front doors and the pedestrian realm to address and interact with the public streets, while minimizing the visual and traffic impacts of garages and automobiles. Furthermore, the courtyard homes on Mission View and Half Road are significantly setback to provide a landscape edge along the public realm. The extra landscape allows for a pedestrian-friendly streetscape, while also allowing for sufficient buffer to accommodate the privacy concerns of future residents. In anticipation of the future commercial

and industrial development along DePaul Drive immediately adjacent to the project, the three-story townhome-style condominiums provide a buffer from those adjacent industrial uses to the rest of the community. The townhomes are planned along DePaul Drive to minimize visual and noise impacts while still allowing for pedestrian connections to the street through the common paseos. The duets are located in the middle of the project, accommodating the transition in scale, mass, and density between the courtyard homes and the condominiums.

The project proposes three vehicular connections; one main project entry each from DePaul Drive and Mission View Drive. DePaul Drive also has a secondary project entry to further enhance vehicle connectivity in and through the project as well as provide additional access points for emergency services. In addition to the vehicular connections, the project includes three emergency vehicle access points; one along Half Road and two along DePaul Drive. All entries have been designed to accommodate vehicular and pedestrian movement and avoid conflicts between different users and mobility groups. Furthermore, the entries will have entry signage, enhanced landscape and hardscape features to help in wayfinding and slow traffic. The two main project entries located on opposite sides of the community are designed to be on axis to the central community open space area. This central area, with a recreation building, swimming pool, and lawns for community gathering, is the heart of the community. The central location of this amenity allows for ease of access for all residents. The open space and pedestrian network is one of the major community defining elements of this plan. The central open space is connected by a wide east-west paseo, the ends of which are anchored by smaller community greens. Individual paseos connect to the east and west spines, providing a seamless and safe pedestrian network for all ages. The residences offer various articulation of form and mass, variations in rooflines, and the location and use of porches and decks, creating a pedestrian-friendly appearance along the street and the paseos.

Site Description
The approximately 33-acre site is comprised of four parcels. Mission View Drive, Half Road, and the future extension of DePaul Drive bound the site to the east, south, and west. The project site is mostly undeveloped and consists of grassland, fallowed agricultural fields, and boxed trees. A vacant single-family residence constructed in the 1950's is located on the southwestern section of the site.

Surrounding Uses
Surrounding existing land uses include a mixture of currently vacant land as the project site is located along the City boundary. South of the project site, across Half Road, is a grass field which is outside the city limits. East of the project site, across Mission View Drive, is a field with orchards and associated structures outside the city limits, and single-family residences located within the city limits. North of the project site, is an adjacent vacant parcel of land, followed by a health center and associated parking. West of the project site is currently vacant land which is being prepped for the future Cochrane Tech industrial project.

PROJECT ANALYSIS AND FINDINGS:
ANALYSIS
The proposed project has been analyzed with respect to consistency with the: 1) Design Permit, 2) Vesting Tentative Map; and 3) California Environmental Quality Act requirements.

1. Design Permit Requirements
A Design Permit is a discretionary action that enables the City to ensure that a proposed development has high quality design consistent with the General Plan and any other applicable specific plan or area plan adopted by the City Council. The Design Permit process is also intended to ensure that new development and uses are compatible with their surroundings and minimize negative impacts on neighboring properties.

In accordance with Section 18.108.040.B (Reviewing Authority), the Community Development Director is the reviewing body to act on all Design Permit applications unless the Director finds the project to be significant. The Community Development Director may refer any Design Permit application to the Planning Commission for review and final decision. Section 18.108.040.D.3 states that any residential development of more than 100 units is significant. Therefore, the Planning Commission is the authority for review of this project. When considering the Design Permit, the City shall evaluate applications to ensure that they satisfy the following criteria: Conform to the policies of the General Plan, and any applicable specific plan, and are consistent with any other policies or guidelines the City Council may have adopted. Additionally, Design Review approval is required for a Vesting Tentative Map.

Findings
To approve a Design Permit, the reviewing authority shall make the following findings:

a. **The proposed project is consistent with the General Plan and any applicable specific plan, area plan, or other design policies and regulations adopted by the City Council.**

The City of Morgan Hill 2035 General Plan designates the site as Residential Attached Low which permits attached homes including duplexes/duets, courtyard homes, townhomes, and garden apartments. Up to 25 percent of a Residential Attached Low site may include small-lot single family detached homes when those units are located adjacent to an existing single family detached neighborhood. Residential Attached Low areas generally are located in or next to existing residential neighborhoods and close to commercial corridors. This designation allows 6 to 16 units per net acre. The project is developing at 8 units per acre, consistent with the General Plan.

The project has been designed to substantially comply with the City's Residential Development Design and Development Standards, which are the City's "Objective" design standards and have been developed consistent with the Morgan Hill 2035 General Plan. The applicant's compliance checklist has been provided (see attachment).

General Plan
The project is consistent with the General Plan and specifically but not limited to the Policies listed below:

City and Neighborhood Form Element

Policy CNF-8.1 High Quality Design. Require all development to feature high quality design that enhances the visual character of Morgan Hill.

The proposed development includes 360-degree design with high quality building materials. Landscaping would be provided throughout the project site, designed to complement the project buildings, providing additional visual interest.

Policy CNF-8.4 Architectural Quality. Optimize architectural quality by encouraging the use of quality materials, particularly as accents and authentic detailing, such as balconies and window trims.

The proposed development features an architectural style that is compatible with the surrounding neighborhood.

Policy CNF-11.16 360-Degree Design. Require residential buildings to be well articulated on all sides. Side and rear facades shall maintain the architectural design, level of detail, and materials consistent with the front facade.

The proposed development includes 360-degree design with building materials that include stucco, board and batten siding, horizontal and vertical lap siding, stone, metal deck railings or cable railings, and composition shingle roofing or raised seam metal roofing. The level of architectural design is maintained on all facades of the development.

Policy CNF-11.17 Architectural Details. Require residential buildings to feature architectural details such as eaves, bay windows, porches, and balconies that emphasize their residential and pedestrian-scale character.

The project has been designed to include design features such as balconies, eaves, porches, and varied roof forms.

Policy CNF-11.28 Bicycles and Pedestrians. Require attached residential sites to be designed to accommodate the needs of bicyclists and pedestrians. This may be accomplished by:

- Providing bicycle and pedestrian connections to adjacent uses with paseos, trails, sidewalks, paths, and similar amenities.
- Creating attractive connections through landscaping, lighting, benches, other amenities to create safe and visually interesting spaces.
- Installing bicycle racks and lockers near building entrances, integrated into the design of the project, and screened with appropriate landscaping.

Crosswalks would be provided throughout the development and pedestrian access would be provided by way of new sidewalks along the project frontages along Mission View Drive, DePaul Drive, and Half Road.

b. The proposed project complies with all applicable provisions of the Zoning Code and Municipal Code.

The project site complies with the Zoning Code and Municipal. As previously stated, the project site is zoned RAL 3,500 in which the zoning district allows duets, single-family attached, and single-family detached dwellings, as well as accessory structures, as proposed by the project. Chapter 18.40 (Alternative Standards for Medium Density Residential Development) provides alternative development standards for medium density residential development including single-family detached and attached housing units on small lots (less than seven thousand square feet). The intent of these standards is to:

A. Ensure that small lot development blends with the surrounding community and is compatible with neighborhoods, is sensitive to its context, and incorporates appropriate amenities and high-quality design;
B. Implement residential development standards to enhance the appearance of the surrounding neighborhood and be well integrated with existing homes nearby;
C. Discourage abrupt transitions in height, mass, and prevailing setback patterns and separations caused by high, solid walls and blank building faces;
D. Recognize small lot and medium density development as a more efficient form of land use than lower density development, a means of reducing the environmental impacts of housing development, and a way to create more walkable neighborhoods;
E. Guide new development while accommodating creativity, innovation, and flexibility in housing design; and
F. Implement Morgan Hill Housing Element policies which encourage greater housing diversity and affordability in Morgan Hill.

The provisions of Chapter 18.40 are intended for use in the residential attached low density (RAL) zoning district and are principally intended for single-family homes, townhomes, patio homes, courtyard homes, duets, and similar single-family detached and attached housing types. The standards in Chapter 18.40 may be used as an alternative to the development standards for the RAL zoning district contained in Chapter 18.18 (Residential Attached Zoning Districts). The standards in Chapter 18.40 are not mandatory but instead provide an alternative to accommodate a wider range of housing types in a manner that enhances Morgan Hill's unique feel and minimizes impacts on adjacent properties. Therefore, the applicant is utilizing the development standards listed within Section 18.40.050 (Development Standards) for the proposed project. Hence, zoning consistency is demonstrated in the consistency tables provided below for duets, courtyards, and townhomes:

Table 1 - Zoning Consistency Summary for Duets

Development Standard	Requirement	Proposed	Consistency
Minimum Lot Size	3,000 square feet	3,000 sqaure feet	Yes
Minimum Lot Dimensions	30-foot width; 85-foot depth	30-foot width; 85-foot depth	Yes
Maximum Building Coverage	50%	50%	Yes
Maximum Building Height	30 feet	30 feet	Yes
Setbacks			
Front	10 feet	10 feet	Yes
Rear	10 feet	10 feet	Yes
Interior Side	3 feet	3 feet	Yes
Street Side	6 feet	6 feet	Yes

Table 2 - Zoning Consistency Summary for Courtyards

Development Standard	Requirement	Proposed	Consistency
Minimum Lot Size	1,920 to 2,999 square feet	2,940 sqaure feet	Yes
Minimum Lot Dimensions	24-foot width; 60-foot depth	24-foot width; 60-foot depth	Yes
Maximum Building Coverage	45%	45%	Yes
Maximum Building Height	30 feet	30 feet	Yes
Setbacks			
Front	N/A	12 feet	Yes
Rear	N/A	4 feet	Yes
Interior Side	5 feet	5 feet	Yes
Street Side	5 feet	6 feet	Yes

Table 3 - Zoning Consistency Summary for Townhomes

Development Standard	Requirement	Proposed	Consistency
Minimum Lot Size	1,440 to 3,999 square feet	Varies	Yes
Minimum Lot Dimensions	24-foot width; 60-foot depth	Varies	Yes
Maximum Building Coverage	55%	48%	Yes

Maximum Building Height	30 feet	30 feet	Yes
Setbacks			
Front	N/A	N/A	Yes
Rear	N/A	N/A	Yes
Interior Side	N/A	N/A	Yes
Street Side	5 feet	5 feet	Yes

Parking
Pursuant to Chapter 18.72.030 (Required Parking Spaces), duets and attached and detached single-family dwellings are required to provide two covered parking spaces per unit, as well as one guest parking space per four dwelling units. Therefore, a total of 538 covered parking spaces and 68 uncovered guest parking spaces are required for the proposed project. However, the applicant is proposing a total of 795 parking spaces, consisting of 538 covered parking spaces and 257 uncovered parking spaces (curbside and bay parking). Guest parking is located on the proposed streets with additional designated guest parking located adjacent to the community open space elements to provide for easy and convenient access to all areas for visitors and guests.

Landscaping
The site was used for agricultural purposes (orchard trees) until 2019. As such, the site includes existing trees consisting of orchard trees, boxed nursery trees, three coniferous trees, and various trees surrounding the vacant residence on the site, all of which are proposed to be removed. Of all the existing trees on site, the three coniferous trees, measuring 24-inches, 28-inches, and 38-inches in diameter, are considered Ordinance Sized Trees. However, in accordance with Section 12.32.030 (Permit-Required), a Tree Removal Permit is not required for developments which have been reviewed and approved by the Planning Commission and the tree removal conforms with the landscape plans of those developments.

A preliminary landscape plan (see attachment) has been proposed consistent with Section 18.64.050 of the City's Municipal Code. Landscaping would be provided throughout the site in accordance with the City's minimum landscape requirements for residential zones. The proposed project would include the planting of trees, shrubs, grasses, vines, and ground cover within the project site and in areas adjacent to the proposed buildings. The project is proposing to plant a total of 930 trees for the project.

c. The proposed project substantially complies with all applicable design standards and guidelines contained in the Design Review Handbook.

The project is subject to the SB 330 permit streamlining process and has been designed consistent with the City's Design Review Criteria and the City's Residential Development Design and Development Standards adopted by City Council Resolution No. 21-001 on January 20, 2021.

d. The proposed project has been reviewed in compliance with the California Environmental Quality Act (CEQA).

An Environmental Impact Report (EIR) has been prepared for the project. Complete details regarding the CEQA analysis have been provided in the CEQA Section of this report.

e. The proposed project development will not be detrimental to the public health, safety, or welfare or materially injurious to the properties or improvements in the vicinity.

The development site is not located adjacent to any wildlands that could expose people or structures to wildfire risks. The project site is not located within an earthquake fault zone. In addition, the

project will comply with stormwater and building code requirements. The project will not be detrimental to the public health, safety, or welfare, and will not be materially injurious to the properties or improvements in the vicinity.

f. The proposed project complies with all Design Review criteria in subsection H. of Section 18.108.040 of the municipal code.

The project as proposed complies with all criteria in subsection H of Section 18.108.040 (Design Review Criteria) of the Morgan Hill Municipal Code.

1. Community Character. The overall project design, including site plan, height, massing, architectural style, materials, and landscaping preserve the character and distinctive sense of place for Morgan Hill. The proposed development includes 360-degree design with building materials that include stucco, board and batten siding, horizontal and vertical lap siding, stone, metal deck railings or cable railings, and composition shingle roofing or raised seam metal roofing. The level of architectural design is maintained on all facades of the development.

2. Neighborhood Compatibility. The project has been designed to respect and complement the adjacent neighborhood. The project's height, massing, and intensity are compatible with the scale of nearby buildings. The project design incorporates measures to minimize traffic, parking, noise, and odor impacts on nearby residential properties.

3. Pedestrian Environment. The proposed development incorporates paseos, sidewalks, connections to the public right-of-way to support an active public realm and an inviting pedestrian environment. Pedestrian walkways are clearly visible and distinguished from parking and circulation areas.

4. Privacy. The orientation and location of buildings, entrances, windows, doors, balconies, and other building features minimizes privacy impacts on adjacent buildings and provides adequate privacy for project residents.

5. Safety. The project promotes public safety and minimizes opportunities for crime through design features which includes one project access point from Mission View Drive, and two from DePaul Drive, as well as three emergency vehicle access points; one along Half Road and two along DePaul Drive. All parking and common areas will be lit to city standards.

6. Massing and Scale. The massing and scale of buildings complement and respect neighboring structures and correspond to the scale of the human form. Large volumes are divided into small components by varying wall planes, heights, and setbacks. Building placement and massing avoids impacts on public views and solar access.

Single Family Detached (Courtyard-style) - Elevation

SINGLE FAMILY DETACHED

Duet - Elevation

ATTACHED DUETS

Condominium (Townhome-style) - Elevation

CONDOMINIUMS (TOWNHOME STANDARDS)

7. Architectural Style. Buildings feature an architectural style that is compatible with the surrounding buildings and natural environment.

8. Architectural and Visual Interest. Building facades are well articulated to add visual interest, distinctiveness, and human scale. Building elements such as roofs, doors, windows, and porches are part of an integrated design and relate to the human scale. Architectural details that have been included in the design include trim, eaves, balconies, stucco, accent stone, accent wood trim and paneling, and metal railings.

9. Materials. Building facades include a mix of natural, high-quality, and durable materials that are appropriate to the architectural style, enhance building articulation, and are compatible with surrounding development.

Material Boards

SINGLE FAMILY DETACHED - COLOR SCHEME 1A

GAFOR APPROVED EQUAL TIMBERLINE Pewter Gray	ROOFING
SHERWIN WILLIAMS OR APPROVED EQUAL SW6147 Panda White	BODY COLOR 1
SHERWIN WILLIAMS OR APPROVED EQUAL SW7629 Gregy	BODY COLOR 2
SHERWIN WILLIAMS OR APPROVED EQUAL SW7067 Cityscape	BODY COLOR 3
SHERWIN WILLIAMS OR APPROVED EQUAL SW6005 Folkstone	ACCENT
ELDORADO STONE OR APPROVED EQUAL Vantage 30 White Elm	STONE

WINDOW FRAMES SHALL BE WHITE

SINGLE FAMILY DETACHED- COLOR SCHEME 2A

GAF TIMBERLINE Barlowood	ROOFING
SHERWIN WILLIAMS SW6168 Drift Of Mist	BODY COLOR 1
SHERWIN WILLIAMS SW6231 Downing Stone	BODY COLOR 2
SHERWIN WILLIAMS SW6047 Hot Cocoa	BODY COLOR 3
SHERWIN WILLIAMS SW7048 Urbane Bronze	ACCENT
ELDORADO STONE OR APPROVED EQUAL Vantage 30 Southern Peak	STONE

WINDOW FRAMES SHALL BE WHITE

SINGLE FAMILY DETACHED - COLOR SCHEME 3A

GAF TIMBERLINE Barlowood	ROOFING
SHERWIN WILLIAMS SW7524 Dhurrie Beige	BODY COLOR 1
SHERWIN WILLIAMS SW6062 Rugged Brown	BODY COLOR 2
SHERWIN WILLIAMS SW2836 Quartersawn oak	BODY COLOR 3
SHERWIN WILLIAMS SW7048 Urbane Bronze	ACCENT
ELDORADO STONE OR APPROVED EQUAL Vantage 30 White Elm	STONE

WINDOW FRAMES SHALL BE WHITE

PROPOSED LIGHT FIX
ELEVATION A (PROGRES
APPROVED EQUAL)

PROPOSED LIGHTED
SIGN ELEVATION A (SE
LIGHTING OR APPROVED EQ

SINGLE FAMILY DETACHED - COLOR SCHEME 1B

GAF OR APPROVED EQUAL TIMBERLINE Pewter Gray	ROOFING
SHERWIN WILLIAMS OR APPROVED EQUAL SW7646 First Star	BODY COLOR 1
SHERWIN WILLIAMS OR APPROVED EQUAL SW6082 Cobble Brown	BODY COLOR 2
SHERWIN WILLIAMS OR APPROVED EQUAL SW7665 Wall Street	BODY COLOR 3
SHERWIN WILLIAMS OR APPROVED EQUAL SW6128 Blonde	ACCENT
ELDORADO OR APPROVED EQUAL Tundra Brick Chalk Dust	STONE

WINDOW FRAMES SHALL BE WHITE

SINGLE FAMILY DETACHED - COLOR SCHEME 2B

GAF TIMBERLINE Weathered Wood	ROOFING
SHERWIN WILLIAMS SW7637 Oyster White	BODY COLOR 1
SHERWIN WILLIAMS SW6001 Mulberry Silk	BODY COLOR 2
SHERWIN WILLIAMS SW7025 Backdrop	BODY COLOR 3
SHERWIN WILLIAMS SW7615 Sea Serpent	ACCENT
ELDORADO Tundra Brick Latigo	STONE

WINDOW FRAMES SHALL BE WHITE

SINGLE FAMILY DETACHED - COLOR SCHEME 3B

GAF TIMBERLINE Charcoal	ROOFING
SHERWIN WILLIAMS SW7632 Modern Gray	BODY COLOR 1
SHERWIN WILLIAMS SW2739 Charcoal Blue	BODY COLOR 2
SHERWIN WILLIAMS SW2848 Roycroft Pewter	BODY COLOR 3
SHERWIN WILLIAMS SW2838 Polished Mahogany	ACCENT
ELDORADO Tundra Brick Chalk Dust	STONE

WINDOW FRAMES SHALL BE WHITE

PROPOSED LIGHT FIX
ELEVATION B (PROGRES
APPROVED EQUAL)

PROPOSED LIGHTED
SIGN ELEVATION B (SE
LIGHTING OR APPROVED EQ

SINGLE FAMILY DETACHED - COLOR SCHEME 1C

GAF TIMBERLINE Weathered Wood	ROOFING
SHERWIN WILLIAMS SW6147 Panda White	BODY COLOR 1
SHERWIN WILLIAMS SW7645 Thunder Gray	BODY COLOR 2
SHERWIN WILLIAMS SW7026 Griffin	BODY COLOR 3
SHERWIN WILLIAMS SW7705 Wheat Penny	ACCENT
ELDORADO Cut Coarse Stone Madrona	STONE

WINDOW FRAMES SHALL BE WHITE

SINGLE FAMILY DETACHED - COLOR SCHEME 2C

GAF TIMBERLINE Charcoal	ROOFING
SHERWIN WILLIAMS SW7632 Modern Gray	BODY COLOR 1
SHERWIN WILLIAMS SW2848 Roycroft Pewter	BODY COLOR 2
SHERWIN WILLIAMS SW7018 Dovetail	BODY COLOR 3
SHERWIN WILLIAMS SW6235 Foggy Day	ACCENT
ELDORADO Cut Coarse Stone Cannonade	STONE

WINDOW FRAMES SHALL BE WHITE

SINGLE FAMILY DETACHED - COLOR SCHEME 3C

GAF TIMBERLINE Pewter Gray	ROOFING
SHERWIN WILLIAMS SW6254 Lazy Gray	BODY COLOR 1
SHERWIN WILLIAMS SW7624 Slate Tile	BODY COLOR 2
SHERWIN WILLIAMS SW6170 Acier	BODY COLOR 2
SHERWIN WILLIAMS SW6223 Riverway	ACCENT
ELDORADO Cut Coarse Stone Cannonade	STONE

WINDOW FRAMES SHALL BE WHITE

PROPOSED LIGHT FIX
ELEVATION C (PROGRES
APPROVED EQUAL)

PROPOSED LIGHTED A
SIGN ELEVATION C (SE
LIGHTING OR APPROVED EQ

CLUBHOUSE- COLOR SCHEME

AEP SPAN DURA TECH 5000 Cool Zinc Gray	STANDING SEAM METAL ROOF
SHERWIN WILLIAMS SW7008 Alabaster	BODY COLOR 1
ELDORADO Limestone Grand Banks	STONE
ELDORADO Vintage Ranch Parchwood	STONE

ALL METAL RAILINGS, AWNINGS AND WINDOW FRAMES SHALL BE BLACK

ATTACHED DUETS - COLOR SCHEME 1D

GAF TIMBERLINE Barlowood	ROOFING
SHERWIN WILLIAMS SW6168 Drift of Mist	BODY COLOR 1
SHERWIN WILLIAMS SW7510 Chateau Brown	BODY COLOR 2
SHERWIN WILLIAMS SW7032 Worn Stone	BODY COLOR 3
SHERWIN WILLIAMS SW7515 Homestead Brown	ACCENT
ELDORADO Vintage Ranch Saddlewood	STONE

WINDOW FRAMES SHALL BE WHITE

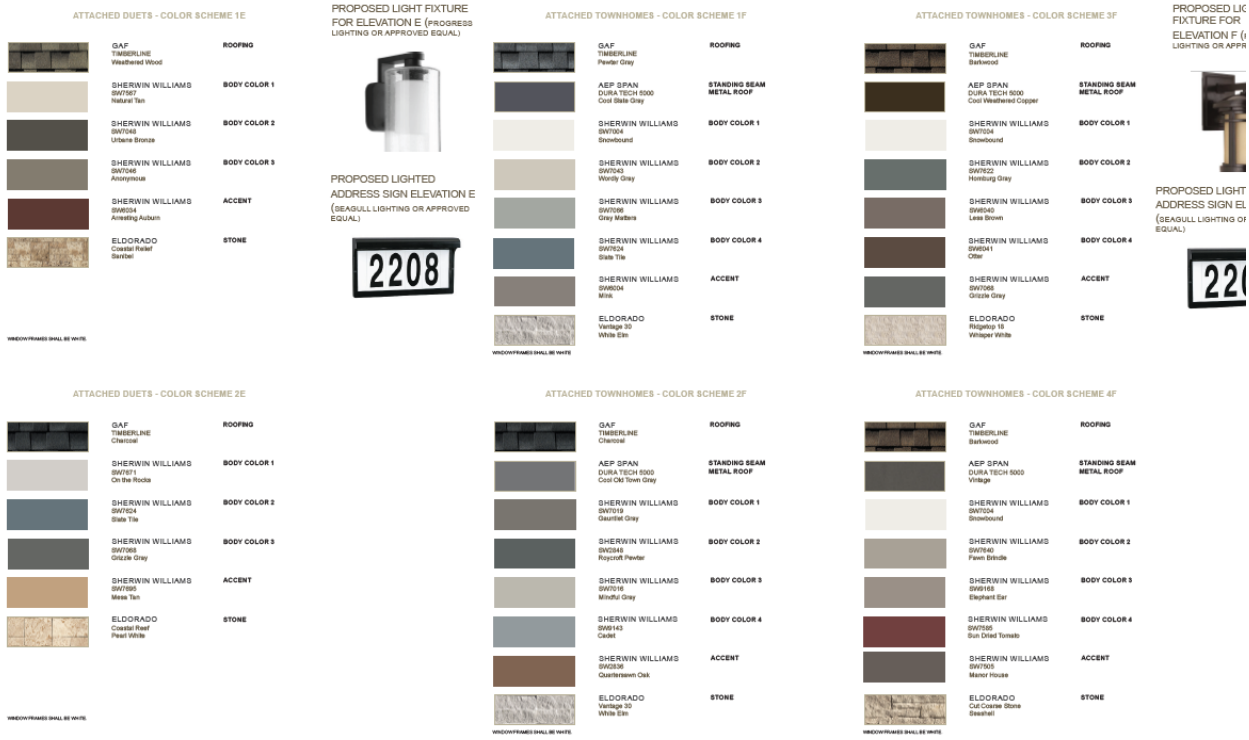
ATTACHED DUETS - COLOR SCHEME 2D

GAF TIMBERLINE Charcoal	ROOFING
SHERWIN WILLIAMS SW2845 Bungalhouse Gray	BODY COLOR 1
SHERWIN WILLIAMS SW6202 Cast Iron	BODY COLOR 2
SHERWIN WILLIAMS SW7505 Manor House	BODY COLOR 3
SHERWIN WILLIAMS SW6207 Retreat	ACCENT
ELDORADO Vintage Ranch Parchwood	STONE

WINDOW FRAMES SHALL BE WHITE

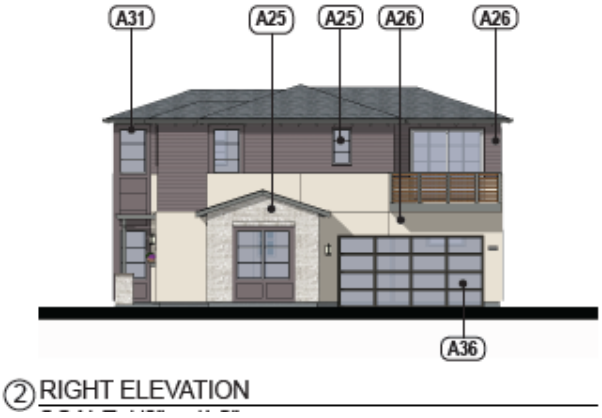
PROPOSED LIGHT FIX
ELEVATION D (PROGRES
APPROVED EQUAL)

PROPOSED LIGHTED A
SIGN ELEVATION D (SE
LIGHTING OR APPROVED EQ

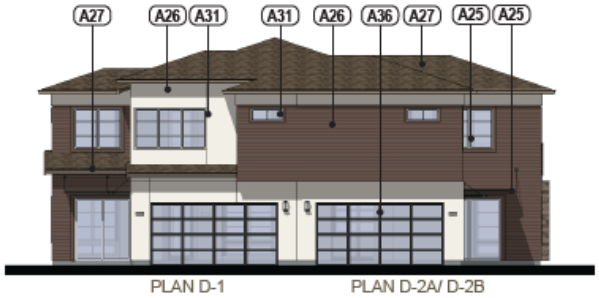


10. Parking and Access. Parking areas have been located to minimize visual impacts from Mission View Drive, Half Road, and DePaul Drive. Safe and convenient connections are provided for pedestrians and bicyclists throughout the development.

Single Family Detached (Courtyard-style) Home - Right Elevation



Duet - Rear Elevation



REAR ELEVATION

Condominimum (Townhome-style) - Rear Elevation

REAR ELEVATION

11. Landscaping. The proposed landscape planting provides new trees, screen planting, entry planters and shrubs that will enhance the surrounding area and are appropriate to the site. A detailed landscape plan has been provided (see attachment).

12. Open Space and Public Places. The project would include a minimum of 115 square feet of private open space for each unit, consisting of a porch and balcony for condominiums, a minimum of 420 square feet of private open space for duets, and a minimum of 580 square feet of private open space for detached single-family homes. In addition, there will be a total of 201,700 square feet (750 square feet per unit) of common open space consisting of paseos, project frontage, club house, pool, lawns, playground structures, basketball court, and a dog park.

13. Signs. A separate sign application will be required for any project identification signage.

14. Lighting. Detailed photometric plans have been provided (see attachment) for the project site and along Mission View Drive, Half Road, and DePaul Drive. Exterior building areas, common open space, and parking areas will comply with City lighting requirements. The proposed exterior lighting is designed and located to minimize illumination of the sky and adjacent properties.

15. Accessory Structures. The project proposes several accessory structures, including a club house and community pool, as well as various shade structures, picnic tables, tot lots/playground

equipment, fountains, barbecues, and fireplaces.

16. Mechanical Equipment, Trash Receptacles, and Utilities. Mechanical equipment and utilities are screened by landscaping.

g. For new residential development, the project complies with commitments made through the Residential Development Control System (RDCS).

The RDCS has been suspended by Government Code Section 65589.5 (Housing Crisis Act of 2019); therefore, this finding is not applicable.

2. Vesting Tentative Map

The project proposes a Vesting Tentative Map for creating lots for the courtyard homes and duets, as well as the townhome-style condominium units. Morgan Hill Municipal Code Section 17.50.030 requires that the proposed vesting tentative map be consistent with the General Plan and any applicable specific plan, and be filed in the same form and have the same contents as a tentative map. The proposed Vesting Tentative Map is in compliance with the General Plan, Zoning Code, and other City Codes.

Findings
Morgan Hill Municipal Code Section 17.20.090, Tentative Subdivision Map – Approval conditions, requires the following finding to be made by the City to adopt the Tentative Parcel Map:

A. The proposed subdivision, together with its provisions for its design and improvements, is consistent with the General Plan or specific plans adopted by the City.

The Tentative Parcel Map has been designed consistent with the City's General Plan, considering neighborhood circulation patterns, and providing future connections.

Alternatively, the Vesting Tentative Map may be denied if any of the findings contained in Section 17.20.100 of the Municipal Code applies. The Planning Commission shall deny approval of the Vesting Tentative Map if it makes any of the following findings:

- That the proposed map is not consistent with applicable general and specific plans;
- That the design or improvement of the proposed subdivision is not consistent with applicable general and specific plans;
- That the site is not physically suitable for the type of development;
- That the site is not physically suitable for the proposed density of development;
- That the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat;
- That the design of the subdivision or the type of improvements is likely to cause serious public health problems;
- That the design of the subdivision or the type of improvements will conflict with easements, acquired by the public at large, for access through or use of, property within the proposed subdivision.

CONCLUSION:
The project has been found to be consistent with the General Plan, Zoning Code, City's Design Review Criteria, the City's Residential Development Design and Development Standards, and the

Subdivision Map Act. It is recommended that the Planning Commission adopt resolutions recommending the City Council certify the Environmental Impact Report (EIR), approve the Mitigation Monitoring and Reporting Program prepared for the project, and adopt Findings of Significance and Statement of Overriding Considerations, and approve the Vesting Tentative Map and Design Permit subject to the Conditions of Approval.

CEQA (California Environmental Quality Act):

An Environmental Impact Report (EIR) was prepared for this project in compliance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines. An EIR is an informational document that assesses potential environmental impacts of a proposed project, as well as identifies mitigation measures and alternatives to the proposed project. As the CEQA Lead Agency for this project, the City of Morgan Hill is required to consider the information in the EIR along with any other available information in deciding whether to approve the project. On January 29, 2021, the City of Morgan Hill circulated a Notice of Preparation (NOP) for a 45-day comment period to request input on the types of impacts that could result from the proposed project. The Draft EIR, along with appendices, was made available for public review for a 60-day comment period that began on November 4, 2022 and ended on January 3, 2023. The Notice of Availability of a Draft EIR was posted with the County Clerk, sent to the State Clearinghouse, published on the City's website, and mailed to responsible agencies. The City also held a virtual community open house as an opportunity for the public to submit verbal comments on December 6, 2022.

Responses to the Notice of Preparation of a Draft EIR are summarized in Section 2.0 of the Draft EIR. Comment letters received during circulation of the Draft EIR and responses to those letters are included in the Final EIR. A Mitigation and Monitoring Report is also attached.

EIR SUMMARY

The EIR evaluates two project options related to the management of stormwater. Under Option 1, stormwater runoff would be directed to underground retention facilities designed for a 25-year, 24-hour storm event and under Option 2, 100 percent of stormwater from the site would be directed to underground retention facilities designed for a 100-year, 24-hour storm event (as described in further detail in Section 3.2.4, Stormwater Drainage Improvements of the Draft EIR). The two project options would have the same site design described above, including the proposed number of residences, building elevations, and site layout. Although Options 1 and 2 were evaluated, City Staff recommends, and the applicant is in agreement with, the approval of Option 1.

Table 1.2-1 in the Draft EIR summarizes the environmental impacts of the proposed project, proposed mitigation measures, and residual impacts (the impact after application of mitigation, if required) identified in the EIR. Impacts are categorized as follows:

- Significant and Unavoidable. An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the CEQA Guidelines.
- Less than Significant with Mitigation Incorporated. An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under §15091 of the CEQA Guidelines.
- Less than Significant. An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- No Impact: The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

The Draft EIR identifies significant impacts to the following California Environmental Quality Act (CEQA) environmental issue areas: agriculture and transportation. As described in the Draft EIR, the proposed project would convert approximately 16 acres of Prime Farmland, and although the project will comply with the Agricultural Mitigation Ordinance (Chapter 18.152 of the Municipal Code) by preserving a minimum of one acre of agricultural land for each acre of agricultural land converted to a non-agricultural use, CEQA case law affirms the principle that the loss of prime farmlands is irreversible, and protection of other existing farmland does not fully offset the lost farmland, but rather prevents further loss. Therefore, the loss of prime farmland would be considered significant and unavoidable. The Draft EIR also describes that Vehicle Miles Traveled (VMT) impacts can be mitigated, but the project would not fall below the applicable residential VMT per capita threshold and would be considered significant and unavoidable. All other subject area impacts were determined to have no impact or less than significant with the implementation of mitigation measures.

VMT measures the amount and distance of vehicle travel attributed to a project or use. Specifically, VMT focuses on determining the origin and destination of travel patterns. Unlike LOS, VMT does not assess the local vehicle trips from a project or the project's traffic impacts on a local intersection or road/highway segment. Rather, VMT assesses the effects of the project on regional traffic and use of transit and non-motorized travel. VMT is not a new methodology; it has been used for many years in CEQA documents in estimating pollution (air quality impacts), GHG emissions, and energy consumption. VMT is typically calculated using a travel demand model, which estimates the total number and length of vehicle trips to and from a given geographic area, such as transportation analysis zones (TAZs). The Valley Transportation Authority (VTA) developed the countywide VMT evaluation tool that is used to generate VMT calculations. Unfortunately, because it is a countywide model, the calculations levy 13 extra miles attached to Morgan Hill due to the City's distance from regional job centers in San Jose.

In June 2021, City Council directed City Staff to pursue a VMT model in order to deviate from the Valley Transportation Authority (VTA) Santa Clara Countywide VMT Evaluation Tool and/or to provide substantial evidence to deviate from the Governor's Office of Planning and Research (OPR) Technical Advisory which recommends a 15% threshold of significance reduction from existing VMT. This effort is currently underway.

As required by the California Environmental Quality Act (CEQA), the Draft EIR also examined alternatives to the proposed project. Studied alternatives include the following three alternatives: 1) No Project-No Development; 2) Existing General Plan/Zoning Development; and 3) Reduced Footprint: Agricultural Preservation alternative. Based on the alternatives analysis, the No Project-No Development alternative would be the environmentally superior alternative to the project because all of the project's significant environmental impacts would be avoided by leaving the site in its current condition. However, Section 15126(e)(2) states that "if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Among the alternatives that assume some development on the site, the environmentally superior alternative is the Reduced Footprint: Agricultural Preservation alternative which would avoid significant agricultural impacts since development would not occur on the portion of the site mapped as Prime Farmland but would not avoid the significant and unavoidable VMT impact. This alternative could meet most of the project objectives; however, by only achieving half of the proposed housing units, this alternative would not achieve the project objective of providing market-rate and below-market-rate (BMR) housing, as envisioned in the City of Morgan Hill General Plan, to the same degree as the project.

COMMUNITY ENGAGEMENT:

The proposed project was publicly noticed, including a mailing to property owners in an expanded

area beyond 600 feet of the project and within the newspaper for the minimum 10-day period, a project webpage and a sign was posted on the project site pursuant to the Planning Division requirements.

ATTACHMENTS:

1. Draft Resolution - EIR
2. Draft Resolution - Vesting Tentative Map & Design Permit
3. Project Description
4. Site Development Plans
5. Vesting Tentative Map
6. Development Design and Standards Checklist
7. Preliminary Landscape Plans
8. Site Photometrics Plan
9. Crosswinds Draft EIR
10. Crosswinds Draft EIR Appendix A NOP and NOP Comments
11. Appendix B Air Quality GHG Analysis 5.12.22
12. Crosswinds Draft EIR Appendix B Air Quality GHG Analysis
13. Crosswinds Draft EIR Appendix C Arborist Report
14. Crosswinds Draft EIR Appendix D Historic Evaluation Report
15. Crosswinds Draft EIR Appendix E Phase I ESA
16. Crosswinds Draft EIR Appendix F Crosswinds Noise Assessment
17. Crosswinds Draft EIR Appendix G Crosswinds Transportation Analysis
18. Crosswinds Draft EIR Appendix H Crosswinds Water Supply Assessment
19. Crosswinds Final EIR
20. Crosswinds Final EIR Appendix A Draft EIR Comment Letters
21. Crosswinds Final EIR Appendix B Tech Reports and Support Doc
22. Crosswinds EIR Errata
23. Crosswinds Yimby Law Correspondence

RESOLUTION NO. 23-04

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF MORGAN HILL RECOMMENDING THAT THE CITY COUNCIL CERTIFY THE FINAL ENVIRONMENTAL IMPACT REPORT FOR THE HALF-DIVIDEND (CROSSWINDS) PROJECT AS CONSISTENT WITH THE REQUIREMENTS OF THE CALIFORNIA ENVIRONMENTAL QUALITY ACT AND ADOPT A STATEMENT OF OVERRIDING CONSIDERATIONS REGARDING ENVIRONMENTAL IMPACTS AND A RELATED MITIGATION MONITORING AND REPORTING PROGRAM

WHEREAS, an Environmental Impact Report (EIR) (SCH Number 2021010358) was prepared for the Half-Dividend (Crosswinds) Project in accordance with the California Environmental Quality Act (CEQA). A Notice of Preparation (NOP) was circulated between January 29, 2021 and March 17, 2022, to receive comments regarding the scope and content of the EIR. The Draft EIR was circulated between November 4, 2022 and January 3, 2023; and

WHEREAS, the City of Morgan Hill received comments on the Draft EIR by four individuals / organizations. Responses to those comments and minor changes to the Draft EIR were included in a Final EIR document in accordance with the requirements of CEQA; and

WHEREAS, the information contained in the Final EIR, consisting of the Draft EIR document in combination with the Final EIR document, was reviewed and considered by the Planning Commission at a duly-noticed Planning Commission public hearing held on May 23, 2023; and the Planning Commission took action to recommend to the City Council that the Final EIR be certified as being found complete, correct, and in substantial compliance with the requirements of the California Environmental Quality Act; and

WHEREAS, the Environmental Impact Report concluded that implementation of the Project could result in two significant effects on the environment and identified mitigation measures that would reduce some but not all of those significant effects to a less-than significant level; and

WHEREAS, in connection with the approval of a project involving the preparation of an Environmental Impact Report that identifies one or more significant environmental effects, CEQA requires the decision-making body of the lead agency to incorporate feasible mitigation measures that would reduce those significant environmental effects to a less-than-significant level and/or adopt a Findings of Fact and Statement of Overriding Considerations; and

WHEREAS, whenever a lead agency approves a project requiring the implementation of measures to mitigate or avoid significant effects on the environment, CEQA also requires a lead agency to adopt a mitigation monitoring and reporting program to ensure compliance with the mitigation measures during project implementation, and such a mitigation monitoring and reporting program has been prepared for the Project for consideration by the decision-maker of the City of Morgan Hill as lead agency for the Project (the "Mitigation Monitoring and Reporting Program"); and

WHEREAS, the City of Morgan Hill is the lead agency on the Project, and the City Council is the decision-making body for the proposed approval to construct and otherwise undertake the Project; and

WHEREAS, the Environmental Impact Report and the related Findings of Fact and Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program for the Project are, by this reference, incorporated into this Resolution as if fully set forth herein; and

WHEREAS, the Environmental Impact Report, incorporating any Addenda, and related Findings of Fact and Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program for the Project are on file in the Development Services Department located at 17575 Peak Avenue, Morgan Hill, California, 95037, and are available for inspection by any interested person at that location.

NOW, THEREFORE, THE MORGAN HILL PLANNING COMMISSION DOES RESOLVE AS FOLLOWS:

SECTION 1: FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS BY THE CITY COUNCIL OF THE CITY OF MORGAN HILL REGARDING THE FINAL ENVIRONMENTAL IMPACT REPORT FOR THE HALF-DIVIDEND (CROSSWINDS) PROJECT: The Planning Commission hereby recommends that the City Council find, determine, and declare the findings and facts and statement of overriding considerations as set forth in the attached Exhibit "A" by this reference incorporated herein.

SECTION 2: CERTIFICATION OF FINAL EIR: The Planning Commission recommends that the City Council hereby certify that the Final EIR has been completed in compliance with CEQA.

PASSED AND ADOPTED THIS 23rd DAY OF MAY 2023, AT A REGULAR MEETING OF THE PLANNING COMMISSION BY THE FOLLOWING VOTE:

AYES: COMMISSIONERS:

NOES: COMMISSIONERS:

ABSTAIN: COMMISSIONERS:

ABSENT: COMMISSIONERS:

ATTEST: **APPROVED:**

JENNA LUNA, Deputy City Clerk **JOESEPH MUELLER, Chair**

EXHIBIT "A"

FINDINGS OF FACT AND STATEMENT OF OVERRIDING CONSIDERATIONS BY THE CITY COUNCIL OF THE CITY OF MORGAN HILL REGARDING THE FINAL ENVIRONMENTAL IMPACT REPORT FOR THE CROSSWINDS RESIDENTIAL PROJECT (State Clearinghouse No. 2021010358)

The following Findings, the mitigation measures specified herein, and the Mitigation Monitoring and Reporting Program attached hereto are hereby adopted by the Morgan Hill City Council in accordance with the California Environmental Quality Act (CEQA), Public Resources Code Section 21081, 21081.5 and 21081.6, and the CEQA Guidelines, Title 14, California Code of Regulations, Sections 15091 and 15092 for the Crosswinds Residential (project).

Section 15091 of the CEQA Guidelines states that:

a. *No public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings for each of those significant effects, accompanied by a brief explanation of the rationale for each finding. The possible findings are:*

    (1) Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR.

    (2) Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

    (3) Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the final EIR.

In short, CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to avoid or mitigate significant environmental impacts that will otherwise occur with implementation of the project. Project mitigation or alternatives are not required, however, where they are infeasible or where the responsibility for modifying the project lies with another agency.

For those significant effects that cannot be mitigated to a less-than-significant level, the public agency is required to find that specific overriding economic, legal, social,

technological, or other benefits of the project outweigh the significant effects on the environment. The CEQA Guidelines state in section 15093 that:

> *"If the specific economic, legal, social, technological, or other benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered 'acceptable."*

A. ENVIRONMENTAL REVIEW PROCESS

The Environmental Impact Report (EIR) prepared by the City of Morgan Hill (City) for the Crosswinds Residential Project (project) consists of the Draft EIR (Draft EIR) and the Final EIR / Response to Comments on the Draft EIR.

On January 29, 2021, the City of Morgan Hill circulated a Notice of Preparation (NOP) for a 45-day comment period to request input on the types of impacts that could result from the proposed project. The Draft EIR was made available for public review for a 60-day comment period that began on November 4, 2022 and ended on January 3, 2023. The Notice of Availability of a Draft EIR was posted with the Santa Clara County Clerk, sent to the State Clearinghouse, published on the City's website, and mailed to responsible agencies. The City of Morgan Hill received a total of four written comment letters during the public comment period.

The City released the Final EIR for public review on May 3, 2023. The Final EIR consists of copies of all comments received on the Draft EIR, a list of commenters, all responses to comments, and Draft EIR text revisions. The Final EIR, Draft EIR, and Mitigation Monitoring and Reporting Program (MMRP) together comprise the EIR for the project. The analysis and conclusions contained in the EIR reflect the independent judgment of the City.

B. PROJECT DESCRIPTION

Section 3 of the Draft EIR includes a detailed description of the project. Other than minor clarifications, no revisions to the project description were required.

The approximately 33-acre project site is located at the intersection of Half Road and Mission View Drive in the City of Morgan Hill. The project is located on four parcels. The Assessor's Parcel Numbers (APNs) are 728-30-001, 728-30-002, 728-30-003, and 728-30-004. The project site is mostly undeveloped and consists of grassland, fallowed agricultural fields, and boxed trees.

The project proposes to construct a total of 269 residential units, comprised of 56 single-family detached, 64 duets, and 149 condominium units. There would be a total of 40 below-market-rate (BMR) units. Each unit would include a two-car garage on the ground floor. The single-family detached residences would be constructed on the eastern and southern perimeters of the project site, along Mission View Drive and Half

Road. The single-family residences would be two-stories and reach a maximum height of 30 feet. The project also proposes to construct an off-site sanitary sewer line that would extend from Half Road to Condit Road, to the existing sanitary sewer line in East Main Avenue.

The EIR evaluates two project options related to the management of stormwater. Under Option 1, stormwater runoff would be directed to underground retention facilities designed for a 25-year, 24-hour storm event and under Option 2, 100 percent of stormwater from the site would be directed to underground retention facilities designed for a 100-year, 24-hour storm event (as described in further detail in Section 3.2.4, Stormwater Drainage Improvements). The two project options would have the same site design described below including the proposed number of residences, building elevations, and site layout (described above). Although Options 1 and 2 were evaluated, the City of Morgan Hill City Council approves Option 1.

The project objectives are to:

- Provide market-rate and below-market rate housing, as envisioned in the City of Morgan Hill General Plan.
- Create a visually appealing pedestrian corridor along the Mission View Drive and Half Road frontages.
- Implement improvements to provide private vehicular and pedestrian circulation.
- Increase passive and active open space throughout the project site.

The proposed project would require the following approvals:

- Certification of the EIR: Certify the Crosswinds Residential Project EIR and make environmental findings pursuant to CEQA.
- Vesting Tentative Map and Final Map
- Design Permit
- Issuance of Demolition, Grading, Building, and Occupancy Permits
- Encroachment Permit from Valley Water (Sanitary Sewer Modifications)

C. SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS AND DISPOSITION OF RELATED MITIGATION MEASURES

The following findings are hereby made by the City of Morgan Hill City Council for the significant environmental effects identified in the EIR related to agriculture and forestry resources (impacts related to conversion of Important Farmland) and transportation (impacts related to vehicle miles traveled [VMT]). The Final EIR identified the following impacts associated with the project that would be significant and unavoidable:

1. **Agricultural and Forestry Resources Impact AG-1:** The project would convert 16

acres of Prime Farmland to non-agricultural use. Mitigation measures MM AG-1.1 and MM AG-1.2 would reduce the project's impacts associated with conversion of Prime Farmland, but not to a less than significant level. The impact would be significant and unavoidable.

Mitigation Measure MM AG-1.1: A minimum of one acre of agricultural land (1:1 mitigation ratio) shall be preserved for each acre of agricultural land changed to a non-agricultural use. The required acreage of area to be protected through an agricultural conservation easement or agricultural preservation in-lieu fee will depend on the measurement of affected area. The 16 acres of Prime Farmland shall be used for calculating the required mitigation.

Mitigation Measure MM AG-1.2: Conversion of agricultural land shall require off-setting acquisition and/or dedication of agricultural conservation easements over approved agricultural mitigation land, or payment to the City of the agricultural preservation in-lieu fee, to support agricultural preservation activities. Developer acquisition/dedication of easements shall require the project to pay an agricultural lands preservation program stewardship fee to cover administrative costs and ongoing management and monitoring of the easements. Agricultural mitigation fees shall be required prior to the acceptance of a final parcel or subdivision map, or prior to issuance of building or grading permits. Easement dedication is required prior to issuance of building permits.

Finding: Based on the Farmland Mapping and Monitoring Program of the California Resources Agency Mapping System, the project site consists of approximately 16 acres of Prime Farmland and 17 acres of Grazing Land. The project proposes to develop the site with residential uses. Conversion of the Prime Farmland would constitute a significant impact to agricultural resources. Consistent with the City's Agricultural Preservation Program and Agricultural Mitigation Ordinance, mitigation measures MM AG-1.1 and MM AG-1.2 require a minimum of one acre of agricultural land (1:1 mitigation ratio) to be preserved for each acre of agricultural land changed to a non-agricultural use and acquisition and/or dedication of agricultural conservation easements over approved agricultural mitigation land, or payment to the City of the agricultural preservation in-lieu fee. The project applicant will implement mitigation measures MM AG-1.1 and MM AG-1.2, however, the impact would not be reduced to a less than significant level because, while the project would preserve existing agricultural lands, it would not create any new agricultural lands to offset the lost 16 acres of prime farmland. There are no other feasible mitigation measures which could be implemented to reduce the loss of agricultural lands to a less than significant level, as CEQA case law affirms the principle that the loss of prime farmland is irreversible, and protection of other existing farmland does not fully offset the lost farmland, but rather prevents further loss. Therefore, the impact would remain significant and unavoidable.

Impacts related to agricultural and forestry resources have been mitigated to the

extent feasible. The City of Morgan Hill finds that although this impact would be significant and unavoidable, the impact is acceptable when weighed against the overriding social, economic, and other considerations set forth in Section I, *Statement of Overriding Considerations.*

For a detailed description of impacts and mitigation measures, see the appropriate text in the Draft and Final EIR.

2. **Transportation Impact TRN-2 and Impact TRN-C:** The project is estimated to generate 27.41 VMT per capita, which would exceed the California Office of Planning and Research's (OPR's) impact threshold of 20.94 VMT per capita. Mitigation measure MM TRN-1.2 would not reduce the project VMT to below OPR's impact threshold, therefore, the VMT impact would not be reduced to a less than significant level. The impact would be significant and unavoidable. Since the project generated VMT per capita is above the citywide threshold, the project would result in a considerable contribution to a significant cumulative citywide VMT impact.

   Mitigation Measure TRN-1.1: Prior to project occupancy, the project applicant shall develop and implement a Transportation Demand Management (TDM) plan which targets achieving a reduction in residential vehicle trips to and from the site. The TDM plan shall be prepared by a qualified traffic consultant and in coordination with the City of Morgan Hill Development Services Director or Designee. The TDM plan shall quantify the reduction in VMT. The TDM shall require the project applicant to make a financial contribution to the City's on-site demand rideshare service (MoGo), as a one-time or annual financial contribution based on City approval, or during project operations, the management entity/Homeowners Association (HOA) shall provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director or Director's designee prior to issuance of occupancy. The HOA shall submit a receipt and documentation to the City showing that the transit passes have been purchased annually.

   Finding: The project would result in VMT per capita of 27.41, while citywide VMT per capita is 24.64, and the OPR threshold relied upon in the EIR was 20.94 VMT per capita. Using OPR's impact thresholds, the project would need to implement VMT reduction measures to achieve a 24 percent reduction (27.41 to 20.94) in its VMT per capita for the proposed residential uses to reduce its impact to less than significant level. Mitigation measure TRN-1 requires the project applicant to make a financial contribution to the City's on-site demand rideshare service, as a one-time or annual financial contribution based on City approval, or during project operations, requires the management entity/HOA to provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners. The provision of fully (100 percent) subsidized annual VTA transit passes for all project homeowners under mitigation MM TRN-2.1 could reduce the project's VMT per resident from 27.41 to

27.37. VTA's VMT tool does not include a feature which calculates VMT reduction from the project applicant's contribution to the City's on-site demand rideshare service. The project design features would encourage the use of pedestrian and bicycle facilities, but not to a degree which would have any measurable effect on project VMT. Therefore, the project VMT would continue to be above the 20.94 VMT per capita threshold. There are no other feasible mitigation measures which could be implemented to reduce the transportation impacts. Measures such as carshare programs and transit service expansion programs would not be feasible given the costs to maintain such programs. As mentioned above, even with the implementation of these measures, the project VMT would be above the VMT per capita threshold. Therefore, the impact would remain significant and unavoidable.

Impacts related to transportation have been mitigated to the extent feasible. The City of Morgan Hill finds that although this impact would be significant and unavoidable, the impact is acceptable when weighed against the overriding social, economic, and other considerations set forth in Section I, *Statement of Overriding Considerations*, below.

D. SIGNIFICANT IMPACTS IDENTIFIED IN THE EIR THAT ARE REDUCED TO A LEVEL OF "LESS THAN SIGNIFICANT" BY THE MITIGATION MEASURES INCORPORATED INTO THE PROJECT

The following findings are hereby made by the City of Morgan Hill City Council for the significant environmental effects identified in the EIR that would be reduced to a less than significant level through incorporation of mitigation measures. The City finds for each of the significant or potentially significant impacts identified in this section that based upon substantial evidence in the record, changes or alterations have been required or incorporated into the project which avoid or substantially lessen the significant effects as identified in the EIR and, thus, that adoption of the mitigation measures set forth below will reduce these significant or potentially significant effects to less than significant levels. Adoption of the mitigation measures will effectively make the mitigation measures part of the project. In addition, compliance with City and other applicable regulations will further reduce project impacts. Therefore, the City finds that based upon substantial evidence in the record, changes or alterations have been required or incorporated into the project which avoid or substantially lessen the significant effects as identified in the EIR.

The Final EIR identified several impacts associated with the project that would be reduced to a level of less than significant with the implementation of mitigation measures identified in the Final EIR:

1. **Biological Resources Impact BIO-1**: The project could have a substantial adverse effect on nesting birds. With the implementation of mitigation measures MM BIO-1.1 and MM BIO-1.2, this impact would be reduced to less than significant.

MM BIO-1.1: Construction shall be scheduled to avoid the nesting season. If construction can be scheduled to occur between September 1st and January 31st (inclusive) to avoid the raptor nesting season, no impacts will be expected. If construction will take place between February 1st and August 31st, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. Performance of the required surveys for construction occurring between February 1st and August 31st will ensure that impacts to nesting raptors are reduced to less than significant. Surveys will be completed within 30 days of the on-set of tree removal, site clearing or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, buildings) onsite trees as well as all trees within 250 feet of the site for nests. The pre-construction survey shall be submitted to the City's Development Services Director or the Director's designee for review prior to tree removals or issuance of a grading permit.

MM BIO-1.2: If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50-100 feet for other species) that will remain off limits to construction until the nesting season is over, to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Wildlife Code will be disturbed during project implementation. A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the City's Development Services Director or Director's designee prior to removal of trees and issuance of a grading permit.

Finding: The proposed project would remove all existing trees on the 33-acre site. The mature trees on-site have the potential to provide nesting or foraging habitat for nesting raptors and migratory birds protected under state and federal regulations. At the time of development, raptors and migratory birds could be nesting in the trees and vegetation on and adjacent to the project site. Project construction and tree removal during the avian breeding season could result in direct or indirect impacts to eggs and nestlings. The project would implement mitigation measures MM BIO-1.1 and MM BIO-1.2 which require pre-construction surveys for nesting birds if construction takes place between February 1st and August 31st and a buffer zone around any active nests. This impact would be less than significant with adherence to mitigation measures MM BIO-1.1 and MM BIO-1.2.

2. **Biological Resources Impact BIO-5**:The project could conflict with the City's tree ordinance without the implementation of mitigation. With the implementation of mitigation measure MM BIO-5.1, this impact would be reduced to less than significant.

MM BIO-5.1: The project applicant shall comply with local ordinances and submit permit applications for removal, trimming, damage, or relocation of all trees covered by the City ordinance. Any trees to be removed shall require replacement at a two-to-one ratio on a comparable ratio of size. The replacement trees shall be planted on site to the extent feasible and the project proponent shall comply with all other replacement requirements imposed by the City. Prior to tree removal, the project applicant shall apply for a tree removal permit, which will be reviewed by the City's Development Services Director or Director's designee.

Finding: An ordinance-sized/significant tree is considered to be a tree with a single stem or trunk of a circumference of 40 inches (or diameter of 12.7 inches) or more for nonindigenous species and a circumference of 18 inches (or diameter of 5.7 inches) or more for indigenous species measured at four and one-half feet vertically above the ground. The project site contains four ordinance-sized trees as defined by the City of Morgan Hill Municipal Code Section 12.32.030. This includes one Monterey pine, one Peruvian pepper tree, and two Ponderosa pines. Mitigation measure MM BIO-5.1 requires any trees proposed for removal to be replaced at a two-to-one ratio on a comparable ratio of size and the project applicant to apply for a tree removal permit, which will be reviewed by the City's Development Services Director or Director's designee. Implementation of mitigation measure MM BIO-5 would ensure that potential impacts to trees would be less than significant.

3. **Cultural Resources Impact CUL-2:** The project could result in a substantial adverse change in the significance of an archaeological resource without mitigation. With the implementation of mitigation measures MM CUL-2.1 and MM CUL-2.2, this impact would be reduced to less than significant.

MM CUL-2.1: A moderate potential exists for unrecorded historic period archaeological resources to be within the project area. The developer shall enter into written contracts with an archaeologist and the Tamien Nation Tribe, and pay all fees associated with the activities required by this Mitigation Measure. The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply:

(a) Prior to the start of grading or earthmoving activity (includes demolition and moving of heavy equipment on site) on the "first day of construction," the archaeologist and Tribal Monitor shall hold a pre-construction meeting for the purposes of "cultural sensitivity training" with the general contractor or subcontractors.

(b) A Tamien Nation Tribal Monitor shall be present on-site to monitor all ground-disturbing activities and an archaeologist shall be on-call. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below:

1. Work at the location of the find shall halt immediately within fifty feet of the find. If an archaeologist is not present at the time of the discovery, the applicant shall contact an archaeologist for evaluation of the find to determine whether it qualifies as a unique archaeological resource as defined by this chapter.

2. If the find is determined not to be a Unique Archaeological Resource, construction can continue. The archaeologist shall prepare a brief informal memo/letter in collaboration with a tribal representative that describes and assesses the significance of the resource, including a discussion of the methods used to determine significance for the find.

3. If the find appears significant and to qualify as a unique archaeological resource, the archaeologist shall determine if the resource can be avoided and shall detail avoidance procedures in a formal memo/letter.

4. If the resource cannot be avoided, the archaeologist in collaboration with a tribal representative shall develop within forty-eight hours an action plan to avoid or minimize impacts. The field crew shall not proceed until the action plan is approved by the Development Services Director or Director's designee. The action plan shall be in conformance with California Public Resources Code 21083.2. An archaeologist shall be on-call during ground disturbing activities. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below.

(c) The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply. If human remains are discovered, it is probable they are the remains of Native Americans,

1. If human remains are encountered, they shall be treated with dignity and respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a need-to-know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld.

2. Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled.

3. Surgical mask should also be worn to prevent exposure to pathogens that may be associated with the remains.

(d) In the event that known or suspected Native American remains are encountered, or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, ground stone mortars and pestles), culturally altered ash stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials and historic structure remains such as stone lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below.

(e) An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the contractor foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time or discovery, by the monitoring archaeologist and tribal representative (typically twenty-five to fifty feet for single burial or archaeological find).

(f) The discovery locale shall be secured (e.g., 24-hour surveillance) as directed by the City or County Coroner if considered prudent to avoid further disturbances.

(g) The contractor foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition:

- The City of Morgan Hill Development Services Director (408) 779-7247
- The Contractor’s Point(s) of Contact
- The Coroner of the County of Santa Clara (if human remains found) (408) 793-1900
- The Native American Heritage Commission (NAHC) in Sacramento (916) 653-4082
- The Amah Mutsun Tribal Band (916) 481-5785 (H) or (916) 743-5833 (C)
- The Tamien Nation (707)295-4011 (office) and (925)336-5359 (THPO)

(h) The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American the Coroner has 24 hours to notify the NAHC.

(i) The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD). (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.)

(j) Within 24 hours of their notification by the NAHC, the MLD will be granted permission to inspect the discovery site if they so choose.

(k) Within 24 hours of their notification by the NAHC, the MLD may recommend to the City's Development Services Director or Director's designee, the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the appropriate tribe may be considered and carried out.

(l) If the MLD recommendation is rejected by the City of Morgan Hill the parties will attempt to mediate the disagreement with the NAHC. If mediation fails, then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.

MM CUL-2.2: The project applicant shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources including prehistoric Native American burials. Any archaeological site information supplied to the Contractor Foreman or authorized representative shall be considered confidential. Information on the project plans shall be verified by the Development Services Director or Director's designee prior to issuance of a grading permit or any building permit.

Finding: Based on the City's archaeological sensitivity map and a records search in the California Historical Resource Information System (CHRIS) database, reviewed archival literature, and completed a field inspection (in May 2019) to determine the potential presence of historic-era archaeological resources, the project site is considered to have low to moderate sensitivity for prehistoric and historic archaeological resources. While the project site is not known to contain an archaeological site or buried deposits, construction operations could result in the inadvertent exposure of buried prehistoric or historic archaeological materials that could be eligible for inclusion on the California Register and/or meet the definition of a unique archaeological resource as defined in Section 21083.2 of the Public Resources Code. No surface indications of prehistoric or significant historic cultural materials or culturally modified soils were observed during the survey completed for the proposed project. Mitigation measure MM CUL-2.1 and MM CUL-2.2 require a tribal monitor to be present on-site to monitor all ground-disturbing activities, and where historical or archaeological artifacts are found, work in areas where remains or artifacts are found to be restricted. Implementation of mitigation measures MM CUL-2.1 and MM CUL-2.2 would reduce this impact to less than significant.

4. **Cultural Resources Impact CUL-3:** The project could result in a significant impact to human remains without mitigation. With the implementation of mitigation measure

MM CUL-2.1 and MM CUL-2.2 described above, this impact would be reduced to less than significant.

MM CUL-2.1 and MM CUL-2.2: See mitigation measures MM-2.1 and MM CUL-2.2 listed above.

Finding: As stated above, no surface indications of prehistoric or significant historic cultural resources or culturally modified soils were observed during the survey completed for the proposed project. Although it is not expected, human remains could be discovered during construction of the project. Implementation of mitigation measures MM CUL-2.1 and MM CUL-2.2 would reduce the impact to human remains to less than significant.

5. **Greenhouse Gas Emissions Impact GHG-1**: The project would generate GHG emissions that may have a significant impact on the environment. With the implementation of mitigation measures MM GHG-1.1 through MM GHG-1.3, this impact would be reduced to less than significant.

MM GHG-1.1: The project applicant shall develop a GHG reduction plan to reduce GHG emissions in the build-out year by 206 MT/year prior to issuance of a grading permit and to the satisfaction of the City's Development Services Director or Director's designee. These reductions shall be kept in place by the project until the City adopts a qualified GHG reduction plan (consistent with CEQA Guidelines Section 15183.5) that contains goals and associated strategy to decrease emissions in a manner consistent with meeting the State's interim 2030 GHG emissions reduction target of 40 percent below 1990 levels.

MM GHG-1.2: A combination of the GHG reduction elements listed below would reduce project GHG impacts. The project applicant shall implement some or all of the following elements to further reduce GHG emission from operation of the project and the service population efficiency metric such that the metric would be below the significance threshold. The GHG reduction elements to be included within the project shall be verified prior to the issuance of a building permit and shall be to the satisfaction of the City's Development Services Director or Director's designee.

- Prior to issuance of any building permits, the project applicant shall submit a Transportation Demand Management (TDM) Plan, which would include measures to reduce vehicle miles traveled (VMT) and GHG emissions, to the City's Development Services Director or Director's designee.
- The TDM Plan shall be implemented by the Homeowners Association (HOA) once the proposed residences are occupied.
- The project applicant shall install solar power systems or other renewable electric generating systems that provide electricity to power on-site equipment and possibly provide excess electric power;
- The project applicant shall provide infrastructure for electric vehicle

charging for residential units (i.e., provide 220 VAC power); and,

- The project applicant shall increase water conservation above state average conditions for residential uses by installing low flow water utilities and irrigation.

MM GHG-1.3: The project applicant shall purchase verifiable carbon emission offsets through a verified registry for remaining amount of GHG reduction required, after exhausting on-site reduction options prior to issuance of a building permit. Offsets shall be determined by calculating the total estimated number of GHG emissions the project would create over a 30-year period, and purchasing verifiable offsets based on the calculated number of GHG emissions.

Finding: The existing greenhouse gas emissions (GHG) are primarily generated by vehicle travel to and from the site, emissions related to irrigation, and operation of agricultural equipment. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy, and water usage, and solid waste disposal. A Substantial Progress efficiency threshold of 2.8 MT CO_2e/service population/year threshold, which is a 40 percent reduction from the BAAQMD 2020 service population emissions target of 4.6 MT CO_2e /service population/year, is utilized in this EIR. An adjusted bright-line threshold of 660 MTCO_2e/year, which is 40 percent below BAAQMD 2020 bright-line threshold of 1,100 MT CO_2e, is also used. The efficiency and adjusted bright-line thresholds were calculated based on the GHG reduction goas of SB 32 and EO B-30-15 for 2030.

To be considered an exceedance, a project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold in the future year of 2030. The project would exceed the annual emissions bright-line threshold of 660 MT CO_2e/year and the service population threshold of 2.8 MT of CO_2e/year/service population in 2030. Therefore, the project would exceed the brightline and service population GHG emissions target for 2030, which would result in a significant GHG impact. Mitigation measures GHG-1.1 through MM GHG-1.3 require the project applicant to develop a GHG reduction plan to reduce to reduce GHG emissions in the build-out year by 206 MT/year and a Transportation Demand Management Plan; the project applicant will also be required to purchase verifiable carbon emission offsets for the remaining amount of GHG reduction required, after exhausting on-site reduction options prior to issuance of a building permit. Therefore, implementation of Mitigation measures GHG-1.1 through MM GHG-1.3 would reduce GHG impacts to less than significant.

6. **Hazards and Hazardous Materials Impact HAZ-2**: The project could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. With the implementation of mitigation measures MM HAZ-2.1 through MM HAZ-2.7, this impact would be reduced to less than significant.

MM HAZ-2.1: Since lead-impacted soils are determined to be present in concentrations above established regulatory environmental screening levels, the project applicant shall enter into the Santa Clara County Department of Environmental Health's (SCCDEH) Voluntary Cleanup Program (VCP), or equivalent, to formalize regulatory oversight of the mitigation of contaminated soil to ensure the site is safe for construction workers and the public after development. The project applicant responsible for the contaminated area of the site shall remove contaminated soil to levels acceptable to the SCCDEH (or equivalent oversight agency) for residential exposure prior to issuance of any grading permits.

MM HAZ-2.2: A Removal Action Plan, Soil Mitigation Plan or other similarly titled report describing the remediation shall be prepared and implemented to document the removal and /or capping of contaminated soil. Prior to issuance of any grading permits, a copy of any reports prepared shall be submitted to the Development Services Director or Director's designee. All work and reports produced shall be performed under the regulatory oversight and approval of the SCCDEH (or equivalent oversight agency).

MM HAZ-2.3: The project applicant shall prepare a Site Management Plan (SMP) prior to issuance of any grading permits to reduce or eliminate exposure risk to human health and the environment, specifically, potential risks associated with the presence of organochlorine pesticides and pesticide-based metals. The SMP shall include, but is not limited to, the following elements to mitigate potential risks associated with environmental conditions:

- Procedures for transporting and disposing the waste material generated during removal activities, if such transport and disposal is necessary;
- Procedures for stockpiling soil on-site if such stockpiling is necessary;
- Provisions for collecting soil samples to prior to grading activities;
- Provisions for confirmation soil sampling as appropriate to obtain a "No Further Action" letter (or equivalent) from the state and/or local agency assuming oversight for the site;
- Procedures to ensure that fill and cap materials are verified as clean truck routes;
- Staging and loading procedures and record keeping requirement.

The SMP shall reference the Storm Water Pollution Prevention Plan (SWPPP) required for the project in accordance with the Construction General Permit Order issued by the California State Water Resources Control Board. The SMP shall be submitted to the Santa Clara County Department of Environmental Health (SCCDEH), or equivalent regulatory agency, for review and approval. Copies of the approved SMP shall be provided to the City's Development Services Department prior to issuance of any grading permits.

MM HAZ-2.4: All contractors and subcontractors at the project site shall develop a health and safety plan (HSP) specific to their scope of work and based upon the known environmental conditions for the site. The HSP shall be implemented under the direction of a Site Safety and Health Officer. The HSP shall include, but not limited to, the following elements, as applicable:

- Provisions for personal protection and monitoring exposure to construction workers;
- Procedures to be undertaken in the event that contamination is identified above action levels or previously unknown contamination is discovered;
- Procedures for the safe storage, stockpiling, and disposal of contaminated soils;
- Provisions for the on-site management and/or treatment of contaminated groundwater during extraction or dewatering activities;
- Emergency procedures and responsible personnel.

The HSP shall be submitted to the Santa Clara County Department of Environmental Health (SCCDEH), or equivalent regulatory agency, for review and approval. Copies of the approved HSP shall be provided to the City's Development Services Department prior to issuance of any grading permits.

MM HAZ-2.5: Prior to issuance of any grading permits, the project applicant shall excavate lead-impacted soils identified at sample location SS-R-17B (near the single-family residence and barn structure) to a depth of at least 2.5 below the ground. The soil shall be properly disposed of in accordance with state and SCCDEH and California Code of Regulations, Title 8 waste disposal requirements. The SCCDEH (or equivalent oversight agency) may also approve leaving in-place some of the contaminated soil if the contaminated soil will be buried under hardscape and/or several feet of clean soil and not at risk of being encountered by future site users or nearby residents.

MM HAZ-2.6: Prior to issuance of a demolition permit for on-site structures, the project applicant shall consult with certified Asbestos and/or Lead Risk Assessors to complete and submit for review to the Building Department an asbestos and lead survey. If asbestos-containing materials or lead-containing materials are not discovered during the survey, further mitigation related to asbestos-containing materials or lead-containing materials shall not be required. If asbestos containing materials and/or lead-containing materials are discovered by the survey, the project applicant shall prepare a work plan to demonstrate how the on-site asbestos-containing materials and/or lead-containing materials shall be removed in accordance with current California Occupational Health and Safety (Cal-OSHA) Administration regulations and disposed of in accordance with all CalEPA regulations, prior to the demolition and/or removal of the on-site structures. The plan shall include the requirement that work shall be conducted by a Cal-OSHA registered asbestos and lead abatement contractor in accordance with Title 8 CCR

1529 and Title 8 CCR 1532.1 regarding asbestos and lead training, engineering controls, and certifications. The applicant shall submit the work plan to the City for review and approval. The City has the right to defer the work plan to the Santa Clara County Department of Environmental Health for additional review. The following measures shall be included in the work plan:

- During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Title 8, California Code of Regulations (CCR), Section 1532.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of lead being disposed.
- All potentially friable asbestos containing materials (ACMs) shall be removed in accordance with National Emission Standards for Air Pollution (NESHAP) guidelines prior to demolition or renovation activities that may disturb ACMs. All demolition activities shall be undertaken in accordance with Cal/OSHA standards contained in Title 8, CCR, Section 1529, to protect workers from asbestos exposure.
- A registered asbestos abatement contractor shall be retained to remove and dispose of ACMs identified in the asbestos survey performed for the site in accordance with the standards stated above.
- Materials containing more than one-percent asbestos are also subject to Bay Area Air Quality Management District (BAAQMD) regulations. Removal of materials containing more than one-percent asbestos shall be completed in accordance with BAAQMD requirements and notifications.
- Based on Cal/OSHA rules and regulations, the following conditions are required to limit impacts to construction workers.
- Prior to commencement of demolition activities, a building survey, including sampling and testing, shall be completed to identify and quantify building materials containing lead-based paint.
- During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Construction Standard, Title 8, CCR, Section 1532.1, including employee training, employee air monitoring and dust control.
- Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of waste being disposed.

MM HAZ-2.7: Prior to issuance of a grading permit, the project applicant shall research well records from Valley Water and attempt to locate abandoned wells at the site. The project applicant or contractor shall contact Valley Water's Wells Hotline immediately to assist in the identification of abandoned/unregistered wells or structures and help determine the appropriate means of addressing them. If the wells are identified, or subsequently encountered during earthwork activities, the wells shall be properly destroyed in accordance with Valley Water Ordinance 90-1.

If septic systems are encountered during earthwork activities, those systems shall be abandoned in accordance with SCCDEH requirements.

Finding: The project site was used for agricultural purposes until 2019. Sampling at the site was completed to determine if shallow soils had been impacted by organochlorine pesticides, arsenic, and lead in September 2018. The results showed organochlorine pesticides such as chlordane, p,p-DDD, p,p-DDE, and p,p-DDT, were detected below the regulatory environmental screening levels (ESLs). Arsenic was detected at concentrations below background levels. Therefore, the presence of organochlorine pesticides and arsenic on-site is not a recognized environmental condition. Lead was detected in samples near the on-site residence and barn structure, therefore, in October 2018, additional sampling for lead was completed around the residence and ancillary barn structure. Since the lead-impacted soil remains on-site, this is considered a recognized environmental condition. Impacted soils could be released into the environment during project construction and could expose construction workers and nearby land uses, resulting in a significant impact.

In addition, the on-site residence and associated barn structure were constructed prior to 1978 and could contain lead-based paint and asbestos-containing materials. Demolition of the existing buildings on site could expose construction workers and nearby residents to asbestos or lead. One water well and septic system were located on-site during a site reconnaissance in 2018. The water supply well and septic systems on the site will be abandoned. Improper abandonment of the well and septic system could lead to a recognized environmental condition by potentially exposing construction workers, neighboring uses, and the environment to hazardous materials.

Mitigation measures MM HAZ-2.1 through MM HAZ-2.5 require the project applicant shall enter into the Santa Clara County Department of Environmental Health's (SCCDEH) Voluntary Cleanup Program (VCP), or equivalent, to formalize regulatory oversight of the mitigation of contaminated soil, complete a Removal Action Plan, Soil Mitigation Plan, or other similarly titled report, complete a Site Management Plan and Health and Safety Plan, and excavate lead-impacted soils near the on-site residence and barn structure. Mitigation measure MM HAZ-2.6 requires removal asbestos-containing materials and/or lead-containing materials to be in accordance with current California Occupational Health and Safety (Cal-OSHA) Administration regulations and disposal of these materials in accordance with all CalEPA regulations. Mitigation measure HAZ-2.7 requires wells on-site to be abandoned in accordance with Valley Water and the Santa Clara County Department of Environmental Health requirements. Implementation of MM HAZ-2.1 through MM HAZ-2.7 would reduce the project's hazardous materials impacts to less than significant.

E. MITIGATION MONITORING AND REPORTING PROGRAM

When making findings, the lead agency must adopt a reporting or monitoring program for the mitigation measures it has adopted or made a condition of project approval to mitigate or avoid significant effects on the environment. The City hereby adopts the MMRP for the project, included as Attachment A to these findings. The mitigation measures identified in the Final EIR and adopted and incorporated into the project will be monitored pursuant to this program.

F. ALTERNATIVES

Pursuant to CEQA Guidelines Section 15126.6, the EIR examined a range of reasonable alternatives to the proposed project that would attain most of the basic project objectives but would avoid or substantially lessen the significant adverse impacts. The City has reviewed the impacts associated with each alternative as compared with the proposed project, and has also considered each alternative's feasibility, considering a range of economic, environmental, social, and legal factors. Overall, the City concludes that the No Project Alternative would be the environmentally superior alternative. However, pursuant to CEQA Guidelines Section 15126.6(e)(2), if the No Project Alternative/No Development Alternative is determined to be environmentally superior, the EIR shall also identify an environmentally superior alternative among the other alternatives. The alternatives considered by the City are summarized as follows.

No Project Alternative/No Development Alternative: Under the No Project Alternative, existing site conditions would be maintained and returned to active agricultural uses, and thereby avoid all of the project's environmental impacts, including the significant unavoidable impacts related to agriculture (conversion of Prime Farmland) and residential VMT. Project impacts that would be less than significant with mitigation measures, including biological resources, cultural resources, greenhouse gas emissions, and hazardous materials impacts, would also be avoided under the No Project Alternative. The No Project Alternative is an environmentally superior alternative to the proposed project. Because the No Project Alternative would not result in any new development on the site, this alternative would avoid all environmental impacts of the project. This alternative would not, however, meet any of the applicant's project objectives and it would not implement the site's General Plan land use designation, which is Residential Attached Low (six to 16 du/ac). Therefore, this alternative is rejected.

No Project – Existing General Plan/Zoning Development Alternative: The General Plan EIR assumes that the project site will be developed in conformance with the existing General Plan designation of Residential Attached Low (six to 16 du/ac), with approximately 345 residential units, based on the site acreage. The project proposes to construct a total of 269 residential units (149 condominiums, 64 duet units, and 56 single-family attached units) consistent with the site's existing General Plan Land Use Designation and zoning district of Residential Attached Low Density. When compared to the proposed project, the No Project/Existing Plan Alternative would potentially result

in more residential development on the site, and result in 718 more daily trips, 56 more AM peak hour trips, and 76 more PM peak hour trips. Given the increase vehicle traffic, the No Project/Existing Plan alternative would slightly increase roadway traffic noise. This alternative would also increase the number of residents by approximately 236 compared to the proposed project. As a result, this alternative has greater impacts on water, sanitary sewer, and solid waste facilities. The No Project/Existing General Plan/Zoning Alternative would result in the same significant and unavoidable VMT as the proposed project given VMT impacts are assessed using a per capita threshold. The No Project - Existing General Plan/Zoning Alternative could achieve all of the project objectives including providing market-rate and below-market rate housing, implementing improvements to provide private vehicular and pedestrian circulation, and increase passive and active open space throughout the project site. However, this alternative would not be the environmentally superior alternative given it would increase the severity of most operational impacts and would avoid none of the project's significant impacts. Therefore, this alternative is rejected.

Reduced Footprint: Agricultural Preservation Alternative: The purpose of the Reduced Footprint Agricultural Preservation alternative is to reduce the identified impacts to agricultural resources. The site consists of approximately 16 acres of Prime Farmland (western portion of the site) and 17 acres of Grazing Land (eastern portion of the site). Reducing the footprint of the site so that the residential development is only on the eastern portion of the site (Grazing Land) and retaining the western 16 acres of Prime Farmland for agriculture would avoid the significant impact to Prime Farmland. The project's footprint would be reduced by approximately 50 percent and the number of residences would be reduced to approximately 135 units.

This alternative would avoid significant impacts to Prime Farmland. The proposed project would result in a significant and unavoidable VMT impact with and without mitigation, given VMT impacts are assessed using a per capita threshold (27.41 VMT per capita without mitigation, 27.37 VMT per capita with mitigation that includes issuance of transit passes to project owners, and 24.37 VMT per capita regardless of the extent of VMT reduction measures implemented, while the threshold is 20.94). Given the significant and unavoidable VMT impact is based on the location of the site (e.g., lack of jobs and transit in the City), this alternative would also result in a significant unavoidable VMT impact, as the units developed on the portion of the site mapped as less important Grazing Land would still have high VMT per capita due to the site location. Reducing the project footprint and number of units by half would not affect the per capita GHG emissions, which would continue to require mitigation to be reduced below the applicable threshold. Given the alternative would reduce the number of residents by half, the water and wastewater, and solid waste demands would be lower than the proposed project's demands by approximately half as well. This alternative would result in reduced operational criteria pollutant emissions due to less trips generated from the site. Given the smaller project may result in a shorter construction period, construction noise impacts to nearby residents would be reduced, however, the construction noise mitigation measures would still be required. The Reduced Footprint

Agricultural Preservation Alternative would avoid the significant and unavoidable impact to agricultural resources but would not avoid the significant and unavoidable VMT impact. This alternative could meet most of the project objectives, however, by only achieving half of the proposed housing units, this alternative would not achieve the project objective of providing market-rate and below-market rate (BMR) housing, as envisioned in the City of Morgan Hill General Plan, to the same degree as the project. Therefore, this alternative is rejected.

G. RECIRCULATION NOT REQUIRED

No new or substantial changes to the EIR were proposed as a result of the public comment process. The Final EIR responds to comments and makes only minor technical changes, clarifications or additions to the EIR. The minor changes, clarifications, and additions to the EIR do not identify any new significant impacts or substantial increase in the severity of any environmental impacts. Therefore, recirculation of the EIR is not required.

H. RECORD OF PROCEEDINGS

Various documents and other materials constitute the record of proceedings upon which the City base their findings and decisions contained herein. Documents related to this proposed project are located in the City of Morgan Hill Development Services, 17575 Peak Avenue, Morgan Hill, California 95037.

I. STATEMENT OF OVERRIDING CONSIDERATIONS

CEQA requires the decision-making agency to balance the benefits of a project against its significant and unavoidable impacts when determining whether to approve a project. If the benefits of the project outweigh its unavoidable adverse environmental effects, those effects may be considered acceptable (CEQA Guidelines Section 15093(a)). CEQA requires the agency to state in writing the specific reasons for considering a project acceptable when significant impacts are not avoided or substantially lessened. Those reasons must be based on substantial evidence in the Final EIR or elsewhere in the administrative record (CEQA Guidelines Section 15093(b)). The proposed project would result in significant and unavoidable impacts related to agricultural and forestry resources, even after incorporation of mitigation measures MM AG-1.1 and MM AG1.2, which require a minimum of one acre of agricultural land (1:1 mitigation ratio) to be preserved for each acre of agricultural land changed to a non-agricultural use and acquisition and/or dedication of agricultural conservation easements over approved agricultural mitigation land, or payment to the City of the agricultural preservation in-lieu fee, and VMT, even after incorporation of Mitigation Measure MM TRN-1.1, which requires a financial contribution to the City's on-site demand rideshare service or issuance of transit passes to residents.

The City adopts and makes this Statement of Overriding Considerations regarding the

significant unavoidable impacts of the project and the anticipated benefits of the project. The City finds that the project's benefits of providing housing, including BMR units, outweighs the project's significant unavoidable environmental effects.

On balance, the City finds that there are specific considerations associated with the project that serve to override and outweigh the project's significant unavoidable effects. Therefore, pursuant to CEQA Guidelines Section 15093(b), these adverse effects are considered acceptable.

J. SUBSTANTIAL EVIDENCE SUPPORTING FINDINGS

Substantial evidence supporting each and every finding made herein is contained in the Final EIR and record of proceedings. Omission of reference in these findings to any evidence in the EIR and/or record of proceedings is not intended to exclude that evidence as supporting these findings.

In making these findings, the City Council has relied upon the expertise of a variety of independent technical and professional consultants to the City, and the expertise of the City's Staff. The City Council has also carefully considered the evidence submitted by property owners and other interested agencies and individuals. To the extent that evidence consists of expert opinions that differ from the opinions of the City's outside consultants and Staff, at most it represents a disagreement of experts, which is adequately reviewed in the EIR. Based on its review, the City Council has determined that the opinions of its outside consultants and Staff are valid and are hereby accepted. In some instances, the City Council has also relied on the expertise of other agencies who have provided comments on the Draft EIR and other actions related to the Project. To the extent that alternatives or mitigation measures were proposed by other agencies or interested persons that differ from the mitigation adopted herein, the City Council specifically rejects these proposals based on the substantial evidence in the record supporting the mitigation adopted as sufficient and necessary to mitigate impacts to a less than significant level or to the level that the impacts can feasibly be mitigated.

ATTACHMENT "A"

MITIGATION MONITORING AND REPORTING PROGRAM

Crosswinds Residential Project

File Numbers: EA2020-0007, SD2020-0003, and SR2020-0010: Half – Dividend (Crosswinds)

May 3, 2023

CITY OF MORGAN HILL

PREFACE

Section 21081.6 of the California Environmental Quality Act (CEQA) requires a Lead Agency to adopt a Mitigation Monitoring and Reporting Program (MMRP) whenever it approves a project for which measures have been required to mitigate or avoid significant effects on the environment. The purpose of the monitoring and reporting program is to ensure compliance with the mitigation measures during project implementation.

The Environmental Impact Report (EIR) prepared for the Crosswinds Residential Project concluded that the implementation of the project could result in significant effects on the environment and mitigation measures were incorporated into the proposed project or are required as a condition of project approval. This MMRP addresses those measures in terms of how and when they will be implemented.

This document does *not* discuss those subjects for which the EIR concluded that the impacts from implementation of the project would be less than significant.

I, _____, the applicant, on the behalf of _____, hereby agree to fully implement the Mitigation Measures described below which have been developed in conjunction with the preparation of an EIR for my proposed project. I understand that these mitigation measures or substantially similar measures will be adopted as conditions of approval with my development permit request to avoid or significantly reduce potential environmental impacts to a less than significant level, where feasible.

Project Applicant's Signature _____

Date _____

CITY OF MORGAN HILL

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
AGRICULTURAL RESOURCES			
Impact AG-1: The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. **(Significant and Unavoidable Impact with Mitigation Incorporated)**			
MM AG-1.1: A minimum of one acre of agricultural land (1:1 mitigation ratio) shall be preserved for each acre of agricultural land changed to a non-agricultural use. The required acreage of area to be protected through an agricultural conservation easement or agricultural preservation in-lieu fee will depend on the measurement of affected area. The 16 acres of Prime Farmland will be used for calculating the required mitigation.	To be implemented by the project applicant prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of any grading and/or building permits.	Director of Development Services Department.
MM AG-1.2: Conversion of agricultural land shall require off-setting acquisition and/or dedication of agricultural conservation easements over approved agricultural mitigation land, or payment to the City of the agricultural preservation in-lieu fee, to support agricultural preservation activities. Developer acquisition/dedication of easements shall require the project to pay	To be implemented by the project applicant prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of any grading and/or building permits.	Director of Development Services Department.

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
an agricultural lands preservation program stewardship fee to cover administrative costs and ongoing management and monitoring of the easements. Agricultural mitigation fees shall be required prior to the acceptance of a final parcel or subdivision map, or prior to issuance of building or grading permits. Easement dedication is required prior to issuance of building permits.			
BIOLOGICAL RESOURCES			
Impact BIO-1: The project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. **(Less than Significant Impact with Mitigation Incorporated)**			
MM BIO-1.1: Construction shall be scheduled to avoid the nesting season. If construction can be scheduled to occur between September 1st and January 31st (inclusive) to avoid the raptor nesting season, no impacts will be expected. If construction will take place between February 1st and August 31st, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. Performance of the required surveys for construction occurring between February 1st and August 31st will ensure that impacts to nesting raptors are	To be implemented by qualified biologist prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of any grading and/or building permits.	Director of Development Services Department.

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
reduced to less than significant. Surveys will be completed within 30 days of the on-set of site clearing or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, buildings) onsite trees as well as all trees within 250 feet of the site for nests. The pre-construction survey shall be submitted to the City's Development Services Director or the Director's designee for review prior to tree removals or issuance of a grading permit.			
MM BIO-1.2: If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50-100 feet for other species) that will remain off limits to construction until the nesting season is over, to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Wildlife Code will be disturbed during project implementation. A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the City's	To be implemented by qualified biologist prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of any grading and/or building permits.	Director of Development Services Department.

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
Development Services Director or Director's designee prior to issuance of a grading permit.			
Impact BIO-5: The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. **(Less than Significant Impact with Mitigation Incorporated)**			
MM BIO-5.1: The project applicant shall comply with local ordinances and submit permit applications for removal, trimming, damage, or relocation of all trees covered by the City ordinance. Any trees to be removed shall require replacement at a two-to-one ratio on a comparable ratio of size. The replacement trees shall be planted on site to the extent feasible and the project proponent shall comply with all other replacement requirements imposed by the City. Prior to tree removal, the project applicant shall apply for a tree removal permit, which will be reviewed by the City's Development Services Director or Director's designee.	To be implemented by the project applicant prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of any grading and/or building permits.	Director of the Development Services Department.
CULTURAL RESOURCES			
Impact CUL-2: Demolition and construction activities on the project site could unearth sensitive archaeological resources. **(Less than Significant Impact with Mitigation Incorporated)**			
MM CUL-2.1: A moderate potential exists for unrecorded historic-period archaeological resources to be within the project area. The developer shall enter into written contracts with an archaeologist and the Tamien Nation	To be implemented by a qualified archaeologist during project demolition, grading, and construction activities.	All measures will be required as part of the development permit. All measures will be printed on	Director of Development Services Department.

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
Tribe, and pay all fees associated with the activities required by this Mitigation Measure. The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply: (a) Prior to the start of grading or earthmoving activity (includes demolition and moving of heavy equipment on site) on the "first day of construction," the archaeologist and Tribal Monitor shall hold a pre-construction meeting for the purposes of "cultural sensitivity training" with the general contractor or subcontractors. (b) A Tamien Nation Tribal Monitor shall be present on-site to monitor all ground-disturbing activities and an archaeologist shall be on-call. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below: 1. Work at the location of the find shall halt immediately within 50 feet of the find. If an		all construction documents, contracts, and project plans prior to issuance of any grading and/or building permits.	

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
archaeologist is not present at the time of the discovery, the applicant shall contact an archaeologist for evaluation of the find to determine whether it qualifies as a unique archaeological resource as defined by this chapter. 2. If the find is determined not to be a Unique Archaeological resource, construction can continue. The archaeologist shall prepare a brief informal memo/letter in collaboration with a tribal representative that describes and assesses the significance of the resource, including a discussion of the methods used to determine significance for the find. 3. If the find appears significant and to qualify as a unique archaeological resource, the archaeologist shall determine if the resource can be avoided and shall detail avoidance procedures in a formal memo/letter. 4. If the resource cannot be avoided, the archaeologist in collaboration with a tribal representative shall develop within forty-eight hours an action plan to avoid or minimize impacts. The field crew shall not proceed until the action plan is approved by			

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
the City' Development Services Director or Director's designee. The action plan shall be in conformance with California Public Resources Code 21083.2. An archaeologist shall be on-call during ground disturbing activities. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below. (c) The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply. If human remains are discovered, it is probable they are the remains of Native Americans. 1. If human remains are encountered, they shall be treated with dignity and respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a need-to-know basis. The rights of Native Americans to practice			

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
ceremonial observances on sites, in labs, and around artifacts shall be upheld. 2. Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled. 3. Surgical masks should also be worn to prevent exposure to pathogens that may be associated with the remains. (d) In the event that known or suspected Native American remains are encountered, or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, ground stone mortars and pestles), culturally altered ash stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials and historic structure remains such as stone lined building foundations, wells, or privy pits. Ground-disturbing project activities may continue in			

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
other areas that are outside the exclusion zone as defined below. (e) An “exclusion zone” where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the contractor foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time of discovery, by the monitoring archaeologist and tribal representative (typically 25 to 50 feet for single burial or archaeological finds). (f) The discovery locale shall be secured (e.g., 24-hour surveillance) as directed by the City or County Coroner if considered prudent to avoid further disturbances. (g) The contractor foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition:			

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
• The City of Morgan Hill Development Services Director (408) 779-7247 • The Contractor's Point(s) of Contact • The Coroner of the County of Santa Clara (if human remains found) (408) 793-1900 • The Native American Heritage Commission (NAHC) in Sacramento (916) 653-4082 • The Amah Mutsun Tribal Band (916) 481-5785 (H) or (916) 743-5833 (C) • The Tamien Nation (707) 295-4011 (office) and (925) 336-5359 (THPO) (h) The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American, the Coroner has 24 hours to notify the NAHC. (i) The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD). (Note: NAHC policy holds that the Native American Monitor will not be designated as the MLD). (j) Within 24 hours of their notification by the NAHC, the MLD will be granted permission to inspect the discovery site if they so choose.			

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
(k) Within 24 hours of their notification by the NAHC, the MLD may recommend to the City's Development Services Director or Director's designee, the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the appropriate tribe may be considered and carried out. (l) If the MLD recommendation is rejected by the City of Morgan Hill, the parties will attempt to mediate the disagreement with the NAHC. If mediation fails, then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.			
MM CUL-2.2: The project applicant shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources including prehistoric Native American	To be implemented by the project applicant prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on	Director of Development Services Department.

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
burials. Any archaeological site information supplied to the Contractor Foreman or authorized representative shall be considered confidential. Information on the project plans shall be verified by the City's Development Services Director or Director's designee prior to issuance of a grading permit or any building permit.		all construction documents, contracts, and project plans prior to issuance of any grading and/or building permits.	
GREENHOUSE GAS EMISSIONS			
Impact GHG-1: The project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. **(Less than Significant Impact with Mitigation Incorporated)**			
MM GHG-1.1: The project applicant shall develop a GHG reduction plan to reduce GHG emissions in the build-out year by 206 MT/year prior to issuance of a grading permit and to the satisfaction of the City's Development Services Director or Director's designee. These reductions shall be kept in place by the project until the City adopts a qualified GHG reduction plan (consistent with CEQA Guidelines Section 15183.5) that contains goals and associated strategy to decrease emissions in a manner consistent with meeting the State's interim 2030 GHG emissions reduction target of 40 percent below 1990 levels.	To be implemented by the project applicant prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of any grading and/or building permits.	Director of Development Services Department.
MM GHG-1.2: A combination of the GHG reduction elements listed below would	To be implemented by the project applicant prior to	All measures will be required as part of the	Director of Development Services Department.

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
reduce project GHG impacts. The project applicant shall implement some or all of the following elements to further reduce GHG emission from operation of the project and the service population efficiency metric such that the metric would be below the significance threshold. The GHG reduction elements to be included within the project shall be verified prior to the issuance of a building permit and shall be to the satisfaction of the City's Development Services Director or Director's designee. • Prior to issuance of any building permits, the project applicant shall submit a Transportation Demand Management (TDM) Plan, which would include measures to reduce vehicle miles traveled (VMT) and GHG emissions, to the City's Development Services Director or Director's designee; • The TDM Plan shall be implemented by the Homeowners Association (HOA) once the proposed residences are occupied. • The project applicant shall install solar power systems or other renewable electric generating systems that provide electricity	issuance of any grading and/or building permit and prior to occupancy of the project.	development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of any grading and/or building permits.	

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
to power on-site equipment and possibly provide excess electric power; • The project applicant shall provide infrastructure for electric vehicle charging for residential units (i.e., provide 220 VAC power); and, • The project applicant shall increase water conservation above state average conditions for residential uses by installing low flow water utilities and irrigation.			
MM GHG-1.3: The project applicant shall purchase verifiable carbon emission offsets through a verified registry for remaining amount of GHG reduction required, after exhausting on-site reduction options prior to issuance of a building permit. Offsets shall be determined by calculating the total estimated number of GHG emissions the project would create over a 30-year period, and purchasing verifiable offsets based on the calculated number of GHG emissions.	To be implemented by the project applicant prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of any grading and/or building permits.	Director of Development Services Department.
HAZARDS AND HAZARDOUS MATERIALS			
Impact HAZ-2: The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. **(Less than Significant Impact with Mitigation Incorporated)**			
MM HAZ-2.1: Since lead-impacted soils are determined to be present in concentrations above established regulatory environmental screening levels, the project applicant shall enter into the Santa Clara County	To be implemented by the project applicant prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents,	Santa Clara County Department of Environmental Health and Director of the Development Services Department

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
Department of Environmental Health's (SCCDEH) Voluntary Cleanup Program (VCP), or equivalent, to formalize regulatory oversight of the mitigation of contaminated soil to ensure the site is safe for construction workers and the public after development. The project applicant responsible for the contaminated area of the site shall remove contaminated soil to levels acceptable to the SCCDEH (or equivalent oversight agency) for residential exposure prior to issuance of any grading permits.		contracts, and project plans prior to issuance of grading permits.	
MM HAZ-2.2: A Removal Action Plan, Soil Mitigation Plan or other similarly titled report describing the remediation shall be prepared and implemented to document the removal and /or capping of contaminated soil. Prior to issuance of any grading permits, a copy of any reports prepared shall be submitted to the Development Services Director or Director's designee. All work and reports produced shall be performed under the regulatory oversight and approval of the SCCDEH (or equivalent oversight agency).	To be implemented by the project applicant prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of grading permits.	Santa Clara County Department of Environmental Health and Director of the Development Services Department
MM HAZ-2.3: The project applicant shall prepare a Site Management Plan (SMP) prior to issuance of any grading permits to reduce or eliminate exposure risk to human	To be implemented by the project applicant prior to	All measures will be required as part of the development permit. All	Santa Clara County Department of Environmental Health and Director of the

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
health and the environment, specifically, potential risks associated with the presence of organochlorine pesticides and pesticide-based metals. The SMP shall include, but is not limited to, the following elements to mitigate potential risks associated with environmental conditions: • Procedures for transporting and disposing the waste material generated during removal activities, if such transport and disposal is necessary; • Procedures for stockpiling soil on-site if such stockpiling is necessary; • Provisions for collecting soil samples to prior to grading activities; • Provisions for confirmation soil sampling as appropriate to obtain a “No Further Action” letter (or equivalent) from the state and/or local agency assuming oversight for the site; • Procedures to ensure that fill and cap materials are verified as clean truck routes; • Staging and loading procedures and record keeping requirements. The SMP shall reference the Storm Water Pollution Prevention Plan (SWPPP) required for the project in accordance with the Construction General Permit Order issued	issuance of any grading and/or building permit.	measures will be printed on all construction documents, contracts, and project plans prior to issuance of grading permits.	Development Services Department

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
by the California State Water Resources Control Board. The SMP shall be submitted to the Santa Clara County Department of Environmental Health (SCCDEH), or equivalent regulatory agency, for review and approval. Copies of the approved SMP shall be provided to the City's Development Services Department prior to issuance of any grading permits.			
MM HAZ-2.4: All contractors and subcontractors at the project site shall develop a health and safety plan (HSP) specific to their scope of work and based upon the known environmental conditions for the site. Each Health and Safety plan shall be implemented under the direction of a Site Safety and Health Officer. The Health and Safety Plan shall include, but not limited to, the following elements, as applicable: • Provisions for personal protection and monitoring exposure to construction workers; • Procedures to be undertaken in the event that contamination is identified above action levels or previously unknown contamination is discovered;	To be implemented by the project applicant prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of grading permits.	Santa Clara County Department of Environmental Health and Director of the Development Services Department

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
• Procedures for the safe storage, stockpiling, and disposal of contaminated soils; • Provisions for the on-site management and/or treatment of contaminated groundwater during extraction or dewatering activities; • Emergency procedures and responsible personnel. The HSP shall be submitted to the Santa Clara County Department of Environmental Health (SCCDEH), or equivalent regulatory agency, for review and approval. Copies of the approved HSP shall be provided to the City's Development Services Department prior to issuance of any grading permits.			
MM HAZ-2.5: Prior to issuance of any grading permits, the project applicant shall excavate lead-impacted soils identified at sample location SS-R-17B (near the single-family residence and barn structure) to a depth of at least 2.5 below the ground. The soil shall be properly disposed of in accordance with state and SCCDEH and California Code of Regulations, Title 8 waste disposal requirements. The SCCDEH (or equivalent oversight agency) may also approve leaving in-place some of the contaminated soil if the contaminated soil will be buried under hardscape and/or	To be implemented by the project applicant prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of grading permits.	Santa Clara County Department of Environmental Health and Director of the Development Services Department

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
several feet of clean soil and not at risk of being encountered by future site users or nearby residents.			
MM HAZ-2.6: Prior to issuance of a demolition permit for on-site structures, the project applicant shall consult with certified Asbestos and/or Lead Risk Assessors to complete and submit for review to the Building Department an asbestos and lead survey. If asbestos-containing materials or lead-containing materials are not discovered during the survey, further mitigation related to asbestos-containing materials or lead-containing materials shall not be required. If asbestos containing materials and/or lead-containing materials are discovered by the survey, the project applicant shall prepare a work plan to demonstrate how the on-site asbestos-containing materials and/or lead-containing materials shall be removed in accordance with current California Occupational Health and Safety (Cal-OSHA) Administration regulations and disposed of in accordance with all CalEPA regulations, prior to the demolition and/or removal of the on-site structures. The plan shall include the requirement that work shall be conducted by a Cal-OSHA registered asbestos and lead	To be implemented by the project applicant prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of grading permits.	Santa Clara County Department of Environmental Health and Director of the Development Services Department

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
abatement contractor in accordance with Title 8 CCR 1529 and Title 8 CCR 1532.1 regarding asbestos and lead training, engineering controls, and certifications. The applicant shall submit the work plan to the City for review and approval. The City has the right to defer the work plan to the Santa Clara County Department of Environmental Health for additional review. The following measures shall be included in the work plan: • During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Title 8, California Code of Regulations (CCR), Section 1532.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of lead being disposed. • All potentially friable asbestos containing materials (ACMs) shall be removed in accordance with National Emission Standards for Air Pollution (NESHAP) guidelines prior to demolition or renovation activities that may disturb ACMs. All demolition activities shall be undertaken in accordance with Cal/OSHA standards contained in Title 8, CCR,			

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
Section 1529, to protect workers from asbestos exposure. • A registered asbestos abatement contractor shall be retained to remove and dispose of ACMs identified in the asbestos survey performed for the site in accordance with the standards stated above. • Materials containing more than one-percent asbestos are also subject to Bay Area Air Quality Management District (BAAQMD) regulations. Removal of materials containing more than one-percent asbestos shall be completed in accordance with BAAQMD requirements and notifications. • Based on Cal/OSHA rules and regulations, the following conditions are required to limit impacts to construction workers. • Prior to commencement of demolition activities, a building survey, including sampling and testing, shall be completed to identify and quantify building materials containing lead-based paint. • During demolition activities, all building materials containing lead-based paint shall be removed in accordance with			

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
Cal/OSHA Lead in Construction Standard, Title 8, CCR, Section 1532.1, including employee training, employee air monitoring and dust control. • Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of waste being disposed.			
MM HAZ-2.7: Prior to issuance of a grading permit, the project applicant shall research well records from Valley Water and attempt to locate abandoned wells at the site. The project applicant or contractor shall contact Valley Water's Wells Hotline immediately to assist in the identification of abandoned/unregistered wells or structures and help determine the appropriate means of addressing them. If the wells are identified, or subsequently encountered during earthwork activities, the wells shall be properly destroyed in accordance with Valley Water Ordinance 90-1. If septic systems are encountered during earthwork activities, those systems shall be abandoned in accordance with SCCDEH requirements.	To be implemented by the project applicant prior to issuance of any grading and/or building permit.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of grading permits.	Santa Clara County Department of Environmental Health and Director of the Development Services Department
TRANSPORTATION			
Impact TRN-2: The project would conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). **(Significant and Unavoidable Impact with Mitigation Incorporated)**			

MITIGATIONS	MONITORING AND REPORTING PROGRAM		
	Timeframe and Responsibility for Implementation	**Method of Compliance**	**Oversight of Implementation**
MM TRN-2.1: Prior to project occupancy, the project applicant shall develop and implement a Transportation Demand Management (TDM) plan which targets achieving a reduction in residential vehicle trips to and from the site. The TDM plan shall be prepared by a qualified traffic consultant and in coordination with the City of Morgan Hill Development Services Director or Designee. The TDM plan shall quantify the reduction in VMT. The TDM shall require the project applicant to make a financial contribution to the City's on-site demand rideshare service (MoGo), as a one-time or annual financial contribution based on City approval, or during project operations, the management entity/HOA shall provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director or Director's designee prior to issuance of occupancy.	To be implemented by the project applicant prior to issuance of occupancy and during project operation.	All measures will be required as part of the development permit. All measures will be printed on all construction documents, contracts, and project plans prior to issuance of building permits.	Director of the Development Services Department

Source: City of Morgan Hill. *Crosswinds Residential Project Final EIR.* May 3, 2023.

RESOLUTION NO. 23-05

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF MORGAN HILL RECOMMENDING THAT THE CITY COUNCIL APPROVE A VESTING TENTATIVE MAP AND A DESIGN PERMIT FOR A RESIDENTIAL DEVELOPMENT, COMPRISED OF 269 UNITS, LOCATED AT THE SOUTHWEST INTERSECTION OF HALF ROAD AND MISSION VIEW DRIVE FOR THE CROSSWINDS AT MORGAN HILL (APNS 728-30-001, 728-30-002, 728-30-003, AND 728-30-004)

WHEREAS, on June 16, 2020, Dividend Homes submitted applications for a Vesting Tentative Map and Design Permit for a 269-unit residential development, comprised of 56 single-family court-yard style homes, 64 duets, and 149 townhome-style condominium units. (SD2020-003/SR2020-0010: Half-Dividend (Crosswinds)); and

WHEREAS, such requests were considered by the Planning Commission at its meeting of May 23, 2023; and

WHEREAS, an Environmental Impact Report has been prepared for this project as part of the Vesting Tentative Map and Design Review Permit applications. Mitigation measures and a monitoring program will be adopted for those environmental impacts identified in the report; and

WHEREAS, testimony received at a duly-noticed public hearing, along with exhibits and drawings and other materials have been considered in the review process.

NOW, THEREFORE, THE MORGAN HILL PLANNING COMMISSION DOES RESOLVE AS FOLLOWS:

SECTION 1. The Planning Commission has considered the full record before it, which may include but not limited to such things as the staff report, public testimony, and other materials and evidence submitted or provided. Furthermore, the recitals set forth above are found to be true and correct and are incorporated herein by reference.

SECTION 2. The Vesting Tentative Map, together with its provisions for its design and improvements, is consistent with the General Plan or specific plans adopted by the City.

The Vesting Tentative Map entitled "The Crosswinds at Morgan Hill" submitted by Ruggeri-Jensen-Azar (RJA) April 2023, attached as Exhibit A has been designed consistent with the City's General Plan, considering neighborhood circulation patterns, and providing future connections.

SECTION 3. The project is consistent with the Zoning Ordinance, and General Plan.

The project site is located in the Residential Attached Low (RAL) Zoning District. The project, as proposed, is consistent with the General Plan and meets the base zoning standards.

SECTION 4. The project is subject to the SB 330 permit streamlining process and has been designed consistent with the City's Design Review Criteria and the City's Residential Development Design and Development Standards adopted by City Council Resolution No. 21-001 on January 20, 2021.

The proposed project substantially complies with all applicable design standards and guidelines contained in the Design Review Handbook and the City's adopted Residential Development Design and Development Standards.

SECTION 5. The proposed project development will not be detrimental to the public health, safety, or welfare or materially injurious to the properties or improvements in the vicinity.

The development site is not located adjacent to any wildlands that could expose people or structures to wildfire risks. The project site is not located within an earthquake fault zone. In addition, the project will comply with stormwater and building code requirements. The project will not be detrimental to the public health, safety, or welfare, and will not be materially injurious to the properties or improvements in the vicinity.

SECTION 6. The proposed project complies with all Design Review criteria in subsection H. of Section 18.108.040 of the municipal code.

The project as proposed complies with all criteria in subsection H of Section 18.108.040 (Design Review Criteria) of the Morgan Hill Municipal Code as demonstrated in the staff report.

SECTION 7. The Planning Commission recommends that the City Council approves SD2020-0003/SR2020-0010: Half-Dividend (Crosswinds). The design shall be expressly conditioned in conformance with conditions incorporated herein and as attached as Exhibit "B". Minor deviations to the site review permit may be approved by the Development Services Director when consistent with the overall intent of the project.

PASSED AND ADOPTED THIS 23rd DAY OF MAY 2023, AT A REGULAR MEETING OF THE PLANNING COMMISSION BY THE FOLLOWING VOTE:

AYES: COMMISSIONERS:

NOES: COMMISSIONERS:

ABSTAIN: COMMISSIONERS:

ABSENT: COMMISSIONERS:

ATTEST: **APPROVED:**

JENNA LUNA, Deputy City Clerk **JOESEPH MUELLER, Chair**

EXHIBIT "A"

VESTING TENTATIVE MAP

EXHIBIT "B"
STANDARD CONDITIONS

APPLICATION NO: SR2020-0010/SD2020-0003/EA2020-0007:HALF - DIVIDEND (CROSSWINDS)

THE FOLLOWING APPROVAL REQUIREMENTS AND ANY SPECIAL CONDITIONS SHALL BE APPLIED THROUGH THE DEVELOPMENT APPROVAL PROCESS.

Legend

MHMC= Morgan Hill Municipal Code
MHARH= Morgan Hill Architectural Review Handbook
CMH= City of Morgan Hill
CFC= California Fire Code

I. PROJECT DESCRIPTION

The project includes a total of 269 residential units, comprised of 56 single-family, 64 duets, and 149 condominium units. The single-family detached residences would consist of clustered courtyard-style homes and would be constructed on the eastern and southern perimeters of the project site, along Mission View Drive and Half Road. The single-family courtyard residences would be two-stories and reach a maximum height of 30 feet. The two-story attached duets would be located in the center of the project site and would reach a maximum height of 30 feet. Three-story townhome-style condominiums would be constructed along the western and northwestern perimeters of the project site, along DePaul Drive and adjacent to a vacant parcel. The condominiums would reach a maximum height of 39 feet. There would be a total of 40 below-market-rate (BMR) units dispersed throughout the project and unit type. The project would include recreational areas including a clubhouse, pool, children's play area, and barbeque/picnic areas. The project would also include pedestrian paths, and landscaping, including trees and lawn areas.

The project shall comply with all requirements of related project approvals granted by the City, including all of the following:

A. Vesting Tentative Map SD2020-0003
B. Design Review SR2020-0010
C. Environmental Assessment EA2020-0007

II. PROJECT MITIGATION MEASURES

The applicant shall be subject to compliance with the mitigation measures of the project's adopted Mitigation Monitoring and Reporting Program. The following mitigation measures shall be included with all building permit, grading, or improvement plans.

Agricultural Resources

A. **MM AG-1.1**: A minimum of one acre of agricultural land (1:1 mitigation ratio) shall be preserved for each acre of agricultural land changed to a non-agricultural use. The required acreage of area to be protected through an agricultural conservation easement or agricultural preservation in-lieu fee will depend on the measurement of affected area. The 16 acres of Prime Farmland will be used for calculating the required mitigation.

B. **MM AG-1.2**: Conversion of agricultural land shall require off-setting acquisition and/or dedication of agricultural conservation easements over approved agricultural mitigation land, or payment to the City of the agricultural preservation in-lieu fee, to support agricultural preservation activities. Developer acquisition/dedication of easements shall require the project to pay an agricultural lands preservation program stewardship fee to cover administrative costs and ongoing management and monitoring of the easements. Agricultural mitigation fees shall be required prior to the acceptance of a final parcel or subdivision map, or prior to issuance of building or grading permits. Easement dedication is required prior to issuance of building permits.

Biological Resources

C. **MM BIO-1.1**: Construction shall be scheduled to avoid the nesting season. If construction can be scheduled to occur between September 1st and January 31st (inclusive) to avoid the raptor nesting season, no impacts will be expected. If construction will take place between February 1st and August 31st, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. Performance of the required surveys for construction occurring between February 1st and August 31st will ensure that impacts to nesting raptors are reduced to less than significant. Surveys will be completed within 30 days of the on-set of site clearing or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, buildings) onsite trees as well as all trees within 250 feet of the site for nests. The pre-construction survey shall be submitted to the City's Development Services Director or the Director's designee for review prior to tree removals or issuance of a grading permit.

D. **MM BIO-1.2**: If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50-100 feet for other species) that will remain off limits to

construction until the nesting season is over, to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Wildlife Code will be disturbed during project implementation. A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the City's Development Services Director or Director's designee prior to issuance of a grading permit.

E. **MM BIO-5.1**: The project applicant shall comply with local ordinances and submit permit applications for removal, trimming, damage, or relocation of all trees covered by the City ordinance. Any trees to be removed shall require replacement at a two-to-one ratio on a comparable ratio of size. The replacement trees shall be planted on site to the extent feasible and the project proponent shall comply with all other replacement requirements imposed by the City. Prior to tree removal, the project applicant shall apply for a tree removal permit, which will be reviewed by the City's Development Services Director or Director's designee.

Cultural Resources

F. **MM CUL-2.1**: A moderate potential exists for unrecorded historic-period archaeological resources to be within the project area. The developer shall enter into written contracts with an archaeologist and the Tamien Nation Tribe, and pay all fees associated with the activities required by this Mitigation Measure. The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply:

(a) Prior to the start of grading or earthmoving activity (includes demolition and moving of heavy equipment on site) on the "first day of construction," the archaeologist and Tribal Monitor shall hold a pre-construction meeting for the purposes of "cultural sensitivity training" with the general contractor or subcontractors.

(b) A Tamien Nation Tribal Monitor shall be present on-site to monitor all ground-disturbing activities and an archaeologist shall be on-call. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below:

1. Work at the location of the find shall halt immediately within 50 feet of the find. If an archaeologist is not present at the time of the discovery, the applicant shall contact an archaeologist for evaluation of the find to

determine whether it qualifies as a unique archaeological resource as defined by this chapter.

2. If the find is determined not to be a Unique Archaeological resource, construction can continue. The archaeologist shall prepare a brief informal memo/letter in collaboration with a tribal representative that describes and assesses the significance of the resource, including a discussion of the methods used to determine significance for the find.
3. If the find appears significant and to qualify as a unique archaeological resource, the archaeologist shall determine if the resource can be avoided and shall detail avoidance procedures in a formal memo/letter.
4. If the resource cannot be avoided, the archaeologist in collaboration with a tribal representative shall develop within forty-eight hours an action plan to avoid or minimize impacts. The field crew shall not proceed until the action plan is approved by the City' Development Services Director or Director's designee. The action plan shall be in conformance with California Public Resources Code 21083.2. An archaeologist shall be on-call during ground disturbing activities. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below.

(c) The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply. If human remains are discovered, it is probable they are the remains of Native Americans.

1. If human remains are encountered, they shall be treated with dignity and respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a need-to-know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs, and around artifacts shall be upheld.
2. Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled.
3. Surgical masks should also be worn to prevent exposure to pathogens that may be associated with the remains.

(d) In the event that known or suspected Native American remains are encountered, or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, ground stone mortars and pestles),

culturally altered ash stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials and historic structure remains such as stone lined building foundations, wells, or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below.

(e) An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the contractor foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time of discovery, by the monitoring archaeologist and tribal representative (typically 25 to 50 feet for single burial or archaeological finds).

(f) The discovery locale shall be secured (e.g., 24-hour surveillance) as directed by the City or County Coroner if considered prudent to avoid further disturbances.

(g) The contractor foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition:

- The City of Morgan Hill Development Services Director (408) 779-7247
- The Contractor's Point(s) of Contact
- The Coroner of the County of Santa Clara (if human remains found) (408) 793-1900
- The Native American Heritage Commission (NAHC) in Sacramento (916) 653-4082
- The Amah Mutsun Tribal Band (916) 481-5785 (H) or (916) 743-5833 (C)
- The Tamien Nation (707) 295-4011 (office) and (925) 336-5359 (THPO)

(h) The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American, the Coroner has 24 hours to notify the NAHC.

(i) The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD). (Note: NAHC policy holds that the Native American Monitor will not be designated as the MLD).

(j) Within 24 hours of their notification by the NAHC, the MLD will be granted permission to inspect the discovery site if they so choose.

(k) Within 24 hours of their notification by the NAHC, the MLD may recommend to the City's Development Services Director or Director's designee, the

recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the appropriate tribe may be considered and carried out.

(l) If the MLD recommendation is rejected by the City of Morgan Hill, the parties will attempt to mediate the disagreement with the NAHC. If mediation fails, then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.

G. **MM CUL-2.2**: The project applicant shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources including prehistoric Native American burials. Any archaeological site information supplied to the Contractor Foreman or authorized representative shall be considered confidential. Information on the project plans shall be verified by the City's Development Services Director or Director's designee prior to issuance of a grading permit or any building permit.

Greenhouse Gas Emissions

H. **MM GHG-1.1**: The project applicant shall develop a GHG reduction plan to reduce GHG emissions in the build-out year by 206 MT/year prior to issuance of a grading permit and to the satisfaction of the City's Development Services Director or Director's designee. These reductions shall be kept in place by the project until the City adopts a qualified GHG reduction plan (consistent with CEQA Guidelines Section 15183.5) that contains goals and associated strategy to decrease emissions in a manner consistent with meeting the State's interim 2030 GHG emissions reduction target of 40 percent below 1990 levels.

I. **MM GHG-1.2**: A combination of the GHG reduction elements listed below would reduce project GHG impacts. The project applicant shall implement some or all of the following elements to further reduce GHG emission from operation of the project and the service population efficiency metric such that the metric would be below the significance threshold. The GHG reduction elements to be included within the project shall be verified prior to the issuance of a building permit and shall be to the satisfaction of the City's Development Services Director or Director's designee.

- Prior to issuance of any building permits, the project applicant shall submit a Transportation Demand Management (TDM) Plan, which would include measures to reduce vehicle miles traveled (VMT) and GHG emissions, to the City's Development Services Director or Director's designee;

- The TDM Plan shall be implemented by the Homeowners Association (HOA) once the proposed residences are occupied.
- The project applicant shall install solar power systems or other renewable electric generating systems that provide electricity to power on-site equipment and possibly provide excess electric power;
- The project applicant shall provide infrastructure for electric vehicle charging for residential units (i.e., provide 220 VAC power); and,
- The project applicant shall increase water conservation above state average conditions for residential uses by installing low flow water utilities and irrigation.

J. **MM GHG-1.3**: The project applicant shall purchase verifiable carbon emission offsets through a verified registry for remaining amount of GHG reduction required, after exhausting on-site reduction options prior to issuance of a building permit. Offsets shall be determined by calculating the total estimated number of GHG emissions the project would create over a 30-year period, and purchasing verifiable offsets based on the calculated number of GHG emissions.

Hazards and Hazardous Materials

K. **MM HAZ-2.1**: Since lead-impacted soils are determined to be present in concentrations above established regulatory environmental screening levels, the project applicant shall enter into the Santa Clara County Department of Environmental Health's (SCCDEH) Voluntary Cleanup Program (VCP), or equivalent, to formalize regulatory oversight of the mitigation of contaminated soil to ensure the site is safe for construction workers and the public after development. The project applicant responsible for the contaminated area of the site shall remove contaminated soil to levels acceptable to the SCCDEH (or equivalent oversight agency) for residential exposure prior to issuance of any grading permits.

L. **MM HAZ-2.2**: A Removal Action Plan, Soil Mitigation Plan or other similarly titled report describing the remediation shall be prepared and implemented to document the removal and /or capping of contaminated soil. Prior to issuance of any grading permits, a copy of any reports prepared shall be submitted to the Development Services Director or Director's designee. All work and reports produced shall be performed under the regulatory oversight and approval of the SCCDEH (or equivalent oversight agency).

M. **MM HAZ-2.3**: The project applicant shall prepare a Site Management Plan (SMP) prior to issuance of any grading permits to reduce or eliminate exposure risk to human health and the environment, specifically, potential risks associated with the presence of organochlorine pesticides and pesticide-based

metals. The SMP shall include, but is not limited to, the following elements to mitigate potential risks associated with environmental conditions:

- Procedures for transporting and disposing the waste material generated during removal activities, if such transport and disposal is necessary;
- Procedures for stockpiling soil on-site if such stockpiling is necessary;
- Provisions for collecting soil samples to prior to grading activities;
- Provisions for confirmation soil sampling as appropriate to obtain a "No Further Action" letter (or equivalent) from the state and/or local agency assuming oversight for the site;
- Procedures to ensure that fill and cap materials are verified as clean truck routes;
- Staging and loading procedures and record keeping requirements.

The SMP shall reference the Storm Water Pollution Prevention Plan (SWPPP) required for the project in accordance with the Construction General Permit Order issued by the California State Water Resources Control Board. The SMP shall be submitted to the Santa Clara County Department of Environmental Health (SCCDEH), or equivalent regulatory agency, for review and approval. Copies of the approved SMP shall be provided to the City's Development Services Department prior to issuance of any grading permits.

N. **MM HAZ-2.4**: All contractors and subcontractors at the project site shall develop a health and safety plan (HSP) specific to their scope of work and based upon the known environmental conditions for the site. Each Health and Safety plan shall be implemented under the direction of a Site Safety and Health Officer. The Health and Safety Plan shall include, but not limited to, the following elements, as applicable:

- Provisions for personal protection and monitoring exposure to construction workers;
- Procedures to be undertaken in the event that contamination is identified above action levels or previously unknown contamination is discovered;
- Procedures for the safe storage, stockpiling, and disposal of contaminated soils;
- Provisions for the on-site management and/or treatment of contaminated groundwater during extraction or dewatering activities;
- Emergency procedures and responsible personnel.

The HSP shall be submitted to the Santa Clara County Department of Environmental Health (SCCDEH), or equivalent regulatory agency, for review and approval. Copies of the approved HSP shall be provided to the City's Development Services Department prior to issuance of any grading permits.

O. **MM HAZ-2.5**: Prior to issuance of any grading permits, the project applicant shall excavate lead-impacted soils identified at sample location SS-R-17B (near the single-family residence and barn structure) to a depth of at least 2.5 below the ground. The soil shall be properly disposed of in accordance with state and SCCDEH and California Code of Regulations, Title 8 waste disposal requirements. The SCCDEH (or equivalent oversight agency) may also approve leaving in-place some of the contaminated soil if the contaminated soil will be buried under hardscape and/or several feet of clean soil and not at risk of being encountered by future site users or nearby residents.

P. **MM HAZ-2.6**: Prior to issuance of a demolition permit for on-site structures, the project applicant shall consult with certified Asbestos and/or Lead Risk Assessors to complete and submit for review to the Building Department an asbestos and lead survey. If asbestos-containing materials or lead- containing materials are not discovered during the survey, further mitigation related to asbestos-containing materials or lead-containing materials shall not be required. If asbestos containing materials and/or lead-containing materials are discovered by the survey, the project applicant shall prepare a work plan to demonstrate how the on-site asbestos-containing materials and/or lead-containing materials shall be removed in accordance with current California Occupational Health and Safety (Cal-OSHA) Administration regulations and disposed of in accordance with all CalEPA regulations, prior to the demolition and/or removal of the on-site structures. The plan shall include the requirement that work shall be conducted by a Cal-OSHA registered asbestos and lead abatement contractor in accordance with Title 8 CCR 1529 and Title 8 CCR 1532.1 regarding asbestos and lead training, engineering controls, and certifications. The applicant shall submit the work plan to the City for review and approval. The City has the right to defer the work plan to the Santa Clara County Department of Environmental Health for additional review. The following measures shall be included in the work plan:

- During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Title 8, California Code of Regulations (CCR), Section 1532.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of lead being disposed.
- All potentially friable asbestos containing materials (ACMs) shall be removed in accordance with National Emission Standards for Air Pollution (NESHAP) guidelines prior to demolition or renovation activities that may disturb ACMs. All demolition activities shall be undertaken in accordance with Cal/OSHA standards contained in Title 8, CCR, Section 1529, to protect workers from asbestos exposure.

- A registered asbestos abatement contractor shall be retained to remove and dispose of ACMs identified in the asbestos survey performed for the site in accordance with the standards stated above.
- Materials containing more than one-percent asbestos are also subject to Bay Area Air Quality Management District (BAAQMD) regulations. Removal of materials containing more than one-percent asbestos shall be completed in accordance with BAAQMD requirements and notifications.
- Based on Cal/OSHA rules and regulations, the following conditions are required to limit impacts to construction workers.
- Prior to commencement of demolition activities, a building survey, including sampling and testing, shall be completed to identify and quantify building materials containing lead-based paint.
- During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Construction Standard, Title 8, CCR, Section 1532.1, including employee training, employee air monitoring and dust control.
- Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of waste being disposed.

Q. **MM HAZ-2.7**: Prior to issuance of a grading permit, the project applicant shall research well records from Valley Water and attempt to locate abandoned wells at the site. The project applicant or contractor shall contact Valley Water's Wells Hotline immediately to assist in the identification of abandoned/unregistered wells or structures and help determine the appropriate means of addressing them. If the wells are identified, or subsequently encountered during earthwork activities, the wells shall be properly destroyed in accordance with Valley Water Ordinance 90-1. If septic systems are encountered during earthwork activities, those systems shall be abandoned in accordance with SCCDEH requirements.

Transportation

R. **MM TRN-2.1**: Prior to project occupancy, the project applicant shall develop and implement a Transportation Demand Management (TDM) plan which targets achieving a reduction in residential vehicle trips to and from the site. The TDM plan shall be prepared by a qualified traffic consultant and in coordination with the City of Morgan Hill Development Services Director or Designee. The TDM plan shall quantify the reduction in VMT. The TDM shall require the project applicant to make a financial contribution to the City’s on-site demand rideshare service (MoGo), as a one-time or annual financial contribution based on City approval, or during project operations, the management entity/HOA shall provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which

would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director or Director's designee prior to issuance of occupancy.

III. PROJECT CONDITIONS OF APPROVAL

This Vesting Tentative Map and Design Permit approval is limited to the plan set date stamped April 29, 2023 on file (File Number SR2020-0010) with the Development Services Department. The approved building plans and landscape plans must be in substantial conformance with the Design Permit plans as determined by the Development Services Director. These documents show the location and sizes of all lots in this development, the location and dimensions of all vehicle and pedestrian circulation ways (ingress/egress), common areas, and other easement areas.

It shall be the responsibility of the Owner to ensure that any changes or modifications to the Project or any Unit are in compliance with the original City Conditions of Approval of the Project, which are incorporated herein.

The Final Map shall be in substantial compliance with the approved Vesting Tentative Map as determined by the City Engineer and Development Services Director.

PLANNING DIVISION

DEFENSE AND INDEMNITY

A. As part of, and in connection, with this application to the City of Morgan Hill, Applicant agrees to defend, indemnify, and hold harmless the City of Morgan Hill, its officers, agents, employees, officials and representatives (Indemnitees) from and against any and all claims, actions, or proceedings arising from any suit for damages or for equitable or injunctive relief which is filed against City to attack, set aside, void or annul its approval of this application or any related decision, or the adoption of any environmental documents which relates to said approval. The City shall promptly notify the Applicant of any such claim, action or proceeding and the City shall cooperate fully in the defense thereof. In the event that Applicant is required to defend Indemnitees in connection with the proceeding, Indemnitees shall retain the right to approve (a) the counsel to so defend Indemnitees; (b) all significant decisions concerning the manner in which the defense is conducted; and (c) any and all settlements, which approval shall not be unreasonably withheld. This indemnification shall include, but is not limited to, (a) all pre-tender litigation costs incurred on behalf of the City, including City's attorney's fees and all other litigation costs and expenses, including expert witnesses, required to defend against any lawsuit brought as a result of City's approval or approvals; (b) reasonable internal City administrative

costs, including but not limited to staff time and expense spent on the litigation, after tender is accepted; and (c) all damages, costs, expenses, attorney fees or expert witness fees that may be awarded to the prevailing party arising out of or in connection with the approval of the application or related decision. City may, in its sole discretion, participate in the defense of such action; but such participation shall not relieve Applicant of its obligations under this condition. The undersigned hereby represents that they are the Applicant or are fully empowered by the Applicant as their agent to agree to provide the indemnification, defense and hold harmless obligations, and the signature below represents the unconditional agreement by Applicant to be bound by such conditions.

TIME LIMITS

A. **Term:** The Design Permit approval granted pursuant to this Resolution shall remain in effect for two years to _____. Failure to obtain building permits within this term shall result in termination of approval unless an extension of time is granted with a showing of just cause prior to expiration date. **(MHMC 18.108.040)**

B. **Term:** The Vesting Tentative Map approval granted pursuant to this Resolution shall remain in effect for two years to _____. Failure to apply for Final Map approval with the City Engineer within this term shall result in expiration of approval unless an extension of time is granted by the Development Services Department prior to the expiration date. **(MHMC 18.104.210)**

SITE DEVELOPMENT

A. **Final Site Development Plans:** Final site development plans shall be reviewed for conformance with Design Review Permit SR2020-0010 Half-Dividend (Crosswinds) and in accordance with Morgan Hill Municipal Code Section 18.108.040 (Design Permit) and approved by the Development Services Department prior to issuance of a building permit. All such plans shall include:

1. Detail depicting all concrete curbs as full formed.

2. Provision of catalogue drawings depicting the proposed parking area lighting fixtures. Exterior lighting of the building and site shall be designed so that lighting is not directed onto adjacent properties and light source is shielded from direct off-site viewing.

3. Ramps, special parking spaces, signing and other physical features for the disabled, shall be provided throughout the site for all publicly used facilities.

4. All mechanical equipment, including electrical and gas meters, post indicator valve, backflow prevention devices, etc., shall be architecturally screened from view or located interior to the building. All ground mounted utility appurtenances such as transformers shall not be visible from any public right-of-way and shall be adequately screened through the use or combination of concrete or masonry walls, berming, and landscaping. **(MHARH p.20, 45, 79)** For additional screening, backflow preventers shall be painted dark green, except the fire connection which shall be painted yellow.

5. All existing on-site overhead utilities shall be placed underground in an approved conduit from the service connection at the street or at the property line to the service connection at the building.

B. **Pedestrian Access**: The Project shall provide pedestrian walkways in compliance with ADA requirements and with Section 18.72.060.H of the Morgan Hill Municipal Code, which states the following:

1. Parking lots with more than thirty parking spaces shall include a pedestrian walkway in compliance with ADA requirements.

2. The design of the pedestrian walkway shall be clearly visible and distinguished from parking and circulation areas through striping, contrasting paving material, or other similar method as approved by the Development Services Director.

C. **Bicycle parking**. The project shall provide short-term and long-term bicycle parking spaces in conformance with Section 18.72.080 and Table 18.72-7 of the Morgan Hill Municipal Code:

Table 18.72-7: Required Bicycle Parking Spaces

Land Use	**Required Bicycle Parking Spaces**	
	Short-Term Spaces	**Long-Term Spaces**
Multi-family dwellings	10 percent of required automobile spaces; min. of 4 spaces	1 per 5 units

1. **Short-Term/Class II Bicycle Parking Standards**. Short-term bicycle parking shall be located within one hundred feet of the primary entrance of the structure or use it is intended to serve.

2. **Long-Term Bicycle Parking Standards**. The following standards apply to long-term bicycle parking:
   a. Location. Long-term bicycle parking shall be located on or within

seven hundred fifty feet of the use that it is intended to serve.

b. Security. Long-term bicycle parking spaces shall be secured. Spaces are considered secured if they are:
   i. In a locked room or area enclosed by a fence with a locked gate;
   ii. Within view or within one hundred feet of an attendant or security guard;
   iii. In an area that is monitored by a security camera; or
   iv. Visible from employee work areas.

3. **Parking Space Dimensions**.
   a. Minimum dimensions of two feet by six feet shall be provided for each bicycle parking space.
   b. An aisle of at least five feet shall be provided behind all bicycle parking to allow room for maneuvering.
   c. 2 feet of clearance shall be provided between bicycle parking spaces and adjacent walls, polls, landscaping, pedestrian paths, and other similar features.
   d. Four feet of clearance shall be provided between bicycle parking spaces and adjacent automobile parking spaces and drive aisles.

4. **Rack Design**. Bicycle racks must be capable of locking both the wheels and the frame of the bicycle and of supporting bicycles in an upright position.

5. **Cover**. Required cover for bicycle parking spaces shall be permanent, designed to protect the bicycle from rainfall, and at least seven feet above the floor or ground.

The location of all bicycle parking spaces shall be identified prior to issuance of a building permit.

D. **Electric Vehicle Charging Stations**: The Project shall provide electric vehicle charging stations in compliance with Section 18.72.040.C of the Morgan Hill Municipal Code. The project is required to provide two charging stations, plus one for each additional fifty parking spaces. The developer shall provide location of each charging station prior to issuance of building permit.

E. **Tandem parking and garages**: Residents shall use tandem parking spaces and dedicated garages for parking. This requirement shall be incorporated into the Covenants, Conditions and Restrictions (CC&R's) for the project.

F. **Street Names:** Street names, private or otherwise, used to identify building locations shall be submitted at building permit stage to the Planning Division for approval. Proposed street names shall comply with the Street Naming Policy

approved by City Council (Resolution No. 4601).

G. **Tree Protection:** Unless tree removal has been previously approved, all trees located within 25 feet of any site disturbance shall be protected using the following minimum protection measures (these guidelines shall be included with all site development plans):

1. Mark all trees to be saved with a survey flag or ribbon. Do not nail or staple directly to the tree.

2. Erect a temporary fence enclosing an area equal to at least the dripline of the tree (or as far from the trunk as possible). This tree protection zone shall not be used for parking, storage of building materials, or other equipment or the placement of temporary or permanent fill. Signs should be posted identifying the restriction of uses in the tree protection zone.

3. Locate structures, grade changes, and other ground or surface disturbances (e.g. concrete pours) as far as feasible from the “dripline” area of the tree.

4. Avoid root damage through grading, trenching, and compaction, at least within an area 1.5 times the dripline area of the tree. Where root damage cannot be avoided, roots encountered over 1 inch in diameter should be exposed approximately 12 inches beyond the area to be disturbed (towards the tree stem), by hand excavation, or with specialized hydraulic or pneumatic equipment, cut cleanly with hand pruners or power saw and immediately back-filled with soil. Avoid tearing or otherwise disturbing that portion of the roots to remain.

5. The addition of plant or other landscaping materials shall remain outside of the dripline of all trees.

6. All trees proposed to be removed from the project site shall be replaced at a 1:1 ratio. Replacement trees shall be consistent with the City of Morgan Hill Master Street Tree. All replacement trees shall be a minimum of 15-gallons in size. All mitigation/replacement trees shall be shown on the landscape plans and approved by the Development Services Director prior to the issuance of the building/grading permit.

7. Any tree subject to Chapter 12.32 Restrictions on Removal of Significant Trees of the Morgan Hill Municipal Code requires approval from the Planning Division. The applicant shall request approval prior to removing any significant trees.

BUILDING DESIGN

A. **Roof mounted mechanical equipment:** All roof mounted mechanical

equipment shall be placed within a screened roof top enclosure depicted on the elevation drawings or located below the parapet level and shall not be visible from the ground at any distance from the building. Cross section roof drawings shall be provided at the building permit stage indicating the relative height of the screen wall or parapet. Minimum screen height or parapet depth shall be 5 feet or greater to match the height of any proposed equipment. **(MHARH p.48, 65, 87, 106)**

B. **Building mounted lighting:** Lighting fixtures shall not project above the facia or roofline of the building. Any ground mounted lighting projecting onto the building or site shall be subject to the review and approval of the Development Services Director. Adjustment to the lighting intensity may be required after the commencement of the use. **(MHARH p. 67, 109)**

C. **Architectural elements:** A final site development plan shall be provided at the building permit stage for review and approval to the Development Services Director prior to issuance of a building permit.

1. All vents, gutters, downspouts, flashing, electrical conduits, etc. shall be painted to match the color of the adjacent surface or otherwise designed in harmony with the building exterior.

2. Soffits and other architectural elements visible from view but not detailed on the plans shall be finished in a material in harmony with the exterior of the building.

PARKING, VEHICULAR ACCESS AND LANDSCAPING

A. **Parking lot landscaping:** All landscaping within parking lots shall comply with the requirements of Chapter 18.72 (Landscaping) in addition to the standards within this section.

1. **Interior Landscaping**. All areas within a parking lot not utilized for parking spaces or access/circulation shall be landscaped. For parking lots with more than fifteen spaces, the minimum amount of interior landscaping is specified in Table 18.72-6. Interior landscaping is defined as any landscaped area surrounded on at least two sides by parking spaces or drive aisles, and excluding areas around the perimeter of the parcel or development site.

Table 18.72-6: Minimum Required Parking Lot Landscaping

Number of Required Parking Spaces	Percent of Surface Parking Area to be Landscaped
16-30	10 percent
31-60	15 percent

Over 60	20 Percent

2. **Shade Trees**.
   a. One shade tree shall be provided for every five parking spaces in a parking lot.
   b. Shade trees shall be a minimum twenty-four-inch box in size and shall provide a minimum thirty-foot canopy at maturity.
   c. Shade trees shall be of a type that can reach maturity within fifteen years of planting and shall be selected from a city-recommended list of canopy tree species.
   d. Shade trees shall be arranged in a parking lot to provide maximum shade coverage (based on a thirty-foot canopy) on August 21. The arrangement should approximate nearly fifty percent shade coverage.

3. **Concrete Curbs**.
   a. All landscape areas shall be separated from parking spaces, drive aisles and driveways by a continuous, raised concrete curb. Raised concrete curbs shall be a minimum of six inches high by four inches deep.
   b. The city may approve alternatives to raised concrete curbs as needed to comply with any mandatory stormwater drainage standards.

4. **Parking Space Landscaping**. A maximum of two feet at the front end of a parking space may be landscaped with low shrubs or ground cover in which a vehicle could extend over in lieu of paving surface. This landscaping may not count toward minimum required parking lot landscaped area.

5. **Timing**. Landscaping shall be installed prior to the city's authorization to occupy any buildings served by the parking area, or prior to the final inspection for the parking lot.

B. **Landscape maintenance agreement:** The applicant shall enter into a two-year landscape maintenance agreement effective upon acceptance of landscaping improvements and provide an appropriate bond as required by Section 18.64.070 (Landscaping maintenance and enforcement) of the Municipal Code. Bond amount shall be equal to 100 percent of the value of the landscaping and irrigation improvements for the development project.

C. **Planting and irrigation working drawings:** Detailed landscape planting and irrigation working drawings shall be submitted to the Development Services Director for approval prior to issuance of building permits. Landscape plans for streets and landscape easements shall be part of the improvement plan

submittal.

D. **Lighting**: Walkways and pedestrian pathways in landscaped areas or common areas not considered building entrances or a part of parking lot areas shall be illuminated with a minimum of one (1) foot-candle to ensure safe nighttime conditions. **(MHARH p.30, 67, 108)**

1. A final photometric plan shall be provided at the building permit stage for review and approval to the Development Services Director prior to issuance of a building permit.

E. **Maintenance of landscaping:** The landscaping installed and accepted with this project shall be maintained on the site as stated within the approved plans. Any alteration or modification to the landscaping shall not be permitted unless otherwise approved by the Development Services Director.

F. **Water Conserving Landscape Ordinance:** The landscape plans shall be in conformance with the City's Water Conserving Landscape Ordinance that was developed in accordance with California law. This Ordinance restricts landscaping turf to certain areas, specifies plant selection, requires certain types of irrigation equipment, and calls for the development of comprehensive water use calculations as an aspect of the submitted landscape plans. **(MHMC 18.64)**

G. **Reciprocal Ingress/Egress Easements:** Prior to issuance of a certificate of occupancy, the property owner shall record an appropriate deed restriction and covenant running with the land subject to review and approval of the Development Services Director for a reciprocal ingress/egress easement along the common driveway.

SIGNS

A. **Separate application required for sign approval:** Signs proposed for this development shall be designed in conformance with the Sign Ordinance and shall require separate application and approval by the Planning Division prior to installation of any signs.

B. **Directory signs required**: Directory sign(s) and location map(s) shall be provided for apartment, condominium, or townhouse projects prior to occupancy. Location of the sign(s) shall be interior to the project and design of the directory sign(s) shall be approved by the Planning Division and Fire Department prior to issuance of building permits. **(MHARH p.61)**

HABITAT PLAN

A. **Fees:** The approved project is covered pursuant to the Santa Clara Valley Habitat Plan (Habitat Plan) and subject to fees and conditions contained in the Habitat Plan.

B. **Application Package**: Prior to issuance of a grading permit, the project shall complete and submit a Habitat Plan Application Package. All fees shall be paid prior to issuance of a grading permit. **(MHMC 18.132)**

C. **Conditions:** Any additional conditions or mitigations required by the Habitat Plan shall be clearly stated on all plans that involve any ground disturbing activity (i.e. grading plans, improvement plans, paving plans, demolition plans or other plans for site clearing or temporary stockpile of dirt). **(MHMC 18.132)**

AIR QUALITY

A. **Dust, Noise, Vibration and Materials Management Plan:** A management plan detailing strategies for control of noise, dust and vibration, and storage of hazardous materials during construction of the project shall be submitted for review prior issuance of a grading permit and requirements shall be included on all site development and grading plans. The intent of this condition is to minimize construction related disturbance of residents of the nearby or adjacent properties. **(MHMC 18.76)**

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Replant vegetation in disturbed areas as soon as possible after completion of construction.

7. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of

the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

8. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

9. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

CULTURAL RESOURCES

A. **Significant historic or archaeological materials:** A moderate potential exists for unrecorded historic-period archaeological resources to be within the project area. The developer shall enter into written contracts with an archaeologist and the Tamien Nation Tribe, and pay all fees associated with the activities required by this condition. The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply:

1. Prior to start of grading or earthmoving activity on the "first day of construction", the archaeologist and Tamien Nation Tribal Monitor shall hold a pre-construction meeting for the purposes of "cultural sensitivity training" with the general contractor and subcontractors.

2. A Tamien Nation Tribal Monitor shall be present on-site to monitor all ground-disturbing activities and an archaeologist shall be on-call. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below:

   a. Work at the location of the find will halt immediately within fifty feet of the find. If an archaeologist is not present at the time of the discovery, the applicant shall contact an archaeologist for evaluation of the find to determine whether it qualifies as a unique archaeological resource as defined by this chapter;

   b. If the find is determined not to be a Unique Archaeological Resource, construction can continue. The archaeologist will prepare a brief informal memo/letter in collaboration with a tribal

representative that describes and assesses the significance of the resource, including a discussion of the methods used to determine significance for the find;

c. If the find appears significant and to qualify as a unique archaeological resource, the archaeologist will determine if the resource can be avoided and will detail avoidance procedures in a formal memo/letter; and

d. If the resource cannot be avoided, the archaeologist in collaboration with a tribal representative shall develop within forty-eight hours an action plan to avoid or minimize impacts. The field crew shall not proceed until the action plan is approved by the Development Services Director. The action plan shall be in conformance with California Public Resources Code 21083.2.

3. The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply. If human remains are discovered, it is probable they are the remains of Native Americans,

a. If human remains are encountered, they shall be treated with dignity and respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a need to know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld.

b. Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled.

c. Surgical mask should also be worn to prevent exposure to pathogens that may be associated with the remains.

4. In the event that known or suspected Native American remains are encountered, or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, ground stone mortars and pestles), culturally altered ash stained midden soils associated with pre-contact Native American habitation sites,

concentrations of fire-altered rock and/or burned or charred organic materials and historic structure remains such as stone lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below.

5. An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the contractor foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time or discovery, by the monitoring archaeologist and tribal representative (typically twenty-five to fifty feet for single burial or archaeological find).

6. The discovery locale shall be secured (e.g., 24-hour surveillance) as directed by the City or County if considered prudent to avoid further disturbances.

7. The Contractor Foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition:
   - The City of Morgan Hill Development Services Director (408) 779-7247
   - The Contractor's Point(s) of Contact
   - The Coroner of the County of Santa Clara (if human remains found) (408) 793-1900
   - The Native American Heritage Commission (NAHC) in Sacramento (916) 653-4082
   - The Amah Mutsun Tribal Band (916) 481-5785 (H) or (916) 743-5833 (C)
   - The Tamien Nation (707)295-4011 (office) and (925)336-5359 (THPO)

8. The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American the Coroner has 24 hours to notify the NAHC.

9. The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD). (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.)

10. Within 24 hours of their notification by the NAHC, the MLD will be granted

permission to inspect the discovery site if they so choose.

11. Within 24 hours of their notification by the NAHC, the MLD may recommend to the City's Development Services Director the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the appropriate tribe may be considered and carried out.

12. If the MLD recommendation is rejected by the City of Morgan Hill the parties will attempt to mediate the disagreement with the NAHC. If mediation fails then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.

NOISE

A. **Construction Hours:** The project shall comply with Chapter 8.28 of the Morgan Hill Municipal Code which prohibits construction activities between 8:00 PM and 7:00 AM, Monday through Friday, and between 6:00 PM and 9:00 AM on Saturdays. Construction activities may not occur on Sundays or federal holidays.

B. **Noise Construction Control Plan:** The project applicant shall develop a noise construction control plan, which shall be submitted to the Development Services Director or Director's designee for review and approval prior to issuance of a grading permit. The noise construction control plan shall include but not be limited to the following construction best management controls:

- Equipment and trucks used for construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds);
- Impact tools (e.g., jackhammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools; and
- Stationary noise sources shall be located as far from noise-sensitive receptors as possible, and they shall be muffled and enclosed within

temporary sheds, incorporate insulation barriers, or include other measures.

- Construct temporary noise barriers, where feasible, to screen stationary noise-generating equipment. Temporary noise barrier fences would provide a 5 dBA noise reduction if the noise barrier interrupts the line-of-sight between the noise source and receptor and if the barrier is constructed in a manner that eliminates any cracks or gaps.
- Unnecessary idling of internal combustion engines shall be strictly prohibited.
- Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction. Locate material stockpiles, as well as maintenance/equipment staging and parking areas, as far as feasible from residential receptors.
- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.
- Where feasible, temporary power service from local utility companies should be used instead of portable generators.
- Locate cranes as far from noise-sensitive receptors as possible.
- During final grading, substitute graders for bulldozers, where feasible. Wheeled heavy equipment are quieter than track equipment and should be used where feasible.
- Substitute nail guns for manual hammering, where feasible.
- Avoid the use of circular saws, miter/chop saws, and radial arm saws near the adjoining noise-sensitive receptors. Where feasible, shield saws with a solid screen with material having a minimum surface density of two pounds per square foot (e.g., such as 0.75-inch plywood).
- Maintain smooth vehicle pathways for trucks and equipment accessing the site and avoid local residential neighborhoods as much as possible.
- During interior construction, the exterior windows facing noise-sensitive receptors should be closed.
- During interior construction, locate noise-generating equipment within the building to break the line-of-sight to the adjoining receptors.
- The contractor shall prepare a detailed construction schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.

- Designate a “disturbance coordinator” who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

GENERAL

A. **Mitigation Fee Act:** Notice is hereby given that, pursuant to the Mitigation Fee Act, the City of Morgan Hill charges certain fees (as such term is defined in Government Code Section 66000) in connection with approval of this development project for the purpose of defraying all or a portion of the cost of public facilities related to this development project (Mitigation Fee Act Fees). These fees do not include fees for processing applications for governmental regulatory actions or approvals, or fees collected as part of development agreements. The Mitigation Fee Act Fees applying to this project are listed in the schedule of fees to be provided at building permit stage. Notice is also hereby given that the Developer has an opportunity to protest the imposition of the Mitigation Fee Act Fees within 90 days of the approval or conditional approval of this development project and that the 90-day protest period has begun.

B. **Covenants, Conditions and Restrictions**: The applicant shall provide a set of Covenants, Conditions and Restrictions (CC&R’s), Bylaws and Articles of Incorporation, for review and approval by the Development Services Director prior to final occupancy or recordation of a final map. All such CC&Rs shall include the following:

1. The Owners recognize that the use, modification and proper maintenance of the Common Area and public right-of-way(s)* are for the benefit of all citizens of the City of Morgan Hill (City) and that the City is an intended third-party beneficiary of these covenants, conditions and restrictions and may, upon notice of hearing as set forth below, exercise the same powers of enforcement as the Association.

   *Public right-of-way: Exclusive of streets dedicated to and accepted by the City of Morgan Hill.

2. The City may, by mail or personal delivery, give written notice of the breach of any maintenance obligation to the Association with a demand that such breach be remedied. If such breach is not remedied within thirty (30) days of the mailing or delivery of such notice, the City shall have standing and the right (but not the obligation) to bring a court action

against the Association and Owners to enforce such provision. In addition, the City shall be entitled to recover reasonable attorneys' fees and costs incurred in such action.

3. The Notice may also contain a date for a hearing on the matter before a City employee designated by the City (which hearing shall be held no sooner than fifteen (15) days after mailing of such notice), and if after such hearing the City determines that there has been inadequate maintenance, the City shall have the right (but not the obligation) to undertake the maintenance of the Common Area or public right-of-way in question. Any and all costs incurred by the City in so maintaining the Common Area or public right-of-way shall be a lien against all the properties included with the Project and shall be the personal responsibility of the Owners and the Association.

4. The entire Project and all of the properties located thereon shall be subject to the conditions and restrictions of all subdivision and other Project approvals by the City, with respect to the Project. Any changes and/or modifications to the Project and/or any Unit, including but not limited to changes to the exterior of any Unit, may be subject to review and approval of the City of Morgan Hill as may be determined by review of the Project approvals by the City of Morgan Hill.

5. This section may not be amended without the prior written consent of the Development Services Director for the City. Nothing contained in this section shall limit any other right or remedy which the City may have under its ordinances or state law.

6. For the purposes of this section, the question of whether there has been a breach of a maintenance obligation or adequate maintenance shall be determined by the provisions of the original Declaration as first recorded with the County Recorder for Santa Clara County and by any amendment thereto, but only to the extent that such maintenance obligation or duty of maintenance is increased by such amendment.

C. **Signed copies of Approval Certificate:** Submit two (2) signed copies of the Approval Certificate to the Planning Division prior to issuance of a building permit.

D. **Minimize Seismic Shaking:** To avoid or minimize potential damage from seismic shaking, the proposed residential development shall be built using standard engineering and seismic safety design techniques. Prior to issuance of building permits, building design and construction at the site shall be completed in conformance with the recommendations of a design-level geotechnical investigation, which shall be included in a report to the City. The structural

designs for the proposed development will account for repeatable horizontal ground accelerations. The report shall be reviewed and approved by the City of Morgan Hill Building Division prior to issuance of a building permit. The buildings shall be required to meet the requirements of applicable Building and Fire Codes, including the California Building Code Chapter 16, Section 1613, as adopted or updated by the City. The project will be designed to withstand soil hazards identified on the site and the project shall be designed to reduce the risk to life or property to the extent feasible and in compliance with the Building Code.

ENGINEERING DIVISION

Project Specific

A. **Streets:**

1. Mission View Drive:
   a. For the future realignment of Mission View per the General Plan and circulation element, the needed street right-of-way dedication shall be granted to City as shown on sheet PA-11 of the preliminary submittal.

B. **Stormwater Management, Drainage, and Flood Control:**

1. The MADRONE CHANNEL 2D FLOODPLAIN STUDY, dated July 2022, jointly prepared by Akel Engineering Group, Inc. and Kasraie Consulting for the City of Morgan Hill and Valley Water was completed to determine the available 100-year flow capacity in the Madrone Channel. A summary of the floodplain study was documented in a separate Technical Memo by AKEL ENGINEERING titled “Proposed New 42” Storm Drain Outfall at Half Road”, dated December 16, 2022. The Technical Memo included recommendations to the City on how to manage the remaining 100-year flow capacity in the Madrone Channel among developments north of Half Road, which includes the Crosswinds Project. The Crosswinds Project will need to update plans, calculations, and reports to be consistent with the Flood Study and Technical Memo. The Technical was previously provided to the Crosswinds developer.
2. Flood Facility Sizing:
   a. The minimum required volume for the on-site detention facility(ies) shall be designed to hold the 25-year, 24-hour design storm event with an additional 25% detention basin volume for freeboard.
   b. The 25-year, 24-hour design storm event is 5.24” rainfall if the downstream conveyance is capable of conveying excess flow up to the 100-year, 24-hour of 6.50” rainfall design storm. The design storm is based on Table 3.4 “Hydrology and Hydraulics Design Criteria for Ponding Basins” of the City’s 2018 Storm Drainage System Master Plan.
   c. Release into the new public storm main along Half Road cannot exceed the flow rate, per the Technical Memo stated under Comment no. C.1. Note that the Crosswinds Project shall submit flow calculations for the

100-year storm event where the 100-year post-development flow does not exceed the project's Madrone Channel capacity allotment of 13.4 cfs.

3. Stormwater Management:
   a. This project shall comply with the California Regional Water Quality Control Board Central Coast Region Resolution No. R3-2013-0032 as documented by the Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements. Following the approval of the SD and SR application, these conditions for Stormwater Management shall be addressed on the Preliminary Post-Construction Stormwater Control Plan prior to submitting for the Building Permits and Final Map approval applications.
   b. If the project is proposing underground infiltration systems (such as pre-manufactured vaults and modular structures), submit a geotechnical report/soils assessment of the proposed underground infiltration systems that shall include the following to confirm the underground infiltration systems comply with the post-construction requirements:
      i. Statement of whether the site is suitable for the proposed underground infiltration system;
      ii. Site-specific soil infiltration rates for each area of the site at the depths (i.e., at the base of the facility) where the underground infiltration systems are proposed;
      iii. Field boring/test pit logs;
      iv. Information about any surface or subsurface soil contamination at the site;
      v. Identification of seasonally high depth to groundwater table surface elevation; and
      vi. Identification of potential impacts to nearby structural foundations.
   c. If underground infiltration systems are proposed, the project shall also demonstrate compliance with the following design criteria for the underground infiltration system:
      i. Minimum soil infiltration rate: 1.0 inch per hour after applying a safety factor of 2, as initially determined from field-measured soil infiltration test. If the site-specific soil infiltration rate is less than 1.0 inch per hour after applying a safety factor of 2, a hydraulic modeling and calculation was provided showing the drawdown time for the system is no longer than 48 hours;
      ii. Contributing drainage area to the underground infiltration system is less than 5 acres (217,800 sq. ft.);
      iii. Meets the Santa Clara Valley Water District's Guidelines for Stormwater Infiltration Devices *(see page 25 of the Stormwater Management Guidance Manual for Low Impact Development & Post-Construction Requirements)* that include the following*:*
         (a) Required horizontal setbacks from drinking water wells, septic systems, underground storage tanks and known contamination sites;

(b) Required vertical separation from seasonally high groundwater; and
(c) Provides pretreatment prior to infiltration.

iv. Minimum 10' horizontal distance from a building or structural foundation unless a wider distance is recommended by the project's Geotechnical/Soils Engineer.
v. Minimum 10' horizontal distance to any adjacent property line.
vi. Minimum distance from slopes greater than 15% as recommended by the project's Geotechnical/Soils Engineer; and
vii. Proposed underground infiltration system will not produce infiltrating water that contains a pollutant that will be discharged to a nearby waterway/surface water impaired for that pollutant.

C. **Water:** Onsite water system shall be privately maintained.
1. Private submeters to be located or banked in accessible locations similar to public meters, to be accessible to renter/owner, HOA, city staff, and County Weights and Measures.

D. **Broadband Connectivity:** Indicate on the plans that broadband conduits will be provided along all public frontages (Mission View Drive, Half Road, and De Paul Drive).

E. **Transportation:** Pursuant to the project's EIR, the developer shall comply with the following:
1. Transit Facilities: Prior to final map approval, developer shall pay a fair share contribution toward the installation of a southbound bus stop, including street lighting, landscaping, and a new passenger pad, after the main entrance on Mission View Drive.
2. Cochrane Road and Mission View Drive: Prior to final map approval, developer shall pay a fair share contribution toward the installation of a second northbound left-turn lane on Mission View Drive and a cycle length adjustment to improve intersection operations. The addition of the second northbound left-turn lane will require lane striping and signal modification but will fit within the existing curb-to-curb pavement width on Mission View Drive. The cost to install the required traffic signal modification, improvements, and striping required for the addition of the second left-turn lane shall be reimbursed to the developer, by agreement or credits, and shall be issued on a per unit basis through the traffic impact fees to be determined by the Public Services Director or Director's designee at improvement plan stage.
3. Mission View Drive and Half Road: Prior to final map approval, developer shall pay a fair share contribution toward the installation of a signal at the Mission View Drive and Half Road intersection.
4. Main Avenue and Condit Road: Prior to final map approval, developer shall pay a fair share contribution toward the addition of an exclusive southbound

right-turn lane on Condit Road. The addition of the right-turn lane will require signal modifications and lane striping on the southbound approach.

5. Condit Road and Diana Avenue: Prior to final map approval, developer shall pay a fair share contribution toward the installation of a signal at the Condit Road and Diana Avenue intersection.

F. **Parkland Dedication/Parkland Fee In-Lieu:** This project is subject to the Parkland Dedication and Parkland Fee In-Lieu requirements **(MHMC 17.28).**

1. The developer shall pay fees, in-lieu of parkland dedication, at the time of filing of the project's final map to meet the parkland obligation. The project's parkland obligation will be calculated using the formula shown in MHMC Section 17.28.060.
2. Private recreation credits, which could allow a credit of up to 40% towards the parkland obligation, could be available for private open space(s) within the subdivision that meets the standard requirements listed in MHMC Section 17.28.130.

G. **Final or Parcel Map:** The project's tract/final map shall be approved by the City Council prior to issuance of a grading permit. **(MHMC 17.20.390; 17.24.210)**

H. **Reciprocal Access:** Reciprocal access easements and maintenance agreements ensuring access to all parcels and joint maintenance of all common roads, drives or parking areas shall be provided by CC&R's and by deed and shall be recorded concurrent with the map, or prior to issuance of building permit where no map is involved. **(MHMC 17.20.350 H)**

I. **Stormwater Management:** The project is proposing a land use that is considered a priority by the City to implement trash full capture. At improvement plan/building permit stage, the project shall include the installation of a trash full capture system(s) from a list of certified trash full capture systems by the State Water Resources Control Board. The list of certified trash full capture systems can be viewed from the Water Board's webpage at: https://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/trash_implementation/2022/fullcptre-availabletopublic10-11.pdf

J. **Water:**

1. Project shall grid private water from Mission View Drive to De Paul Drive with Phase 1 for pressure redundancy.
2. Install public master meters at two locations: Mission View Drive and De Paul Drive with Phase 1.
3. All new water main installations (public and private) shall adhere to the separation criteria established by the California Waterworks Standards (California Code of Regulations (CCR), Title 22, Division 4, Chapter 16, Section 64572). Any proposal for alternative compliance to these requirements shall be submitted to the State Water Resources Control

Board' Division of Drinking Water, pursuant to CCR, Title 22, Section 64551.100.

K. **Private Sanitary Sewer Maintenance Agreement**: Prior to final map approval/building permit issuance, the Owner(s) shall enter into a Private Sanitary Sewer Maintenance Agreement with the City for maintenance of all private sanitary sewer facilities which includes the private sewer mains, and sewer laterals. The Agreement shall be recorded at the County Recorder's Office prior to building final.

L. **Reimbursement:** Prior to final map approval, the project shall pay reimbursement fees for the actual costs of the following improvements to be constructed by the Redwood Tech Industrial Development and which will benefit the Crosswinds Project (refer to Subsequent Development Reimbursement Agreement executed on October 26, 2022 by the City and Redwood Tech developer):

1. De Paul Drive Improvements *(Maximum Reimbursable Amount = $473,591)*: Half of cost of new wet utilities (water and storm) along Crosswinds' property frontage.
2. Sanitary Sewer Main Extension *(Maximum Reimbursable Amount = $785,301):* 55% Cost-share cost (per sewer cost allocation between the Redwood Tech Project and Crosswinds Project) of total estimated sewer extension cost, less the cost to upsize entire length of sanitary sewer main extension from 8" (developers' responsibility) to 10".

M. At improvement plan/building permit stage, the developer shall submit the offsite improvement plans to Valley Water for review of the proposed improvements that may impact the existing Valley Water groundwater recharge pipeline along Half Road.

GENERAL

A. **Final Map:** The applicant shall have a Final Map prepared by a registered engineer (licensed prior to 01/01/1982: registration number 33,965 or lower) or licensed land surveyor delineating all parcels and easements created. There shall be concurrence in writing by PG & E, Telephone, Cable TV and any other affected agencies to all improvements and easements which are applicable to them. The number and locations of monuments shall be set as required by the City Engineer. **(MHMC 17.20.200 A; 17.20.290; 17.24.010)**

B. **Public and Private Improvements**: The applicant shall cause the construction of all public and private improvements in accordance with the latest City Standard Drawings and Specifications. **(MHMC 12.02.090 A; 17.32.010 A)**

C. **Improvement Drawings**: The applicant shall submit as part of the improvement

drawings for the project, profiles of all improvements in the subdivision and typical cross-sections of all streets and details of curbs, gutters, and sidewalks, to be accomplished to the satisfaction of the City Engineer prior to submittal of Final Map. **(MHMC Sec 17.32.060 B; 17.32.070; 17.32.080 A)**

1. Improvement plans shall show water lines, sanitary sewer, storm drain system, pavement widths, curve radius, and existing utilities.

D. **Encroachment Permits**: Obtain necessary encroachment permits from the City of Morgan Hill and provide guarantee covering off-site improvements. **(MHMC 12.08.040 A; 12.08.090)**

E. **Subdivision Improvement Agreement**: Enter into a Subdivision Improvement Agreement (SIA) with the City of Morgan Hill to cover required improvements. **(MHMC 12.02.150; 17.32.010 B; 17.32.160)**

F. **Impact Fee Increase:** The City of Morgan Hill, pursuant to City Code Chapter 3.56 has established impact fees to finance the cost of improvements required by new development. City Code Chapter 3.56.050 provides for automatic annual (July 1st) adjustment of those fees in existence utilizing the Engineering News Record Index for the preceding twelve months. The City maintains historical records on the Engineering News Record Index. These records are available for inspection during normal business hours. **(MHMC 3.56.010; 3.56.030; 3.56.050)**

1. The developer shall pay all applicable impact fees and other engineering review fees prior to building permit issuance and at building final. The fees shall be based on the Public Works Fee Schedule prepared by Land Development Engineering.
2. The project will be subject to the updated Water Capacity fees, which become effective May 15, 2023. Information related to the City's impact and development fees are available on the City's Finance Department webpage at: https://www.morganhill.ca.gov/1572/Fee-Schedules.

STREET IMPROVEMENTS

A. **Public and Private Streets**: The applicant shall cause the design and construction of all new public and private streets serving the project. The design of all new public and private streets shall be consistent with the General Plan Land Use and Circulation Element as well as the Street Standard Details as contained within the Public Works Standards Details. The construction of the streets shall be undertaken to the lines and grades and in a manner satisfactory to the City Engineer. All street improvements shall be constructed to the satisfaction of the City Engineer. The timing of the improvements will be determined by the City. **(MHMC 12.02.010; 12.02.090; 17.32.060 B; CMH General Plan; CMH Design Standards and Standard Details for**

Construction)

B. **Installation and Dedication of Streets**: The project shall install and dedicate street improvement including, but not limited to, curb and gutter, sidewalk, compaction, street paving, oiling, storm drainage facilities, sewer and water, fire protection, undergrounding of utilities and street lighting in conformance with City of Morgan Hill requirements. **(MHMC 12.02.010; 12.02.50; 12.02.080; 12.02.100; 17.28.010; 17.32.060)**

C. **Underground existing utilities**: All existing overhead utilities adjacent to any site boundary or along any street frontage of site shall be placed underground in accordance with City standards and affected utility company guidelines. **(MHMC 12.02.090 B; 17.32.020 E.1)**

D. **Street Trees**: The proposed street trees shall comply with the street tree species and spacing listed under the applicable zone in the Master Street Tree List of the City's Master Street Tree Plan.

SANITARY SEWER SYSTEM

A. **Design of Sewer Improvements**: The applicant shall cause to be undertaken the design and construction of sanitary sewer improvements including, but not limited to installation of sewer line extension on the proposed public street(s) or private street(s)/drive aisle(s). The sanitary collection system shall include, but not be limited to manholes with manhole frames and covers, cleanouts, wye-branches and laterals, and separate sewer taps to each lot. These are to be installed by the developer. **(MHMC 13.20.355; 17.32.020 C; CMH Sewer System Master Plan; CMH Design Standards and Standard Details for Construction)**

B. **Sewer Connections**: All existing and future sewer lines shall be tied into the City's system and existing septic systems shall be abandoned in accordance with City requirements. **(MHMC 13.24.060; 17.32.20 C)**

STORM DRAIN SYSTEM

A. **Storm Drainage Study**: A complete storm drainage study of the proposed development must be submitted showing amount of run-off, and existing and proposed drainage structure capacities. This study shall be subject to review and approval by the City Engineer. All needed improvements will be made by the applicant. No overloading of the existing system will be permitted. **(MHMC 17.32.020 B;17.32.090; CMH Design Standards and Standard Details for Construction)**

B. **Storm Drainage Design**: The applicant shall cause the design and construction to be undertaken for a storm drainage collection system shown on the Tentative Map/Design Review plans. All storm drain improvements shall be constructed

to the satisfaction of the City Engineer. **(MHMC 17.32.020 A & B)**

C. **Storm Drainage Capacity**: Collection system shall be designed to be capable of handling a 10-year storm without local flooding. On-site detention facilities shall be designed to a 25-year storm capacity. Streets shall be designed to carry 100-year storm. Items of construction shall include, but not be limited to installation of storm line extension on proposed public street(s),_surface and subsurface storm drain facilities, manholes with manhole frames and covers, catch basins and laterals. Note: the project may be required to **retain** stormwater runoff as part of resolution R3-2013-0032 prior to releasing discharge rates at pre-development flows. **(MHMC 17.32.020 B; 18.74.440; CMH Design Standards and Standard Details for Construction; CMH Storm Drainage System Master Plan)**

D. **Storm Drainage General Requirements:** Prior to final map approval or issuance of a grading permit, the applicant shall complete the following to the satisfaction of the City Engineer.

1. Storm drain calculations to determine detention/retention pond sizing and operations.

2. Plan describing how material excavated during construction will be controlled to prevent this material from entering the storm drain system.

3. Water Pollution Control Drawings (WPCD) for Sediment and Erosion Control.

(**CMH Design Standards and Standard Details for Construction)**

E. **NPDES Construction Activity General Permit/SWPPP Requirements**: As required by the State Water Resources Control Board (SWRCB) Order No. 2009-0009-DWQ, construction activity resulting in a land disturbance of one (1) acre or more of soil, or whose projects are part of a larger common plan of development that in total disturbs more than one (1) acre, are required to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 for Discharges of Storm Water Associated with Construction Activity (General Permit). To be permitted with the SWRCB under the General Permit, owners must file a complete Notice of Intent (NOI) ONLINE at: http://smarts.waterboards.ca.gov/smarts/faces/SwSmartsLogin.jsp and develop a Storm Water Pollution Prevention Plan (SWPPP) Manual in accordance with the General Permit. The SWPPP Manual shall follow the CASQA SWPPP template/format at: https://www.casqa.org/store/products/tabid/154/p-167-construction-handbookportal-initial-subscription.aspx and shall be approved by Public Works Engineering. A Waste Discharger Identification (WDID) number to be issued to the construction site after the SWRCB receives and verifies the submitted

ONLINE NOI information. The WDID number and approved SWPPP Manual shall be provided to Public Works and the Building Department prior to any approval of grading activities **(SWRCB NPDES General Permit CA000002).**

F. **NPDES General Permit/Site SWPPP Inspections and Compliance**:

1. ALL project onsite and offsite construction activity shall have the site inspected by a **qualified third party SWPPP Inspector (QSD or QSP or RCE).**
2. SWPPP Inspections shall occur weekly during the rainy season (September 15th thru May 1st).
3. SWPPP Inspections shall occur bi-weekly during the non-rainy season.
4. 48 hours prior to and following a forecasted rain event, SWPPP Inspections shall occur in addition to those of items 2 or 3 above.
5. Per each of the inspection conditions 2, 3, or 4, the NPDES SWPPP Inspector shall certify in writing to the Building and Public Works Department if the site is in compliance or non-compliance with the NPDES General Permit for Stormwater, site SWPPP Manual, and Water Pollution Control Drawings (per the CMH-SWPPP Inspection Check List to be provided by Public Works). QSD/QSP SWPPP Inspectors shall forward onsite and offsite information/certification to the Building (on-site private property issues) and Public Works (public right-of-way issues) inspectors respectively.
6. Prior to rain events, BMPs* not in compliance will need to be corrected immediately.
7. Illicit discharges per the NPDES General Permit, non-compliance of tracking control, and inlet protection within the public right of way shall be address immediately.
8. Other non-compliance issues need to be addressed within a 24-hour period.
9. Non-compliance issues which have been corrected shall be verified by NPDES SWPPP Inspector by a follow up inspection.
10. BMPs maintenance/inspections shall include tree protection if applicable.

G. **Reduce construction-related water quality impacts:** The following measures shall be included in the project to reduce construction-related water quality impacts to a less than significant level. The measures shall be implemented to the satisfaction of the Director of Development Services or Director's designee. The BMPs shall be approved by the Director of Development Services or Director's designee prior to the issuance of a grading permit.

The following BMPs shall be implemented during project construction:

- Burlap bags filled with drain rock shall be installed around storm drains to route sediment and other debris away from the drains.

- Earthmoving or other dust-producing activities shall be suspended during periods of high winds.
- All exposed or disturbed soil surfaces shall be watered at least twice daily to control dust.
- Stockpiles of soil or other materials that can be blown by the wind shall be watered or covered.
- All trucks hauling soil, sand, and other loose materials shall be covered and all trucks will be required to maintain at least two feet of freeboard.
- All paved access roads, parking areas, staging areas and residential streets adjacent to the construction site shall be swept daily (with water sweepers).
- Vegetation in disturbed areas shall be replanted as quickly as possible.

WATER SYSTEM

A. **Water well abandonment**: Abandonment of any existing water well shall be in conformance with Santa Clara Valley Water District (SCVWD) Ordinance 90-1. Location and disposition to be shown on the plan. Well(s) shall be properly registered with the SCVWD and either be maintained or abandoned in accordance with SCVWD standards.

B. **Water Master Meter**: All residential units are being served by two (2) master public meter(s) and shall be privately sub-metered as allowed pursuant to Section 13.04.130.C of the Morgan Hill Municipal Code. The owner may, upon compliance with the following, install separate private submeters to each residential unit:

1. The owner shall obtain approval/permit from the Public Works Department for the submeter system.
    a. Any submeters shall accurately and completely measure all water consumed from the municipal water system.
    b. The owner shall agree to charge the tenant of each unit a water utility charge strictly based on the consumption by the occupants of the unit.
    c. Installation, maintenance and monitoring of the submeter system shall be the responsibility of the owner, and in no circumstances shall the city be responsible.
    d. If any water conservation plan is implemented or imposed by the city, the owner shall be responsible for complying with any reductions required by such plan as measured by consumption on the meter(s) directly connected to the municipal water system.
2. Failure to abide by the above conditions, and/or any other conditions the city may impose, may result in revocation of any permit issued and/or other action as authorized by law, such as at the owners expense install individual public water meters for each unit.

3. Owner/developer shall provide an agreement with the City to cover/outline the requirements of section 13.04.130.C of the Municipal Code to be reviewed and approved by the City Engineer or designee.
4. Records of bookkeeping and private sub-metering usage shall be accurately maintained digitally. Upon request from the City, records shall be produced to the city within a 24-hour period.

OTHER CONDITIONS

A. **Easement Dedications**: The owner shall dedicate all necessary utility easements. **(MHMC 12.02.080 D; 17.28.010 A)**

B. **Undergrounding new utilities**: The applicant shall cause the design and construction required to underground all electric, gas, Cable TV and communication lines within the development. Such design and construction shall be to the satisfaction of the affected utilities and the City Engineer. **(MHMC 17.32.020 E.1)**

C. **Landscaping and Irrigation Systems**: Landscaping and irrigation systems serving common areas that are required to be installed in the public right-of-way on the perimeter of this tract area shall be continuously maintained by the property owner or designated maintenance entity.

D. **Final Landscape Plans**: Final landscape plans shall be submitted with and included as part of the improvement plans for the subdivision. **(MHMC 17.08.090)**

E. **Pre-construction Meeting**: Prior to the approval of any Building Permit for grading activity, the developer shall schedule a pre-construction meeting with the Public Works Inspection Division with the following project team members:
   1. Civil Engineer of record
   2. Geotechnical Engineer of record
   3. Third Party QSD/QSP SWPPP Inspector
   4. General Contractor
   5. Sub-Contractors

F. **As-Built Submittal Standards**: The developer shall submit digital as-builts of the project's Final Map, Grading Plan, and Improvement Plans which adhere to the City's updated GIS/CAD Developer Submittal Standards.

NPDES WATER QUALITY STORMWATER MANAGEMENT DEVELOPMENT STANDARDS

A. **Stormwater Post Construction Requirements (PCRs)**: Project shall comply with the California Regional Water Quality Control Board Central Coast Region Resolution No. R3-2013-0032 as documented by the **Stormwater Management Guidance Manual for Low Impact Development and Post-Construction**

Requirements (developed from Resolution No. R-2013-0032 Attachment 1 and 2 at: http://www.waterboards.ca.gov/centralcoast/water_issues/programs/stormwater/docs/lid/lid_hydromod_charette_index.shtml). A copy of the guidance manual can be obtained through the Land Development Engineering webpage. Project shall provide Stormwater Runoff Management Plan, Stormwater Control Plan Checklist and applicable calculations per the Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements. Project shall meet the applicable requirements of the Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements:

1. Performance Requirement 1: Site Design and Runoff Reduction
2. Performance Requirement 2: Water Quality Treatment
3. Performance Requirement 3: Runoff Retention
4. Performance Requirement 4: Peak Management

B. **Peak Storm Water Runoff Discharge Rates** - Post-development peak storm water runoff discharge rates shall not exceed the estimated pre-development rate for developments where the increased peak storm water discharge rate will result in increased potential for downstream erosion. Note: the project may be required to **retain** stormwater runoff as part of resolution R3-2013-0032 prior to releasing discharge rates at pre-development flows.

C. **Storm Drain System Stenciling and Signage**: All storm drain inlets and catch basins within the project area must be stenciled with prohibitive language (such as: “NO DUMPING – DRAINS TO CREEK”) and/or graphical icons to discourage illegal dumping. Signs and prohibitive language and/or graphical icons, which prohibit illegal dumping, must be posted at public access points along channels and creeks within the project area. Legibility of stencils and signs must be maintained.

D. **Trash Enclosure Areas**: In addition to compliance with the requirements under Municipal Code Section 18.92.155 (Refuse and Recycling Enclosures), all trash enclosure areas must meet the following Structural or Treatment Control BMP requirements:

1. Roof Required: Trash enclosure areas shall have an all-weather noncombustible solid roof to prevent rainwater from mixing with the enclosure’s contents.
2. Walls Required: Trash enclosure shall have structural walls to prevent unauthorized off-site transport of trash.
3. Doors: Trash enclosure shall have door(s) which can be secured when closed.
4. Grades: The pad for the enclosure shall be designed to not drain outward, and the grade surrounding the enclosure shall be designed to not drain into the enclosure.

5. Drain Inlet: Within the enclosure, an area drain with an approved (Zurn) vandal proof drain shall be installed and shall be plumbed to the sanitary sewer system with grease trap. Grease trap shall be located within the trash enclosure footprint.

E. **Design Standards for Structural or Treatment Control BMPs**: The post-construction treatment control BMPs shall incorporate, at a minimum, either a volumetric or flow-based treatment control design standard, or both, as identified below to mitigate (infiltrate, filter or treat) stormwater runoff:

1. Volumetric Treatment Control BMP
   a. The 85th percentile 24-hour runoff event determined as the maximized capture storm water volume for the area, from the formula recommended in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998); or
   b. The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in California Stormwater Best Management Practices Handbook – Industrial/ Commercial, (2003); or
   c. The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.
2. Flow Based Treatment Control BMP
   a. The flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the area; or
   b. The flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

F. **Inlets and Riser Pipes for Underground Stormwater Infiltration and Storage Facilities:** If proposed with the project, underground stormwater infiltration and storage facilities shall include adequate inlets and/or risers for visual inspection, maintenance and as flush ports.

G. **Stormwater Runoff Management Plan (SWRMP):** The stormwater runoff management plan shall include sufficient information to evaluate the environmental characteristics of affected areas, the potential impacts of the proposed development on water resources, and the effectiveness and acceptability of measures (post construction BMPs) proposed for managing stormwater runoff.

1. The stormwater runoff management plan shall be prepared under the direction of a professional civil engineer registered in the State of California. The responsible professional civil engineer shall stamp and

sign the approved stormwater runoff management plan.

2. The developer shall provide a signed certification from the civil engineer responsible for preparing the Stormwater Runoff Management Plan that all stormwater best management practices have been designed to meet the requirements of this chapter.

H. **Stormwater BMP operation, maintenance, and replacement responsibility**

1. Prior to building final, the property owner shall submit a signed certification (with signature, date & license number/seal) certifying that all post-construction stormwater management/BMP facilities shown on the as-built drawings were inspected by the civil engineer (or by a qualified third party stormwater inspector hired by the permittee/owner) and have been constructed in accordance with the approved plans and specifications.
2. All on-site stormwater management facilities shall be operated and maintained in good condition and promptly repaired/replaced by the property owner(s), an owners' or homeowners' association or other legal entity approved by the city.
3. Any repairs or restoration/replacement and maintenance shall be in accordance with city-approved plans.
4. The property owner(s) shall develop a maintenance schedule for the life of any stormwater management facility and shall describe the maintenance to be completed, the time period for completion, and who shall perform the maintenance. This maintenance schedule shall be included with the approved stormwater runoff management plan.

I. **Stormwater BMP operation and Maintenance Agreement (SWBOMA):** Prior to the issuance of any building permit requiring stormwater management BMPs, the owner(s) of the site shall enter into a formal written Stormwater BMP Operation and Maintenance Agreement with the City. The City shall record this agreement, against the property or properties involved, with the County of Santa Clara and it shall be binding on all subsequent owners of land served by the storm water management BMPs. The City standard Stormwater BMP Operation and Maintenance Agreement will be provided by Land Development Engineering at building permit/improvement plan stage.

J. **Stormwater BMP inspection responsibility**

1. The property owner(s) shall be responsible for having all stormwater management facilities inspected for condition and function by a **certified Qualified Stormwater Practitioner (QSP)**.
2. Unless otherwise required by the City Engineer or designee, stormwater facility inspections shall be done at least twice per year (April 15th and September 15th) by the QSP. Written records shall be kept of all inspections and shall include, at minimum, the following information:

a. Site address;
b. Date and time of inspection;
c. Name of the person conducting the inspection;
d. List of stormwater facilities inspected;
e. Condition of each stormwater facility inspected;
f. Description of any needed maintenance or repairs; and
g. As applicable, the need for site re-inspection.

3. Upon completion of each inspection, an inspection report shall be submitted to Land Development Engineering.

K. **Records of maintenance and inspection activities:** On or before April 15th and September 15th of each year, the party responsible for the operation and maintenance of on-site stormwater management facilities under the BMP operation and maintenance agreement shall provide the chief engineer or designee with records of all inspections, maintenance and repairs.

L. **Annual Certification of SWRMP** – On or before September 30th of each year a Registered Civil Engineer (RCE) shall provide written certification that the developments stormwater quality design standards are properly maintained and functioning as required by the SWRMP.

BUILIDNG DIVISION

A. **California Code of Regulations:** Project shall be designed to comply with the edition of the California Codes of Regulations as amended by the Morgan Hill Municipal Code Title 15 that is in effect at time of Building Permit Application submittal.

B. **Compliance with Morgan Hill Municipal Code:** Project shall comply with the Morgan Hill Municipal Code (MHMC) including but not limited to:

1. MHMC 15.65 Sustainable Building Regulations.
2. MHMC 18.72.040 C. Electric Vehicle Charging.
3. MHMC 15.40 Building Security
4. MHMC 15.38 Wage Theft Preventions
5. MHMC 18.148 Water Conservation
6. MHMC 15.63 Prohibition of Natural Gas Infrastructure in New Buildings (Applies to all Building Permit Applications Received on or after March 1, 2020)

C. **Acoustical Analysis:** An acoustical analysis report shall be submitted with the building permit documents showing interior and exterior noise mitigations for compliance to the MHMC, California Building Code, and CALGreen Code.

FIRE DIVISION

A. **Fire Prevention Division Standard Details and Specifications:** Project shall conform to the minimum requirements of The City of Morgan Hill's Fire Prevention Division Standard Details and Specifications: https://www.morganhill.ca.gov/DocumentCenter/View/10668/Fire-Details-and-Specs?bidId=.

B. **Automatic Fire Sprinkler System Required:** Provide proposed fire sprinkler design standard for the R2 and R3 occupancy types. **(CFC Chapter 9 as amended by MHMC 15.44.170)**

HOUSING DIVISION

A. **Inclusionary Housing Agreement:** The developer shall execute and record an Inclusionary Affordable Housing Agreement with the City prior to issuance of a building permit. **(MHMC 14.04.050)**

All new for-sale Residential Projects consisting of two (2) or more Dwelling Units located within the City but outside of Downtown are required to restrict fifteen percent (15%) of the Dwelling Units for sale at Affordable Sales Prices to Moderate-Income Households. See ordinance and amendment for more specific Inclusionary requirements. Project consists of 269 units. 269 x 15% = 40.35 BMR units. Project will build 40 BMR units and pay .35 fractional fee. Fractional Fee shall be paid prior to issuance of building permits for Market-Rate units in a Residential Project.

All Inclusionary Units shall be reasonably dispersed throughout the Residential Project. City staff request the following BMR unit placement as "reasonably dispersed" to be as follows per sheet T1.3 submitted 8/28/20:

- Total project units = 269/100%
- Total SFD = 56/21% of total project = 8 BMR's/21% of project
- Total Attached Duets = 64/24% of total project = 10 BMR's/24% of project
- Total Townhomes = 149/55% of total project = 22 BMR's/55% of project

B. **BMR Standards**: The Below Market Rate (BMR) units shall comply with the BMR standards.

BMR standards:

1. Location. BMR units shall be distributed evenly throughout the project.
2. Lot Size. Lot size shall be at least the same size as the smallest lot of a market rate unit within the project;

3. Bedroom Count. Average bedroom count shall be the same as the average bedroom count in the market rate units in the project;
4. Exterior. Exterior trim entry door hardware, and finish to the same standard as the Market Rate
5. Minimum standards for equipment, fixtures, appliances and finishes have been established for the BMR units. All items installed by the developer shall be of good quality and in new condition. Good quality shall be deemed as entry level but generally not the lowest level of product offered for that application. All products shall offer durability, reliability and maintain a quality appearance and function that is standard to most other median priced homes in the area. The below listed items must be installed as a basic feature of each BMR home.
6. Minimum Interior standard finishes will be as follows:
    a. All closets shall have doors
    b. Interior doors to be raised panel type or same as market rate
    c. Door hardware to be brass finish or equivalent
    d. Appliances shall be major brand name
    e. Microwave with an exhaust vent shall be installed over the range
    f. Kitchen counters shall be white ceramic tile
    g. Kitchen cabinets shall be stained wood with white melamine interiors
    h. Units will be roughed in for AC including electrical and line set. If installation of an Air Conditioner is a standard feature for market rate units, then it is a standard for the BMR units.
    i. Basic alarm system to secure all accessible openings to the home
    j. Carpet in bedrooms, hallways, family rooms
    k. Linoleum or tile entry, bathroom kitchens
    l. Laminate flooring may substitute for carpet or linoleum
    m. Electric garage door opener

7. Timing of Construction. BMR units shall be constructed in proportion to the BMR ownership housing requirement applicable to the project. For example, for a 40-unit project with an 15% BMR ownership housing commitment (6 BMR's), at least one BMR unit shall be constructed before or concurrently with every 6th market rate unit constructed. The last market rate unit to be completed in the project may not receive a certificate of occupancy until the last BMR unit has received a certificate of occupancy. The Director may approve a modified schedule if the timing requirement will create unreasonable delays in the issuance of certificates of occupancy for market rate units.

Project Description:

The Crosswinds in Morgan Hill is a thoughtfully planned, mixed density, mixed income residential project that meets the needs of the City and region for residential units. The mix of densities, incomes, integration of open space and amenities within the site, a robust pedestrian network system of paseos, sidewalks and trails that promote walkability make this project a wonderful addition to the City of Morgan Hill.

The project site is approximately 31 acres and is currently occupied by one residence. The site is bounded by Half Road to the East. Planned extensions of Mission Boulevard and De Paul Drive form the northern and the southern edges of the development. The current land use of the site is Residential Attached Low (6-16 du/ac) and the zoning is a single lot zoned Residential Attached Low Density (RAL 3000). The intent of this project is to meet current zoning and to avoid the need to require a Planned Development.
To promote smart growth and an integrated city-wide street network the project accommodates either a through dedication or design the extension of Mission View Drive, De Paul Drive and Half Road.

The project consists of 269 residential units comprised of three different housing types as listed below:

Courtyard Single Family Homes:	56
Duets:	64
Townhome Style Condominiums:	149

The single family homes are on less than 25% of the site area as per the regulatory framework. The variety of homes types allow for market segmentation and ownership opportunities to buyers at different levels. In addition the project has designated 40 of the units to be Below Market Rate (BMR) Units. Unlike other projects, where BMR units are separated and clustered in a portion of the site, the project proposes the BMR units as an integral part of the condominium development creating a truly mixed income community. The range of housing types also allow for residents of different age groups. The housing types proposed are not just appealing to new home buyers and young families, but also would be appealing to empty nesters and seniors. The variety of housing types and the incorporation of ground floor bedrooms in the cluster homes allow for multigenerational living and even ageing in place.

The project has been carefully planned with a great deal of thought given to the interface of the project with the existing and proposed edge conditions. The cluster homes are located along the northern and the eastern edge of the road, interfacing Half Road and the proposed Mission

View Drive. To create a pedestrian friendly streetscape, no sound walls are proposed and entries and porches of the end units are oriented towards the street. The use of cluster homes allows for the front doors and the pedestrian realm to address and interact with the public streets while minimizing the visual and traffic impacts of garages and automobiles. Furthermore the homes on Mission View and Half Road are significantly setback from the face of curb to provide a gracious landscape edge along the public realm. The extra landscape allows for a pedestrian friendly streetscape while also allowing for sufficient buffer to accommodate privacy concerns of the residents. The condominiums are located along the southern edge of the project. In anticipation of the future commercial and industrial development along De Paul Drive immediately adjacent to the project, these higher density, 3- story condominiums provide a buffer from those adjacent industrial uses to the rest of the community. The town homes are planned to side-on to De Paul to minimize visual and noise impacts while still allowing for pedestrian connections to the street through the common paseos. The Duets are located in the middle of the project accommodating the transition in scale, mass and density between the Single Family Cluster and the Condominiums.

The project proposes three vehicular connections; one main project entry each from De Paul Drive and Mission View Drive. De Paul Drive also has a secondary project entry to further enhance vehicle connectivity in and through the project as well as provide additional access points for emergency services. In addition to the vehicular connections described, the project contains three emergency vehicle access points; one along Half Road and two along De Paul Drive. All entries have been designed to accommodate vehicular and pedestrian movement and avoid conflicts between different user and mobility groups. Furthermore the entries will have entry signage, enhanced landscape and hardscape features to help in wayfinding and slow traffic. The two main project entries located on opposite sides of the community are designed to be on axis to the central community open space area. This central area with a recreation building, swimming pool and lawns for community gathering is the heart of the community. The central location of this amenity allows for ease of access by all residents. The open space and pedestrian network is one of the major community defining elements of this plan. The Central Open Space is connected by a wide east west paseo the ends of which are anchored by smaller community greens. Individual paseos connect to the east west spine providing a seamless and safe pedestrian network for all ages. Guest parking is located on the streets with additional designated guest parking located adjacent to the community open space elements to provide for easy and convenient access to all areas for visitors and guests. Careful thought has been given to the architecture and how the buildings interact with the public realm. The articulation of form and mass, variations in rooflines, location and use of porches and decks help in creating a pedestrian friendly appearance along the street and the paseos.

The architecture of the new community is reflective of the architectural history of Morgan Hill. The use of traditional materials such as stucco, siding, stone and battens combined with clean building forms, varied rooflines and functional instead of applique detailing make this a truly unique community, **one that respects the past and its context while still being reflective of its time.**

DESIGN REVIEW PERMIT
THE CROSSWINDS AT MORGAN HILL

CROSSWINDS
BY DIVIDEND HOMES

MORGAN HILL, DISTRICT D, SANTA CLARA COUNTY, CALIFORNIA

Item 2
Attachment 4

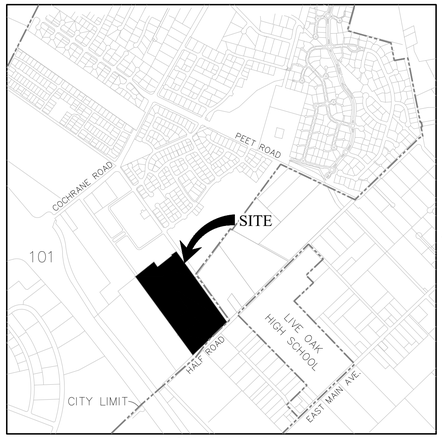
CONTACT INFORMATION

APPLICANT/OWNER: THE CROSSWINDS AT MORGAN HILL, LLC
C/O DIVIDEND HOMES
385 WOODVIEW AVENUE, SUITE 100
MORGAN HILL, CA 95037
ATTN: DICK OLIVER, JOSH VROTSOS
(408) 779-5900
ROLIVER@DIVIDENDHOMES.COM
JVROTSOS@DIVIDENDHOMES.COM

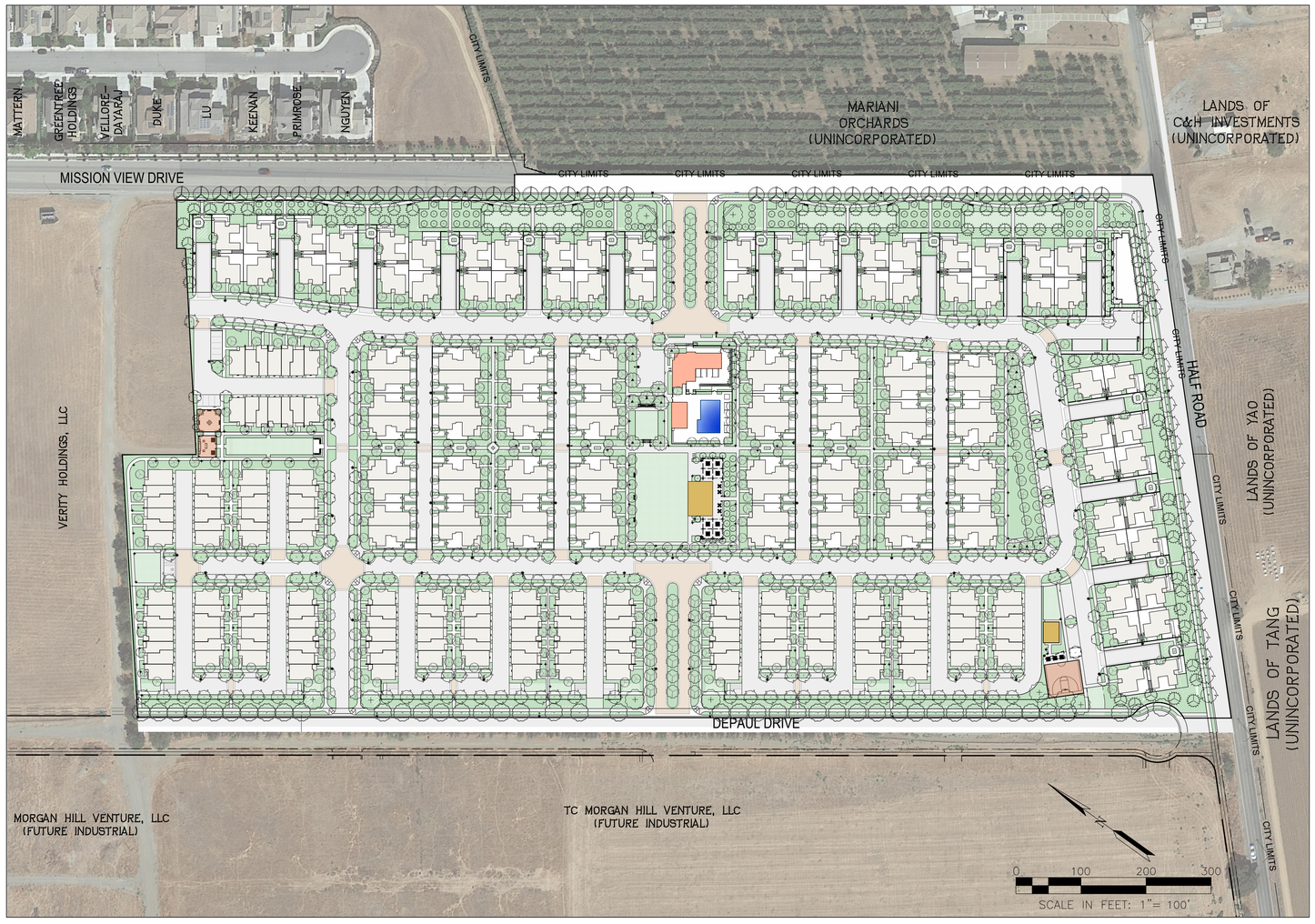
ARCHITECT: THE DAHLIN GROUP
5865 OWENS DRIVE
PLEASANTON, CA 94588
ATTN: DON RICCI (DRICCI@DAHLINGROUP.COM)
(925) 251-7200

CIVIL ENGINEER:
LANDSCAPE ARCH.
AND PLANNER: RJA
8055 CAMINO ARROYO
GILROY, CA 95020
ENGINEER: LUIS SANTIAGO (LSANTIAGO@RJA-GPS.COM)
PLANNER: ROSS DOYLE (RDOYLE@RJA-GPS.COM)
(408) 848-0300

Sheet List Table	
Sheet Number	Sheet Title
DR-01	TITLE SHEET
DR-02	EXISTING CONDITIONS
DR-03	COMPLIANCE EXHIBIT (NE)
DR-04	COMPLIANCE EXHIBIT (SE)
DR-05	COMPLIANCE EXHIBIT (SW)
DR-06	COMPLIANCE EXHIBIT (NW)
DR-07 - DR-09	DEVELOPMENT STANDARDS
L-01	PRELIMINARY LANDSCAPE INDEX SHEET
L-02 - L-10	PRELIMINARY LANDSCAPE PLAN
L-11	PRELIMINARY LANDSCAPE DETAILS
L-12 - L-20	PRELIMINARY IRRIGATION PLAN
L-21	PRELIMINARY IRRIGATION DETAILS
P-1	PHOTOMETRICS PLAN
P-2	PHOTOMETRICS PLAN



VICINITY MAP
NO SCALE



GENERAL INFORMATION

1. PROPOSED CONTOURS, GRADES, AND PAD ELEVATIONS IN THIS PLAN SET ARE PRELIMINARY AND SUBJECT TO CHANGE DURING FINAL DESIGN.
2. BOUNDARY SHOWN HEREIN IS BASED ON RECORD DATA. ADDITIONAL SURVEY IS RECOMMENDED.
3. LOT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY AND ARE NOT INTENDED AS FINAL.
4. ALL GRADING WILL BE DONE IN CONFORMANCE WITH THE RECOMMENDATIONS AND CONDITIONS OF THE GEOTECHNICAL ENGINEER, THE CITY OF MORGAN HILL STANDARDS AND SPECIFICATIONS, AND APPLICABLE REPORTS REGARDING THIS PROJECT.
5. PROJECT LIES WITHIN FLOOD ZONE D AND X, AREA X DEFINED AS, "AREAS OF 0.2% CHANCE OF FLOOD; AREAS OF 1% CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD"; AREA D DEFINED AS, "AREAS IN WHICH FLOOD HAZARDS ARE UNDETERMINED, BUT POSSIBLE" (FIRM MAP NUMBER 06085C0444H, EFFECTIVE DATE MAY 18, 2009).
6. PROPOSED CONTOURS, GRADES, AND PAD ELEVATIONS IN THIS PLAN SET ARE PRELIMINARY AND SUBJECT TO CHANGE DURING FINAL DESIGN.
7. THE UTILITY PIPE SIZES AND CONNECTIONS SHOWN ON THIS MAP ARE PRELIMINARY AND ARE SUBJECT TO CHANGE.
8. PROPOSED STORM DRAIN AND RETENTION SYSTEM IS PRELIMINARILY DESIGNED TO ACCOMMODATE STORAGE FOR RUNOFF RETENTION AS REQUIRED BY THE CENTRAL COAST RWQCB.
9. EXISTING TOPOGRAPHY IS BASED ON AN AERIAL TOPOGRAPHIC SURVEY BY TETRATECH, DATED DECEMBER 23, 2019.
10. WHERE SHOWN IN THIS PLAN SET, THE 100-FOOT AGRICULTURAL BUFFER IS MEASURED FROM EXISTING RIGHT OF WAY ADJACENT TO NEIGHBORING PARCELS ON HALF ROAD AND MISSION VIEW DRIVE.
11. ALL EXISTING WELLS ON-SITE TO BE REMOVED UNLESS APPROVED FOR COMMON AREA USE.
12. CONDOMINIUMS IMPLEMENT TOWN HOME STANDARDS SHOWN IN CODE SECTION 18.40, TABLE 18.40-2. LOTTING SCHEME SHOWN IS PRELIMINARY AND MAY BE REFINED IN THE FUTURE.
13. ALL ABOVE-GROUND ON-SITE DRY UTILITIES TO REMAIN SHALL BE PLACED UNDERGROUND.
14. INDIVIDUAL RESIDENTIAL UNITS IN THIS PLAN SET ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.
15. PLEASE SEE THE CROSSWINDS TENTATIVE TRACT MAP FOR INDIVIDUAL LOT ANNOTATION, UTILITIES, GRADING, ETC.

SITE DATA

- SUBJECT PARCELS: 728-30-001, 002, 003, & 004
- CURRENT LAND USE: FALLOW, VACANT
- ZONING: RESIDENTIAL ATTACHED LOW DENSITY (RAL 3,000)
- GENERAL PLAN: RESIDENTIAL ATTACHED LOW (6-16 DU/AC)
- PROPOSED LAND USE: RESIDENTIAL
- BUILDOUT TABULATION

GROSS AREA	29.9 ± AC
PRIVATE RIGHT OF WAY	9.2 ± AC
PUBLIC RIGHT-OF-WAY DEDICATION	2.1 ± AC
NET AREA	18.6 ± AC
	(269 / 18.6 = 14.5 DU/AC)

- UTILITIES:

WATER	CITY OF MORGAN HILL
SANITARY SEWER	CITY OF MORGAN HILL
STORM DRAIN	CITY OF MORGAN HILL
GAS & ELECTRIC	PG&E
TELEPHONE	VERIZON

- PRELIMINARY EARTHWORK SUMMARY (APPROX.):

CUT	46,000 CY±
FILL	46,000 CY±
NET	0 CY± (EXPORT)

PROJECT DATA

THIS IS A RESIDENTIAL PROJECT CONSISTING OF 269 NEW HOMES OF THREE OWNERSHIP HOUSING TYPES:
- 56 COURTYARD SINGLE FAMILY DETACHED
- 64 DUETS
- 149 CONDOMINIUMS USING TOWNHOME STANDARDS

IN-TRACT IMPROVEMENTS CONSIST OF THE FOLLOWING ELEMENTS:
- PRIVATE CIRCULATION NETWORK INCLUDING STREETS, COURTS AND ALLEYS
- ACTIVE AND PASSIVE OPEN SPACE AND AMENITIES, FEATURING A CENTRALLY-LOCATED CLUBHOUSE, POOL AND TOT LOT
- CURB-SIDE AND BAY SHARED PARKING

OFF-SITE IMPROVEMENTS CONSIST OF THE FOLLOWING:
- MISSION VIEW R/W DEDICATION AND RE-ALIGNMENT
- HALF ROAD R/W DEDICATION AND IMPROVEMENT
- EXTENSION OF DE PAUL DRIVE FROM THE EXISTING STUB TO A CUL DE SAC DAYLIGHTING AT HALF ROAD (POTENTIALLY BY OTHERS).
- SANITARY SEWER MAIN EXTENSION FROM THE SITE TO THE EXISTING MAIN LOCATED AT THE INTERSECTION OF CONDIT ROAD AND MAIN AVENUE. (POTENTIALLY BY OTHERS)

SR 2020-0020

RUGGERI-JENSEN-AZAR
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DIVIDEND
385 WOODVIEW AVE, SUITE 100
MORGAN HILL, CA 95037

DESIGN REVIEW PERMIT
TITLE SHEET
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

DATE	BY	SHEET REVISIONS	BY	CK
4-28-2023	MK	MISC. REVISIONS PER CITY COMMENTS	JAM	RD

SCALE: AS SHOWN
DATE: AUG. 25, 2020

SHEET
DR-01
OF 33 SHEETS

JOB NO.
182032-2001

PHOTO 1: AERIAL VIEW, NORTHEASTERLY PERSPECTIVE

PHOTO 2: AERIAL VIEW NORTHERLY PERSPECTIVE

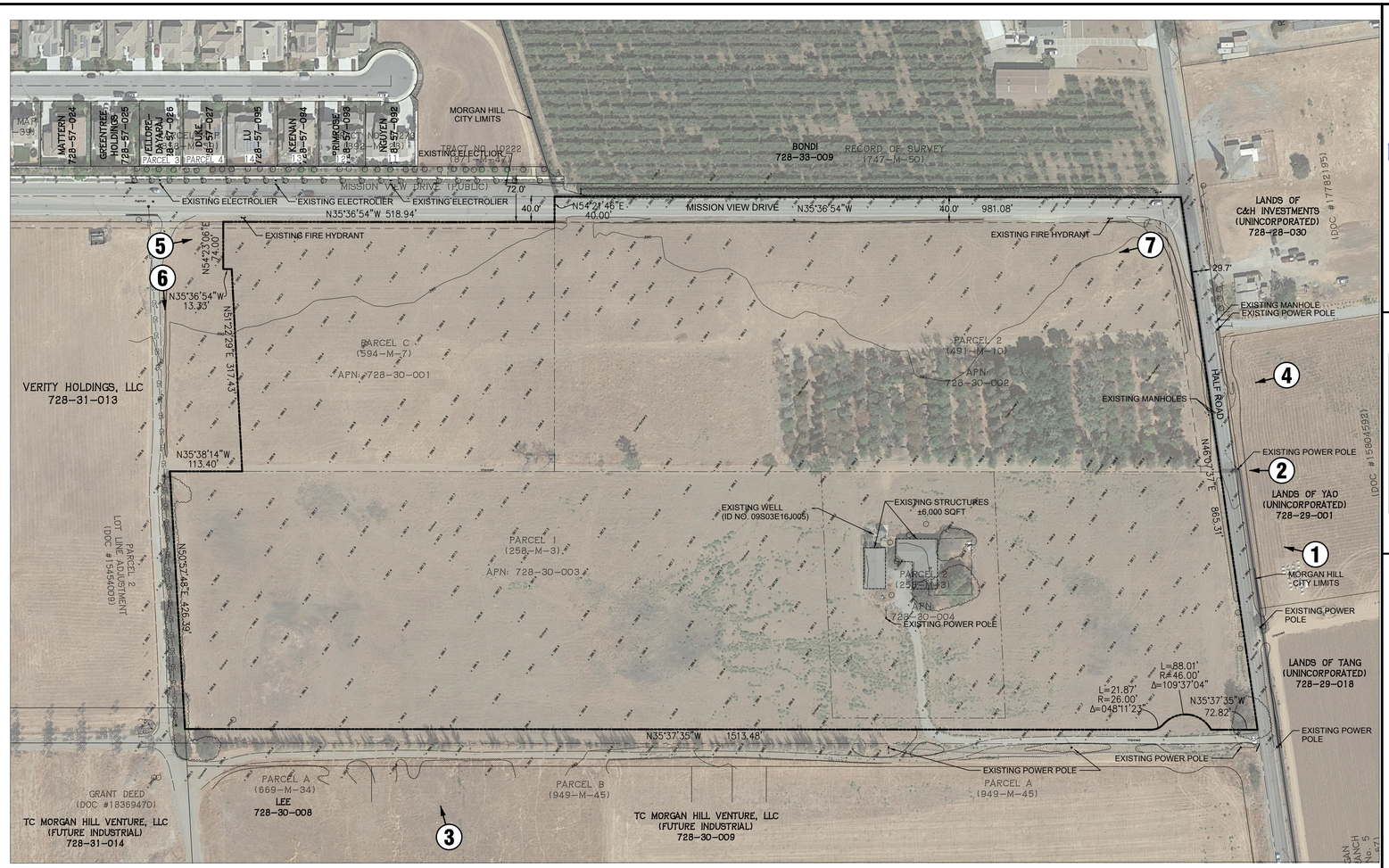

PHOTO 3: AERIAL VIEW, EASTERLY PERSPECTIVE

PHOTO 4: AERIAL VIEW, NORTHWESTERLY PERSPECTIVE

PHOTO 5: NORTHEAST PROPERTY CORNER, SOUTHERLY PERSPECTIVE

PHOTO 6: NORTHEAST PROPERTY CORNER, SOUTHWESTERLY PERSPECTIVE

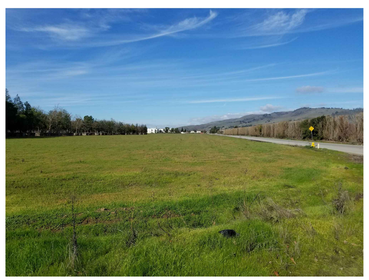

PHOTO 7: SOUTHEAST PROPERTY CORNER, NORTHERLY PERSPECTIVE

NOTES:
1. ALL TREES LOCATED ON-SITE ARE PROPOSED TO BE REMOVED.
2. A COMPANION TREE REMOVAL PERMIT HAS BEEN PREPARED AND SUBMITTED TO THE CITY FOR APPROVAL.
3. AERIAL IMAGES CIRCA JANUARY, 2019, AND MAY NOT REPRESENT CURRENT SITE CONDITIONS.
4. BOUNDARY REFLECTS A PUBLIC RIGHT-OF-WAY DEDICATION OF DEPAUL DRIVE.

0 100 200 300
SCALE IN FEET: 1"= 100'

SR 2020-0020

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DESIGN REVIEW PERMIT
EXISTING CONDITIONS

THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

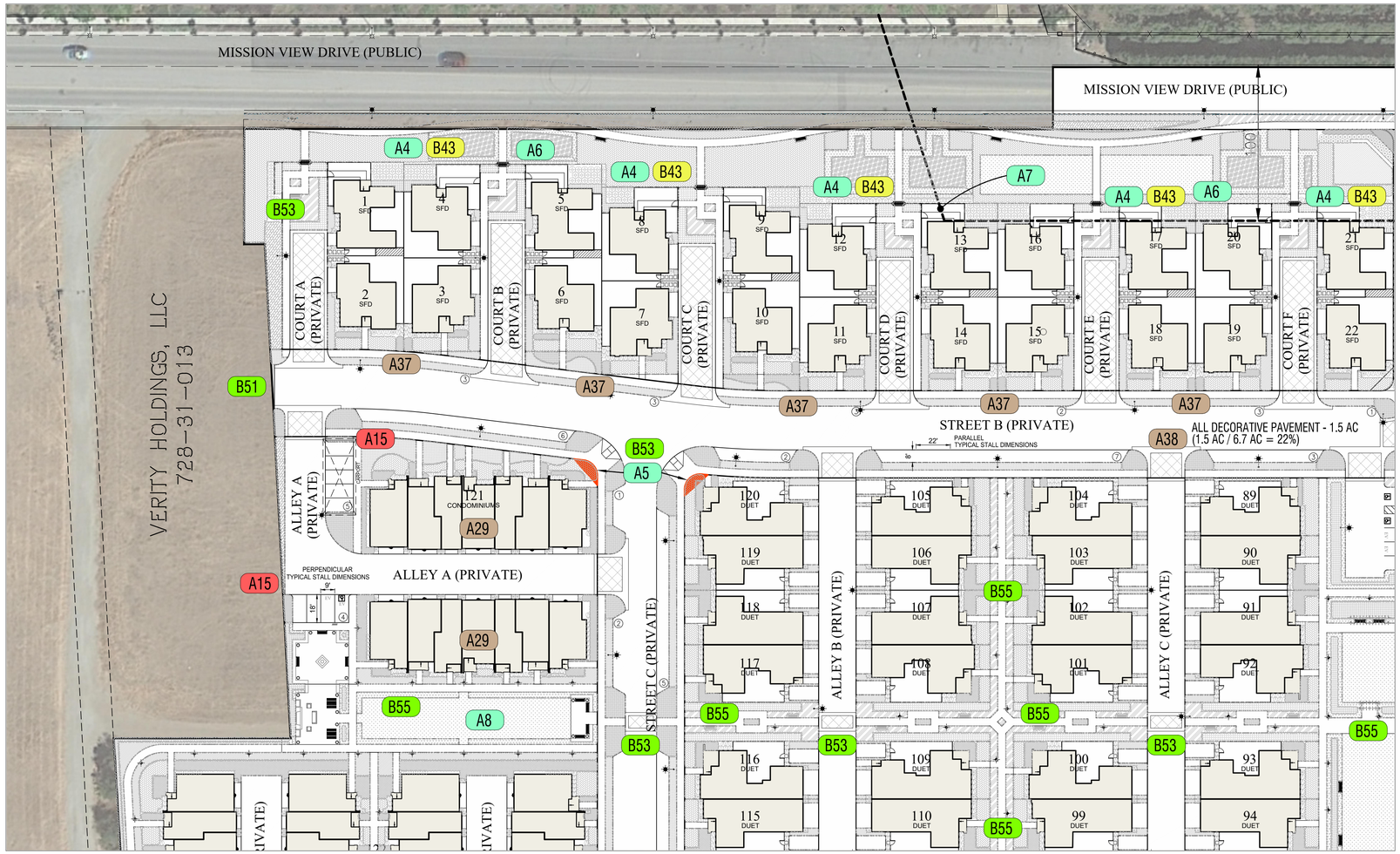
SCALE: AS SHOWN
DATE: AUG. 25, 2020

DATE	BY	CK
4-28-2023	JAM	RD

SHEET REVISIONS
MISC. REVISIONS PER CITY COMMENTS

SHEET
DR-02
OF 33 SHEETS

JOB NO.
182032-2001



PARKING SUMMARY A14

REQUIRED PARKING - OCCUPANT

HOUSING TYPE	COUNT	COVERED/UNIT	TOTAL	UNCOVERED/UNIT	TOTAL
DUETS	64	2.0 SPACES	128	N/A	0
CONDOMINIUM	149	2.0 SPACES	298	N/A	0
SINGLE FAMILY	56	2.0 SPACES	112	N/A	0
	269		538		0

REQUIRED PARKING - GUEST

DUETS/CONDOMINIUM/SINGLE FAMILY 1 SPACE/4 UNITS 269/4 = 68

TOTAL REQUIRED PARKING 538 COVERED SPACES
68 UNCOVERED SPACES
606 TOTAL SPACES

PROVIDED PARKING

COVERED PARKING	538 (GARAGE + CARPORT)
CURB-SIDE/BAY/HEAD-IN	166
BAY/HEAD-IN ADA	9
BAY/HEAD-IN EV	15
BAY/HEAD-IN EV/ADA	3
DUET HEAD-IN	64
	795 TOTAL SPACES

0 40 80 120
SCALE IN FEET: 1"= 40'

A. DEVELOPMENT SERVICES REQUIREMENTS

	AFFORDABLE HOUSING AND ACCESSORY DWELLING UNITS
A1	COMPLIANCE WITH INCLUSIONARY HOUSING ORDINANCE
A2	ACCESSORY DWELLING UNITS COMPLY WITH MHMC CHAPTER 18.84

	SITE PLANNING
A3	COMPLIES WITH APPLICABLE ZONING
A4	ORIENTATION TO AN EXISTING STREET (COLLECTOR OR ARTERIAL)
A5	INTERSECTION SIGHT DISTANCE/CLEAR VISION TRIANGLE
A6	SOUND WALLS INCORPORATED INTO PROJECT DESIGN PER ACOUSTICAL REPORT
A7	PROJECT COMPLIES WITH AGRICULTURAL BUFFER CRITERIA
A8	ON-SITE RECREATIONAL AMENITIES ARE PROVIDED PER SIZE/TIER TABLE
A9	LANDSCAPING AND IRRIGATION PLANS COMPLY WITH MHMC CHAPTER 18.148
A10	LANDSCAPING PLAN COMPLIES WITH MHMC SECTION 18.64.040
A11	COMPLIANCE WITH WILDLAND-URBAN INTERFACE FIRE AREA GUIDELINES
A12	TREES TO BE REMOVED (MHMC CHAPTER 12.32) ARE IDENTIFIED FOR MITIGATION + APPLICATION IS MADE FOR TREE REMOVAL PERMIT
A13	USEABLE PRIVATE AND COMMON OPEN SPACE MEET BY-UNIT TYPE MINIMUM AREA

	PARKING IMPROVEMENTS
A14	ON-SITE PARKING PROVIDED PER MHMC 18.72.030
A15	PARKING DESIGN/STANDARDS COMPLY WITH MHMC 18.72.060
A16	MULTI-FAMILY PARKING DISPERSED THROUGHOUT PROJECT AND SCREENED FROM STREETS
A17	MULTI-FAMILY PROJECTS (5+ UNITS) PROVIDE BICYCLE PARKING PER MHMC 18.72.080
A18	PROJECTS WITH 6+ SPACES, LIGHTING INFORMATION IS PROVIDED PER MHMC 18.72.060.G
A19	PROJECTS WITH 6+ SPACES DEMONSTRATE PARKING LOT SCREENING AND LANDSCAPING PER MHMC SECTIONS 18.72.060.I AND 18.72.070
A20	PARKING LOTS WITH 99+ SPACES INCLUDE A PEDESTRIAN WALKWAY PER MHMC 18.72.060.H
A21	PARKING LOTS WITH 25+ SPACES INCLUDE EV SPACES PER MHMC SECTION 18.72.040.C

	ARCHITECTURAL DESIGN FEATURES
A22	50% OF HOMES FACING A STREET OR COMMON INTERIOR COURTYARD INCLUDE A FRONT PORCH (5'X6' MIN)
A23	25% OF HOMES FACING A STREET, ALLEY OR COMMON INTERIOR COURTYARD INCLUDE A BALCONY (4'X6' MIN)
A24	ALL FENCES AND WALLS DESIGNED FOR SCREENING PURPOSES SHALL BE OF SOLID MATERIAL
A25	360° ARCHITECTURE: PROJECT INCLUDES AT LEAST TWO DETAILS IDENTIFIED IN OBJECTIVE CRITERIA CHECKLIST
A26	EXTERIOR TREATMENTS AND MATERIALS: PROJECT INCLUDES AT LEAST TWO MATERIALS ON ANY BUILDING FACADE PER OBJECTIVE CRITERIA CHECKLIST

COMPLIANCE NOTES

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A9 A10 A13	SEE SHEETS L1-22 FOR CODE COMPLIANCE
A33 A18	SEE SHEETS P-1 & P-2 FOR CODE COMPLIANCE
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A34	SEE LANDSCAPE ARCH. SHEETS FOR CODE COMPLIANCE
B57-60	SEE SHEETS TM-11 TO 14 FOR CODE COMPLIANCE

B. ENGINEERING - LAND DEVELOPMENT REQUIREMENTS

	SITE PLANNING
B43	PROJECTS ADJACENT TO ARTERIAL STREETS DO NOT INCLUDE WALLS OR FENCES UNLESS REQUIRED BY ACOUSTICAL ANALYSIS +MEDIAN LANDSCAPING
B44	PUBLIC AND PRIVATE STREETS ARE CONSISTENT WITH GP TRANSPORTATION ELEMENT AND STANDARD DETAILS
B45	UTILITY TRANSFORMERS ARE INSTALLED UNDERGROUND UNLESS PRECLUDED BY PHYSICAL LIMITATIONS + P.S.E.'S ARE PROVIDED
B46	UTILITY DISTRIBUTION AND SERVICE CONNECTIONS ARE PLACED UNDERGROUND
B47	WATER METERS ARE LOCATED IN A PUBLIC RIGHT OF WAY OR P.S.E.
B48	CATEGORY 1 OR 2 STREAM SETBACKS ARE INCLUDED IN THE PROJECT
B49	A 5' PLANTING STRIP (WITH IRRIGATION) IS PROVIDED BETWEEN CURB AND SIDEWALK

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B50	NEW STREET ALIGNS AND CONNECTS TO EXISTING STREETS INTERSECTING WITH PROJECT BOUNDARY
B51	NEW STREETS EXTEND TO ADJOINING UNDEVELOPED LAND + PUBLIC ACCESS EASEMENTS ARE PROVIDED
B52	PROJECT PROVIDES OFF-STREET BICYCLE AND PEDESTRIAN CONNECTIONS IN ACCORDANCE WITH THE BIKEWAYS, TRAILS, PARKS AND RECREATION MASTER PLAN.
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	MUNICIPAL INFRASTRUCTURE
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B61	PROJECTS IN A FLOOD PLAIN COMPLY WITH MHMC CHAPTER 15.80
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A33	PHOTOMETRIC PLAN COMPLIES WITH EXTERIOR LIGHTING AND ILLUMINATION STANDARDS
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DESIGN REVIEW PERMIT
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THE CROSSWINDS AT MORGAN HILL
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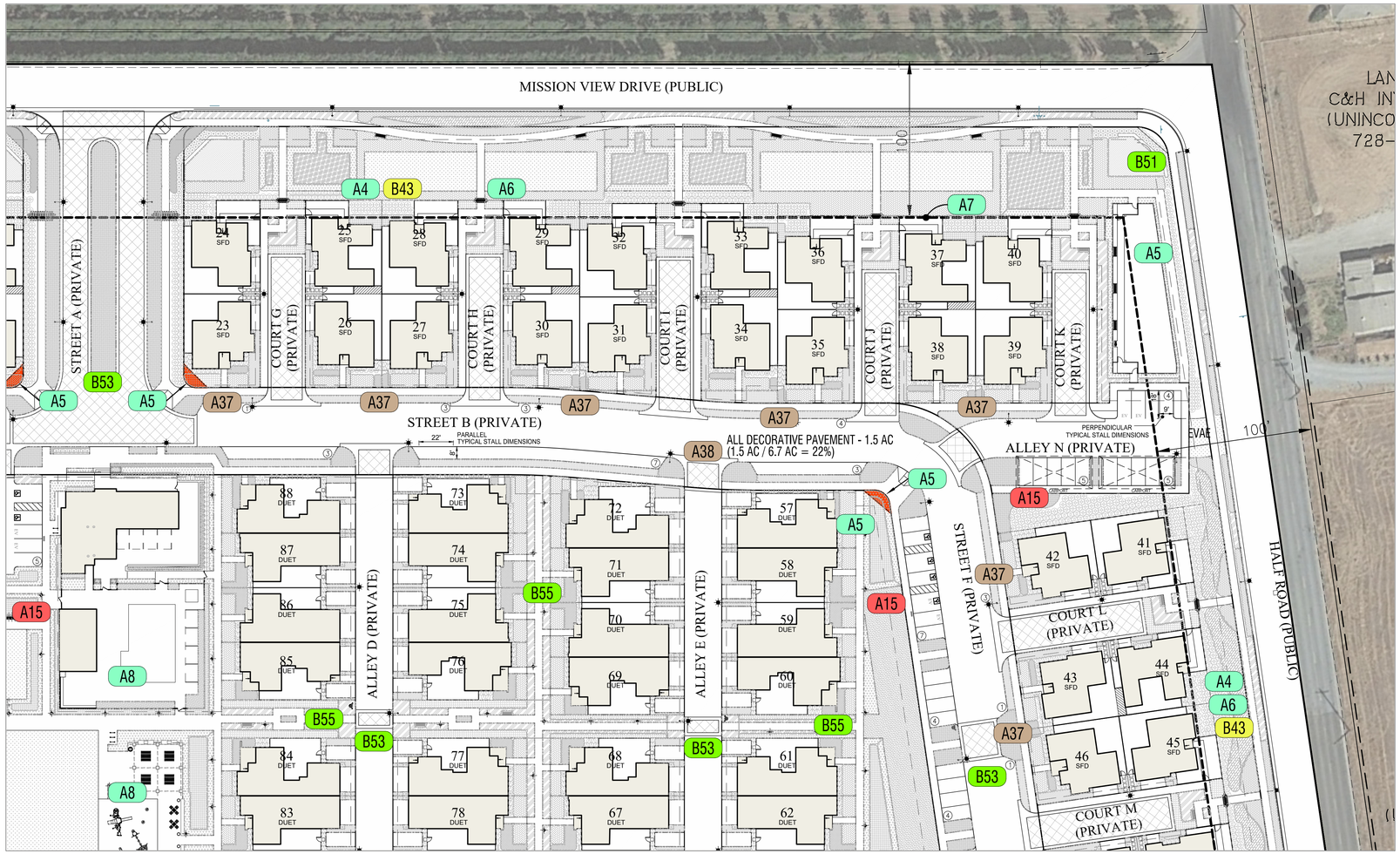
SHEET
DR-03
OF 33 SHEETS

JOB NO.
182032-2001

PLOT DATE: April 24, 2023
FILE PATH: W:\Jobs 18\182032 Depaul_Cochrane\Drawings\Prelim\Applications\2023 Design Review\DR-03 COMPLIANCE EXHIBIT (NE).dwg



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	269		538		0

REQUIRED PARKING - GUEST

DUETS/CONDOMINIUM/SINGLE FAMILY 1 SPACE/4 UNITS 269/4 = 68

TOTAL REQUIRED PARKING 538 COVERED SPACES
68 UNCOVERED SPACES
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PROVIDED PARKING

COVERED PARKING	538 (GARAGE + CARPORT)
CURB-SIDE/BAY/HEAD-IN	166
BAY/HEAD-IN ADA	9
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	AFFORDABLE HOUSING AND ACCESSORY DWELLING UNITS
A1	COMPLIANCE WITH INCLUSIONARY HOUSING ORDINANCE
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A20	PARKING LOTS WITH 36+ SPACES INCLUDE A PEDESTRIAN WALKWAY PER MHMC 18.72.060.H
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SHEET REVISIONS			BY	CK
DATE	MK			
4-28-2023	JAM	MISC. REVISIONS PER CITY COMMENTS	JAM	RD

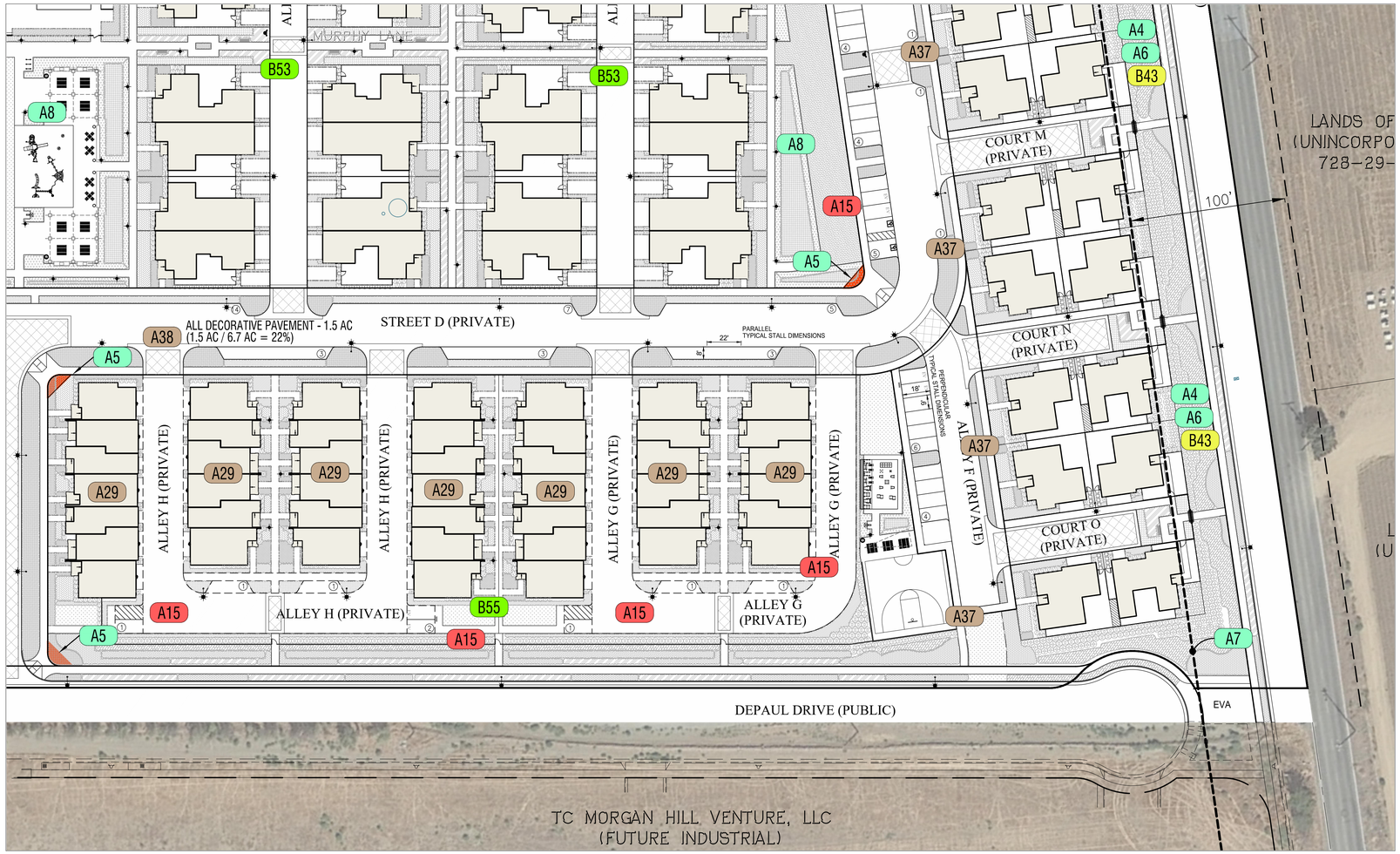
SCALE AS SHOWN

DATE AUG. 25, 2020

SHEET DR-04 OF 33 SHEETS

JOB NO. 182032-2001

PLOT DATE: April 25, 2023
FILE PATH: W:\Jobs 18\182032 Depaul_Cochrane\Drawings\Prelim\Applications\2023 Design Review\DR-04 COMPLIANCE EXHIBIT (SE).dwg



PARKING SUMMARY A14

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0 40 80 120
SCALE IN FEET: 1"= 40'

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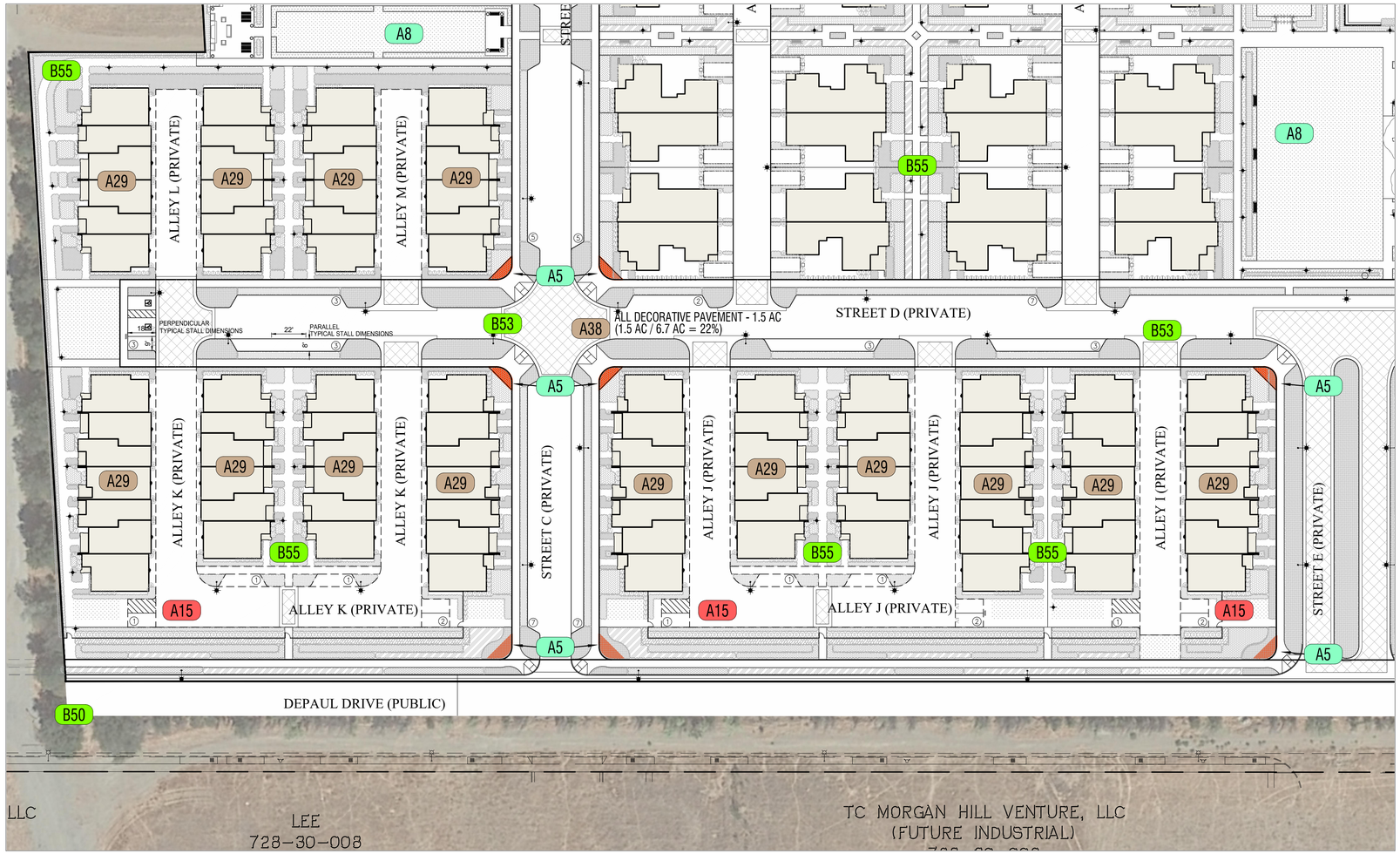
SHEET
DR-05
OF 33 SHEETS

JOB NO.
182032-2001

PLOT DATE: April 28, 2023
FILE PATH: W:\Jobs 18\182032 Depaul_Cochrane\Drawings\Prelim\Applications\2023 Design Review\DR-05 COMPLIANCE EXHIBIT (SW).dwg



PARKING SUMMARY A14

REQUIRED PARKING - OCCUPANT

HOUSING TYPE	COUNT	COVERED/UNIT	TOTAL	UNCOVERED/UNIT	TOTAL
DUETS	64	2.0 SPACES	128	N/A	0
CONDOMINIUM	149	2.0 SPACES	298	N/A	0
SINGLE FAMILY	56	2.0 SPACES	112	N/A	0
	269		538		0

REQUIRED PARKING - GUEST

DUETS/CONDOMINIUM/SINGLE FAMILY 1 SPACE/4 UNITS 269/4 = 68

TOTAL REQUIRED PARKING	538 COVERED SPACES
	68 UNCOVERED SPACES
	606 TOTAL SPACES

PROVIDED PARKING	
COVERED PARKING	538 (GARAGE + CARPORT)
CURB-SIDE/BAY/HEAD-IN	166
BAY/HEAD-IN ADA	9
BAY/HEAD-IN EV	15
BAY/HEAD-IN EV/ADA	3
DUET HEAD-IN	64
	795 TOTAL SPACES

0 40 80 120

SCALE IN FEET: 1"= 40'

A. DEVELOPMENT SERVICES REQUIREMENTS

	AFFORDABLE HOUSING AND ACCESSORY DWELLING UNITS
A1	COMPLIANCE WITH INCLUSIONARY HOUSING ORDINANCE
A2	ACCESSORY DWELLING UNITS COMPLY WITH MHMC CHAPTER 18.84

	SITE PLANNING
A3	COMPLIES WITH APPLICABLE ZONING
A4	ORIENTATION TO AN EXISTING STREET (COLLECTOR OR ARTERIAL)
A5	INTERSECTION SIGHT DISTANCE/CLEAR VISION TRIANGLE
A6	SOUND WALLS INCORPORATED INTO PROJECT DESIGN PER ACOUSTICAL REPORT
A7	PROJECT COMPLIES WITH AGRICULTURAL BUFFER CRITERIA
A8	ON-SITE RECREATIONAL AMENITIES ARE PROVIDED PER SIZE/TIER TABLE
A9	LANDSCAPING AND IRRIGATION PLANS COMPLY WITH MHMC CHAPTER 18.148
A10	LANDSCAPING PLAN COMPLIES WITH MHMC SECTION 18.64.040
A11	COMPLIANCE WITH WILDLAND-URBAN INTERFACE FIRE AREA GUIDELINES
A12	TREES TO BE REMOVED (MHMC CHAPTER 12.32) ARE IDENTIFIED FOR MITIGATION + APPLICATION IS MADE FOR TREE REMOVAL PERMIT
A13	USEABLE PRIVATE AND COMMON OPEN SPACE MEET BY-UNIT TYPE MINIMUM AREA

	PARKING IMPROVEMENTS
A14	ON-SITE PARKING PROVIDED PER MHMC 18.72.030
A15	PARKING DESIGN/STANDARDS COMPLY WITH MHMC 18.72.060
A16	MULTI-FAMILY PARKING DISPERSED THROUGHOUT PROJECT AND SCREENED FROM STREETS
A17	MULTI-FAMILY PROJECTS (5+ UNITS) PROVIDE BICYCLE PARKING PER MHMC 18.72.080
A18	PROJECTS WITH 6+ SPACES, LIGHTING INFORMATION IS PROVIDED PER MHMC 18.72.060.G
A19	PROJECTS WITH 6+ SPACES DEMONSTRATE PARKING LOT SCREENING AND LANDSCAPING PER MHMC SECTIONS 18.72.060.I AND 18.72.070
A20	PARKING LOTS WITH 99+ SPACES INCLUDE A PEDESTRIAN WALKWAY PER MHMC 18.72.060.H
A21	PARKING LOTS WITH 25+ SPACES INCLUDE EV SPACES PER MHMC SECTION 18.72.040.C

	ARCHITECTURAL DESIGN FEATURES
A22	50% OF HOMES FACING A STREET OR COMMON INTERIOR COURTYARD INCLUDE A FRONT PORCH (5'X6' MIN)
A23	25% OF HOMES FACING A STREET, ALLEY OR COMMON INTERIOR COURTYARD INCLUDE A BALCONY (4'X6' MIN)
A24	ALL FENCES AND WALLS DESIGNED FOR SCREENING PURPOSES SHALL BE OF SOLID MATERIAL
A25	360° ARCHITECTURE: PROJECT INCLUDES AT LEAST TWO DETAILS IDENTIFIED IN OBJECTIVE CRITERIA CHECKLIST
A26	EXTERIOR TREATMENTS AND MATERIALS: PROJECT INCLUDES AT LEAST TWO MATERIALS ON ANY BUILDING FACADE PER OBJECTIVE CRITERIA CHECKLIST

	ARCHITECTURAL DESIGN FEATURES
A27	ROOF LINES INCLUDE TWO VARYING ROOF HEIGHTS AND TYPES
A28	BUILDING BULK IS MINIMIZED BY IMPLEMENTING AT LEAST TWO DESIGN MEASURES PER OBJECTIVE CRITERIA CHECKLIST
A29	MAXIMUM NUMBER OF UNITS: 7 PER SINGLE FAMILY ATTACHED
A30	SAMPLE COLOR PALETTE COMPLIES WITH OBJECTIVE CRITERIA CHECKLIST
A31	WINDOW DESIGN COMPLIES WITH OBJECTIVE CRITERIA CHECKLIST
A32	MIRRORED GLAZING NOT INCLUDED IN PROJECT
A33	PHOTOMETRIC PLAN COMPLIES WITH EXTERIOR LIGHTING AND ILLUMINATION STANDARDS
A34	EXTERIOR MECHANICAL AND ELECTRICAL EQUIPMENT SHALL BE SCREENED OR INCORPORATED INTO SITE/BUILDING DESIGN
A35	PARKING GARAGES PROMINENCE MITIGATED BE AT LEAST ONE MITIGATION PER OBJECTIVE CRITERIA CHECKLIST
A36	GARAGE DOORS INCLUDE ARCHITECTURAL ELEMENTS THAT COMPLIMENT THE MAIN BUILDING
A37	DETACHED SINGLE FAMILY PROJECTS PAVED/IMPERVIOUS SURFACES DO NOT EXCEED 50%+ OF THE FRONT AND STREET SIDE AREAS
A38	DECORATIVE PAVEMENT DESIGN TOTALS AT LEAST 10% OF THE PAVED AND/OR LANDSCAPED AREA
A39	ROOF ELEMENTS OF A MULTI-FAMILY PROJECT IS DESIGNED SUCH THAT NO MORE THAT TWO SIDE-BY-SIDE UNITS ARE COVERED BY ONE UNARTICULATED ROOF.
A40	BUILDINGS 3+ STORIES SHALL INCLUDE MASSING BREAKS PER THE OBJECTIVE STANDARDS CRITERIA
A41	BUILDINGS 3+ STORIES TO PROVIDE GROUND-FLOOR ELEVATIONS DISTINCTIVE FROM OTHER STORIES PER OBJECTIVE STANDARDS CRITERIA
A42	DETAILED TRASH ENCLOSURE PLANS PROVIDED FOR MULTI-FAMILY PROJECTS THAT COMPLY WITH OBJECTIVE STANDARDS CRITERIA

COMPLIANCE NOTES

A3	SEE SHEETS 7-9 FOR ZONING COMPLIANCE
A9 A10 A13	SEE SHEETS L1-22 FOR CODE COMPLIANCE
A33 A18	SEE SHEETS P-1 & P-2 FOR CODE COMPLIANCE
B56 B44 B49	SEE SHEETS TM-9, TM-10 FOR STREET SECTIONS
B62 B45 B46	SEE SHEETS TM-13, NOTE 13 FOR CODE COMPLIANCE
B47	SEE SHEETS TM-06, TM-11 FOR CODE COMPLIANCE
A34	SEE LANDSCAPE ARCH. SHEETS FOR CODE COMPLIANCE
B57-60	SEE SHEETS TM-11 TO 14 FOR CODE COMPLIANCE

B. ENGINEERING - LAND DEVELOPMENT REQUIREMENTS

	SITE PLANNING
B43	PROJECTS ADJACENT TO ARTERIAL STREETS DO NOT INCLUDE WALLS OR FENCES UNLESS REQUIRED BY ACOUSTICAL ANALYSIS +MEDIAN LANDSCAPING
B44	PUBLIC AND PRIVATE STREETS ARE CONSISTENT WITH GP TRANSPORTATION ELEMENT AND STANDARD DETAILS
B45	UTILITY TRANSFORMERS ARE INSTALLED UNDERGROUND UNLESS PRECLUDED BY PHYSICAL LIMITATIONS + P.S.E.'S ARE PROVIDED
B46	UTILITY DISTRIBUTION AND SERVICE CONNECTIONS ARE PLACED UNDERGROUND
B47	WATER METERS ARE LOCATED IN A PUBLIC RIGHT OF WAY OR P.S.E.
B48	CATEGORY 1 OR 2 STREAM SETBACKS ARE INCLUDED IN THE PROJECT
B49	A 5' PLANTING STRIP (WITH IRRIGATION) IS PROVIDED BETWEEN CURB AND SIDEWALK

	PEDESTRIAN, BICYCLE AND TRANSIT IMPROVEMENTS
B50	NEW STREET ALIGNS AND CONNECTS TO EXISTING STREETS INTERSECTING WITH PROJECT BOUNDARY
B51	NEW STREETS EXTEND TO ADJOINING UNDEVELOPED LAND + PUBLIC ACCESS EASEMENTS ARE PROVIDED
B52	PROJECT PROVIDES OFF-STREET BICYCLE AND PEDESTRIAN CONNECTIONS IN ACCORDANCE WITH THE BIKEWAYS, TRAILS, PARKS AND RECREATION MASTER PLAN.
B53	STREETS INCLUDE DESIGN ELEMENTS FROM THREE DIFFERENT CATEGORIES OF "COMPLETE STREET DESIGN ELEMENTS"
B54	MULTI-FAMILY PROJECT INCLUDES AT LEAST TWO ENHANCED BICYCLE AND PEDESTRIAN IMPROVEMENTS CONSISTENT WITH OBJECTIVE CRITERIA CHECKLIST
B55	INTERNAL PEDESTRIAN CONNECTIONS ARE PROVIDED
B56	CONTINUOUS SIDEWALKS ARE PROVIDED ON BOTH SIDES OF STREETS

	MUNICIPAL INFRASTRUCTURE
B57	WATER SYSTEM PROVIDES LOCAL DISTRIBUTION AND COMPLIES WITH STANDARD DETAILS AND DESIGN STANDARDS
B58	WASTEWATER SYSTEM PROVIDES LOCAL DISTRIBUTION AND COMPLIES WITH STANDARD DETAILS AND DESIGN STANDARDS
B59	STORM DRAIN SYSTEM DESIGNED TO MEET THE NEEDS OF A 10-YEAR EVENT; DETENTION SIZED FOR A 25-YEAR EVENT; STREETS FOR A 100-YEAR EVENT
B60	PROJECT COMPLIES WITH CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD CENTRAL COAST REGION REQUIREMENTS
B61	PROJECTS IN A FLOOD PLAIN COMPLY WITH MHMC CHAPTER 15.80
B62	BROADBAND CONNECTIVITY IS INSTALLED PER OBJECTIVE STANDARDS CHECKLIST

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DIVIDEND
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DESIGN REVIEW PERMIT
COMPLIANCE EXHIBIT (NW)

THE CROSSWINDS AT MORGAN HILL

MORGAN HILL, CALIFORNIA

SHEET REVISIONS	BY	CK	DATE
MISC. REVISIONS PER CITY COMMENTS	JAM	RD	4-29-2021

SCALE AS SHOWN

DATE AUG. 25, 2020

SHEET
DR-06
OF 33 SHEETS

JOB NO.
182032-2001

PLOT DATE: April 28, 2023
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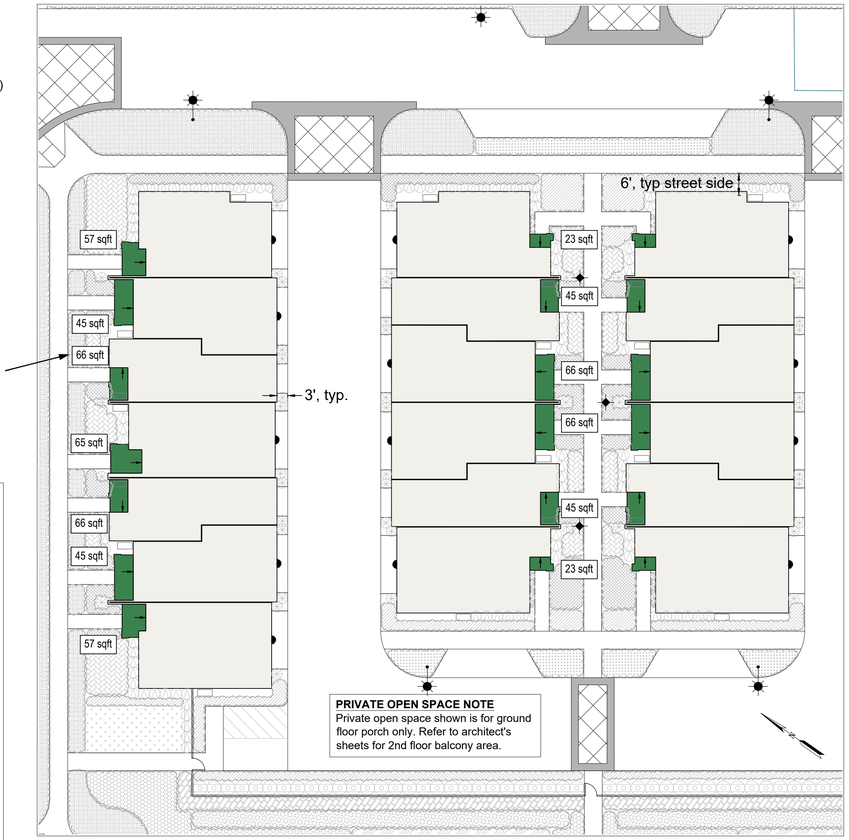
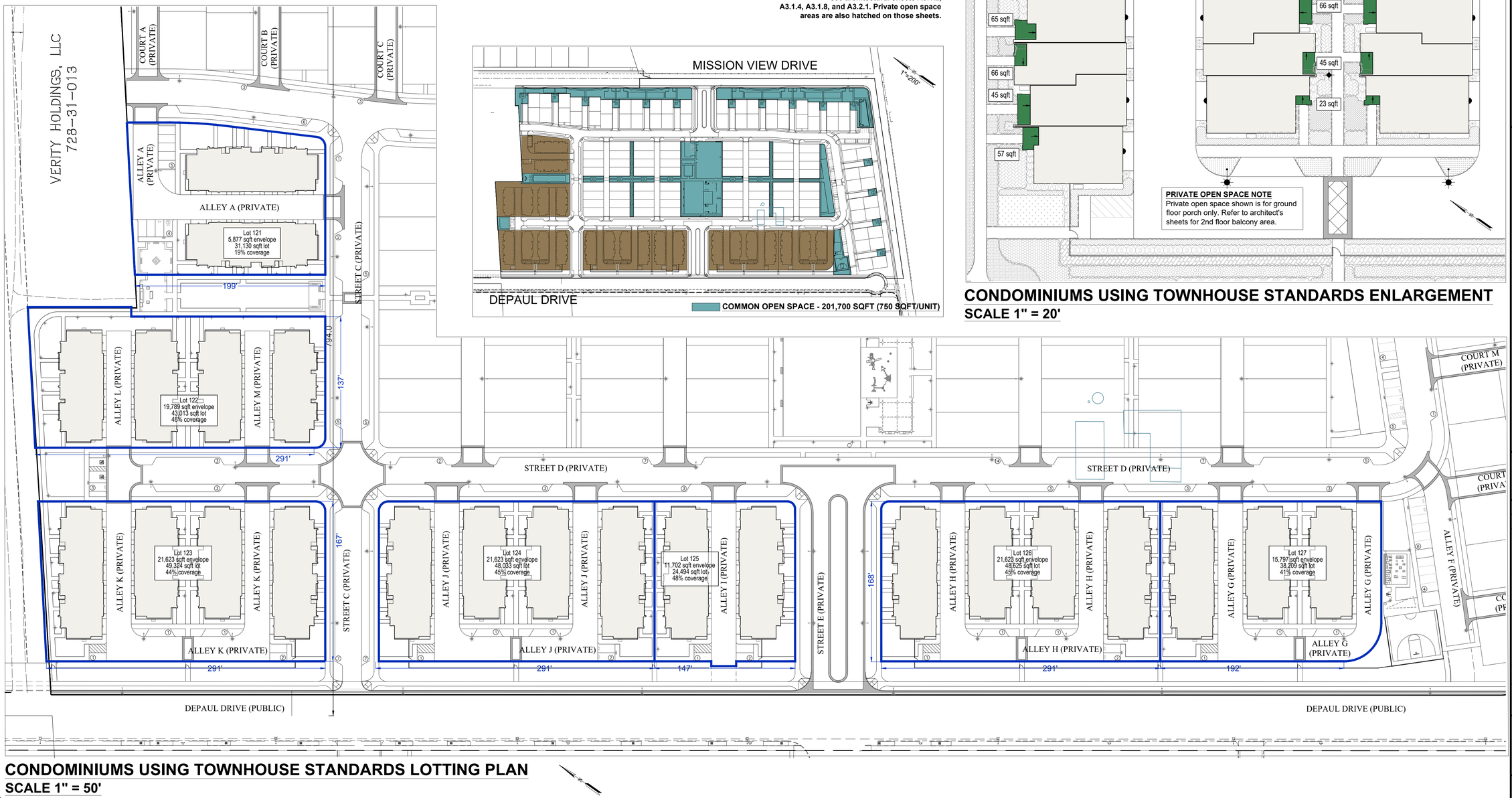
CONDOMINIUMS USING TOWNHOUSE STANDARDS (LOTS 121-127)
Alternative Standards for Medium Density Residential Development (18.40-2)

Metric	Standard	Compliance
Lot Area (sqft)	1,440-3,999	n/a
Lot Width (min)	24'	yes
Lot Lot Depth (min)	60'	yes
Lot Coverage (max)	55%	yes
FAR (max)	n/a	n/a
Height (max)	30'	yes
Setbacks (min)		
Front	n/a	n/a
Interior Side	n/a	n/a
Street Side	5'	yes
Rear	n/a	n/a
Private Open Space	60 sqft	yes
Common Open Space	140 sqft	yes

Porch areas noted here represent on-grade open space. For a complete tabulation of all private open space areas for individual units, please see architectural sheets A3.1.2, A3.1.4, A3.1.8, and A3.2.1. Private open space areas are also hatched on those sheets.



CONDOMINIUMS USING TOWNHOUSE STANDARDS ENLARGEMENT
SCALE 1" = 20'



CONDOMINIUMS USING TOWNHOUSE STANDARDS LOTTING PLAN
SCALE 1" = 50'

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DESIGN REVIEW PERMIT
DEVELOPMENT STANDARDS

THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

DATE	BY	CK
4-28-2023	JAM	MK

SHEET REVISIONS
MISC. REVISIONS PER CITY COMMENTS

SCALE: AS SHOWN
DATE: AUG. 25, 2020

SHEET
DR-07
OF 33 SHEETS

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182032-2001

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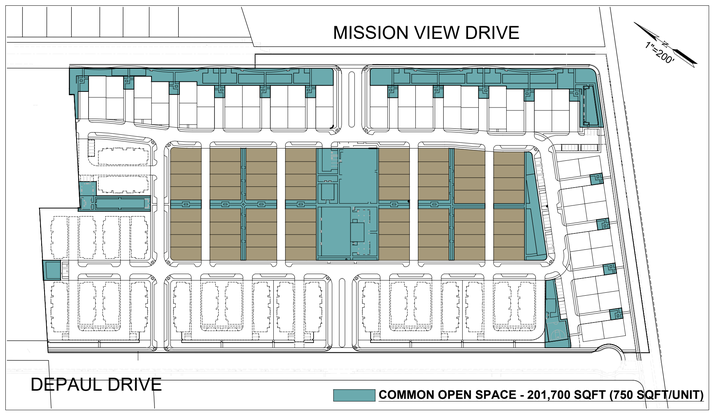
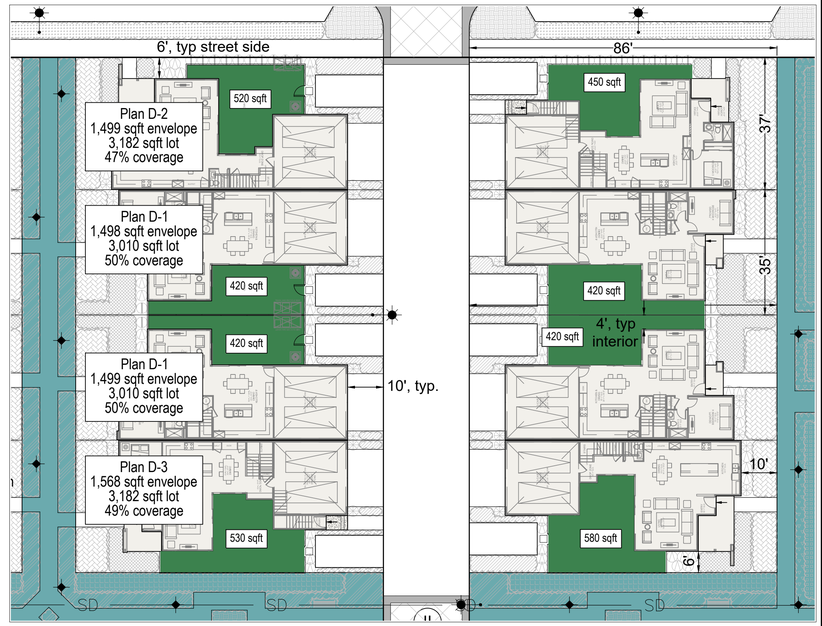
DUET LOTTING PLAN

SCALE 1" = 50'



DUETS (LOTS 57-120)
Alternative Standards for Medium Density Residential Development (18.40-2)

Metric	Standard	Compliance
Lot Area (sqft)	3,000	yes
Lot Width (min)	30'	yes
Lot Lot Depth (min)	85'	yes
Lot Coverage (max)	50%	yes
FAR (max)	n/a	n/a
Height (max)	30'	yes
Setbacks (min)		
Front	10'	yes
Interior Side	3'	yes
Street Side	6'	yes
Rear	10'	yes
Private Open Space	300 sqft	yes
Common Open Space	175 sqft	yes



DUET ENLARGEMENT

SCALE 1" = 20'

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DESIGN REVIEW PERMIT
DEVELOPMENT STANDARDS

THE CROSSWINDS AT MORGAN HILL

MORGAN HILL, CALIFORNIA

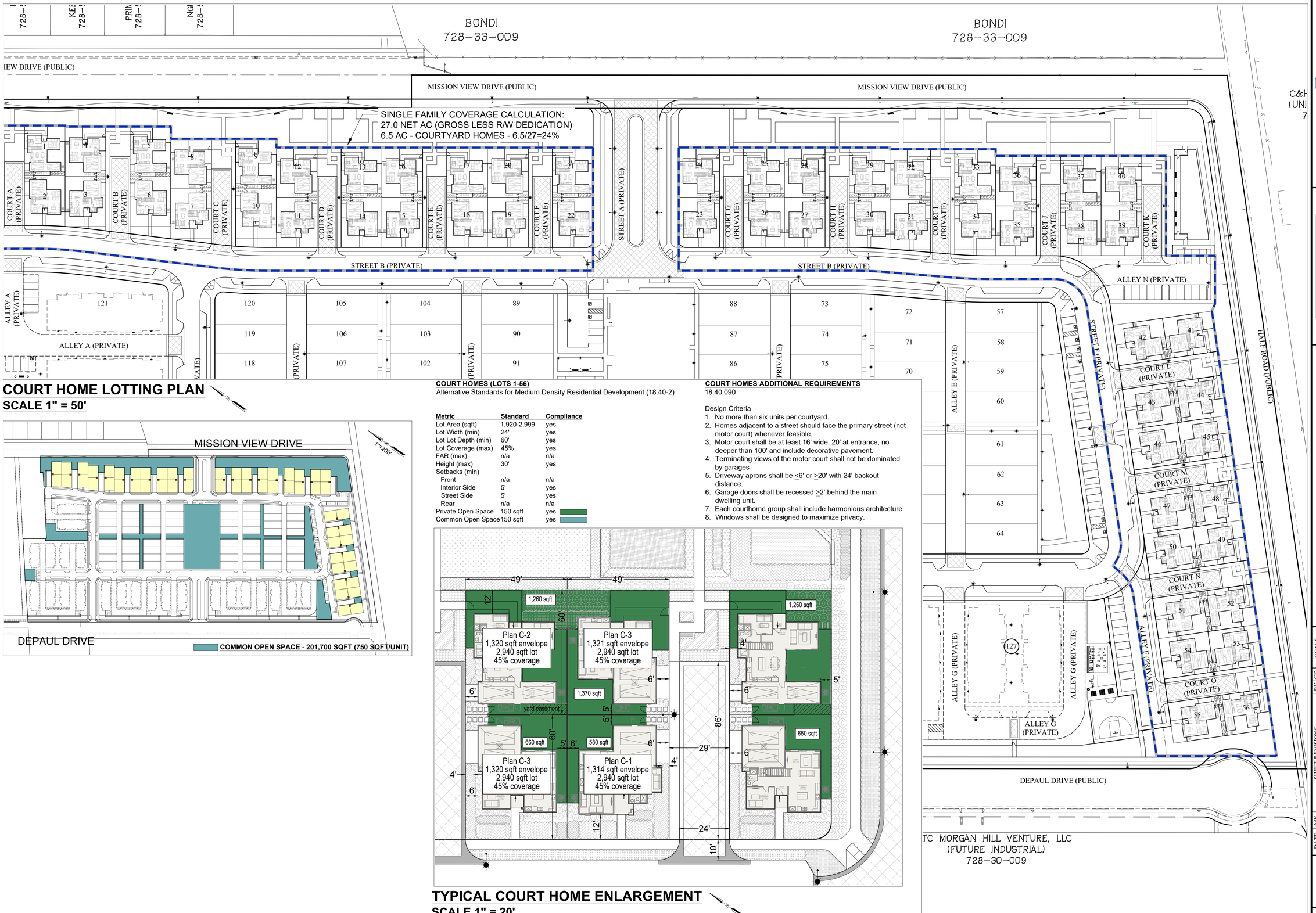
DATE	BY	CK
4-28-2023	MK	JAM
SHEET REVISIONS		
MISC. REVISIONS PER CITY COMMENTS	JAM	RD

SCALE: AS SHOWN
DATE: AUG. 25, 2020

SHEET
DR-08
OF 33 SHEETS

JOB NO.
182032-2001

PLOT DATE: April 28, 2023
FILE PATH: W:\Jobs 18\182032 Depaul_Cochrane\Drawings\Prelim\Applications\2023 Design Review\DR- 08 DEVELOPMENT STANDARDS.dwg



COURT HOME LOTTING PLAN
SCALE 1" = 50'

COURT HOMES (LOTS 1-56)
Alternative Standards for Medium Density Residential Development (18.40-2)

Metric	Standard	Compliance
Lot Area (sqft)	1,920-2,999	yes
Lot Width (min)	24'	yes
Lot Lot Depth (min)	60'	yes
Lot Coverage (max)	45%	yes
FAR (max)	n/a	n/a
Height (max)	30'	yes
Setbacks (min)		
Front	n/a	n/a
Interior Side	5'	yes
Street Side	5'	yes
Rear	n/a	n/a
Private Open Space	150 sqft	yes
Common Open Space	150 sqft	yes

COURT HOMES ADDITIONAL REQUIREMENTS
18.40.090

Design Criteria
1. No more than six units per courtyard.
2. Homes adjacent to a street should face the primary street (not motor court) whenever feasible.
3. Motor court shall be at least 16' wide, 20' at entrance, no deeper than 100' and include decorative pavement.
4. Terminating views of the motor court shall not be dominated by garages
5. Driveway aprons shall be ≤6' or ≥20' with 24' backout distance.
6. Garage doors shall be recessed ≥2' behind the main dwelling unit.
7. Each courthome group shall include harmonious architecture
8. Windows shall be designed to maximize privacy.

TYPICAL COURT HOME ENLARGEMENT
SCALE 1" = 20'

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DESIGN REVIEW PERMIT
DEVELOPMENT STANDARDS
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

DATE	BY	SHEET REVISIONS	BY	CK
4-28-2023	JAM	MISC. REVISIONS PER CITY COMMENTS	JAM	RD

SCALE AS SHOWN
DATE AUG. 25, 2020

SHEET
DR-09
OF 33 SHEETS

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182032-2001

PLOT DATE: April 28, 2023
FILE PATH: W:\Jobs 18\182032 Depaul_Cochrane\Drawings\Prelim\Applications\2023 Design Review\DR-09 DEVELOPMENT STANDARDS.dwg

MISSION VIEW DRIVE (PUBLIC)
MISSION VIEW DRIVE (PUBLIC)
MISSION VIEW DRIVE (PUBLIC)
STREET A (PRIVATE)
STREET B (PRIVATE)
STREET B (PRIVATE)
COURT A (PRIVATE)
COURT B (PRIVATE)
COURT C (PRIVATE)
COURT D (PRIVATE)
COURT E (PRIVATE)
COURT F (PRIVATE)
COURT G (PRIVATE)
COURT H (PRIVATE)
COURT I (PRIVATE)
COURT J (PRIVATE)
COURT K (PRIVATE)
ALLEY N (PRIVATE)
HALE ROAD (PUBLIC)
ALLEY A (PRIVATE)
ALLEY B (PRIVATE)
ALLEY C (PRIVATE)
ALLEY D (PRIVATE)
ALLEY E (PRIVATE)
STREET F (PRIVATE)
COURT L (PRIVATE)
COURT M (PRIVATE)
COURT N (PRIVATE)
COURT O (PRIVATE)
ALLEY F (PRIVATE)
ALLEY G (PRIVATE)
ALLEY H (PRIVATE)
ALLEY I (PRIVATE)
ALLEY J (PRIVATE)
ALLEY K (PRIVATE)
ALLEY L (PRIVATE)
ALLEY M (PRIVATE)
STREET C (PRIVATE)
STREET D (PRIVATE)
STREET D (PRIVATE)
STREET E (PRIVATE)
121 CONDOMINIUMS
122 CONDOMINIUMS
123 CONDOMINIUMS
124 CONDOMINIUMS
125 CONDOMINIUMS
126 CONDOMINIUMS
127 CONDOMINIUMS
CARPORT
CARPORT
TRELLIS
TYPICAL STALL DIMENSIONS
PERPENDICULAR
TYPICAL STALL DIMENSIONS
TRELLIS
TYPICAL STALL DIMENSIONS
TRELLIS
TYPICAL STALL DIMENSIONS
TRELLIS

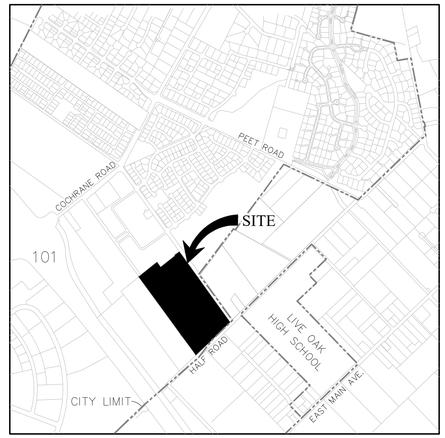
TENTATIVE TRACT MAP
THE CROSSWINDS AT MORGAN HILL

MORGAN HILL, DISTRICT D, SANTA CLARA COUNTY, CALIFORNIA

CROSSWINDS
BY DIVIDEND HOMES

Item 2
Attachment 5

	SHEET INDEX
TM-01	TITLE SHEET
TM-02	EXISTING CONDITIONS
TM-03	TITLE DISPOSITION
TM-04	COMPREHENSIVE LOTTING PLAN
TM-05	LOTTING PLAN-NORTH
TM-06	LOTTING PLAN - SOUTH
TM-07	GRADING PLAN - NORTH
TM-08	GRADING PLAN - SOUTH
TM-09	CROSS SECTIONS
TM-10	STREET SECTIONS
TM-11	UTILITY PLAN - NORTH
TM-12	UTILITY PLAN - SOUTH
TM-13	PRELIMINARY STORMWATER CONTROL PLAN
TM-14	EROSION CONTROL PLAN
TM-15	PHASING PLAN



VICINITY MAP
NO SCALE

CONTACT INFORMATION

APPLICANT/OWNER: THE CROSSWINDS AT MORGAN HILL, LLC
C/O DIVIDEND HOMES
385 WOODVIEW AVENUE, SUITE 100
MORGAN HILL, CA 95037
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(408) 779-5900
ROLIVER@DIVIDENDHOMES.COM
JVROTSOS@DIVIDENDHOMES.COM

CIVIL ENGINEER:
LANDSCAPE ARCH. AND PLANNER: RJA
8055 CAMINO ARROYO
GILROY, CA 95020
ENGINEER: LUIS SANTIAGO (LSANTIAGO@RJA-GPS.COM)
PLANNER: ROSS DOYLE (RDOYLE@RJA-GPS.COM)
(408) 848-0300

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	BOUNDARY	
	CENTER LINE	
	EASEMENT	
	PROPERTY LINE	
	FACE OF CURB	
	SIDEWALK	
►►	OVERLAND RELEASE	
+ 356.3	SPOT ELEVATION	
PAD 357.0	PAD ELEVATION	
	UNDERGROUND RETENTION FACILITY	
14	LOT NUMBER	
PSE	PUBLIC SERVICE EASEMENT	
IEE	INGRESS EGRESS EASEMENT	
PSDE	PRIVATE STORM DRAIN EASEMENT	
PYE	PRIVATE YARD EASEMENT	
EVAE	EMERGENCY VEHICLE ACCESS EASEMENT	

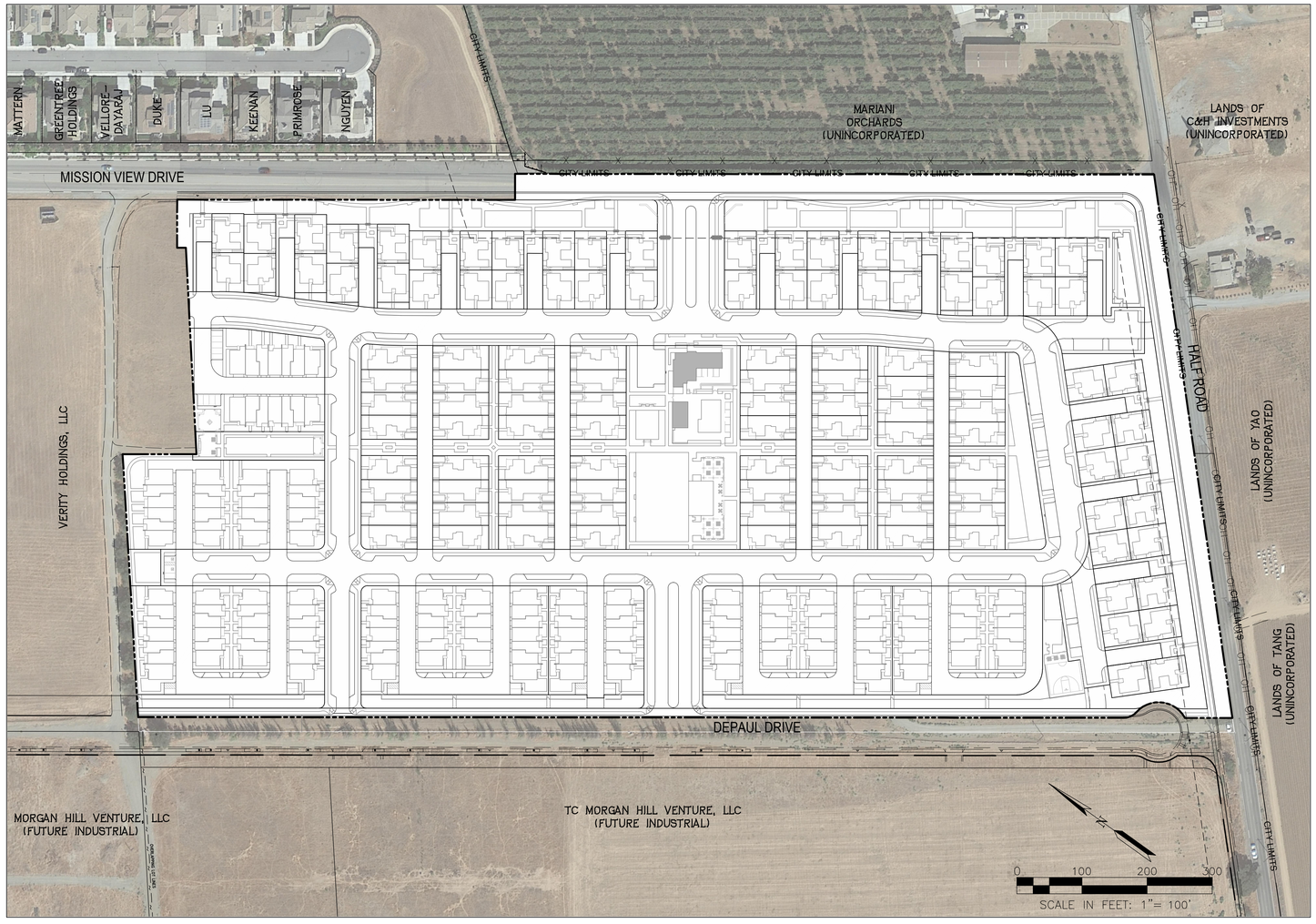
MATTERN
GREENTREE HOLDINGS
VELLORE DAYARAJ
DUKE
LU
KEENAN
PRIMROSE
NGUYEN
CITY LIMITS
MARIANI ORCHARDS (UNINCORPORATED)
LANDS OF C&H INVESTMENTS (UNINCORPORATED)
MISSION VIEW DRIVE
CITY LIMITS
CITY LIMITS
CITY LIMITS

PHOTO 1: AERIAL VIEW, NORTHEASTERLY PERSPECTIVE

PHOTO 2: AERIAL VIEW NORTHERLY PERSPECTIVE

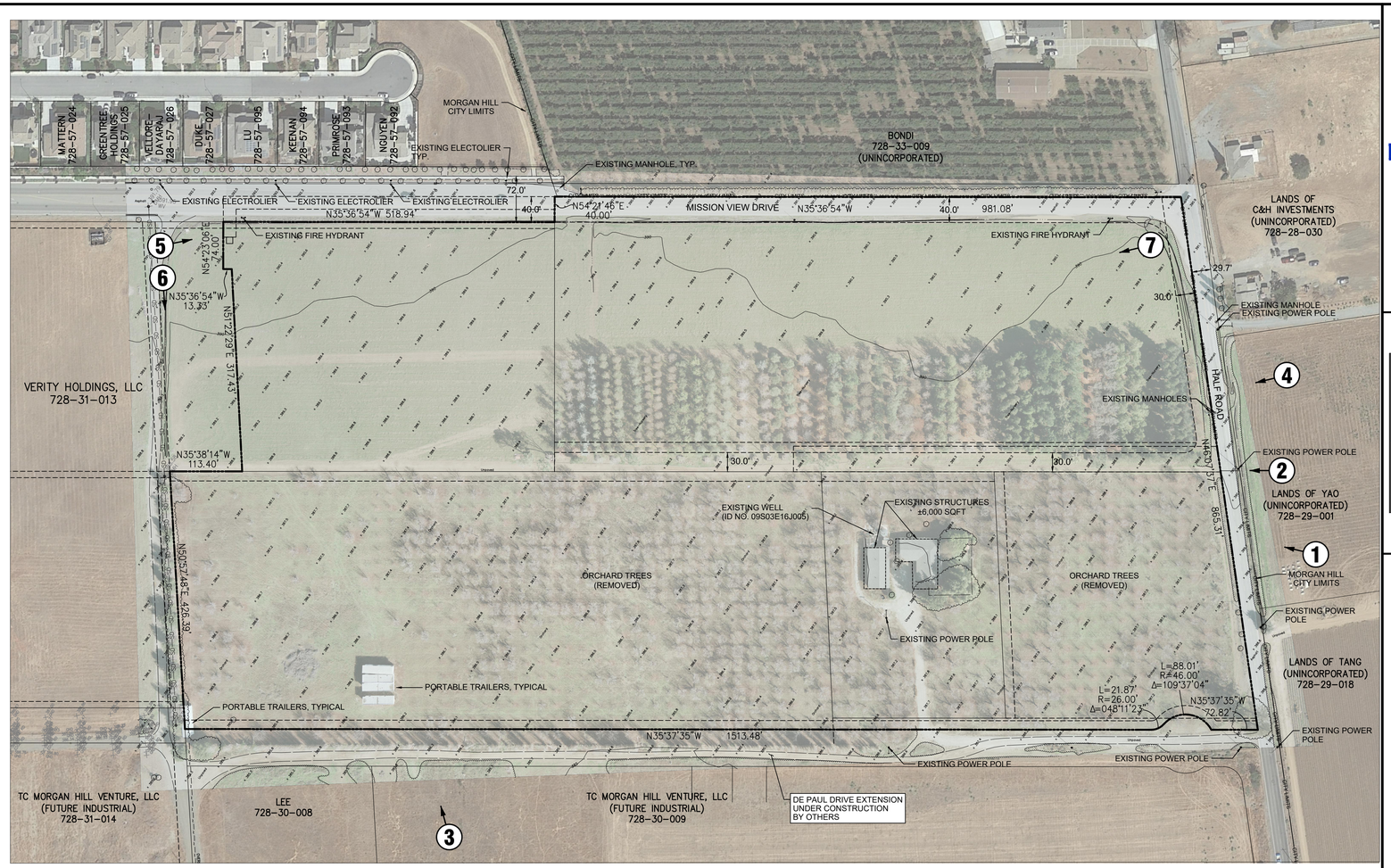

PHOTO 3: AERIAL VIEW, EASTERLY PERSPECTIVE

PHOTO 4: AERIAL VIEW, NORTHWESTERLY PERSPECTIVE

PHOTO 5: NORTHEAST PROPERTY CORNER, SOUTHERLY PERSPECTIVE

PHOTO 6: NORTHEAST PROPERTY CORNER, SOUTHWESTERLY PERSPECTIVE

PHOTO 7: SOUTHEAST PROPERTY CORNER, NORTHERLY PERSPECTIVE

NOTES:
1. ALL TREES LOCATED ON-SITE ARE PROPOSED TO BE REMOVED.
2. A COMPANION TREE REMOVAL PERMIT HAS BEPREPARED AND SUBMITTED TO THE CITY FOR APPROVAL.
3. AERIAL IMAGES CIRCA JANUARY, 2019, AND MAY NOT REPRESENT CURRENT SITE CONDITIONS.
4. BOUNDARY REFLECTS A PUBLIC RIGHT-OF-WAY DEDICATION OF DEPAUL DRIVE.

0 100 200 300
SCALE IN FEET: 1"= 100'

SD 2020-0003

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MORGAN HILL, CA 95037

VESTING TENTATIVE MAP
EXISTING CONDITIONS
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

SCALE AS SHOWN
DATE APRIL 2023

DATE	MK	SHEET REVISIONS	BY	CK

SHEET
TM-02
OF 15 SHEETS

JOB NO.
182032-2001

RECORD OF SURVEY
(747-M-50)

MISSION VIEW DRIVE

20' WATERLINE EASEMENT(G477-OR-518)(G477-OR-520)

PARCEL TWO-A (EASEMENT)

72.0

40.0

40' ROADWAY EASEMENT(L670-OR-2198)

10' PUE(584-M-1)

10'x10' WELL EASEMENT (G477-OR-518) (G477-OR-520)

20' PUE(584-M-1)

PARCEL ONE
LLAGAS LLC, A CALIFORNIA LIMITED LIABILITY COMPANY

PARCEL C
(594-M-7)

APN: 728-30-001

- THE "AGREEMENT FOR WATER RIGHTS" RECORDED JANUARY 12, 1934 IN BOOK 669, PAGE 493, OFFICIAL RECORDS OF SANTA CLARA COUNTY, CALIFORNIA, DOES NOT DEFINE AN EASEMENT.
- THE AGREEMENT FOR "LAND DEVELOPMENT IMPROVEMENTS" RECORDED OCTOBER 27, 1981 IN BOOK D416, PAGE 422, OFFICIAL RECORDS OF SANTA CLARA COUNTY, CALIFORNIA, DOES NOT DEFINE AN EASEMENT.
- THE DEED RECORDED DECEMBER 22, 1947 IN BOOK 1452, PAGE 452, OFFICIAL RECORDS OF SANTA CLARA COUNTY, CALIFORNIA, DOES NOT DEFINE THE LOCATION OF THE WELL OR PIPELINE.
- THE DEED RECORDED IN BOOK 2454, PAGE 520, OFFICIAL RECORDS OF SANTA CLARA COUNTY, CALIFORNIA, IS NOT LEGIBLE, THE LOCATION OF THE EASEMENT CANNOT BE DETERMINED FROM RECORD INFORMATION.
- THE "WATER AGREEMENT" RECORDED JUNE 20, 1962 IN BOOK 5618, PAGE 391, OFFICIAL RECORDS OF SANTA CLARA COUNTY, CALIFORNIA DOES NOT DEFINE THE LOCATION OF AN EASEMENT.
- THE "SANITARY SEWER AGREEMENT" RECORDED JANUARY 14, 1967 IN BOOK C539, PAGE 483, OFFICIAL RECORDS OF SANTA CLARA COUNTY, CALIFORNIA, DOES NOT DEFINE THE LOCATION OF AN EASEMENT.

EXISTING LOT LINE TO BE REMOVED, TYP.

PARCEL TWO
LLAGAS, LLC, A LTD. LIABILITY CO.

PARCEL 2
(491-M-10)

APN: 728-30-002

- THE "AGREEMENT FOR WATER RIGHTS" RECORDED JANUARY 12, 1934 IN BOOK 669, PAGE 493, OFFICIAL RECORDS OF SANTA CLARA COUNTY, CALIFORNIA, DOES NOT DEFINE AN EASEMENT.
- THE DOCUMENT RECORDED IN BOOK 2454, PAGE 526, OFFICIAL RECORDS OF SANTA CLARA COUNTY, CALIFORNIA, IS A NOTICE OF LIS PENDENS NOT A DEED TO COAST COUNTIES GAS AND ELECTRIC COMPANY.
- THE AGREEMENT FOR "LAND DEVELOPMENT IMPROVEMENTS" RECORDED OCTOBER 27, 1981 IN BOOK D416, PAGE 422, OFFICIAL RECORDS OF SANTA CLARA COUNTY, CALIFORNIA, DOES NOT DEFINE AN EASEMENT.

36.0

29.7

HALF ROAD

46' FUTURE WIDTH LINE(491-M-10)

30.0

40' INGRESS/EGRESS AND PUBLIC UTILITY EASEMENT (PARCEL FOUR-A — DOC #15205019)

PARCEL FOUR-A (EASEMENT)

PARCEL FOUR-B (EASEMENT)

15' WATERLINE EASEMENT(DOC #15205019)

PARCEL THREE-A (EASEMENT)

15' WATERLINE EASEMENT(DOC #15205019)

PARCEL FOUR-B (EASEMENT)

36.0

PARCEL THREE
LLAGAS LLC, A LIMITED LIABILITY COMPANY

PARCEL 1
(258-M-3)

APN: 728-30-003

- THE DOCUMENT RECORDED APRIL 9, 1951 IN BOOK 2186, PAGE 401, OFFICIAL RECORDS OF SANTA CLARA COUNTY, CALIFORNIA, IS NOT LEGIBLE.
- THE DOCUMENT RECORDED JUNE 12, 1956 IN BOOK 3520, PAGE 302, OFFICIAL RECORDS OF SANTA CLARA COUNTY, CALIFORNIA, DOES NOT DEFINE AN EASEMENT LOCATION.

PARCEL FOUR
LLAGAS LLC, A LIMITED LIABILITY COMPANY

PARCEL 2
(258-M-3)

APN: 728-30-004

- THE DOCUMENT RECORDED APRIL 9, 1951 IN BOOK 2186, PAGE 401, OFFICIAL RECORDS OF SANTA CLARA COUNTY, CALIFORNIA, IS NOT LEGIBLE.
- THE DOCUMENT RECORDED JUNE 12, 1956 IN BOOK 3520, PAGE 302, OFFICIAL RECORDS OF SANTA CLARA COUNTY, CALIFORNIA, DOES NOT DEFINE AN EASEMENT LOCATION.

40' INGRESS & EGRESS EASEMENT(258-M-3)

72.0

14.0

DEPAUL DRIVE

LAND TO BE DEDICATED IN FEE AS PUBLIC RIGHT-OF-WAY

LAND TO BE QUITCLAIMED, ABANDONED OR VACATED

0 60 120 180

SCALE IN FEET: 1"= 60'

SD 2020-0003

RUGGERI-JENSEN-AZAR
ENGINEERS PLANNERS SURVEYORS
8055 CAMINO ARROYO GILROY, CA 95020
PHONE: (408) 848-0300 FAX: (408) 848-0302

DIVIDEND
385 WOODVIEW AVE, SUITE 100
MORGAN HILL, CA 95037

VESTING TENTATIVE MAP
TITLE DISPOSITION

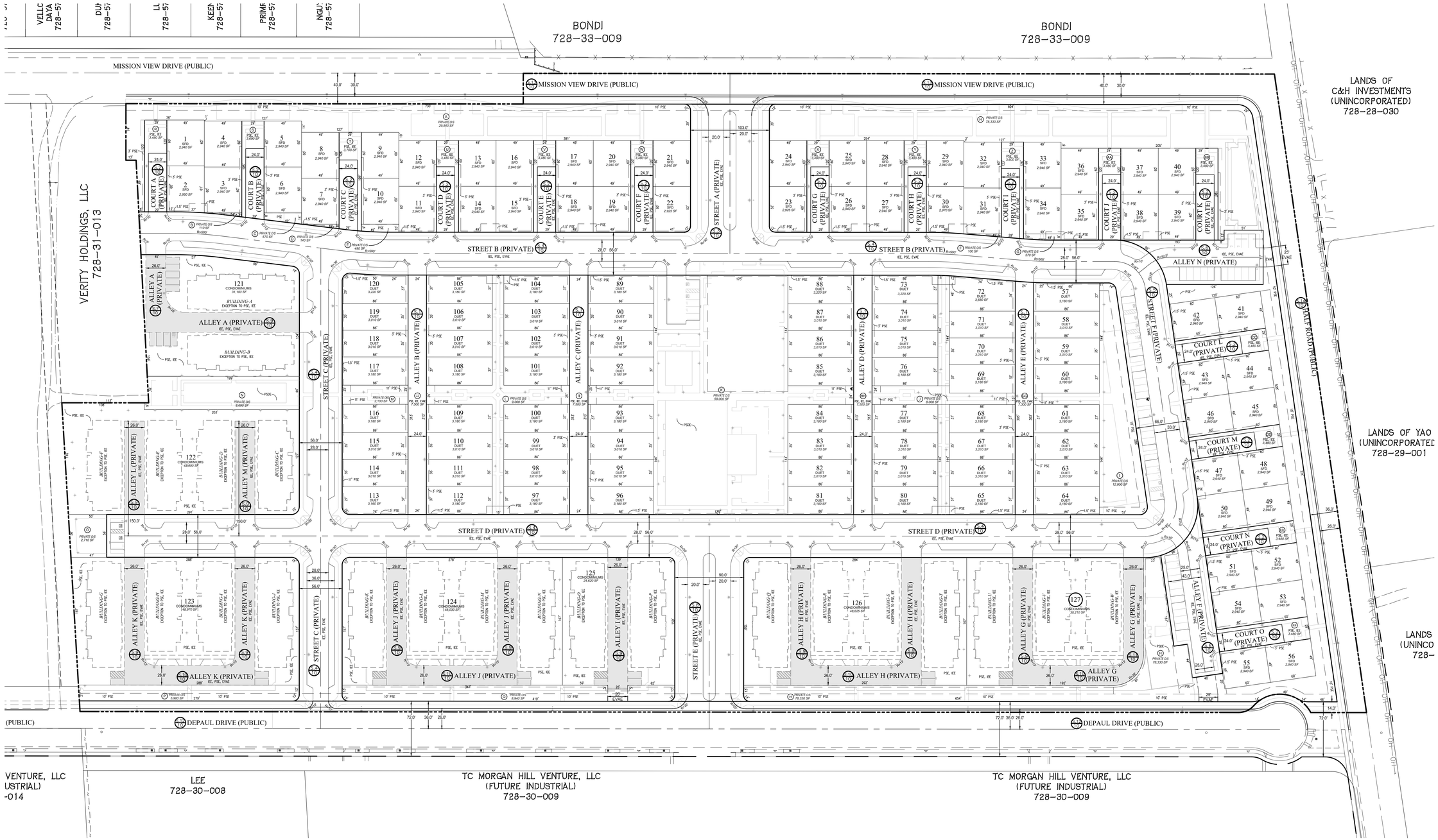
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

SCALE	DATE
AS SHOWN	APRIL 2023

BY	CK	SHEET REVISIONS	MK	DATE

SHEET
TM-03
OF 15 SHEETS

JOB NO.
182032-2001



OPEN SPACE PARCEL SUMMARY

Parcels A - Q ±5.2 AC

PLAN CROSS REFERENCES

For product development standards, see Design Review sheets DR-7 through DR-9.
For lotting details, see Sheets TM-05 & TM-06.
See Sheet TM-09 for proposed off-site DePaul improvements.

0 60 120 180
SCALE IN FEET: 1"= 60'

SD 2020-0003

RUGGERI-JENSEN-AZAR
ENGINEERS • PLANNERS • SURVEYORS
8055 CAMINO ARROYO GILROY, CA 95020
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DIVIDEND
385 WOODVIEW AVE, SUITE 100
MORGAN HILL, CA 95037

VESTING TENTATIVE MAP
COMPREHENSIVE LOTTING PLAN
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

SCALE	DATE
AS SHOWN	APRIL 2023

DATE	MK	SHEET REVISIONS	BY	CK

SHEET
TM-04
OF 15 SHEETS

JOB NO.
182032-2001

MATTERN
728-57-024

GREENTREE HOLDINGS
728-57-025

VELLORE-DAYARAJ
728-57-026

DUKE
728-57-027

LU
728-57-095

KEENAN
728-57-094

PRIMROSE
728-57-093

NGUYEN
728-57-092

BONDI
728-33-009

MISSION VIEW DRIVE (PUBLIC)

VERITY HOLDINGS, LLC
728-31-013

See Sheet TM-10 for proposed off-site improvements north of project boundary.

DEPAUL DRIVE (PUBLIC)

TC MORGAN HILL VENTURE, LLC
(FUTURE INDUSTRIAL)
728-31-014

LEE
728-30-008

TC MORGAN HILL VENTURE, LLC
(FUTURE INDUSTRIAL)
728-30-009

0 50 100 150
SCALE IN FEET: 1"= 50'

SD 2020-0003

RUGGERI-JENSEN-AZAR
ENGINEERS PLANNERS SURVEYORS
8055 CAMINO ARROYO GILROY, CA 95020
PHONE: (408) 848-0300 FAX: (408) 848-0302

DIVIDEND
385 WOODVIEW AVE, SUITE 100
MORGAN HILL, CA 95037

VESTING TENTATIVE MAP
LOTTING PLAN-NORTH

THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

SCALE	DATE
AS SHOWN	APRIL 2023

DATE	MK	SHEET REVISIONS	BY	CK

SHEET
TM-05
OF 15 SHEETS

JOB NO.
182032-2001

BONDI
728-33-009

MISSION VIEW DRIVE (PUBLIC)

POTENTIAL FUTURE MISSION VIEW DRIVE REALIGNMENT

STREET A (PRIVATE)

STREET B (PRIVATE)

STREET C (PRIVATE)

STREET D (PRIVATE)

STREET E (PRIVATE)

STREET F (PRIVATE)

ALLEY D (PRIVATE)

ALLEY E (PRIVATE)

ALLEY F (PRIVATE)

ALLEY G (PRIVATE)

ALLEY H (PRIVATE)

ALLEY N (PRIVATE)

COURT G (PRIVATE)

COURT H (PRIVATE)

COURT I (PRIVATE)

COURT J (PRIVATE)

COURT K (PRIVATE)

COURT L (PRIVATE)

COURT M (PRIVATE)

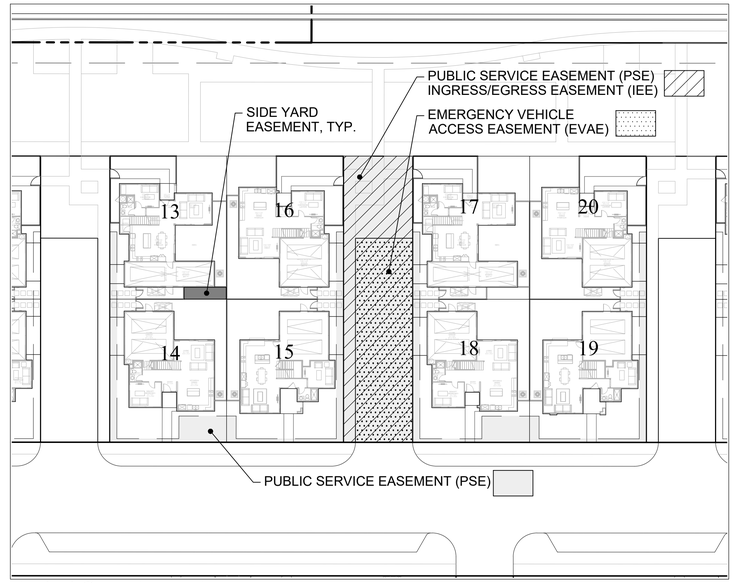
COURT N (PRIVATE)

COURT O (PRIVATE)

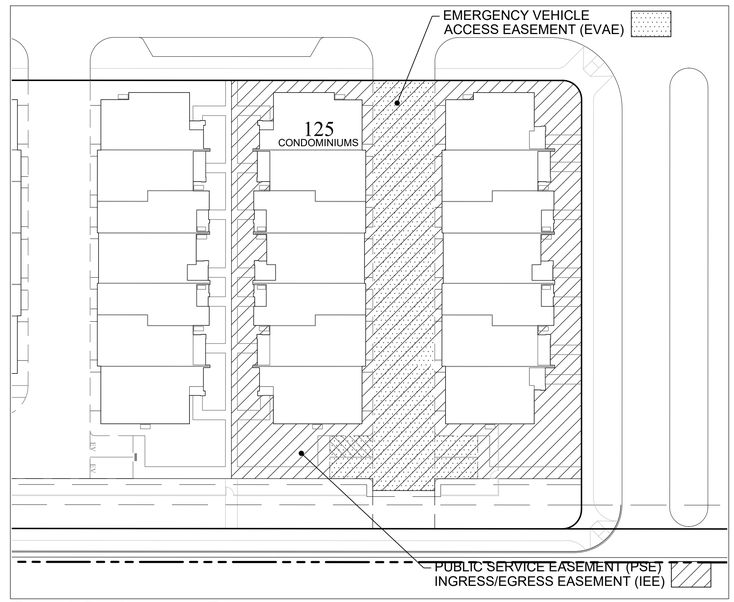
HALE ROAD (PUBLIC)

DEPAUL DRIVE (PUBLIC)

TC MORGAN HILL VENTURE, LLC
(FUTURE INDUSTRIAL)
728-30-009



Typical Court-Home Easements
1"=30'



Typical Condominium Easements
1"=30'

0 50 100 150
SCALE IN FEET: 1"= 50'

SD 2020-0003

RUGGERI-JENSEN-AZAR
ENGINEERS • PLANNERS • SURVEYORS
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DIVIDEND
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MORGAN HILL, CA 95037

VESTING TENTATIVE MAP
LOTTING PLAN - SOUTH
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

SCALE	DATE
AS SHOWN	APRIL 2023

DATE	BY	CK
MK		

SHEET REVISIONS

SHEET
TM-06
OF 15 SHEETS

JOB NO.
182032-2001

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	BOUNDARY	
	EASEMENT	
	PROPERTY LINE	
	FACE OF CURB	
	SIDEWALK	
	FIRE HYDRANT	
	ELECTROLIER	
	STORM DRAIN FIELD INLET	
	STORM DRAIN CURB INLET	
100	LOT NUMBER	
P 318.0	PAD ELEVATION	
	UNDERGROUND RETENTION FACILITY	

GRADING NOTES:

1. PROPOSED CONTOURS AND GRADES SHOWN ARE PRELIMINARY. FINISH GRADING IS SUBJECT TO FINAL DESIGN.
2. ALL GRADING WILL BE DONE IN CONFORMANCE WITH THE RECOMMENDATIONS AND CONDITIONS OF THE GEOTECHNICAL ENGINEER, THE CITY OF MORGAN HILL STANDARDS AND SPECIFICATIONS, AND APPLICABLE REPORTS REGARDING THE PROJECT.
3. FINISH FLOOR ELEVATIONS SHOWN ARE PRELIMINARY AND SUBJECT TO CHANGE DURING FINAL DESIGN, AS STRUCTURAL SECTIONS FOR THE FOUNDATIONS ARE NOT AVAILABLE AT THIS TIME. FINISH FLOOR ELEVATIONS ARE SUBJECT TO FINAL DESIGN.

ASPHALT

CONCRETE

SEE SHEET TM-08

0 50 100 150

SCALE IN FEET: 1"= 50'

SD 2020-0003

RUGGERI-JENSEN-AZAR
ENGINEERS • PLANNERS • SURVEYORS
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DIVIDEND
385 WOODVIEW AVE, SUITE 100
MORGAN HILL, CA 95037

VESTING TENTATIVE MAP
GRADING PLAN - NORTH
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

SCALE	DATE
AS SHOWN	APRIL 2023

DATE	MK	SHEET REVISIONS	BY	CK

SHEET
TM-07
OF 15 SHEETS

JOB NO.
182032-2001

BONDI
728-33-009

BONDI
728-33-009

MISSION VIEW DRIVE (PUBLIC)

LANDS OF
C&H INVESTMENTS
(UNINCORPORATED)
728-28-030

HALF ROAD (PUBLIC)

LANDS OF YAO
(UNINCORPORATED)
728-29-001

LANDS OF TANG
(UNINCORPORATED)
728-29-018

STREET A
STREET B
STREET D
STREET E
STREET F
ALLEY C
ALLEY D
ALLEY E
ALLEY G
ALLEY H
ALLEY I
ALLEY J
ALLEY N
COURT E
COURT F
COURT G
COURT H
COURT I
COURT J
COURT K
COURT L
COURT M
COURT N
COURT O

DEPAUL DRIVE (PUBLIC)

UNDERGROUND RETENTION FACILITY STORAGE ELEV. 375.5

SEE SHEET TM-07

ORGAN HILL VENTURE, LLC
(FUTURE INDUSTRIAL)
728-30-009

TC MORGAN HILL VENTURE, LLC
(FUTURE INDUSTRIAL)
728-30-009

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	BOUNDARY	
	EASEMENT	
	PROPERTY LINE	
	FACE OF CURB	
	SIDEWALK	
	FIRE HYDRANT	
	ELECTROLIER	
	STORM DRAIN FIELD INLET	
	STORM DRAIN CURB INLET	
100	LOT NUMBER	
P 318.0	PAD ELEVATION	
	UNDERGROUND RETENTION FACILITY	

GRADING NOTES:

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ASPHALT

CONCRETE

0 50 100 150
SCALE IN FEET: 1"= 50'

SD 2020-0003

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DIVIDEND
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MORGAN HILL, CA 95037

VESTING TENTATIVE MAP
GRADING PLAN - SOUTH
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

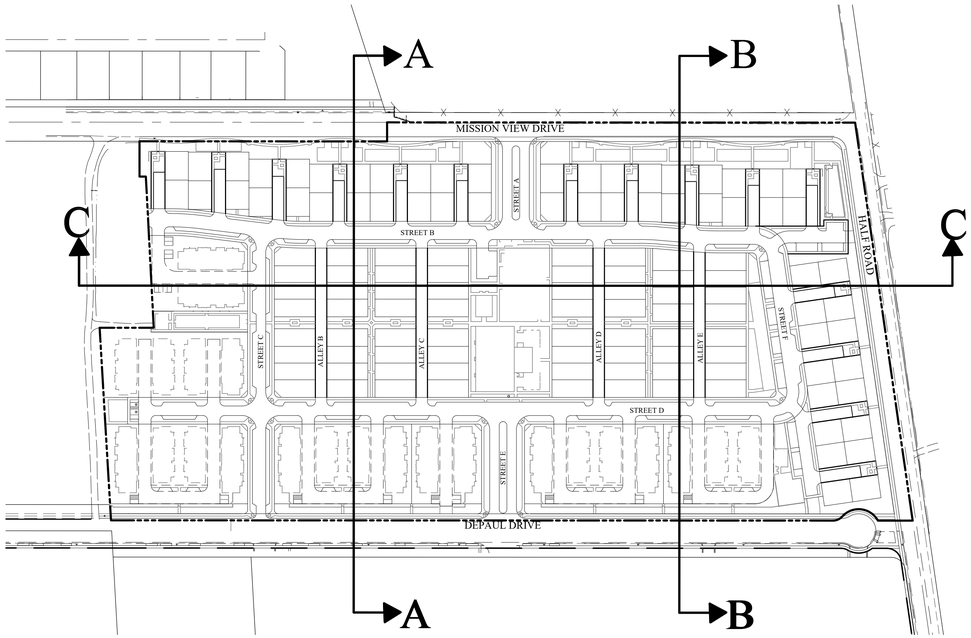
SCALE	DATE
AS SHOWN	APRIL 2023

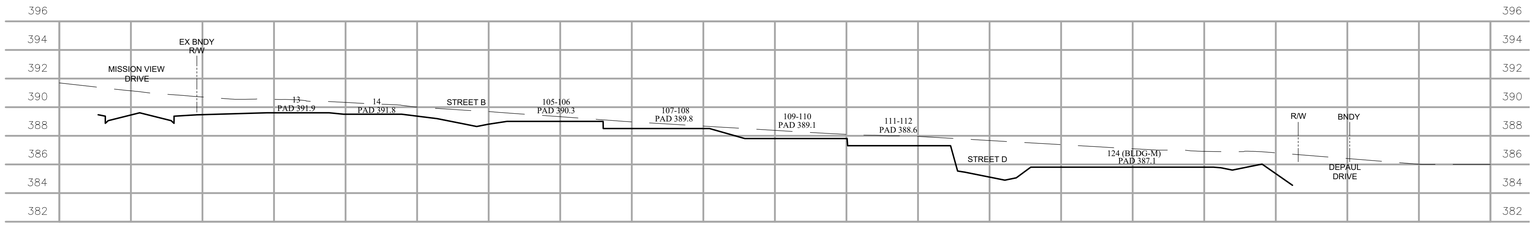
DATE	BY	CK

SHEET REVISIONS

SHEET
TM-08
OF 15 SHEETS

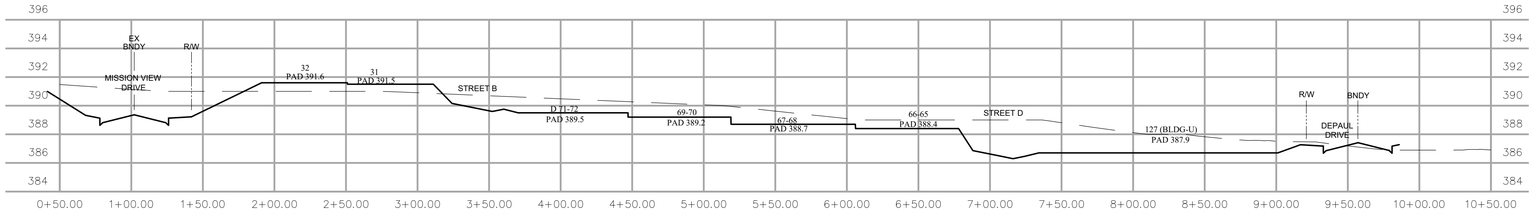
JOB NO.
182032-2001





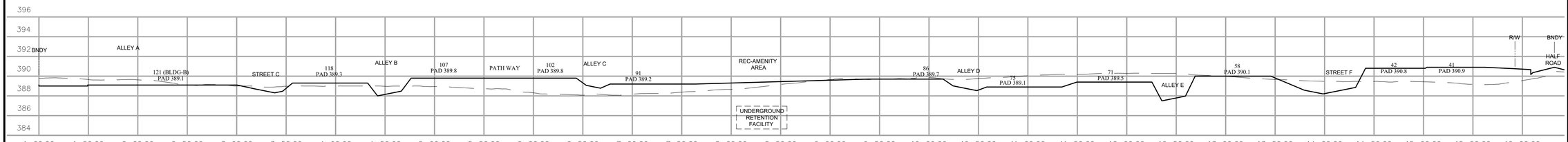
SECTION A

SCALE
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'



SECTION B

SCALE
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'



SECTION C

SCALE
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

RUGGERI-JENSEN-AZAR
ENGINEERS PLANNERS SURVEYORS
8055 CAMINO ARROYO GILROY, CA 95020
PHONE: (408) 848-0300 FAX: (408) 848-0302

DIVIDEND
385 WOODVIEW AVE, SUITE 100
MORGAN HILL, CA 95037

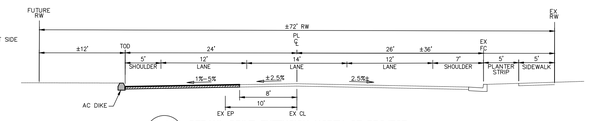
VESTING TENTATIVE MAP
CROSS SECTIONS
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

SCALE AS SHOWN
DATE APRIL 2023

DATE	BY	CK
SHEET REVISIONS		

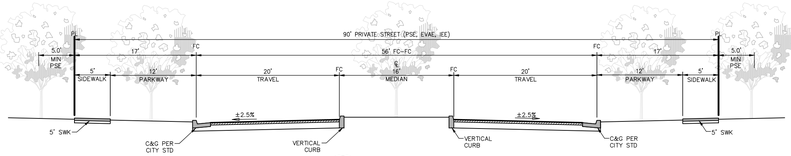
SHEET
TM-09
OF 15 SHEETS

JOB NO.
182032-2001

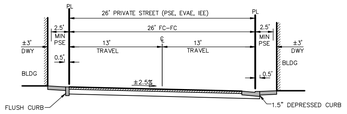


S.15 — **DEPAUL DRIVE EXTENSION NORTH OF PROJECT (72' RIGHT OF WAY)**
(NO PARKING)
NO SCALE

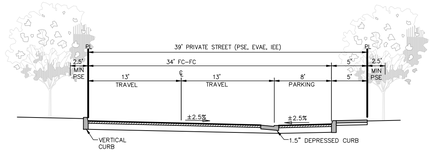
NOTE: THIS SECTION OF DE PAUL DRIVE APPLIES FROM THE NORTH BOUNDARY OF THE CROSSWINDS PROJECT APPROXIMATELY 620' TO THE CONNECTION WITH EXISTING DE PAUL DRIVE.



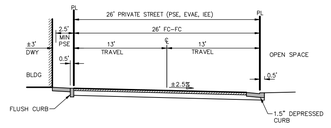
S.8 — **ENTRY DRIVE STREET E**
(NO PARKING)
NO SCALE



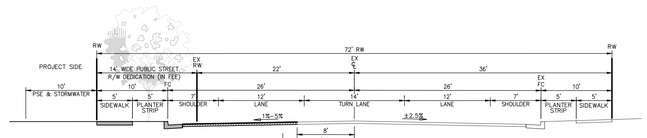
S.9 — **PRIVATE ALLEY ALLEY A, G–M**
(NO PARKING)
NO SCALE



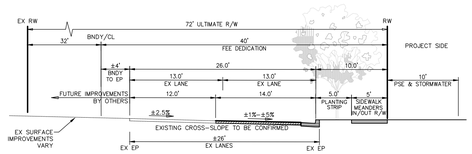
S.10 — **PRIVATE ALLEY ALLEY G, H, J, K**
(NO PARKING)
NO SCALE



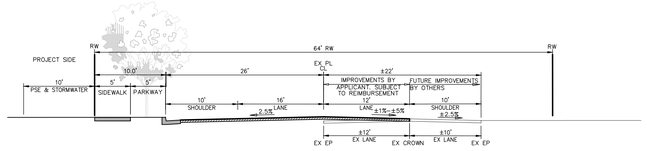
S.11 — **PRIVATE ALLEY ALLEY G**
(NO PARKING)
NO SCALE



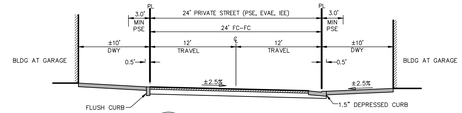
S.12 — **DEPAUL DRIVE (72' RIGHT OF WAY)**
(NO PARKING)
NO SCALE



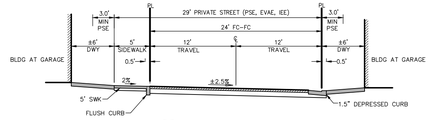
S.13 — **MISSION VIEW DRIVE (72' RIGHT OF WAY)**
(NO PARKING)
NO SCALE



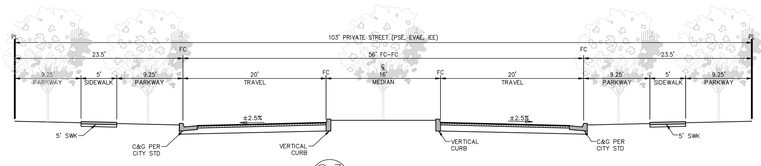
S.14 — **HALF ROAD (64' RIGHT OF WAY)**
(NO PARKING)
NO SCALE



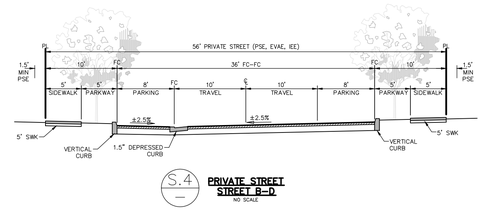
S.1 — **PRIVATE ALLEY ALLEY B–E**
(NO PARKING)
NO SCALE



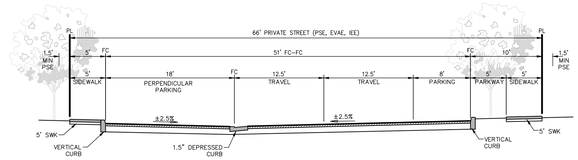
S.2 — **MOTOR COURT COURT A–Q**
(NO PARKING)
NO SCALE



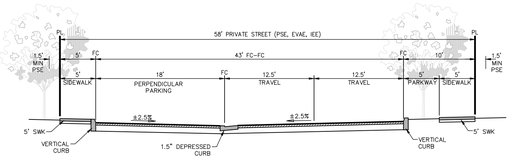
S.3 — **ENTRY DRIVE STREET A**
(NO PARKING)
NO SCALE



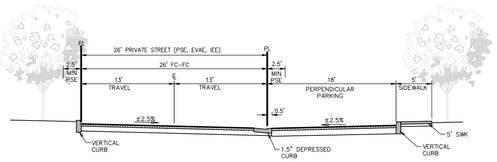
S.4 — **PRIVATE STREET STREET B–D**
NO SCALE



S.5 — **PRIVATE STREET w/ PERPENDICULAR PARKING STREET F**
NO SCALE



S.6 — **ALLEY w/PERPENDICULAR PARKING ALLEY F & N**
NO SCALE



S.7 — **PRIVATE ALLEY ALLEY A**
(NO PARKING)
NO SCALE

NOTES:
1. JOINT TRENCH CONDUITS AND CABLES INCLUDING BROADBAND CONNECTIVITY SHALL BE INSTALLED WITHIN PROJECT PUBLIC FRONTAGES.
2. STREETS PAVEMENT SECTIONS SHALL HAVE A TRAFFIC INDEX (TI) OF 8.0 FOR OFFSITE STREETS AND 7.0 FOR ONSITE STREET UNLESS OTHERWISE REQUESTED BY CITY OF MORGAN HILL.

OFFSITE PUBLIC STREETS:
- MISSION VIEW DRIVE
- DEPAUL DRIVE
- HALF ROAD

ONSITE PRIVATE STREETS:
- ALL STREETS, ALLEYS AND COURTS

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DIVIDEND
385 WOODVIEW AVE, SUITE 100
MORGAN HILL, CA 95037

VESTING TENTATIVE MAP
STREET SECTIONS

THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

SCALE	DATE
AS SHOWN	APRIL 2023

DATE	BY	CK

SHEET REVISIONS

SHEET
TM-10
OF 15 SHEETS

JOB NO.
182032-2001

LEGEND

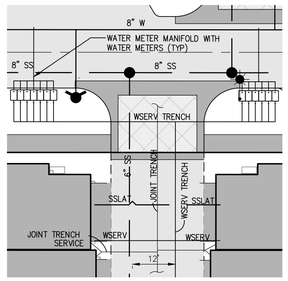
PROPOSED	DESCRIPTION	EXISTING
	BOUNDARY	
	EASEMENT	
	PROPERTY LINE	
	FACE OF CURB	
	STORM DRAIN	
	SANITARY SEWER	
	WATER	
●	MANHOLE	○
	SIDEWALK	
	FIRE HYDRANT	
	ELECTROLIER	
	STORM DRAIN FIELD INLET	□
	STORM DRAIN CURB INLET	
	UNDERGROUND RETENTION FACILITY	

UTILITY NOTES:

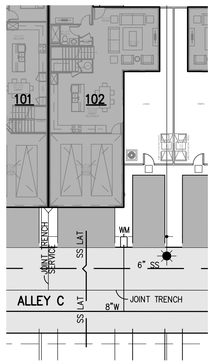
1. EXISTING UTILITIES SHOWN HEREIN ARE FROM AVAILABLE INFORMATION AT THIS TIME AND ARE SUBJECT TO CHANGE.
2. UTILITY PIPE SIZES, ALIGNMENTS AND CONNECTIONS SHOWN ON THIS MAP ARE PRELIMINARY AND ARE SUBJECT TO CHANGE.
3. PROPOSED STORM DRAIN AND RETENTION SYSTEM IS DESIGNED TO ACCOMMODATE STORAGE FOR RUNOFF RETENTION AS REQUIRED BY THE CENTRAL COAST RWQCB.

ONSITE UTILITIES

- WATER - PUBLIC
- STORM DRAIN - PRIVATE
- SANITARY SEWER - PRIVATE



TYPICAL ALLEY UTILITY LOCATION
1"=20'



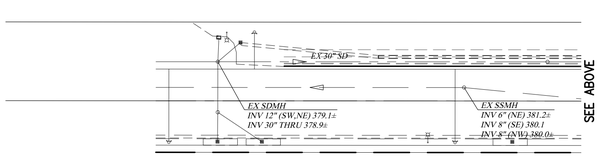
TYPICAL COURT UTILITY LOCATION
1"=20'

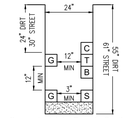
See Sheet TM-10 for proposed off-site surface improvements north of project boundary.

SEE SHEET TM-12

SEE BELOW

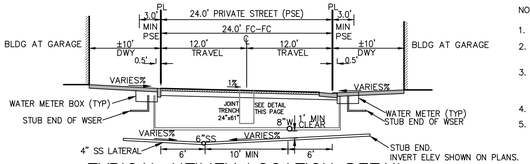
SEE ABOVE





Conceptual Joint Trench Section
NTS

B Broadband
C Cable
T Telephone
P Primary Electric
S Secondary Electric



TYPICAL UTILITY LOCATION DETAIL
NO SCALE

NOTES:

1. MAINTAIN MINIMUM 12" VERTICAL CLEARANCE BETWEEN 4" SS LATERAL AND WATER MAIN.
2. MAINTAIN MINIMUM 6" VERTICAL CLEARANCE BETWEEN WATER SERVICE AND STORM DRAIN MAIN AND BETWEEN STORM DRAIN AND SS LATERAL.
3. STUB ALL SS LATERALS 3' AND WATER SERVICES 5' BEYOND PSE. ALL WATER AND SEWER SERVICE LATERALS SHALL BE MARKED BY A 2"x2" STAKE PAINTED GREEN FOR SEWER, AND BLUE FOR WATER. STAKES SHALL BE PLACED AT THE END OF LATERALS AND EXTEND 3" ABOVE GROUND. PROTECT STAKES UNTIL CURB HAS BEEN MARKED.
4. SEE SEPARATE JOINT TRENCH PLANS FOR DRY UTILITY SERVICE LOCATIONS.
5. WATER METER SIZE REQUIRED TO BE DETERMINED BY FIRE DEPARTMENT AND FIRE SPRINKLER SYSTEM DESIGNER.

0 50 100 150
SCALE IN FEET: 1"= 50'

SD 2020-0003

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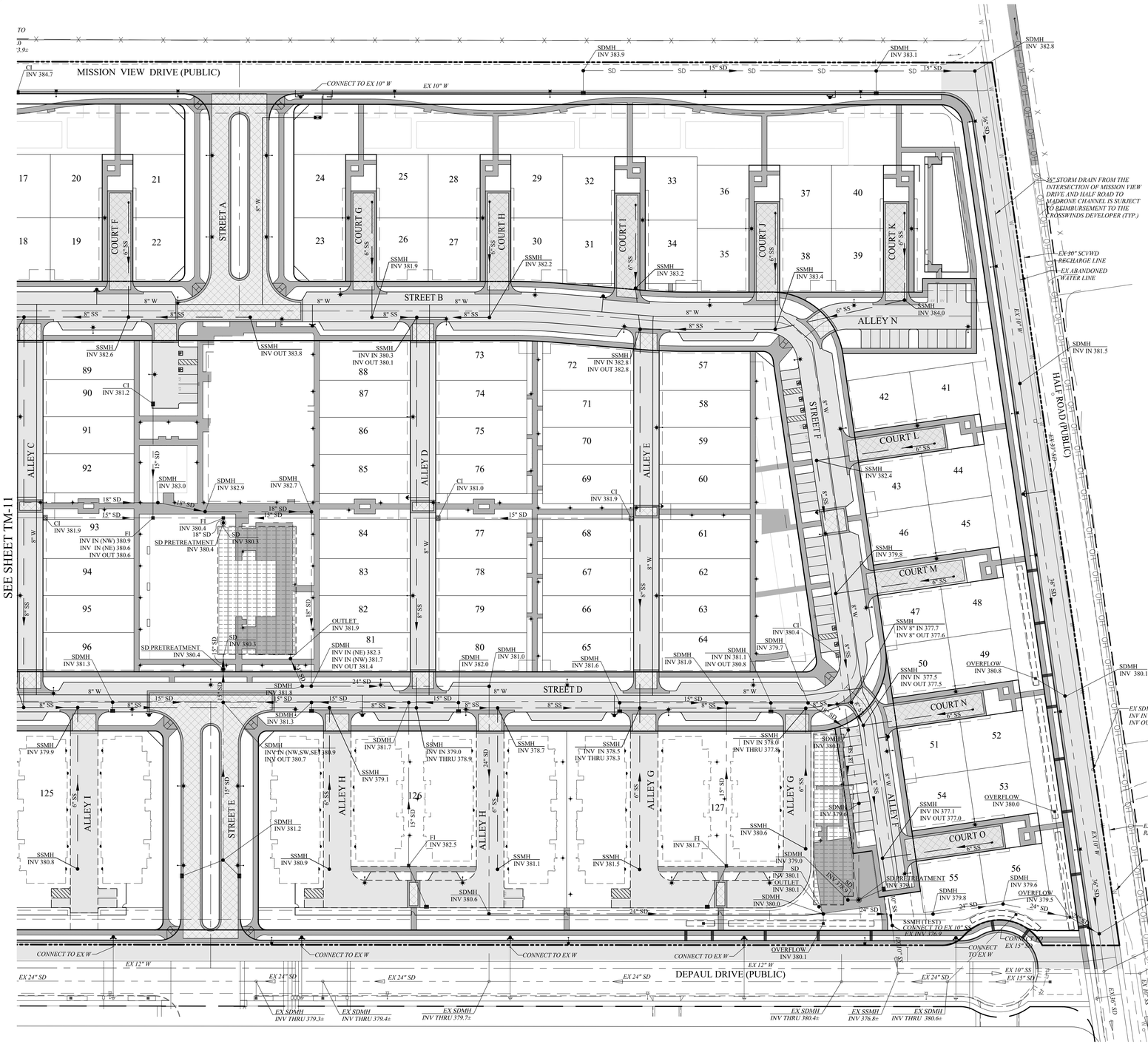
VESTING TENTATIVE MAP
UTILITY PLAN - NORTH
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

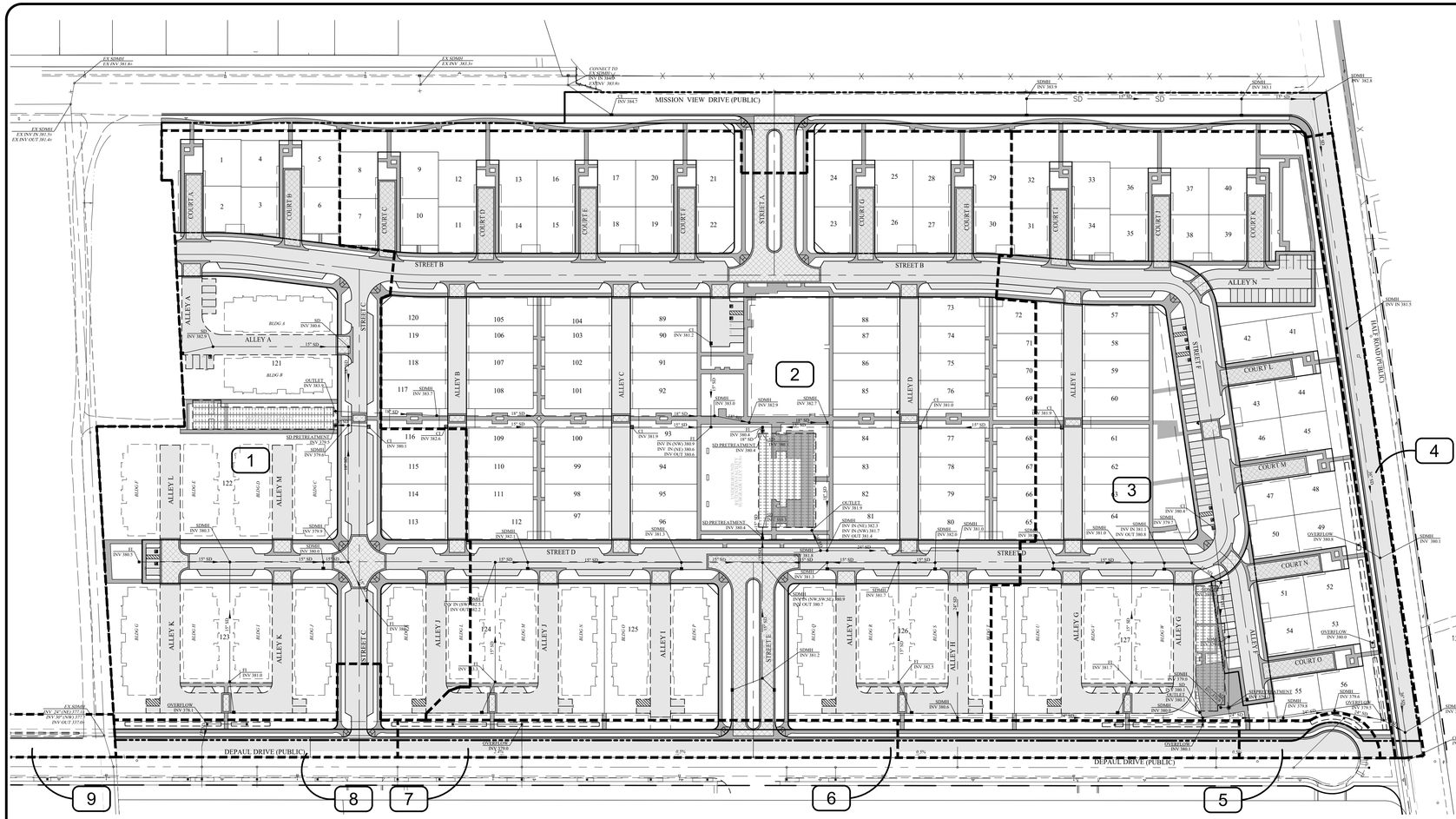
SCALE	DATE
AS SHOWN	APRIL 2023

DATE	MK	SHEET REVISIONS	BY	CK

SHEET
TM-11
OF 15 SHEETS

JOB NO.
182032-2001


MISSION VIEW DRIVE (PUBLIC)
STREET A
STREET B
STREET D
STREET E
STREET F
ALLEY C
ALLEY D
ALLEY E
ALLEY G
ALLEY H
ALLEY I
ALLEY N
COURT F
COURT G
COURT H
COURT I
COURT J
COURT K
COURT L
COURT M
COURT N
COURT O
HALF ROAD (PUBLIC)
DEPAUL DRIVE (PUBLIC)
SEE SHEET TM-11
CONNECT TO EX 10" W
EX 10" W
16" STORM DRAIN FROM THE INTERSECTION OF MISSION VIEW DRIVE AND HALF ROAD TO MADRONE CHANNEL IS SUBJECT TO REIMBURSEMENT TO THE CROSSWINDS DEVELOPER (TYP.)
EX 30" SCVWD RECHARGE LINE
EX ABANDONED WATER LINE
EX 30" SCVWD RECHARGE LINE
EX ABANDONED WATER LINE
CONNECT TO EX SDMH INV 36" OUT 379.3±
EX SSMH INV 376.35±
EX SDMH INV 380.1
EX SDMH INV IN 383.6± INV OUT 383.5±
SDMH INV 381.5
SDMH INV 379.4
SDMH INV 382.8
SDMH INV 383.9
SDMH INV 383.1
SSMH INV 382.6
SSMH INV OUT 383.8
SSMH INV IN 380.3 INV OUT 380.1
SSMH INV IN 382.8 INV OUT 382.8
SSMH INV 381.9
SSMH INV 382.2
SSMH INV 383.2
SSMH INV 383.4
SSMH INV 384.0
SSMH INV 382.4
SSMH INV 379.8
SSMH INV 377.7 INV 8" OUT 377.6
SSMH INV IN 377.5 INV OUT 377.5
SSMH INV IN 377.1 INV OUT 377.0
SSMH (TEST) CONNECT TO EX 10" SS EX INV 376.9
SSMH INV 379.9
SSMH INV 379.1
SSMH INV 380.8
SSMH INV 380.9
SSMH INV 380.6
SSMH INV 381.1
SSMH INV 381.5
SSMH INV IN 379.0 INV THRU 378.9
SSMH INV IN 378.5 INV THRU 378.3
SSMH INV IN 378.0 INV THRU 377.8
SSMH INV 378.7
SDMH INV 381.3
SDMH INV 381.8
SDMH INV 381.7
SDMH INV 381.2
SDMH INV IN (NW,SW,SE) 380.9 INV OUT 380.7
SDMH INV IN (NE) 382.3 INV IN (NW) 381.7 INV OUT 381.4
SDMH INV 382.0
SDMH INV 381.6
SDMH INV 381.0
SDMH INV IN 381.1 INV OUT 380.8
SDMH INV 379.7
SDMH INV 380.0
SDMH INV 379.0
SDMH INV 380.1
SDMH INV 380.0
SDMH INV 379.6
SDMH INV 379.8
SDMH INV 381.3
SDMH INV 383.0
SDMH INV 382.9
SDMH INV 382.7
CI INV 384.7
CI INV 381.2
CI INV 381.9
CI INV 380.4
CI INV 381.0
CI INV 381.9
CI INV 380.4
CI INV 379.7
FI INV 382.5
FI INV 381.7
SD INV 380.3
SD INV 380.1
SD INV 379.0
SD PRETREATMENT INV 380.4
SD PRETREATMENT INV 379.1
OUTLET INV 381.9
OUTLET INV 380.1
OVERFLOW INV 380.1
OVERFLOW INV 380.8
OVERFLOW INV 380.0
OVERFLOW INV 379.5
FI INV IN (NW) 380.9 INV IN (NE) 380.6 INV OUT 380.6
CONNECT TO EX W
EX 12" W
EX 24" SD
EX SDMH INV THRU 379.3±
EX SDMH INV THRU 379.4±
EX SDMH INV THRU 379.7±
EX SDMH INV THRU 380.4±
EX SSMH INV 376.8±
EX SDMH INV THRU 380.6±
EX 10" SS
EX 15" SD
EX 18" SD
EX 36" SD
EX 48" SD
EX 54" SD
EX 60" SD
EX 72" SD
EX 84" SD
EX 96" SD
EX 108" SD
EX 120" SD
EX 144" SD
EX 168" SD
EX 192" SD
EX 216" SD
EX 240" SD
EX 288" SD
EX 312" SD
EX 336" SD
EX 360" SD
EX 384" SD
EX 408" SD
EX 432" SD
EX 456" SD
EX 480" SD
EX 504" SD
EX 528" SD
EX 552" SD
EX 576" SD
EX



TRIBUTARY AREA LAYOUT

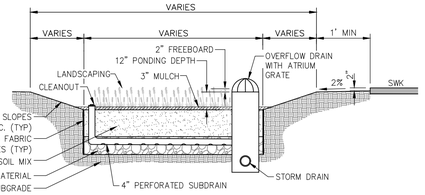
1"=80'

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	BOUNDARY	
	EASEMENT	
	PROPERTY LINE	
	FACE OF CURB	
	STORM DRAIN	
●	MANHOLE	○
	SIDEWALK	
	STORM DRAIN FIELD INLET	□
	STORM DRAIN CURB INLET	
	DRAINAGE AREA BOUNDARY	
	UNDERGROUND RETENTION FACILITY	
	BIORETENTION BASIN FACILITY	
1	DRAINAGE AREA ID	

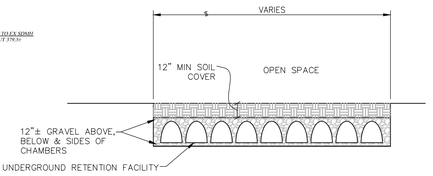
ON SITE RETENTION FACILITY NOTES:

1. BIORETENTION BASIN AND UNDERGROUND RETENTION FACILITIES WILL PROVIDE ON-SITE RETENTION OF THE 95TH PERCENTILE STORM EVENT, IN COMPLIANCE WITH THE CENTRAL COAST REGIONAL WATER QUALITY CONTROL BOARD RESOLUTION R3-2013-0032 "POST-CONSTRUCTION STORMWATER REQUIREMENTS FOR NEW DEVELOPMENT AND REDEVELOPMENT IN THE CENTRAL COAST REGION."
2. UNDERGROUND RETENTION FACILITIES ARE SIZED TO PROVIDE PEAK FLOW MANAGEMENT (FLOOD CONTROL) FOR THE PROPOSED RESIDENTIAL DEVELOPMENT.
3. STORMWATER RETENTION FACILITIES WILL BE SUFFICIENTLY SIZED TO MITIGATE INCREASE IN PEAK FLOW, UNLESS IT IS DEMONSTRATED THAT AN ADEQUATELY SIZED OFFSITE FACILITY WILL BE PROVIDED. SIZING OF UNDERGROUND RETENTION FACILITIES WERE PERFORMED USING THE "ROUTING METHOD" AS DESCRIBED IN THE CITY'S STORMWATER GUIDANCE MANUAL.
4. UNDERGROUND RETENTION FACILITIES MAY BE REPLACED WITH BIORETENTION FACILITIES, PROVIDED ADEQUATE SPACE IS AVAILABLE AND IT DOES NOT INTERFERE WITH LANDSCAPING OR OPEN SPACE AMENITIES.
5. MISSION VIEW DRIVE IMPROVEMENTS DO NOT REQUIRE TREATMENT (EXISTING ROAD).



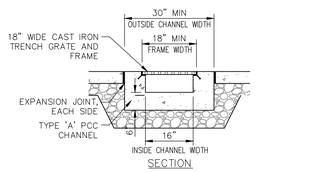
BIORETENTION BASIN

NO SCALE

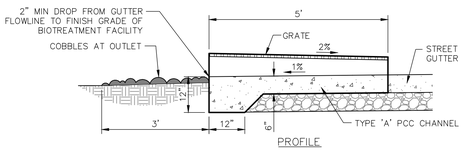


RETENTION FACILITY

NO SCALE



SECTION



PROFILE

SIDEWALK TRENCH DRAIN DETAIL

NO SCALE

0 80 160 240

SCALE IN FEET: 1"= 80'

PRELIMINARY STORMWATER TABLE

Project Information

Area =	1,318,410 ft²	*Total project area*
Existing Impervious Area =	8,000 ft²	
	1%	*Existing Percent impervious area*
Ex Imperv Area To Remain =	0 ft²	*Total existing impervious surface to remain*
Replaced Imperv Area =	8,000 ft²	*Total existing impervious surface to be replaced as part of project*
New Imperv Area =	823,915 ft²	*Total new impervious surface to be installed as part of project*
Total Impervious Area =	831,915 ft²	*Total project impervious area*
	63%	*Percent impervious area*
Water Management Zone =	1	

Performance Requirements

No. 1 = Implement site design and runoff reduction strategies
No. 2 = Provide water quality treatment for 85% storm event
No. 3 = Prevent offsite discharge from events up to the 95th% storm event via optimizing infiltration
No. 4 = Reduce peak flows to pre-project levels for 2-yr through 100-yr storm events
No. 5 = N/A

Rainfall Design Information

MAP =	20.0 in	*Mean Annual Precipitation*
$P_{85\%}$ =	1.05 in	*85th% 24-hr rainfall depth*
$P_{95\%}$ =	1.65 in	*95th% 24-hr rainfall depth*

Soil Type Design Information

Site HSG =	B	*NRCS Hydrologic Soil Group Classification*
Infiltration Rate =		*Percolation Testing by Quantum Geotechnical, Inc. dated Nov. 2021*
	4 in/hr	*at P-1*
	10.8 in/hr	*at P-2*
	18.6 in/hr	*at P-3*
Safety Factor =	2	
Design Infiltration Rate =	2.0 in/hr	*at DMA 1*
Safety Factor =	2	
Design Infiltration Rate =	5.4 in/hr	*at DMA 2 & 3*
Design Infiltration Rate =	5.0 in/hr	*at Bioretention Basins through soil media*

95% Rainfall Depth Runoff Retention Volume

				Pervious Surface Correction Factor																
				0.20	0.10	0.60	0.15	0.10												
				Pervious Surface (SF)													Runoff Rentention Volume Calculation					
DMA	Area (SF)	Roof/Street/ Hardscape	Total	Managed Turf	Landscape/Grass	Pervious Concrete	Turf Block	Pavers	Native Landscape/ Undisturbed	Green Roof	Infiltration SCM	Total	Impervious Area Credit for Redevelopment (SF)	Drainage Area Minus Credit (SF)	% Impervious	Runoff Coefficient	95th% Volume, V_{95} (ft³)	85th% Volume, V_{85} (ft³)	Required Volume, V_{95} or V_{85} (ft³)
1	264,310	165,200	165,200		99,110							99,110	0	264,310	63%	0.43	15,575	9,911	15,575
2	582,520	364,080	364,080		218,440							218,440	4,750	577,770	63%	0.43	34,045	21,843	34,045
3	324,340	202,715	202,715		121,625							121,625	3,250	321,090	63%	0.43	18,920	12,162	18,920
4	28,750	25,300	25,300		3,450							3,450	0	28,750	88%	0.70	2,774	1,765	2,774
5	8,800	5,780	5,780		3,020							3,020	0	8,800	66%	0.45	551	350	551
6	21,110	13,860	13,860		7,250							7,250	0	21,110	66%	0.45	1,320	840	1,320
7	30,900	22,240	22,240		8,660							8,660	0	30,900	72%	0.51	2,179	1,387	2,179
8	21,530	15,880	15,880		5,650							5,650	0	21,530	74%	0.53	1,571	1,000	1,571
9	36,150	16,860	16,860		19,290							19,290	0	36,150	47%	0.32	1,582	0	1,582
Total	1,318,410	831,915	831,915	0	486,495	0	0	0	0	0	0	486,495		1,310,410	63%	0.43	78,518	49,259	78,518

% SCM Area to Equivalent Impervious Surface Area = 0.4%

	Porosity	
	0.25	0.40

SCM Sizing Summary

SCM Description	SCM Surface Area (ft²)	Surface Ponding Depth (in)	BSM Depth (in)	Gravel Layer Depth (in)	Required SCM Area (ft²)	Drawdown Time (hr)
Storm Chambers						
Storm Chambers						
Storm Chambers						
Bioretention Basin	1,610	10	24	12	1,601	4
Bioretention Basin	350	10	24	12	318	4
Bioretention Basin	820	10	24	12	762	4
Bioretention Basin	1,265	10	24	12	1,257	4
Bioretention Basin	865	10	24	12	907	4
Self Retaining						
	4,910				4,844	

Governing Equations:

$$V_{95} = \frac{C * P_{95} * A}{12}$$

V_{95} = *95% Rainfall Depth Runoff Retention Volume (ft³)*
$C = 0.858i^3 - 0.78i^2 + 0.774i + 0.04$
P_{95} = *1.65 24-hr 95th percentile rainfall depth*
A = *drainage area (ft²)*
i = *% impervious*

$$\text{Area} = \frac{V_{95} * 12}{D_F + D_{BSM} * R_{BSM} + D_G * R_G}$$

Area = *Design SCM area based on 95% runoff retention volume (ft2)*
D = *SCM Layer depth (in)*
R = *SCM Layer porosity (in)*

$$T_D = \frac{V_{95} * 12 * SF}{I * \text{Area}}$$

T_D = *Drawdown time (hr)*
A = *Available SCM area (ft²)*
I = 5.0 *Infiltration Rate (in/hr)*

SD 2020-0003

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MORGAN HILL, CA 95037

VESTING TENTATIVE MAP
PRELIMINARY STORMWATER CONTROL PLAN
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

DATE	MK	SHEET REVISIONS	BY	CK

SCALE AS SHOWN
DATE APRIL 2023

SHEET
TM-13
OF 15 SHEETS

JOB NO.
182032-2001

LEGEND

- PERIMETER CONSTRUCTION FENCING WITH LINEAR SEDIMENT CONTROL
- LINEAR SEDIMENT CONTROL - FIBER ROLL, SILT FENCE, OR SIMILAR
- DRAIN INLET SEDIMENT BARRIER
- STABILIZED CONTROL ENTRANCE
- WO CONCRETE WASHOUT

MISSION VIEW DRIVE (PUBLIC)

STREET A

STREET B

STREET C

STREET D

STREET E

STREET F

ALLEY A

ALLEY B

ALLEY C

ALLEY D

ALLEY E

ALLEY F

ALLEY G

ALLEY H

ALLEY I

ALLEY J

ALLEY K

ALLEY L

ALLEY M

ALLEY N

COURT A

COURT B

COURT C

COURT D

COURT E

COURT F

COURT G

COURT H

COURT I

COURT J

COURT K

COURT L

COURT M

COURT N

COURT O

HALF ROAD (PUBLIC)

DEPAUL DRIVE (PUBLIC)

0 60 120 180

SCALE IN FEET: 1"= 60'

SD 2020-0003

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MORGAN HILL, CA 95037

VESTING TENTATIVE MAP
EROSION CONTROL PLAN
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

SCALE	DATE
AS SHOWN	APRIL 2023

DATE	BY	CK
	MK	

SHEET REVISIONS

SHEET
TM-14
OF 15 SHEETS

JOB NO.
182032-2001

NOTES

1. THIS PLAN ILLUSTRATES PROPOSED PHASING FOR UNITS, OPEN SPACE, AND IN-TRACT ROADWAY IMPROVEMENTS. UTILITY CONNECTIONS FOR PHASE 1 WILL REQUIRE EXTENDING UTILITIES THROUGH A PORTION OF PHASE 2, INCLUDING STREET D AND ALLEY F.

0 60 120 180

SCALE IN FEET: 1"= 60'

SD 2020-0003

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VESTING TENTATIVE MAP
PHASING PLAN
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

SCALE	DATE
AS SHOWN	APRIL 2023

DATE	BY	CK

SHEET REVISIONS

MK

SHEET
TM-15
OF 15 SHEETS

JOB NO.
182032-2001

Development Services Department
17575 Peak Ave
Morgan Hill, CA 95037-4128
TEL: (408) 779-7271
FAX: (408) 779-3117
www.morganhill.ca.gov

CITY OF MORGAN HILL

Development Design and Development Standards Checklist for Housing Development Projects

These requirements and the checklist implement requirements of Senate Bill (SB) 330 Housing Crisis Act of 2019 (Government Code Section 65589.5) and shall remain in effect until SB 330 is rescinded or extended.

All housing development projects must complete the Residential Development Design and Development Standard Checklist (below) demonstrating compliance with the City of Morgan Hill adopted Standards.

Applicant's Name The Crosswinds at Morgan Hill LLC

Ph # 408-779-5900 Fax # 408-779-3840

Address 385 Woodview Ave., #100 City Morgan Hill

Zip 95037 Email MFrankel@DividendHomes.com / ROliver@DividendHomes.com / JVrotsos@DividendHomes.com

1. Identify the specific location of the proposed housing development project:
   (A) List all parcel numbers: 728-30-001,002,003,004,006,009
   (B) A legal description is attached. MF (Initials)
   (C) Site address, if applicable, is: n/a
   (D) Cross streets, if applicable: Half and Mission View

2. List the existing uses on the project site and identify major physical alterations to the property on which the project is to be located. Attach additional pages if necessary.

There is an old farm house (abandoned years ago) of no historic signifigance that will be demolished, and the majority of the abandoned orchard has already been removed. Topography is flat, soils are stable, and the site has no cultural aspects. There are a number of box trees being currently stored on the site that the prior owner is in the process of removing.

3. Attached is a site plan showing the location on the property, elevations, showing design, color, and material, and the massing, height, and approximate square footage, of each building that is to be occupied. MF (Initials)

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4. Identify the proposed land uses by number of units and square feet of residential and nonresidential development using the categories in the applicable zoning ordinance. Attach additional pages if necessary.

269 residential units proposed within the City's Residential Attached Low (RAL) zoning district. Project is implementing, and complying with, the alternative standards described in Municipal Code section 18.40.

5. List the proposed number of parking spaces. 809
List the number of spaces that will include EV charging stations. 18 surface stalls

6. Identify any proposed point sources of air or water pollutants. Attach additional pages if necessary.

None other than those commonly generated by normal construction activity.

7. Identify any species of special concern known to occur on the property. Attach additional pages if necessary.

None.

8. Identify whether a portion of the property is located within any of the following:

(A) A very high fire hazard severity zone, as determined by the Department of Forestry and Fire Protection pursuant to Section 51178.	YES ☐ NO ☑
(B) Wetlands, as defined in the United States Fish and Wildlife Service Manual, Part 660 FW 2 (June 21, 1993).	YES ☐ NO ☑
(C) A hazardous waste site that is listed pursuant to Section 65962.5 or a hazardous waste site designated by the Department of Toxic Substances Control pursuant to Section 25356 of the Health and Safety Code.	YES ☐ NO ☑
(D) A special flood hazard area subject to inundation by the 1 percent annual chance flood (100-year flood) as	YES ☑

determined by the Federal Emergency Management Agency in any official maps published by the Federal Emergency Management Agency.	NO ☐
(E) A delineated earthquake fault zone as determined by the State Geologist in any official maps published by the State Geologist, unless the development complies with applicable seismic protection building code standards adopted by the California Building Standards Commission under the California Building Standards Law (Part 2.5 (commencing with Section 18901) of Division 13 of the Health and Safety Code), and by any local building department under Chapter 12.2 (commencing with Section 8875) of Division 1 of Title 2.	YES ☐ NO ☑
(F) A stream or other resource that may be subject to a streambed alteration agreement pursuant to Chapter 6 (commencing with Section 1600) of Division 2 of the Fish and Game Code.	YES ☐ NO ☑

9. List any historic or cultural resources known to exist on the property. Attach additional pages if necessary.

None. The old farm house (abandoned years ago) is of no historic significance, and the site has been determined of no cultural significance.

10. Identify the number of proposed below market rate units and their affordability levels. Attach additional pages if necessary.

40 below market rate units at the Moderate affordability level (120% AMI for Santa Clara County)

11. The number of bonus units and any incentives, concessions, waivers, or parking reductions requested pursuant to Section 65915. Attach additional pages if necessary.

1. The Project qualifies for a density bonus, as it provides more than 10% of the Project's units at a price affordable to moderate income households.(Gov. Code, § 65915, subd.(b)(1)(D).) Therefore, pplicant is entitled to request one concession or incentive for the Project, (§ 65915, subd.(d)(2)(A).) so as to alleviate any development standard which would generate a cost reduction in providing the affordable units. As such Applicant requests as their concession to disperse the Inclusionary Housing in the 3 story condominium units located throughout the project. See Attached "BMR Dispersion Letter - Crosswinds" for a a further/detailed analysis & justification.

12. Are you requesting any approvals under the Subdivision Map Act, including, but not limited to, a parcel map, a tentative map, or a condominium map?

☑ YES Identify type of map being sought:

- √ ◯ Parcel Map
- √ ◯ Final Map
- √ ◯ Condominium Map
- √ ◯ Other: Vesting Tentative Map

☐ NO approvals are being sought under the Subdivision Map Act

13. The applicant owns the property, or consent from the property owner to submit the application is attached. MF (Initials)

14. Identify the number of existing residential units on the project site that will be demolished and whether each existing unit is occupied or unoccupied. 1 unoccupied

15. Attached is a site map showing a stream or other resource that may be subject to a streambed alteration agreement pursuant to Chapter 6 (commencing with Section 1600) of Division 2 of the Fish and Game Code and an aerial site photograph showing existing site conditions of environmental site features that would be subject to regulations by a public agency, including creeks and wetlands, or

The property is not subject to a streambed alteration agreement. MF (Initials)

16. Identify the location of any recorded public easement, such as easements for storm drains, water lines, and other public rights of way. Attach additional pages if necessary.

A variety of easements affect the property. See the companion Vesting Tentative Map application (TM-03), which depicts the extent of each easement and describes their properties.

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RESIDENTIAL DEVELOPMENT ACKNOWLEDGEMENT

I Martin Frankel hereby certify that the statements furnished in this application are true and correct. I have reviewed the Residential Development Design and Development Standards adopted by City Council Resolution No. 19-065 and have verified compliance with the adopted City Standards:

Applicant Signature: MJ Frankel Date: 6/11/2020

Residential Development Design and Development Standards Checklist

Standard Requirement	Sheet or Document location where information can be found	Comments (by Applicant)	Submittal compliance (Office Use Only)		
			Yes	No	N/A
1. Inclusionary Housing and Below Market Rate Program	T1.3	FOR ALL COMMENTS/ RESPONSES, PLEASE REFER TO 'EXHIBIT A' ATTACHED AT THE END OF THIS FORM.	☐	☐	☐
2. Accessory Dwelling Unit (ADU) Requirements			☐	☐	☑
3. Zoning Compliance	DR-08...10		☑	☐	☐
4. Orientation to an existing Street	DR-03...06		☑	☐	☐
5. Intersection Sight Distance/Clear Vision Triangle	DR-03...06		☑	☐	☐
6. Sound Walls	N/A		☐	☐	☑
7. Agricultural Buffer	DR-03...06		☑	☐	☐
8. On-site Recreation Amenities	DR-03...06		☑	☐	☐
9. Water Conservation in Landscaping	L-12...20, water efficiency checklist		☑	☐	☐
10. Landscaping Pan	L-01...L-21		☑	☐	☐
11. Wildland-Urban Interface Fire Area	N/A		☐	☐	☑
12. Trees	L-01...L-10		☑	☐	☐
13. Useable Private and Common Open Space	DR-08...10		☑	☐	☐
14. Required On-site Parking Spaces	DR-03...06		☑	☐	☐
15. Parking Design and Development Standards	DR-03...10		☑	☐	☐
16. Parking Lot Layout	DR-03...10		☑	☐	☐

17. Bicycle Parking and Storage	L-06			☑	☐	☐
18. Exterior Parking Lot Lighting	P-01 & 02			☑	☐	☐
19. Parking Area Landscaping	L-01...L-10			☑	☐	☐
20. Pedestrian Access	DR-03...06			☑	☐	☐
21. Electric Vehicle Charging Stations	DR-04 & 5			☑	☐	☐
22. Front Porches	See Architectural Floor Plan Sheets			☑	☐	☐
23. Balconies	See Architectural Floor Plan Sheets			☑	☐	☐
24. Fences	See Landscape sheets			☑	☐	☐
25. 360 Degree Architecture	See Architectural Elevations Sheets			☑	☐	☐
26. Exterior Treatments and Materials	See Architectural Elevations Sheets			☑	☐	☐
27. Roof Line Variation for three or more units	See Architectural Elevations Sheets			☑	☐	☐
28. Height and Project Massing	See Architectural Elevations Sheets			☑	☐	☐
29. Separate Structures-Attached Projects	See Architectural Townhome Plan Sheets			☑	☐	☐
30. Building Colors	See Architectural Elevations Sheets			☑	☐	☐
31. Window Design	See Architectural Elevations Sheets			☑	☐	☐
32. Glazing	Noted.			☑	☐	☐
33. Exterior Lighting and Illumination	P-01 & 02			☑	☐	☐
34. Equipment Screening	See Landscape sheets			☑	☐	☐
35. Residential Parking Garages	See Architectural Floor Plan Sheets			☑	☐	☐
36. Garage Door Design	See Architectural Elevations Sheets			☑	☐	☐
37. Driveway/Vehicle Pavement	DR-03...06			☑	☐	☐
38. Pavement Design	DR-03...06			☑	☐	☐
39. Multi-family Roof Form				☐	☐	☑
40. Massing for three story buildings or taller	See Architectural Townhome Elevation Sheets			☑	☐	☐
41. Distinct material changes for three story buildings or taller	See Architectural Townhome Elevation Sheets			☑	☐	☐
42. Trash Enclosure, Solid Waste and Recyclable Materials	n/a			☐	☐	☑
43. Arterial Design and Landscaping	n/a			☐	☐	☑
44. Street Improvements	TM-10			☑	☐	☐

45. Utility Location and Easement	TM-11 & 12			☑	☐	☐
46. Undergrounding Utilities	DR-01, note 13			☑	☐	☐
47. Meter Location	TM-11			☑	☐	☐
48. Stream Channel and Riparian Setbacks	N/A			☐	☐	☑
49. Landscaping-Parkway/Park Strip Design	L-01...L10, TM-10			☑	☐	☐
50. Projects abutting developed land	N/A			☐	☐	☑
51. Project abutting undeveloped land	All sheets			☑	☐	☐
52. Off-street bicycle and pedestrian connections	All sheets			☑	☐	☐
53. Complete Streets	TM-10			☑	☐	☐
54. Bicycle and pedestrian improvements (Multi-family projects)	N/A			☐	☐	☑
55. Internal pedestrian connections	L-01...L-10, DR-03...-06			☑	☐	☐
56. Continuous Sidewalks	L-01...L-10, DR-03...-06			☑	☐	☐
57. Water Infrastructure	TM-11 & 12			☑	☐	☐
58. Wastewater Infrastructure	TM-11 & 12			☑	☐	☐
59. Storm Drainage Infrastructure	TM-11 & 12			☑	☐	☐
60. Storm Water Infrastructure	TM-11...TM-13			☑	☐	☐
61. Floodplain Development	TM-07 & 08			☑	☐	☐
62. Broadband Connectivity	See supplemental exhibit			☑	☐	☐

Exhibit A - City of Morgan Hill Residential Development Design and Development

Project Name: The Crosswinds

Applicant: The Crosswinds at Morgan Hill LLC c/o Dividend Homes Inc.

Architect: DAHLIN Group

Civil and Landscape: RJA

Date: 6/11/2020

	DESIGN AND DEVELOPMENT STANDARD	NARRATIVE / RESPONSE
	A. Development Services Requirements	
1	**Affordable Housing and Accessory Dwelling Units**	
	Inclusionary Housing and Below Market Rate Program	Per the City's Inclusionary Housing Ordinance, Section 14.04.040 A., 15% of all units in Residential Projects shall be Inclusionary Units available at Affordable Rents or Affordable Sales Prices. Per Section 14.04.040 C., the Affordable Sales Prices applicable are those for Moderate-Income Households, Area median income (AMI) for Santa Clara County (14.04.040 24.). As such applicant intends to provide 40 homes at the 120% AMI/ modearte level and pay a fraction in lieu fee of .35 (269 homes * 15% = 40.35 units). Per 10.04.040 F which addressed "Location and Design of Inclusionary Housing", applicant agrees "all Inclusionary Units shall be reasonably dispersed throughout the Residential Project, and shall be comparable to the design of the market rate units" and accomplishes this by dispersing within the 3 story condominium units throughout the project as delineated on the site plan. Furthermore, the Project qualifies for a density bonus, as it provides more than 10% of the Project's units at a price affordable to moderate income households.(Gov. Code, § 65915, subd.(b)(1)(D).) Therefore, Applicant is entitled to request one concession or incentive for the Project, (§ 65915, subd.(d)(2)(A).) so as to alleviate any development standard which would generate a cost reduction in providing the affordable units. As such Applicant requests as their concession to disperse the Inclusionary Housing in the 3 story condominium units located throughout the project. See Attached "BMR Dispersion Letter - Crosswinds" for a detailed analysis & justification.
	The project complies with Chapter 14.04 "Inclusionary Housing" which requires at least fifteen percent of all units in residential projects be inclusionary units that shall be made available at affordable rents or affordable sales prices as established in Chapter 14.04. The inclusionary units shall be approved, and construction of the inclusionary units shall be completed not later than the times prescribed in Section 14.04.050 of the Morgan Hill Municipal Code, unless an alternative requirement is approved pursuant to Section 14.04.070 of the Morgan Hill Municipal Code. (GP Policy HE-1rr)	
	Projects with two or more units shall demonstrate compliance by providing the following:	
	□ For-Sale Projects in Downtown Specific Plan (DTSP) area: Designate 10 percent of the dwelling units at affordable sales prices to moderate-income households	
	□ For-Sale Projects Outside DTSP area: Designate 15 percent of the dwelling units at affordable sales prices to moderate-income households	
	□ Rental Projects in DTSP area: Designate 10 percent of the dwelling units at affordable rents by low-income and very low-income households. At least one-half of required units to be offered to very low-income households	
	□ Rental Projects Outside the DTSP area: Designate 15 percent of the dwelling units at affordable rents by low-income and very low-income households. At least one-half of required units to be offered to very low-income households	
	The applicant shall provide details regarding the number of inclusionary units, the level(s) of affordability, the location and type of inclusionary units, and timing of construction of inclusionary units in relation to the construction of the market-rate units contained in the development.	
	If proposing to satisfy the requirement by an alternative means of compliance, Sufficient information and documentation are provided as required by Section 14.04.070.	
	Proposal of in-lieu fee payment is subject to approval by City Council.	
2	**Accessory Dwelling Unit (ADU) Requirements**	N/A. There are no ADU's in the Project
	If the project includes ADU's, the project shall comply with Chapter 18.84 Accessory Dwelling Units of the Morgan Hill Municipal Code.	
	Site Planning	
3	**Zoning Compliance**	The project is compliant with the RAL-3,000 Alternative Standards (Table 18.40-2). See sheets DR-07 through DR-09 for product-type information. Per discussions with City staff, the proposed condominium units are subject to the townhouse standards shown in Table 18.40-2.
	Project complies with the applicable zoning district standards:	
	a. Residential Estate Districts (RE-10, RE-2.5, RE-1). Refer to Table 18.16-2 of the Morgan Hill Municipal Code.	
	b. Residential Detached Low and Medium Density Districts (RDL-20,000, RDL-12,000, RDM-9,000, RDM-7,000). Refer to Table 18.16-3 of the Morgan Hill Municipal Code.	
	c. Residential Detached High Density District Development (RDH-4,500). Refer to Table 18.16-4 of the Morgan Hill Municipal Code.	
	d. Residential Attached Low Density Districts (RAL-3,500, RAL-3,000) Refer to Table 18.18-2 of the Morgan Hill Municipal Code.	
	□ Alternative Standards also available. Refer to Table 18.40-2.	
	e. Residential Attached Medium Density (RAM). Refer to Table 18.18-3 of the Morgan Hill Municipal Code.	
	□ Alternative Standards also available. Refer to Table 18.40-2.	
	f. Residential Attached High Density (RAH). Refer to Table 18.18-3 of the Morgan Hill Municipal Code.	
	g. For projects that include residential units within the Mix Use Neighborhood (MU-N) and Mixed Use Flex (MU-F) Districts, refer to Table 18.22-2 of the Morgan Hill Municipal Code.	
	h. For project that include residential units within the Downtown Specific Plan refer to the development standards provided within the Downtown Specific Plan.	
	i. Whenever a requirement of an overlay zone or combining district conflicts with a requirement of the underlying base zone, the overlay zone or combining district requirement shall control.	
4	**Orientation to an existing street**	The primary entrance of homes along Mission View Drive and Half Road front those streets. Please see DR-03 through DR-06 for additional details.
	For residential buildings adjacent to a collector or arterial street, the primary entrance of homes (front door) is located along the street unless sound walls are installed (see "Sound Wall" section for requirements). (GP Policy CNF-11.18)	
5	**Intersection Sight Distance/Clear Vision Triangle**	Street intersections are designed with clear vision triangles per MHMC 18.92.080. See Sheets DR-03 through DR-06 for locations and compliance notes "A5". The vision triangles are labeled and colored on these sheets.
	For projects located adjacent to pedestrian crossings or street intersections, a "Clear Vision Triangle" (see figure below) is provided to comply with the City's Municipal Code Section 18.92.080, Intersection Sight Distance. This triangular area ensures that drivers, bicyclists and pedestrians have clearer views of crossing traffic, which improves intersection safety for all parties. No structure, vehicle, object or landscaping over three feet in height may be placed within a clear vision triangle. Trees pruned at least eight feet above the established grade of the curb so as to provide clear view by motor vehicle drivers are permitted within a clear vision triangle. The areas subject to these standards are those portions of the Clear Vision Triangle areas located on private property outside the public right-of-way.	
	Where the required front and side yards for a project measure less than 25 feet when combined, the distance of each of the two sides of the clear vision triangle along the property lines will be 15 feet.	
	The City Engineer or designee may approve alternative clear vision triangles under circumstances where the above requirements cannot be met.	
6	**Sound Walls**	NA. Accoustical Consultant has been retianed and now that the draft EIR has been released for the neighboring site, they may continue their analysis. Note that at this time a sound wall is not designed into the site however one may be added if the Acoustical Analyis indicates it is needed.
	An Acoustical Analysis shall be provided to demonstrate need for noise impact mitigation. Site planning and design techniques shall be utilized to minimize the use of sound walls. Sound wall is allowed if required to meet noise standards and applicant has demonstrated that other forms of mitigation are not available as described herein.	
	Application demonstrates that other forms of mitigation such as installation of earth berms; increasing the distance between the noise source and the receiver; intervening placement of non-sensitive structures such as parking lots, utility areas, and garages to shield noise sensitive areas; orienting buildings to shield outdoor spaces from the noise sources; and minimizing noise at its source; are not available.	
	If a sound wall is allowed, the maximum height of the sound wall shall be eight feet. Dimension shall be as determined in the acoustical analysis. Residential projects adjacent to the freeway shall meet the criteria as described in SSI-9.3 of the General Plan. The sound wall must be landscaped or vegetated for aesthetic purposes and to prevent graffiti and vandalism. (GP Policy CNF-8.14, SSI-8.9, 9.2, 9.3, 9.4, 9.6, and 9.7	
7	**Agriculture Buffer**	A 100-foot offset has been applied from adjacent parcels to the east and south. The 100-foot buffer is illustrated on sheets DR-03, DR-04, and DR-05 of the Design Review Permit plan set.
	If the project is located adjacent to an active agricultural use, an open space easement has been provided to buffer between the active agricultural use that are adjacent to the proposed project and new development. The size and configuration of the buffer is a minimum of 100 feet between the active agriculture use and the nearest new structure as measured from the property line. (GP Policy NRE-4.9)	
8	**On-Site Recreational Amenities**	
	The project has provided on-site recreational amenities to serve residences based on the following table: 16 - 50 units Tier 1:2 Tier 2:2 51-100 units Tier 1:2 Tier 2:2 Tier 3:1 101-150 units Tier 1:2 Tier 2:2 Tier 3:2 151 + units Tier 1:2 Tier 2:3 Tier 3:3 201 + units Tier 1:2 Tier 2:3 Tier 3:3	

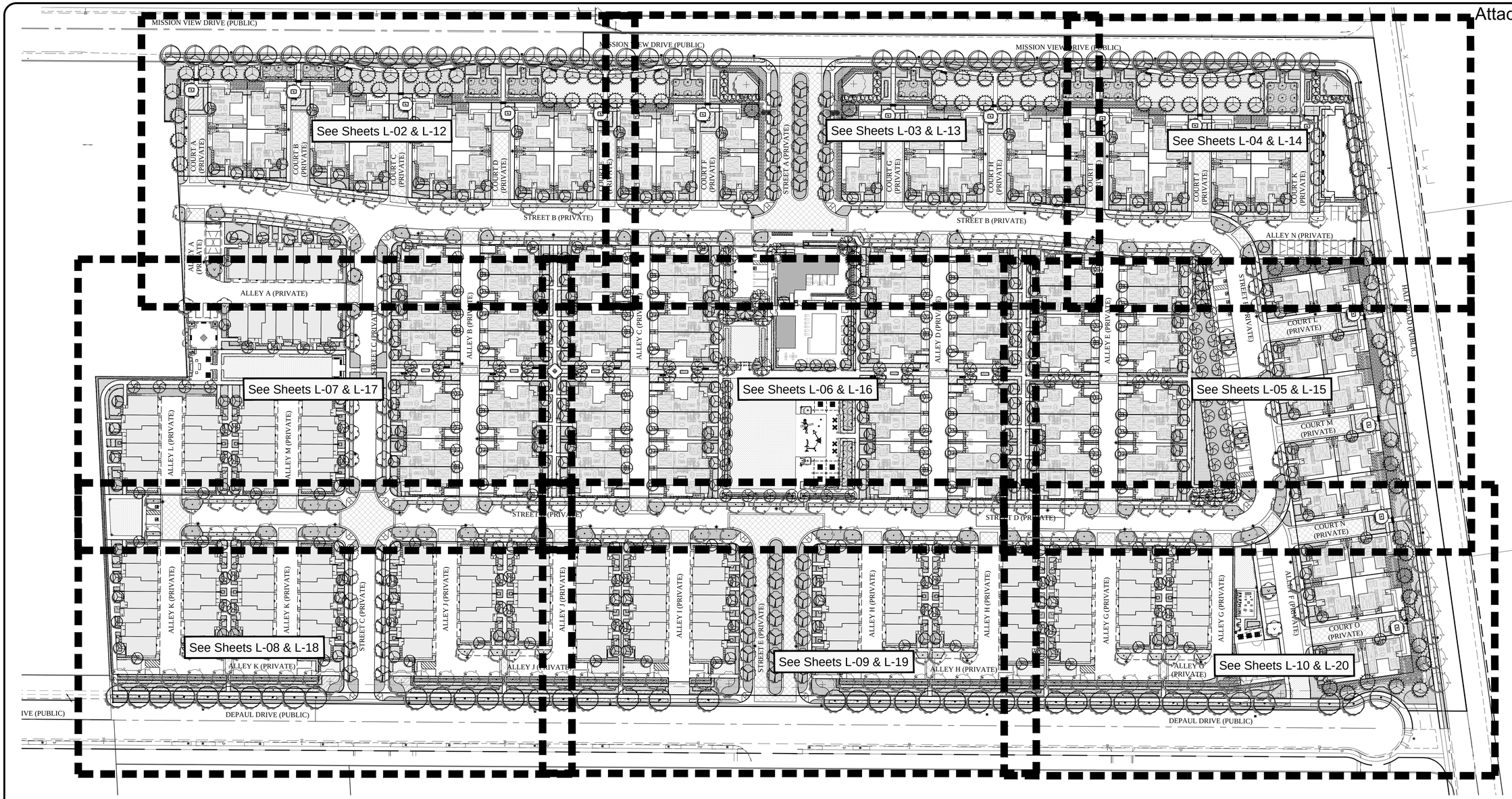
	Tier 1 amenities: Shuffleboard Horseshoes Bowling green with artificial turf Picnic/barbeque area Park benches Passive water features (e.g. fountain) Passive recreation area and/or gardens	**Tier 1: 2 Required** Picnic/BBQ Area (x4) - Sheet: L-06 Passive Water Feature - Sheet: L-07 Park Benches (x6): - Sheet: L-06 (around grass field), L-07 (around water urn) Passive Rec Area (x): - Sheet: L-06 & L-07 **Tier 2: 3 Required** ShadeTrellis Area (x8) - Sheet: L-06 ½ Court Basketball Court - Sheet: L-10 Dog Park - Sheet: L-04 **Tier 3: 3 Required** Clubhouse with Kitchen - Sheet: L-06 Swimming Pool - Sheet: L-06 Restroom Area - Sheet: L-06
	Tier 2 amenities: Cabana or shade trellis area Two picnic/barbeque areas Clubhouse Volleyball court and/or Bocce ball court Outdoor racquetball/handball tilt-up wall Dog Park Sauna and/or Jacuzzi Community garden plots (minimum one forty-eight-square-foot plot per each ten dwelling units) with water service located in an area that will get a minimum of six hours of direct sun when trees mature ½ court basketball (one hoop) Bridle paths Bocce ball Artificial turf putting green Exercise structure or complex (age appropriate play equipment/minimum three activities; can be integrated in structure)	
	Tier 3 amenities: • Softball field • Sports court and/or 2 1/2-court basketball courts (two hoops) • Restroom area • ½ scale soccer field • Exercise structure or complex (age appropriate play equipment/minimum five activities; can be integrated in structure) • Jacuzzi and separate child wading pool • Tennis court • Recreation hall with exercise equipment and/or game equipment • Exercise room • Clubhouse w/ kitchen • Swimming pool (GP Policy- Housing element HE-4)	
9	**Water Conservation in Landscaping**	See L-12 through L-20 for compliance as well as the Landscape Water Efficiency Checklist included in Supporting Documents
	The project has provided landscape and irrigation plans demonstrating compliance with Morgan Hill Municipal Code Chapter 18.148 (Water Conservation in Landscaping). (GP Policies NRE-6.6 and NRE-7.3)	
10	**Landscaping Plan:**	See Sheets L-01 through L-10 for the proposed landscape concept. Each sheet includes a conceptual planting plan, a plant pallette, and proposed hardscape where applicable. These sheets also address the proposed pallette for stormwater treatment areas. The balance of the landscape sheets, L-11 through L-21, include details and irrigation plans.
	The Project is required to provide detailed landscape plans in compliance with Section 18.64.040 (Landscape Plan required) of the Morgan Hill Municipal Code. Landscape plans must demonstrate compliance with Section 18.64.060 (General landscape requirements) of the Morgan Hill Municipal Code. Pursuant to Morgan Hill Municipal Code section 18.64.050:	
	a. All required front and street side setback areas, excluding areas required for access to the property, shall be landscaped and maintained.	
	b. Landscaping may consist of any combination of living plants, such as trees, shrubs and grass or related natural features, such as rock, stone, or mulch.	
	Decorative hardscape featuring pervious materials is permitted within required landscaping areas.	
	For projects with a proposed stormwater treatment facility(ies), the Landscaping Plan includes appropriate landscaping for all bioretention and other vegetated stormwater treatment facility(ies). For plant guidance, check the Central Coast Low Impact Development Initiative (LIDI) website at https://www.centralcoastlidi.org/landscape.php.	
	For projects adjacent to streams, the Landscaping Plan shows the use of locally native plants for all landscaping and revegetation adjacent to a stream and within a riparian area to comply with the City's adopted Santa Clara Valley Water Resource Protection Collaborative's "Guidelines and Standards for Land Use Near Streams." A copy of the guidelines and standards can be found at https://www.valleywater.org/contractors/doing-businesses-with-the-district/permitsfor-working-on-district-land-or-easement/guidelines-and-standards-for-land-usenear-streams.	
11	**Wildland-Urban Interface Fire Area:**	NA Per CAL FIRE Very High Fire Hazard Severity Zones in LRA (October 9, 2008), the subject site is not within a VHFSZ or VHFHSZ zone.
	New developments and projects proposed within a locally adopted Wildland-Urban Interface Fire Area shall include a plan for the protection of the community from any unreasonable risks associated with the effects of wildland and urban fires.	
	The plan shall be based upon a site-specific wildfire risk assessment that includes considerations of location, topography, aspect, flammable vegetation, climatic conditions and fire history. The plan shall address water supply, access, building ignition and fire-resistance factors, fire protection systems and equipment, defensible space and vegetation management, evacuation routes, peak load water supply requirements, and minimum road widths, as those items relate to identified fire hazards and reviewed and approved by the Fire Marshal.	
12	**Trees:**	See Sheets L-01 through L-21 for planting details. Application for Tree Removal Permit included in Application Forms Folder if needed.
	The project has identified all trees to be removed on the project landscape plan and/or grading plan, has proposed a two-to-one ratio of replacement trees, and has applied for the required Tree Removal Permit in accordance with Chapter 12.32 (Restrictions on Removal of Significant Trees) of the Morgan Hill Municipal Code	
13	**Useable Private and Common Open Space:**	The project is compliant with GP Policy CNF-11.29. Private open space is provided per unit by way of private yards, decks and patios. Common open space is made up of active and passive areas throughout the project, which averages 750 sqft/unit. See sheets DR-07 through DR-09 for product-type information.
	Each lot must include a private open space area, such as a private yard, porch, balcony, roof garden, or patio. Private open space must be contiguous to the unit it serves and accessible and visible from the living area of the unit. Private open space must be open air. Private open space cannot be covered by a roof by more than 50 percent of the area; however, balconies can have up to 100 percent ceiling coverage. The following private open space is required per unit type:	
	a. Single-family attached and detached units meeting the following average lot sizes shall provide useable open space as specified:	
	Average Lot Area (square feet) 1,440-1920 / 1,920-2,999 / 3,000,4,356 / 4,357-6,999 Private Open Space: 60 square feet per unit / 150 square feet per unit / 300 square feet per unit / 350 square feet per unit Common Open Space: 140 square feet per unit / 150 square feet per unit / 175 square feet per unit / 200 square feet per unit	
	b. Single-family detached (lots 7,000 square feet and over)- 500 square feet per unit (Private Open Space)	
	c. Multi-family residential – At least fifty percent of the units have at least 48 square feet per unit (Private Open Space). Fifteen percent of the site area shall be dedicated to common open space.	
	d. If On-site Recreational Amenities are not provided, private and common open space shall be increased by 25 percent.	
	Common open space shall be fully landscaped and accessible to all residents.	
	Private open space per unit may be reduced by up to 25 percent if off-set by the equivalent increase in common open space with amenities. (GP Policy CNF-11.29)	

	Parking Improvements	
14	**Required On-site Parking Spaces:**	A total of 606 parking spaces are required; 538 covered and 68 uncovered. A total of 809 parking spaces are provided. See the Parking Summary on sheets DR-03 through DR-06 for comliance with "A14".
	The project complies with the parking requirements specified in Section 18.72.030 of the Morgan Hill Municipal Code.	
15	**Parking Design and Development Standards:**	The project is compliant with MHMC 18.72.060. Perpendicular spaces are 9'x18'; parallel spaces are 8'x22'. Typical dimensions are shon on sheets DR-03 through DR-06.
	The project complies with the parking design and development standards specified in Section 18.72.060 of the Morgan Hill Municipal Code.	
16	**Parking Lot Layout:**	Not Applicable. The Crosswinds is not a multi-family project. Nevertheless, the condominium neighborhoods include street-side and bay parking at a comfortable distance from home entrances. See sheets DR-03and DR-05 through DR-07.
	For multi-family projects, the parking for the project is dispersed throughout the project in smaller segmented parking areas, rather than the creation of a large parking lot. Parking is located interior to or at the back of the site where it is not visible to the street.	
17	**Bicycle Parking and Storage:**	Not Applicable. The Crosswinds is not a multi-family project.
	All multi-family developments of five units or mor are required to provided bicycle parking in compliance with Section 18.72.080 of the Morgan Hill Municipal Code.	
18	**Exterior Parking Lot Lighting:**	General lighting specifications are provided on sheets P-01 & P-02. Inidividual specification sheets are included in 8.5' x 11" format as supplemental infomation.
19	**Parking Area Landscaping:**	The proposed parking configuration does not include stalls that front a street. Proposed landscaping within the development is shown on sheets L-01 through L-10.
	Projects with six or more parking spaces must demonstrate compliance with the parking lot screening and parking lot landscaping requirements specified in Sections 18.72.060.I (Parking design) and 18.72.070 (Parking lot landscaping) of the Morgan Hill Municipal Code.	
20	**Pedestrian Access:**	This criteria is not applicable; there are no parking lots provided within the project. Nevertheless, all perpendicular parking provided within the development includes an adjacent sidewalk that complies with ADA grades and slopes.
	Parking lots with more than thirty parking spaces shall include a pedestrian walkway in compliance with ADA requirements specified in Section 18.72.060.H of the Morgan Hill Municipal Code.	
21	**Electric Vehicle Charging Stations:**	
	Parking lots with more than twenty-five parking spaces shall incorporate electric vehicle charging stations in compliance with Section 18.72.040.C of the Morgan Hill Municipal Code.	Proposed electric vehicle charging stations within surface parking areas are shown on sheets DR-03 through DR-06 of the Design Review Permit package. Eighteen (18) surface stalls are distributed in pairs throughout the development. A total of 287 EV spaces are provided within the development: 269 are provided within private garages (1/garage), plus the surface stalls described above. This exceeds the standard, which require 83 EV parking stalls. **DAHLIN**- A note has been added on the sheets below. One 220V outlet for future EV charging outlet has been provided in the garages of the Single Family Detached, Duets and Condominiums. **SFD First Floor Plan Sheets**: A1.1.2, A.1.2.1 & A1.3.1. **Duet First Floor Plan Sheets**: A2.1.2 & A2.2.1 **Condominium First Floor Plan Sheets**: A3.1.2, A3.1.4, A3.2.1 & A3.2.3.
	Architectural Design Features	
22	**Front Porches:**	Over 50% Of the homes have front porches with a minimum dimension of 5'x6'. All Duets and Courtyard homes face the street, totalling 120 Homes (See Sheet T1.3) We have provided 112 homes, while we only need to provide > 60 homes for compliance:
	50 percent of homes facing a street or common interior courtyard include a front porch on the ground floor with a minimum size of 6 feet by 5 feet	
23	**Balconies:**	Over 25% of the homes include a balcony with a minimum size of 6'x4'. All Duet and Courtyard homes have balconies overlooking the yard/ common area or street.
	25 percent of homes facing a street, alley or common interior courtyard include a balcony overlooking a common area with a minimum size of 6 feet by 4 feet.	
24	**Fences:**	All fences and walls for screening purposes are solid material. Applicant anticipates using horizontal slat wood fencing for "good neighbor" fencing, which is included as detail "I" on sheet L-11.
	All fences and walls designed for screening purposes shall be of solid material. Chain link or chain link with slats is not permitted.	
25	**360 Degree Architecture:**	
	The project includes two of the following details: Windows, shutters, awnings, bay windows, trellis features, texture variations, stone, brick or other material enhancements. All facades (sides and rear) must have the level of detail, and materials (GP Policy CNF-11.16)	All elevations of the project, including the side and rear elevations feature windows and texture variations in materials. **SFD Elevation Sheets**: A1.1.4, A1.1.5, A1.1.6, A1.2.3, A1.2.4, A1.2.5, A1.3.4, A1.3.5, A1.3.6 & A1.3.7. **Duet Elevation Sheets**: A2.1.5, A2.1.6, A2.2.4 & A2.2.5. **Condominium Elevation Sheets**: A3.1.6, A3.1.7, A3.2.5, & A3.2.6.
26	**Exterior Treatments and Materials:**	In Addition to glazing and railings, 2 materials are used on every facade and material transitions are treated with an offset between the materials that compliment the elevation style. Stone veneers turn corners where used, to not appear artificial. **SFD Elevation Sheets**: A1.1.4, A1.1.5, A1.1.6, A1.2.3, A1.2.4, A1.2.5, A1.3.4, A1.3.5, A1.3.6 & A1.3.7. **Duet Elevation Sheets**: A2.1.5, A2.1.6, A2.2.4 & A2.2.5. **Condominium Elevation Sheets**: A3.1.6, A3.1.7, A3.2.5, & A3.2.6.
	At least two materials shall be used on any building facade, in addition to glazing and railings. Any one material must comprise at least 20% of any building facade, excluding windows and railings. A change in material must be offset by a minimum of six inches in depth.	
	Exterior finish materials should be chosen and applied to not appear artificial as in the case of brick veneer applied on a single building face so that it is obviously ¼ inch thick when viewed from the side, or in the case of a trellis made of 2 inch x 2 inch or 2 inch x 4 inch members. Veneers are required to turn corners, avoiding exposed edges.	
27	**Roof Line Variation for three or more units:**	
	Roofs have been designed to incorporate a minimum of two varying roof heights or types (hip, gable, shed, flat, etc.)	Roof slopes and heights vary, complimenting the elevation style and provide variety in design throughout the project. **SFD Elevation Sheets**: A1.1.4, A1.1.5, A1.1.6, A1.2.3, A1.2.4, A1.2.5, A1.3.4, A1.3.5, A1.3.6 & A1.3.7. **Duet Elevation Sheets**: A2.1.5, A2.1.6, A2.2.4 & A2.2.5. **Condominium Elevation Sheets**: A3.1.6, A3.1.7, A3.2.5, & A3.2.6.
28	**Height and Project Massing:**	Houses have been designed to minimize bulk by changes in roof form and height and by providing offsets In floor plans to break the building façade into smaller masses. **Changes in Roof Form Sheets:** **SFD Elevation Sheets**: A1.1.4, A1.1.5, A1.1.6, A1.2.3, A1.2.4, A1.2.5, A1.3.4, A1.3.5, A1.3.6 & A1.3.7. **Duet Elevation Sheets**: A2.1.5, A2.1.6, A2.2.4 & A2.2.5. **Condominium Elevation Sheets:** A3.1.6, A3.1.7, A3.2.5, & A3.2.6.
	Project design minimizes bulk of the buildings by limiting building length, or designing buildings with the following special features to break up building bulk, including:	
	a. Changes in roof form and height; and,	
	b. Major full-height recesses (At least 10 feet deep for multi-family projects and three feet deep for single-family attached projects) along the length of the building that successfully break the building into smaller discrete masses. (General Plan Policy CNF 11.22)	
29	**Separate Structures-Attached Projects:**	The Condominiumns are designed as 6-plexes and 7- plexes, not to exceed 7 units per structure. See Sheet T1.2
	Large projects shall be divided into separate structures. The maximum number of units per structure is as follows:	
	a. Single-family Attached: 7 units maximum per structure (General Plan Policy CNF 11.22) 100 percent affordable projects are exempt from this requirement	
30	**Building Colors**	The Color Pallette of the project, provides a cohesive range of colors that compliment each other. Colors are reused in multiple schemes to tie the entire project together. **Sheets:** B1.1, B1.2, & B1.3
	The project has provided a sample color palette of complimentary colors compatible with surrounding neighborhood. The number of colors appearing on any building exterior is limited to no more than four colors or tones of the same color, including trim and accent colors.	
	The use of fluorescent or neon colors is prohibited.	
31	**Window Design:**	The Window designs vary based on the exterior finish and elevation style. The windows at stucco finish are recessed to create shadows and are at a depth that compliments the elevation style. The Windows at lap siding and board and batten finish have wood or cementitious trim surrounds that create shadows and depth. **SFD Elevation Sheets**: A1.1.4, A1.1.5, A1.1.6, A1.2.3, A1.2.4, A1.2.5, A1.3.4, A1.3.5, A1.3.6 & A1.3.7. **Duet Elevation Sheets**: A2.1.5, A2.1.6, A2.2.4 & A2.2.5. **Condominium Elevation Sheets:** A3.1.6, A3.1.7, A3.2.5, & A3.2.6.
	The window recesses, trim and other window elements have been designed to be substantial in depth to create shadows. The project incorporates at least one of the following window features throughout the project:	
	a. Minimum depth of at least 1 1/2 inches from glass to exterior of trim;	
	b. Minimum depth of at least six inches from glass to wall edge around windows if there is no trim (this is only appropriate for certain architectural styles such as Spanish Revival or Modern); or,	
	c. Decorative trim elements that add detail and articulation, such as window surrounds with at least a two-inch depth. They must be designed as an integral part of the design.	
32	**Glazing:**	Noted. Mirrored glass has not been used in this project.
	Mirrored glass is prohibited in order to minimize off-site glare and maximize transparency.	
33	**Exterior Lighting and Illumination:**	Street and bollard lights have been selected to comply with the measure. See specificaton sheets P-01 & P-02 provided.
	Wall-mounted lights or bollards shall be provided for security purposes. Lights shall be directed down and shielded to avoid glare impacts. The project has demonstrated compliance by submittal of a photometric plan and fixture details.	
34	**Equipment Screening:**	Mechanical equipment and trash containers are located behind individual "good neighbor" fences as shown on

	All exterior mechanical and electrical equipment shall be screened or incorporated into the design of buildings so as not to be visible from the public-right-of-way, common areas, or contained within an enclosed structure. Equipment to be screened includes, but is not limited to, all roof mounted equipment, air conditioners, heaters, utility meters, cable equipment, telephone entry boxes, backflow preventions, irrigation control valves, electrical transformers, pull boxes, and all ducting for air conditioning, heating, and blower systems. Screening materials shall be consistent with the exterior colors and materials of the building, and equipment enclosures have been screened with landscaping. Chain link fencing with wood inserts shall not be used to screen equipment	sheets L-02 through L-10.
35	**Residential Parking Garage:**	The Garages for the Single family Detached and Duets are all located behind the front porch and living space in order to reduce visual prominence. The garages for the Townhouses are located in the rear of the building/units. **SFD First Floor Plan Sheets:** A1.1.2, A.1.2.1 & A1.3.1. **Duet First Floor Plan Sheets:** A2.1.2 & A2.2.1 **Condominium First Floor Plan Sheets:** A3.1.2, A3.1.4, A3.2.1 & A3.2.3.
	The project is designed to reduce the prominence of garage doors through one or more of the following strategies:	
	a. Locate the garage door behind the front porch and/or living space, relative to the front lot line;	
	b. Design the second floor to overhang beyond the garage door	
	c. Locate the garage to the side or rear of building rather than at the center; or	
	d. For garages with three or more non-tandem parked cars, the area of the front wall(s) of garage(s) shall not be more than 25 percent of the cumulative exterior front walls of two story single family residential building; no more than 50 percent of the cumulative exterior front walls of a one story single-family residential building; and at least one front wall of the a three car garage must be separated from the remaining garage front wall by at least two feet. (GP Policy CNF-11.19)	
37	**Garage Door Design: The garage doors proposed within the project feature windows or other architectural design features consistent with the main dwelling, approved by the Development Services Director or designee.**	The garage doors proposed within the project feature windows and other architectural design features consistent with the Elevation Style of the main dwelling. **SFD Elevation Sheets**: A1.1.4, A1.1.5, A1.1.6, A1.2.3, A1.2.4, A1.2.5, A1.3.4, A1.3.5, A1.3.6 & A1.3.7. **Duet Elevation Sheets**: A2.1.5, A2.1.6, A2.2.4 & A2.2.5. **Condminium Elevation Sheets**: A3.1.6, A3.1.7, A3.2.5, & A3.2.6.
37	**Driveway/Vehicle Pavement:**	See sheets DR-03 through DR-06. Detached homes are served by private motor courts, which are independent of individual residential lots. Paved areas on individual lots are limited to driveway aprons that are 4-6 feet deep and do not occupy more than 50 percent of the applicable setback area.
	For detached single-family projects, paved areas and hard surface for vehicle access and parking does not occupy more than 50 percent of the front and street-side setback area.	
38	**Pavement Design:**	See sheets DR-03 through DR-06. Decorative paving is provided at primary entries to the project, intersections of courts and alleys and at pedestrian crossings. All decorative pavement equals approximately 22% of the paved area.
	The project has incorporated decorative, pervious paving into paved and landscaped areas by 10 percent to reduce the visual impact of paved surfaces. Decorative paving includes: brick, stamped colored concrete, stone blocks or pavers, interlocking colored pavers, grasscrete, and other comparable materials. Priority locations for decorative paving may include the following	
	a. The first 20 feet of the driveway closest to the street;	
	b. A four-foot wide pedestrian path along the length of the driveway, if no sidewalk is provided;	
	c. Parking maneuvering areas;	
	d. Parking aprons; and	
	e. Parking areas or fire turnarounds that can also occasionally function as outdoor courtyards.	
39	**Multi Family Roof Form:**	N/A
	The roof element of the multi-family project is designed such that no more than two side-by-side units are covered by one unarticulated roof. Articulation may be accomplished by changing roof height, offsets, and direction of slope, and by introducing elements such as dormers, towers, or parapets. Other alternative design approaches that achieve the same goal of breaking down building masses into small individual units may also be acceptable, for example shifting the units in section and varying the design treatment for individual units. (GP Policy CNF-11.22)	
40	**Massing for three story buildings or taller:**	The 3- story Condominiums have massing breaks at each unit, by varying front porch depths and second floor decks that help break up the large street facade. **Condominium Floor Plan Sheets**: A3.1.2, A3.1.3, A3.1.4, A3.1.5, A3.2.1, A3.2.2, A3.2.3 & A3.2.4.
	Buildings three stories or taller shall have major massing breaks at least every 100 feet along any street frontage, adjacent public park, publicly accessible outdoor space, or designated open space, through the use of varying setbacks and/or building entries. Major breaks shall be a minimum of 30 inches deep and four feet wide and extend the full height of the building.	
41	**Distinct material changes for three story buildings or taller:**	At least 75% of the building façade with frontage upon a street, adjacent public park or public open space, the Condominiums have distinct material changes to the upper floors to break up the massing and enhance the elevation. **Condominium Elevation Sheets**: A3.1.6, A3.1.7, A3.2.5, & A3.2.6.
	Buildings three stories or taller must provide a ground floor elevation that is distinctive from the upper stories by providing a material change between the first floor and upper floors along at least 75% of the building façade with frontage upon a street, adjacent public park or public open space.	
42	**Trash Enclosure, Solid Waste and Recyclable Materials:**	The Project is not proposing trash enclosures; indivdual units will be provided with trash bins for routine Green Waste pick-up. Trash bins will be located in individual yards behind good neighbor fences for courtyard and duet homes as shown on sheets L-1 through L-10. Trash bins for condominum units will be located in individual garages. Arch sheets where Trash and Recycle bins are shown: **SFD First Floor Plan Sheets**: A1.1.2, A.1.2.1 & A1.3.1. **Duet First Floor Plan Sheets**: A2.1.2 & A2.2.1 **Condominium First Floor Plan Sheets**: A3.1.2, A3.1.4, A3.2.1 & A3.2.3.
	Detailed enclosure plans are required for multi-family, new construction and alteration projects, and comply with the following:	
	a. The exterior materials and colors of the enclosure walls shall match the building walls.	
	b. Chain link fencing with or without wooden/plastic slats is prohibited.	
	c. Roofs shall be painted with rust-inhibitive paint.	
	d. Shall not obstruct on-site or off-site pedestrian or vehicle traffic movement.	
	If project requires a consolidated solid waste plan, the project shall comply with the enclosure and development guidelines specified by Recology South Valley. All trash enclosure areas must meet the following structural or treatment control Best Management Practices (BMP) requirements (individual single-family residences are exempt from these requirements):	
	a. Roof Required: Trash enclosure areas shall have an all-weather noncombustible solid roof to prevent rainwater from mixing with the enclosure's contents.	
	b. Walls Required: Trash enclosure shall have structural walls to prevent unauthorized off-site transport of trash.	
	c. Doors: Trash enclosure shall have door(s) which can be secured when closed.	
	d. Grades: The pad for the enclosure shall be designed to not drain outward, and the grade surrounding the enclosure shall be designed to not drain into the enclosure.	
	e. Drain Inlet: Within the enclosure, an area drain with an approved (Zurn) vandal proof drain shall be installed and shall be plumbed to the sanitary sewer system with grease trap. Grease trap shall be located within the trash enclosure footprint.	
	B. Engineering-Land Development Requirements	
	Site Planning	
43	**Arterial Design and Landscaping**	Project does not include a fence or wall adjacent to arterial streets greater than three feet in height, and no median exists in Mission View Drive.
	Development adjacent to arterial streets is designed without fences or walls (unless required for sound mitigation as determined by an Acoustical Analysis) or landscape designed wall not exceeding three feet in height. (GP Policy TR-3.20)	
	Development adjacent to arterial streets with existing median without landscaping provides the required landscaping in the median. The median improvements will be subject to City reimbursement in the form of credits against the Traffic Impact Fees due from the project. The project shall be reimbursed the actual consultant fees, review fees, permit fees, and construction costs of construction the median improvements. Refer to the City's Median Design Guidelines. (GP Policy CNF-8.10)	
44	**Street Improvements**	TM-10. Mission View, Half and DePaul streets will be improved to City standards.
	New public and private streets serving the project are designed to be consistent with the General Plan Transportation Element as well as the Street Standard Details in the City's Standard Details. Minor variations and exceptions to the standards are subject to the approval of the City Engineer.	
	The project installs and dedicates street improvements including, but not limited to, curb and gutter, sidewalk, compaction, street paving, oiling, storm drainage facilities, sewer and water, fire protection, undergrounding of utilities and street lighting.	
45	**Utility Location and Easement:**	
	New utility transformers are installed underground unless precluded by physical limitations of the project site.	

	Utility locations do not interfere with the viability of tree maturity, function of stormwater treatment facilities, or use of open space.	Typical utility locations, including joint trench, are shown in details along the bottom of Tentative Map sheet 11. Utility placement is intended to avoid conflicts with trees, to the extent possible. Mission View, Half and DePaul streets include a 10' PSE as delineated on sheet TM-04 and as shown in section on sheet TM-10. PSE's within the subdivision are also delineated and labeled on sheet TM-04, and shown throughout the Tentative Map sheet set as dashed lines.
	A Public Service Easement (P.S.E.) with a minimum width of 10' is provided adjacent to all public rights-of-way for public and private utilities (including gas, electric, telephone and cable communications conduits or duct banks).	
	All public utilities for sewer, storm, or water within the project are within a public right-of-way or within a P.S.E. granted to the City and within a minimum width of twenty (20) feet. Exceptions to the easement width are subject to the approval of the City Engineer.	
	For individual water, sewer or storm mains, the pipe is located in the centerline of the P.S.E.	
	A plat and legal description of the P.S.E., prepared by a licensed professional land surveyor or engineer in the State of California, are provided.	
46	**Underground Utilities:**	See Tentative Map Sheet 1, Note 13
	All new utility distribution and service connections are placed underground. This standard does not apply to aerial power transmission lines.	
	All existing overhead utilities adjacent to any site boundary, within the project site, or along any street frontage are placed underground in accordance with City standards and affected utility company guidelines.	
47	**Meter Location:**	See Tentative Map Sheet 11, Typical Utility Location details on the right side of the page. Meters are located within a PSE.
	Water meters shall be located within City right-of-way or within a recorded Public Service Easement (P.S.E).	
	Each unit within a multi-family development shall be required to have a separate water service connection and city meter unless private sub-meters are installed for each unit by the developer.	
	All single-family residential units shall be required to have a separate water service connection and city meter.	
48	**Stream Channel and Riparian Setbacks:**	N/A. Project is not located near a stream.
	If the project is located adjacent to a Category 1 or Category 2 stream (as verified by a biologist, hydrologist or other qualified professional) and the required setbacks have been identified on the project plans. (GP Policy NRE-5.6)	
	TABLE	
	All stream channels and riparian setbacks have been identified on the Site Development Plans. Documentation shall be provided by a biologist, hydrologist or other qualified professional identifying the Category of the waterbody and the required setbacks.	
	The project is also in substantial conformance with the adopted User's Manual of Guidelines and Standards for Land Use Near Streams (a Manual of Tools, Standards, and Procedures to Protect Streams and Streamside Resources in Santa Clara County). A copy of the manual can be viewed at https://www.valleywater.org/contractors/doing-businesses-with-thedistrict/permits-for-working-on-district-land-or-easement/guidelines-andstandards-for-land-use-near-streams.	
49	**Landscaping -Parkway/Park Strip Design:**	Planting strips are either consistenly dimensioned or meandering, and all measure a minimum of 5'. See sheet TM-10 through TM-12 for details.
	A minimum 5-foot wide planted parkway (measured from face of curb) with irrigation system shall be provided between the street and sidewalk. Parkways shall be planted with street trees identified within the City of Morgan Hill Master Street Tree Plan. For parkways within a public right-of-way, the City Engineer or designee shall select the species from the applicable planting zone list of the Master Street Tree Plan.	
	Pedestrian, Bicycle and Transit Improvements	
50	**Projects abutting developed land:**	N/A, project does not abut developed land.
	The project aligns and connects streets intersecting the project boundary with all adjoining streets. (GP Policy CNF-11.5)	
51	**Projects abutting undeveloped land:**	Street 'B' terminates at the common property line with Verity Holdings, LLC at the northeastly quadrant of the project. All sheets.
	The project extends streets to the adjoining undeveloped land to provide access to undeveloped land in the event of its future development. (GP Policy CNF-11.5)	
	The project has provided a public access easement in private streets for sidewalks, trails, greenways, and other pedestrian and bicycle facilities.	
52	**Off-street bicycle and pedestrian connections:**	Street 'B' includes sidewalks which terminate at the common property line, allowing for connections to the adjacent property in the event there is development in the future. In addition, the proposed frontage improvements along Mission View Drive, Half Road, and De Paul Drive include sidewalk improvements; each of these proposed street sections is wide enough to accommodate bike lanes as shown in the Transportation element of the 2035 General Plan. No other requirements are outlined in either the Recomended Bikeway, Trails, Parks, or Recreation Facilities Projects or Priority Projects of the referenced Master Plan in regards to the subject property or adjacent to the project site.
	The project has provided off-street bicycle and pedestrian connections in accordance with the Bikeways, Trails, Parks and Recreation Master Plan, as well as General Plan Policy CNF-11.5 Outside Connections and General Plan Policy CNF-11.6 Open Space Connections. Connections must be established and maintained through a public access easement, dedication or other similar method to guarantee it remains accessible to the general public.	
	Off-street bicycle and pedestrian access ways are at least 15 feet wide, have no horizontal obstructions, and have a minimum of 9 feet-6 inches high vertical clearance.	
	For off-street bicycle and pedestrian accessways that also serve as emergency vehicle accesses or utility corridors, the minimum accessway width and vertical clearance is subject to approval by the City's designated Fire Marshal.	
	If the off-street bicycle and pedestrian accessway remains in private ownership, recordation of a maintenance agreement is required prior to acceptance of the street improvements.	
	All easements and dedications will be required as Conditions of Approval.	
53	**Complete Streets:**	The primary loop street includes detached sidewalks, bulbouts and special paving to identify pedestrian crossings. See sheets DR-03 through DR-06, as well as sections on sheet TM-10.
	The project incorporates design elements from three different categories of "Complete Street Design Elements" (shall provide a minimum of two design elements from categories a to e below) that meet the needs of multiple users, including motorists, bicyclists, pedestrians, transit users, and persons of different physical capabilities. (GP Policy CNF-11.8)	
	NOTE: These standards apply to projects with new public streets, new private streets and/or private drives and for projects required to perform major changes to existing public or private streets.	
	Complete Street Design Elements	
	a. Pedestrian infrastructure such as sidewalks; traditional and raised crosswalks; median crossing islands; Americans with Disabilities Act of 1990 compliant facilities including audible cues for people with low vision, pushbuttons reachable by people in wheelchairs, and curb cuts; and curb extensions subject to approval by the City Engineer or designee.	
	b. Traffic calming measures to lower speeds of automobiles and define the edges of automobile travel lanes, including a road diet, center medians, traffic circles, narrow travel lanes, bulbouts, shorter curb corner radii, elimination of free-flow right-turn lanes, angled and face-out parking subject to approval by the City Engineer or designee.	
	c. Bicycle accommodations, such as protected or dedicated bicycle lanes, neighborhood greenways, wide paved shoulders, and bicycle parking subject to approval by the City Engineer or designee.	
	d. Public transit accommodations, such as bus pullouts, transit signal priority, bus shelters, and dedicated bus lanes. Refer to the Santa Clara Valley Transportation Authority (VTA) Bus Stop and Passenger Facilities Standards for the design and placement of bus-related facilities and amenities. Transit improvements within the public right-of-way are subject to approval by the City Engineer or designee.	
	e. Green Streets, the natural systems approach (incorporates vegetation and/or permeable pavements) to enhance pedestrian safety, reduce stormwater flow and improve water quality. Green Streets are designed to capture rainwater at its source. Green Street improvements subject to approval by the City Engineer or designee.	
54	**Bicycle and pedestrian improvements (Multi-family projects)**	N/A. The Crosswinds is not a multi-family project.
	The project incorporates two or more enhanced bicycle and pedestrian improvements such as bicycle storage facilities, traffic calming measures, intersection crossings, and wayfinding signage. (GP Goals TR-8 and TR-9)	
55	**Internal Pedestrian Connections:**	All home entrances are connected to a network of sidewalks leading to parking bays and passive/active amenities. See sheets L-01 through L-10, and DR-03 through DR-06.
	The project provides pedestrian connections from all entrances to common open space, recreation facilities, and other project amenities.	
56	**Continuous Sidewalks:**	There is sidewalk on both sides of the streets. See sheets L-01 through L-10 and DR-03 through DR-06.
	The project provides continuous sidewalks along both sides of the street frontage(s). (GP Policy CNF-11.9)	
	The project shall demonstrate compliance with Chapter 17.34 – Standards for Residential and Private Streets of the Morgan Hill Municipal Code by providing detached sidewalks and park strips, as required for primary residential streets, secondary residential streets and cul-de-sacs.	

	Municipal Infrastructure	
57	**Water Infrastructure:**	The water system complies with City design standards and details, and grids the existing system between Mission View Drive and Half Road. See sheets TM-11 & TM-12.
	The project provides local water distribution lines to serve the proposed project and designed in accordance with accepted engineering principles and shall conform to the City's Design Standards and Standard Details.	
	All unused existing water services stubbed to the property shall be abandoned at the water main pursuant to city standards.	
	Note: For corner parcels, where existing water services are stubbed to the property along both street frontages; the water services along the secondary street shall be utilized and the remaining unused existing water services shall be abandoned at the water main pursuant to city standards.	
	The project proposes water infrastructure improvements consistent with the City's Water System Master Plan, approved by the City Engineer or designee.	
58	**Wastewater Infrastructure:**	The wastewater collection system complies with City design standards and details. Wastewater is collected throughout the project, then gravity drains through future DePaul and existing Condit to a connection at Condit and East Main. See sheets TM-11, TM-12, and TM-14.
	A sufficient wastewater collection system is provided to serve the proposed project and designed in accordance with accepted engineering principles and shall conform to the City's Design Standards and Standard Details	
	All unused existing sewer laterals stubbed to the property shall be abandoned at the sewer main per city standards.	
	Note: For corner parcels, where existing sewer laterals are stubbed to the property along both street frontages; the sewer lateral(s) along the secondary street shall be utilized and the remaining unused existing sewer lateral(s) shall be abandoned at the sewer main per city standards.	
	The project proposes wastewater infrastructure improvements consistent with the City's Sewer System Master Plan, approved by the City Engineer or designee. (GP Policy NRE-8.4)	
59	**Storm Drainage Infrastructure:**	Please see TM-11, TM-12, and TM-13, as well as the preliminary stormwater document provided with the application.
	A sufficient storm drainage collection system is provided to serve the project and designed to be capable of handling a 10-year storm without local flooding. On-site detention facilities shall be designed to a 25-year storm capacity. Streets shall be designed to carry a 100-year storm. (GP Policies SSI-16.2 and SSI-16.3)	
	The project proposes storm drainage infrastructure improvements consistent with the City's Storm Drainage Master Plan.	
	The project has demonstrated compliance by providing a complete storm drainage study showing amount of run-off and existing and proposed drainage structure capacities reviewed and approved by the City Engineer or designee.	
60	**Storm Water Infrastructure:**	Please see TM-11, TM-12, and TM-13, as well as the preliminary stormwater document provided with the application.
	If the project is creating and/or replacing 2,500 square feet or more of impervious surface, project complies with the California Regional Water Quality Control Board Central Coast Region Resolution No. R3-2013-0032 as documented by the Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements. A copy of the guidance manual can obtained through the following link: https://www.morganhill.ca.gov/DocumentCenter/View/12671/Storm-Water-Management-GuidanceManual?bidId=.	
	The project has demonstrated compliance by providing a Stormwater Runoff Management Plan/Report, Stormwater Control Plan sheet, and all applicable stormwater performance certifications pursuant to the Stormwater Management Guidance Manual and reviewed and approved by the City Engineer or designee. (GP Policies SSI-16.2 and SSI-16.3)	
61	**Floodplain Development:**	According to the FEMA website, the project site is not within an area identified as Special Flood Hazard Area or a Floodway.
	If the project is located within an area identified as Special Flood Hazard Areas or Floodway areas as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), the project is subject to the floodplain management regulations specified in Chapter 15.80 (Flood Damage Prevention) of the Morgan Hill Municipal Code. The project has provided the required development review information for Floodplain Administrator review. (GP Policies SSI-5.1, 5.2, 5.3, 5.6, 5.7 and 5.8)	
	The Floodplain Administrator has reviewed the required development review information and has determined that the project complies with Chapter 15.80 of the Morgan Hill Municipal Code.	
	If the project includes the placement of fill, a flood study is submitted for review and City acceptance. Project is required to file the appropriate conditional/final FEMA Letter of Map Revision (CLOMR/LOMR or CLOMR-F/LOMR-F) as required by the results of the flood study.	
62	**Broadband Connectivity:**	Conduit is provided contiguous with the frontage of DePaul and Mission View, and throughout the project. See "Xwinds - boradband" in Supporting Documents File
	The project provides the following broadband connectivity to the project:	
	a. Broadband conduit installed in the public right-of-way to serve the project	
	b. Broadband conduit from the public right-of-way to each home or occupied building in the project.	
	c. Pre-install indoor conduit, wiring and other necessary infrastructure so that broadband service may be provided to each unit. (GP Action Items SSI-18.A and SSI-18.B)	



PLANTING LEGEND:

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
TREES							
		Acer rubrum 'Columnare'	Columnar Red Maple	24" Box	30' O.C.	Mission View Drive Street Tree	M
		Celtis sinensis	Chinese Hackberry	24" Box	30' O.C.	Standard	M
		Acer rubrum 'Columnare'	Columnar Red Maple	24" Box	30' O.C.	Depaul Drive Street Tree. Final tree to match industrial plans.	M
		Lophostemon confertus	Brisbane Box	24" Box	As shown	Standard	L
		Ginkgo biloba	Maidenhair Tree	24" Box	As shown	Standard, males only	M
		Acer x freemanii 'Jeffersed'	Autumn Blaze Red Maple	24" Box	As shown	Standard	M
		Platanus acerifolia 'Columbia'	London Plane Tree	24" Box	As shown	Standard	M
		Tristania laurina	Water Gum	24" Box	As shown	Standard	L
		Arbutus 'Marina'	Marina Madrone	24" Box	As shown	Standard	L
		Olea europaea 'Swan Hill'	Swan Hill Olive	24" Box	As shown	Multi-trunk	L
		Lyonothamnus floribunduss ssp. asplenifolius	Catalina Ironwood	24" Box	As shown	Standard, Planting Scheme A	L
		Magnolia grandiflora 'Little Gem'	Dwarf Southern Magnolia	24" Box	As shown	Standard, Planting Scheme B	M
		Laurus 'Saratoga'	Saratoga Laurel	24" Box	As shown	Standard, Planting Scheme C	L
		Pistacia chinensis	Chinese Pistache	24" Box	As shown	Standard	L
		Quercus suber	Cork Oak	24" Box	As shown	Standard	L
		Lagerstroemia indica	Crape Myrtle	24" Box	As shown	Standard	L

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
SHRUBS & GROUNDCOVERS							
		Westringia 'Wynyabie Gem'	Coast Rosemary	5 Gal	48" O.C.	-	L
		Cistus x pulverulentus 'Sunset'	Magenta Rockrose	5 Gal	48" O.C.	-	L
		Muhlenbergia rigens	Deer Grass	5 Gal	36" O.C.	-	L
		Rosmarinus officinalis 'Huntington Carpet'	Huntington Carpet Rosemary	1 Gal	60" O.C.	-	L
		Cotoneaster Lowfast	Bearberry	1 Gal	48" O.C.	-	L
		Cistus x hybridus	White Rockrose	1 Gal	48" O.C.	-	L
		Rhamnus californica 'Eve Case'	Coffeeberry	5 Gal	48" O.C.	-	L
		Lavandula x ginginsii 'Goodwin Creek Gray'	Goodwin Creek Gray Lavender	1 Gal	36" O.C.	-	L
		Arctostaphylos 'Emerald Carpet'	Emerald Carpet Manzanita	1 Gal	36" O.C.	-	L
		Ilex crenata 'Sky Pencil'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	M/L
		Podocarpus macrophyllus 'Maki'	Shrubby yew Podocarpus	5 Gal	As shown	Planting Scheme B	M/L
		Cupressus sempervirens 'Monshel'	Tiny Tower Italian Cypress	5 Gal	As shown	Planting Scheme C	L
		Callistemon 'Little John'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	L
		Rhaphiolepis indica 'Clara'	Indian Hawthorn	5 Gal	36" O.C.	Planting Scheme B	L
		Myrtus communis 'Compacta'	Dwarf Myrtle	5 Gal	36" O.C.	Planting Scheme C	L
		Salvia leucantha	Purple Mexican Sage	5 Gal	48" O.C.	-	L
		Phormium tenax 'Jack Spratt'	Jack Spratt New Zealand Flax	1 Gal	18" O.C.	-	L

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
SHRUBS & GROUNDCOVERS							
		Gazania Red	Red Gazania	1 Gal	24" O.C.	Planting Scheme A	L
		Ceanothus 'Centennial'	Centennial Ceanothus	1 Gal	60" O.C.	Planting Scheme B	L
		Geranium incanum	Cranesbill	1 Gal	24" O.C.	Planting Scheme C	L
		Phormium 'Duet'	Dwarf Variegated Flax	1 Gal	36" O.C.	Planting Scheme A	L
		Dietes bicolor	Fortnight Lily	1 Gal	36" O.C.	Planting Scheme B	L
		Festuca mairei	Atlas Fescue	1 Gal	36" O.C.	Planting Scheme C	L
		Lantana montevidensis 'Alba'	White Trailing Lantana	1 Gal	60" O.C.	Planting Scheme A	L
		Nandina domestica 'Harbour Dwarf'	Harbour Dward Heavenly Bamboo	1 Gal	36" O.C.	Planting Scheme B	L
		Salvia 'Bee's Bliss'	Bee's Bliss Sage	1 Gal	60" O.C.	Planting Scheme C	L
		Bolero Plus available from Delta Bluegrass Co		Sod	-	-	H/M
		Nandina domestica	Heavenly Bamboo	5 Gal	36" O.C.	-	L
		Buxus sempervirens 'Suffruticosa'	Dwarf English Boxwood	5 Gal	30" O.C.	-	L
		Rhaphiolepis umbellata 'Minor'	Dwarf Yeddo Hawthorn	5 Gal	36" O.C.	-	L
		Carex pansa	Dune Sedge	1 Gal	12" O.C.	-	L
		Agave 'Blue Glow'	Blue Glow Agave	5 Gal	36" O.C.	-	L
		Festuca glauca 'Elijah Blue'	Elijah Blue Fescue	1 Gal	12" O.C.	-	L

GENERAL NOTES:

1. Tree and shrub layout is conceptual in nature. Final plant locations and species are subject to City review and final design refinement.
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0 60 120 180
SCALE IN FEET: 1"= 60'

SR 2020-0020

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DIVIDEND
385 WOODVIEW AVE, SUITE 100
MORGAN HILL, CA 95037

DESIGN REVIEW PERMIT
PRELIMINARY LANDSCAPE INDEX SHEET
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

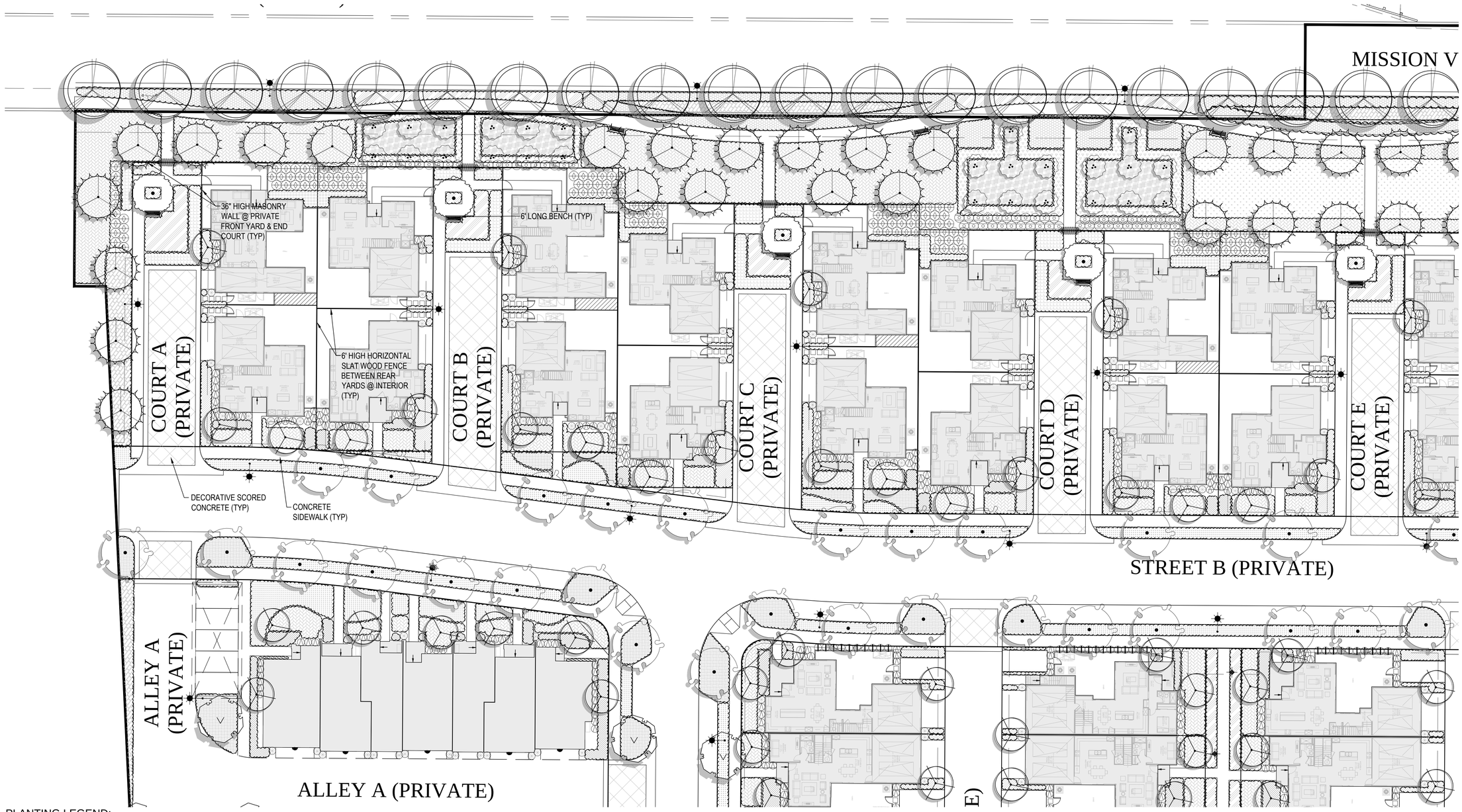
SCALE: AS SHOWN
DATE: AUG. 25, 2020

DATE	BY	CK
4-26-2023	JAM	RD

SHEET REVISIONS
MISC. REVISIONS PER CITY COMMENTS

SHEET
L-01
OF 33 SHEETS

JOB NO.
182032-2001



PLANTING LEGEND:

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
TREES							
		Acer rubrum 'Columnare'	Columnar Red Maple	24" Box	30' O.C.	Mission View Drive Street Tree	M
		Celtis sinensis	Chinese Hackberry	24" Box	30' O.C.	Standard	M
		Acer rubrum 'Columnare'	Columnar Red Maple	24" Box	30' O.C.	Depaul Drive Street Tree. Final tree to match industrial plans.	M
		Lophostemon confertus	Brisbane Box	24" Box	As shown	Standard	L
		Ginkgo biloba	Maidenhair Tree	24" Box	As shown	Standard, males only	M
		Acer x freemanii 'Jeffersed'	Autumn Blaze Red Maple	24" Box	As shown	Standard	M
		Platanus acerifolia 'Columbia'	London Plane Tree	24" Box	As shown	Standard	M
		Tristania laurina	Water Gum	24" Box	As shown	Standard	L
		Arbutus 'Marina'	Marina Madrone	24" Box	As shown	Standard	L
		Olea europaea 'Swan Hill'	Swan Hill Olive	24" Box	As shown	Multi-trunk	L
		Lyonothamnus floribundus ssp. asplenifolius	Catalina Ironwood	24" Box	As shown	Standard, Planting Scheme A	L
		Magnolia grandiflora 'Little Gem'	Dwarf Southern Magnolia	24" Box	As shown	Standard, Planting Scheme B	M
		Laurus 'Saratoga'	Saratoga Laurel	24" Box	As shown	Standard, Planting Scheme C	L
		Pistacia chinensis	Chinese Pistache	24" Box	As shown	Standard	L
		Quercus suber	Cork Oak	24" Box	As shown	Standard	L
		Lagerstroemia indica	Crape Myrtle	24" Box	As shown	Standard	L

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
SHRUBS & GROUNDCOVERS							
		Westringia 'Wynyabie Gem'	Coast Rosemary	5 Gal	48" O.C.	-	L
		Cistus x pulverulentus 'Sunset'	Magenta Rockrose	5 Gal	48" O.C.	-	L
		Muhlenbergia rigens	Deer Grass	5 Gal	36" O.C.	-	L
		Rosmarinus officinalis 'Huntington Carpet'	Huntington Carpet Rosemary	1 Gal	60" O.C.	-	L
		Cotoneaster Lowfast	Bearberry	1 Gal	48" O.C.	-	L
		Cistus x hybridus	White Rockrose	1 Gal	48" O.C.	-	L
		Rhamnus californica 'Eve Case'	Coffeeberry	5 Gal	48" O.C.	-	L
		Lavandula x ginginsii 'Goodwin Creek Gray'	Goodwin Creek Gray Lavender	1 Gal	36" O.C.	-	L
		Arctostaphylos 'Emerald Carpet'	Emerald Carpet Manzanita	1 Gal	36" O.C.	-	L
		Ilex crenata 'Sky Pencil'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	M/L
		Podocarpus macrophyllus 'Maki'	Shrubby yew Podocarpus	5 Gal	As shown	Planting Scheme B	M/L
		Cupressus sempervirens 'Monshel'	Tiny Tower Italian Cypress	5 Gal	As shown	Planting Scheme C	L
		Callistemon 'Little John'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	L
		Rhaphiolepis indica 'Clara'	Indian Hawthorn	5 Gal	36" O.C.	Planting Scheme B	L
		Myrtus communis 'Compacta'	Dwarf Myrtle	5 Gal	36" O.C.	Planting Scheme C	L
		Salvia leucantha	Purple Mexican Sage	5 Gal	48" O.C.	-	L
		Phormium tenax 'Jack Spratt'	Jack Spratt New Zealand Flax	1 Gal	18" O.C.	-	L

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
SHRUBS & GROUNDCOVERS							
		Gazania Red	Red Gazania	1 Gal	24" O.C.	Planting Scheme A	L
		Ceanothus 'Centennial'	Centennial Ceanothus	1 Gal	60" O.C.	Planting Scheme B	L
		Geranium incanum	Cranesbill	1 Gal	24" O.C.	Planting Scheme C	L
		Phormium 'Duet'	Dwarf Variegated Flax	1 Gal	36" O.C.	Planting Scheme A	L
		Dietes bicolor	Fortnight Lily	1 Gal	36" O.C.	Planting Scheme B	L
		Festuca mairei	Atlas Fescue	1 Gal	36" O.C.	Planting Scheme C	L
		Lantana montevidensis 'Alba'	White Trailing Lantana	1 Gal	60" O.C.	Planting Scheme A	L
		Nandina domestica 'Harbour Dwarf'	Harbour Dward Heavenly Bamboo	1 Gal	36" O.C.	Planting Scheme B	L
		Salvia 'Bee's Bliss'	Bee's Bliss Sage	1 Gal	60" O.C.	Planting Scheme C	L
		Bolero Plus available from Delta Bluegrass Co		Sod	-	-	H/M
		Nandina domestica	Heavenly Bamboo	5 Gal	36" O.C.	-	L
		Buxus sempervirens 'Suffruticosa'	Dwarf English Boxwood	5 Gal	30" O.C.	-	L
		Rhaphiolepis umbellata 'Minor'	Dwarf Yeddo Hawthorn	5 Gal	36" O.C.	-	L
		Carex pansa	Dune Sedge	1 Gal	12" O.C.	-	L
		Agave 'Blue Glow'	Blue Glow Agave	5 Gal	36" O.C.	-	L
		Festuca glauca 'Elijah Blue'	Elijah Blue Fescue	1 Gal	12" O.C.	-	L

GENERAL NOTES:

1. Tree and shrub layout is conceptual in nature. Final plant locations and species are subject to City review and final design refinement.
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0 20 40 60

SCALE IN FEET: 1"= 20'

DECORATIVE SCORED CONCRETE PAVEMENT

VEHICULAR PAVEMENT

BROOM FINISH CONCRETE PAVEMENT

PEDESTRIAN PAVEMENT

SR 2020-0020

RUGGERI-JENSEN-AZAR
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815 E. ALAMO, ARGYO GLORY, CA 95021
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DIVIDEND
385 WOODVIEW AVE, SUITE 100
MORGAN HILL, CA 95037

DESIGN REVIEW PERMIT
PRELIMINARY LANDSCAPE PLAN

THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

SCALE	DATE
AS SHOWN	AUG. 25, 2020

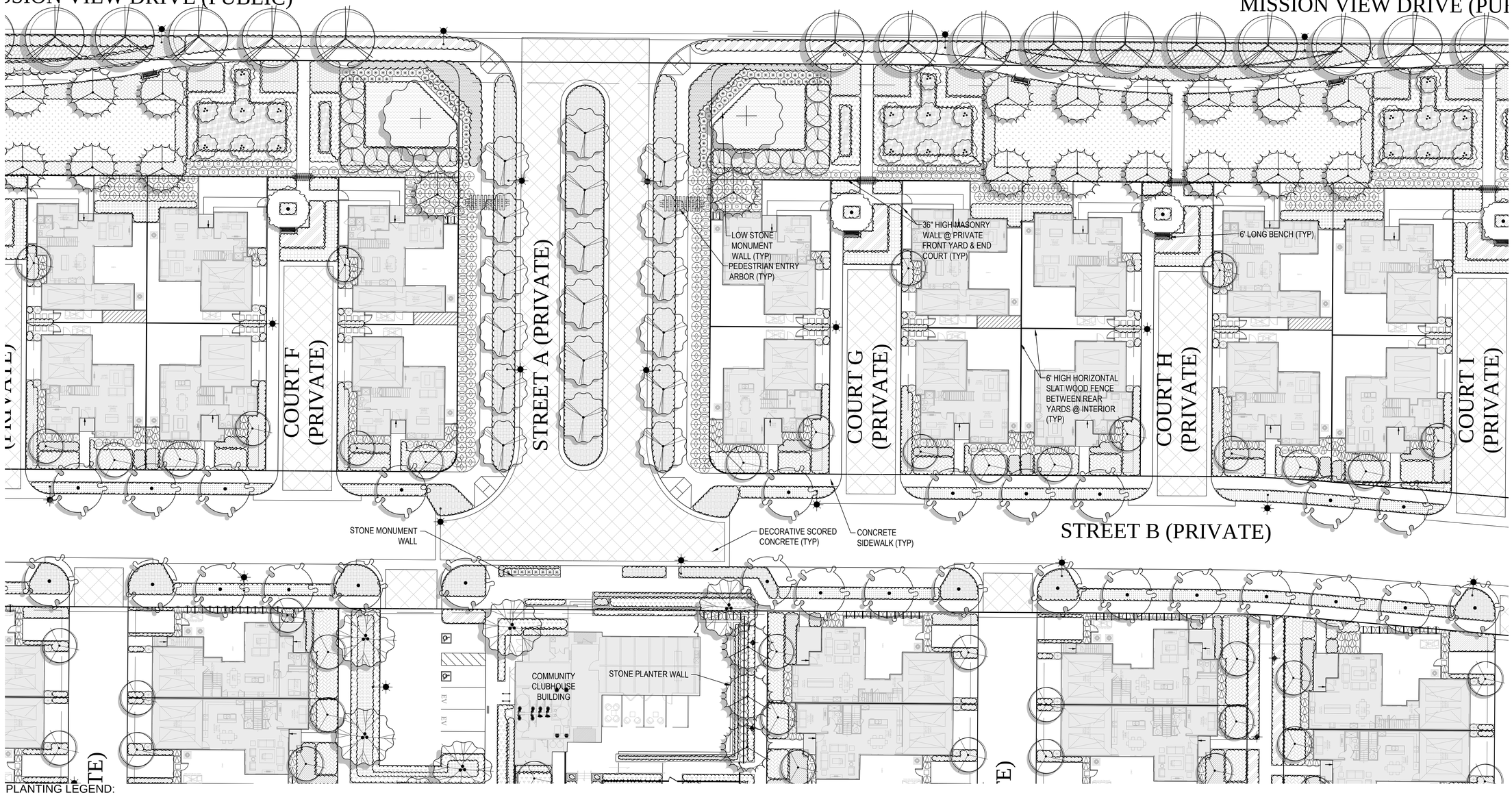
DATE	BY	CK

SHEET REVISIONS

MK

SHEET
L-02
OF 33 SHEETS

JOB NO.
182032-2001



PLANTING LEGEND:

SYMBOL / CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
TREES						
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	Celtis sinensis	Chinese Hackberry	24" Box	30' O.C.	Standard	M
	Acer rubrum 'Columnare'	Columnar Red Maple	24" Box	30' O.C.	Depaul Drive Street Tree. Final tree to match industrial plans.	M
	Lophostemon confertus	Brisbane Box	24" Box	As shown	Standard	L
	Ginkgo biloba	Maidenhair Tree	24" Box	As shown	Standard, males only	M
	Acer x freemanii 'Jeffersed'	Autumn Blaze Red Maple	24" Box	As shown	Standard	M
	Platanus acerifolia 'Columbia'	London Plane Tree	24" Box	As shown	Standard	M
	Tristania laurina	Water Gum	24" Box	As shown	Standard	L
	Arbutus 'Marina'	Marina Madrone	24" Box	As shown	Standard	L
	Olea europaea 'Swan Hill'	Swan Hill Olive	24" Box	As shown	Multi-trunk	L
	Lyonothamnus floribundus ssp. asplenifolius	Catalina Ironwood	24" Box	As shown	Standard, Planting Scheme A	L
	Magnolia grandiflora 'Little Gem'	Dwarf Southern Magnolia	24" Box	As shown	Standard, Planting Scheme B	M
	Laurus 'Saratoga'	Saratoga Laurel	24" Box	As shown	Standard, Planting Scheme C	L
	Pistacia chinensis	Chinese Pistache	24" Box	As shown	Standard	L
	Quercus suber	Cork Oak	24" Box	As shown	Standard	L
	Lagerstroemia indica	Crape Myrtle	24" Box	As shown	Standard	L

SYMBOL / CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
SHRUBS & GROUNDCOVERS						
	Westringia 'Wynyabie Gem'	Coast Rosemary	5 Gal	48" O.C.	-	L
	Cistus x pulverulentus 'Sunset'	Magenta Rockrose	5 Gal	48" O.C.	-	L
	Muhlenbergia rigens	Deer Grass	5 Gal	36" O.C.	-	L
	Rosmarinus officinalis 'Huntington Carpet'	Huntington Carpet Rosemary	1 Gal	60" O.C.	-	L
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	Cistus x hybridus	White Rockrose	1 Gal	48" O.C.	-	L
	Rhamnus californica 'Eve Case'	Coffeeberry	5 Gal	48" O.C.	-	L
	Lavandula x gingisii 'Goodwin Creek Gray'	Goodwin Creek Gray Lavender	1 Gal	36" O.C.	-	L
	Arctostaphylos 'Emerald Carpet'	Emerald Carpet Manzanita	1 Gal	36" O.C.	-	L
	Ilex crenata 'Sky Pencil'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	M/L
	Podocarpus macrophyllus 'Maki'	Shrubby yew Podocarpus	5 Gal	As shown	Planting Scheme B	M/L
	Cupressus sempervirens 'Monshel'	Tiny Tower Italian Cypress	5 Gal	As shown	Planting Scheme C	L
	Callistemon 'Little John'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	L
	Rhaphiolepis indica 'Clara'	Indian Hawthorn	5 Gal	36" O.C.	Planting Scheme B	L
	Myrtus communis 'Compacta'	Dwarf Myrtle	5 Gal	36" O.C.	Planting Scheme C	L
	Salvia leucantha	Purple Mexican Sage	5 Gal	48" O.C.	-	L
	Phormium tenax 'Jack Spratt'	Jack Spratt New Zealand Flax	1 Gal	18" O.C.	-	L

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SHRUBS & GROUNDCOVERS						
	Gazania Red	Red Gazania	1 Gal	24" O.C.	Planting Scheme A	L
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	Geranium incanum	Cranesbill	1 Gal	24" O.C.	Planting Scheme C	L
	Phormium 'Duet'	Dwarf Variegated Flax	1 Gal	36" O.C.	Planting Scheme A	L
	Dietes bicolor	Fortnight Lily	1 Gal	36" O.C.	Planting Scheme B	L
	Festuca mairei	Atlas Fescue	1 Gal	36" O.C.	Planting Scheme C	L
	Lantana montevidensis 'Alba'	White Trailing Lantana	1 Gal	60" O.C.	Planting Scheme A	L
	Nandina domestica 'Harbour Dwarf'	Harbour Dwarf Heavenly Bamboo	1 Gal	36" O.C.	Planting Scheme B	L
	Salvia 'Bee's Bliss'	Bee's Bliss Sage	1 Gal	60" O.C.	Planting Scheme C	L
	Bolero Plus available from Delta Bluegrass Co		Sod	-	-	H/M
	Nandina domestica	Heavenly Bamboo	5 Gal	36" O.C.	-	L
	Buxus sempervirens 'Suffruticosa'	Dwarf English Boxwood	5 Gal	30" O.C.	-	L
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	Carex pansa	Dune Sedge	1 Gal	12" O.C.	-	L
	Agave 'Blue Glow'	Blue Glow Agave	5 Gal	36" O.C.	-	L
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SR 2020-0020

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MORGAN HILL, CA 95037

DESIGN REVIEW PERMIT
PRELIMINARY LANDSCAPE PLAN

THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

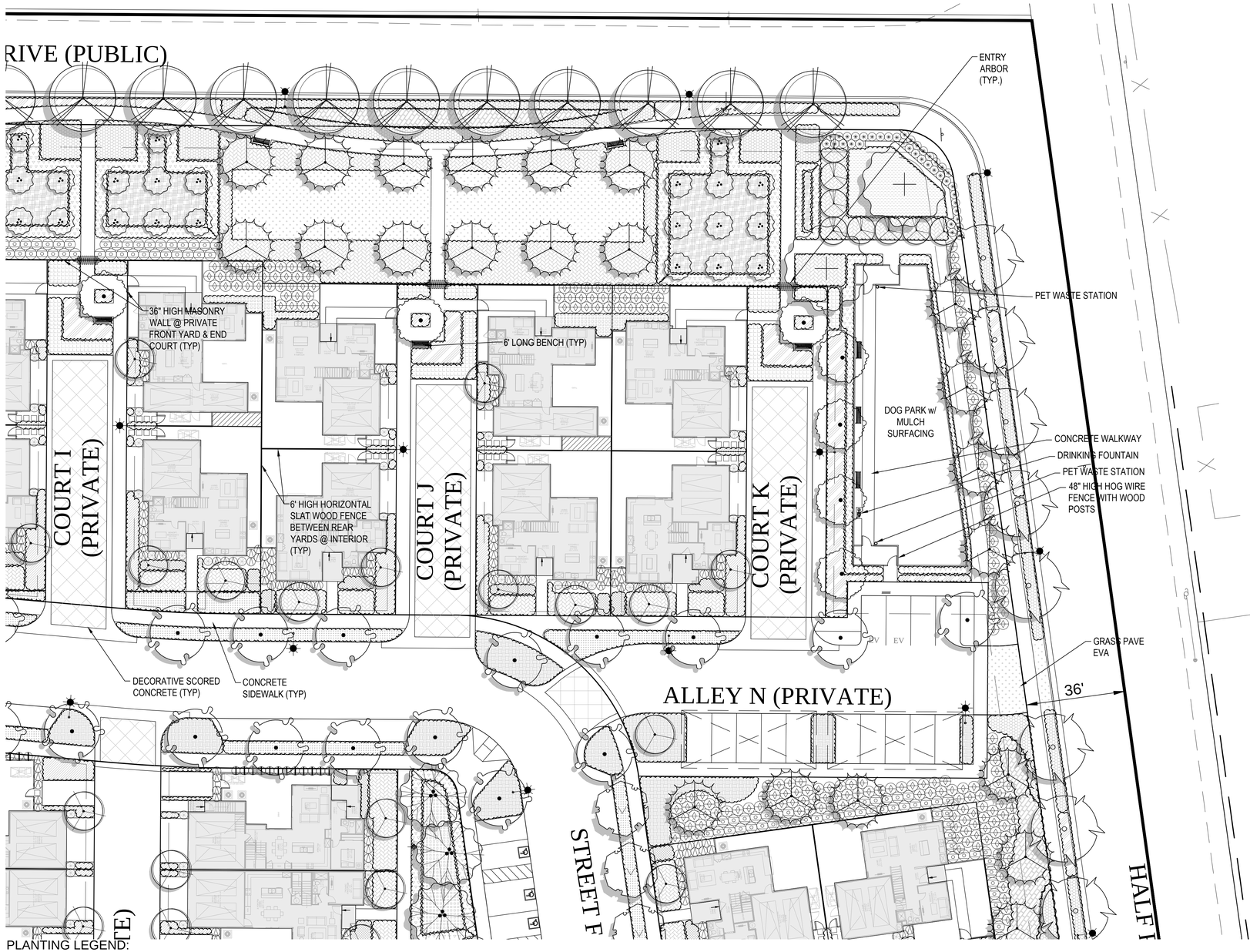
DATE	BY	CK
4-28-2023	JAM	MK

SHEET REVISIONS
MISC. REVISIONS PER CITY COMMENTS

SCALE: AS SHOWN
DATE: AUG. 25, 2020

SHEET
L-03
OF 33 SHEETS

JOB NO.
182032-2001



ENTRY ARBOR CONCEPT (AT LOTS FACING MISSION VIEW DRIVE AND HALF ROAD)

ENTRY ARBOR CONCEPT (AT STREET A)

CARPORT CONCEPT

PLANTING LEGEND:

SYMBOL / CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
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	Lyonothamnus floribundus ssp. asplenifolius	Catalina Ironwood	24" Box	As shown	Standard, Planting Scheme A	L
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	Pistacia chinensis	Chinese Pistache	24" Box	As shown	Standard	L
	Quercus suber	Cork Oak	24" Box	As shown	Standard	L
	Lagerstroemia indica	Crape Myrtle	24" Box	As shown	Standard	L

SYMBOL / CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
SHRUBS & GROUNDCOVERS						
W	Westringia 'Wynyabie Gem'	Coast Rosemary	5 Gal	48" O.C.	-	L
	Cistus x pulverulentus 'Sunset'	Magenta Rockrose	5 Gal	48" O.C.	-	L
	Muhlenbergia rigens	Deer Grass	5 Gal	36" O.C.	-	L
	Rosmarinus officinalis 'Huntington Carpet'	Huntington Carpet Rosemary	1 Gal	60" O.C.	-	L
	Cotoneaster Lowfast	Bearberry	1 Gal	48" O.C.	-	L
	Cistus x hybridus	White Rockrose	1 Gal	48" O.C.	-	L
	Rhamnus californica 'Eve Case'	Coffeeberry	5 Gal	48" O.C.	-	L
	Lavandula x ginginsii 'Goodwin Creek Gray'	Goodwin Creek Gray Lavender	1 Gal	36" O.C.	-	L
	Arctostaphylos 'Emerald Carpet'	Emerald Carpet Manzanita	1 Gal	36" O.C.	-	L
	Ilex crenata 'Sky Pencil'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	M/L
	Podocarpus macrophyllus 'Maki'	Shrubby yew Podocarpus	5 Gal	As shown	Planting Scheme B	M/L
	Cupressus sempervirens 'Monshel'	Tiny Tower Italian Cypress	5 Gal	As shown	Planting Scheme C	L
	Callistemon 'Little John'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	L
	Rhaphiolepis indica 'Clara'	Indian Hawthorn	5 Gal	36" O.C.	Planting Scheme B	L
	Myrtus communis 'Compacta'	Dwarf Myrtle	5 Gal	36" O.C.	Planting Scheme C	L
	Salvia leucantha	Purple Mexican Sage	5 Gal	48" O.C.	-	L
	Phormium tenax 'Jack Spratt'	Jack Spratt New Zealand Flax	1 Gal	18" O.C.	-	L

SYMBOL / CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
SHRUBS & GROUNDCOVERS						
	Gazania Red	Red Gazania	1 Gal	24" O.C.	Planting Scheme A	L
	Ceanothus 'Centennial'	Centennial Ceanothus	1 Gal	60" O.C.	Planting Scheme B	L
	Geranium incanum	Cranesbill	1 Gal	24" O.C.	Planting Scheme C	L
	Phormium 'Duet'	Dwarf Variegated Flax	1 Gal	36" O.C.	Planting Scheme A	L
	Dietes bicolor	Fortnight Lily	1 Gal	36" O.C.	Planting Scheme B	L
	Festuca mairei	Atlas Fescue	1 Gal	36" O.C.	Planting Scheme C	L
	Lantana montevidensis 'Alba'	White Trailing Lantana	1 Gal	60" O.C.	Planting Scheme A	L
	Nandina domestica 'Harbour Dwarf'	Harbour Dwarf Heavenly Bamboo	1 Gal	36" O.C.	Planting Scheme B	L
	Salvia 'Bee's Bliss'	Bee's Bliss Sage	1 Gal	60" O.C.	Planting Scheme C	L
	Bolero Plus available from Delta Bluegrass Co		Sod	-	-	H/M
	Nandina domestica	Heavenly Bamboo	5 Gal	36" O.C.	-	L
	Buxus sempervirens 'Suffruticosa'	Dwarf English Boxwood	5 Gal	30" O.C.	-	L
	Rhaphiolepis umbellata 'Minor'	Dwarf Yeddo Hawthorn	5 Gal	36" O.C.	-	L
	Carex pansa	Dune Sedge	1 Gal	12" O.C.	-	L
	Agave 'Blue Glow'	Blue Glow Agave	5 Gal	36" O.C.	-	L
	Festuca glauca 'Elijah Blue'	Elijah Blue Fescue	1 Gal	12" O.C.	-	L

GENERAL NOTES:

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SCALE IN FEET: 1"= 20'

SR 2020-0020

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MORGAN HILL, CA 95037

DESIGN REVIEW PERMIT
PRELIMINARY LANDSCAPE PLAN

THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

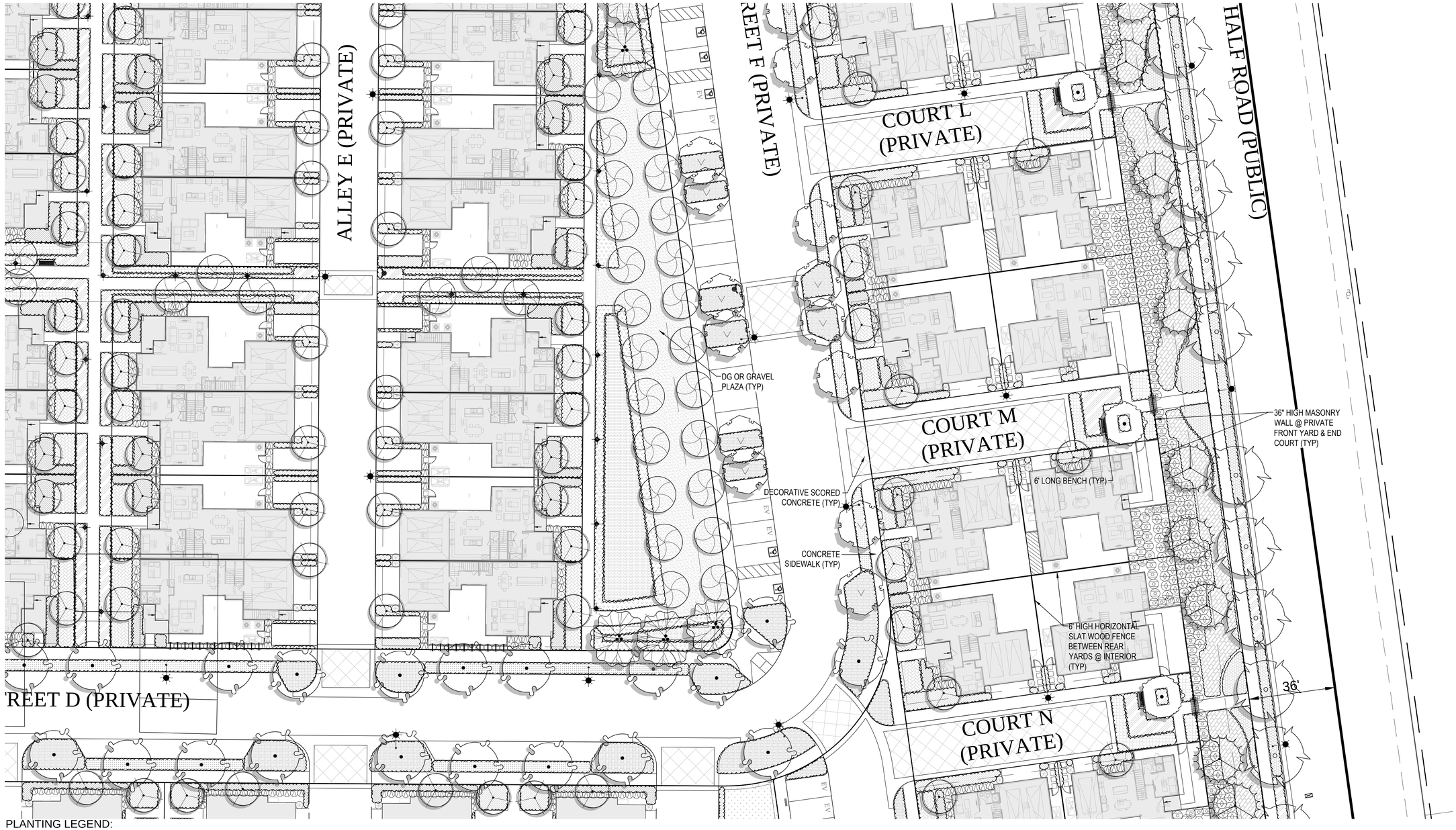
DATE	BY	CK
4-28-2023	JAM	RD

SHEET REVISIONS
MISC. REVISIONS PER CITY COMMENTS

SCALE: AS SHOWN
DATE: AUG. 25, 2020

SHEET
L-04
OF 33 SHEETS

JOB NO.
182032-2001



PLANTING LEGEND:

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
		TREES					
		Acer rubrum 'Columnare'	Columnar Red Maple	24" Box	30' O.C.	Mission View Drive Street Tree	M
		Celtis sinensis	Chinese Hackberry	24" Box	30' O.C.	Standard	M
		Acer rubrum 'Columnare'	Columnar Red Maple	24" Box	30' O.C.	Depaul Drive Street Tree. Final tree to match industrial plans.	M
		Lophostemon confertus	Brisbane Box	24" Box	As shown	Standard	L
		Ginkgo biloba	Maidenhair Tree	24" Box	As shown	Standard, males only	M
		Acer x freemanii 'Jeffersed'	Autumn Blaze Red Maple	24" Box	As shown	Standard	M
		Platanus acerifolia 'Columbia'	London Plane Tree	24" Box	As shown	Standard	M
		Tristania laurina	Water Gum	24" Box	As shown	Standard	L
		Arbutus 'Marina'	Marina Madrone	24" Box	As shown	Standard	L
		Olea europaea 'Swan Hill'	Swan Hill Olive	24" Box	As shown	Multi-trunk	L
		Lyonothamnus floribundus ssp. asplenifolius	Catalina Ironwood	24" Box	As shown	Standard, Planting Scheme A	L
		Magnolia grandiflora 'Little Gem'	Dwarf Southern Magnolia	24" Box	As shown	Standard, Planting Scheme B	M
		Laurus 'Saratoga'	Saratoga Laurel	24" Box	As shown	Standard, Planting Scheme C	L
		Pistacia chinensis	Chinese Pistache	24" Box	As shown	Standard	L
		Quercus suber	Cork Oak	24" Box	As shown	Standard	L
		Lagerstroemia indica	Crape Myrtle	24" Box	As shown	Standard	L

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
		SHRUBS & GROUNDCOVERS					
		Westringia 'Wynyabie Gem'	Coast Rosemary	5 Gal	48" O.C.	-	L
		Cistus x pulverulentus 'Sunset'	Magenta Rockrose	5 Gal	48" O.C.	-	L
		Muhlenbergia rigens	Deer Grass	5 Gal	36" O.C.	-	L
		Rosmarinus officinalis 'Huntington Carpet'	Huntington Carpet Rosemary	1 Gal	60" O.C.	-	L
		Cotoneaster Lowfast	Bearberry	1 Gal	48" O.C.	-	L
		Cistus x hybridus	White Rockrose	1 Gal	48" O.C.	-	L
		Rhamnus californica 'Eve Case'	Coffeeberry	5 Gal	48" O.C.	-	L
		Lavandula x ginginsii 'Goodwin Creek Gray'	Goodwin Creek Gray Lavender	1 Gal	36" O.C.	-	L
		Arctostaphylos 'Emerald Carpet'	Emerald Carpet Manzanita	1 Gal	36" O.C.	-	L
		Ilex crenata 'Sky Pencil'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	M/L
		Podocarpus macrophyllus 'Maki'	Shrubby yew Podocarpus	5 Gal	As shown	Planting Scheme B	M/L
		Cupressus sempervirens 'Monshel'	Tiny Tower Italian Cypress	5 Gal	As shown	Planting Scheme C	L
		Callistemon 'Little John'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	L
		Rhaphiolepis indica 'Clara'	Indian Hawthorn	5 Gal	36" O.C.	Planting Scheme B	L
		Myrtus communis 'Compacta'	Dwarf Myrtle	5 Gal	36" O.C.	Planting Scheme C	L
		Salvia leucantha	Purple Mexican Sage	5 Gal	48" O.C.	-	L
		Phormium tenax 'Jack Spratt'	Jack Spratt New Zealand Flax	1 Gal	18" O.C.	-	L

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
		SHRUBS & GROUNDCOVERS					
		Gazania Red	Red Gazania	1 Gal	24" O.C.	Planting Scheme A	L
		Ceanothus 'Centennial'	Centennial Ceanothus	1 Gal	60" O.C.	Planting Scheme B	L
		Geranium incanum	Cranesbill	1 Gal	24" O.C.	Planting Scheme C	L
		Phormium 'Duet'	Dwarf Variegated Flax	1 Gal	36" O.C.	Planting Scheme A	L
		Dietes bicolor	Fortnight Lily	1 Gal	36" O.C.	Planting Scheme B	L
		Festuca mairei	Atlas Fescue	1 Gal	36" O.C.	Planting Scheme C	L
		Lantana montevidensis 'Alba'	White Trailing Lantana	1 Gal	60" O.C.	Planting Scheme A	L
		Nandina domestica 'Harbour Dwarf'	Harbour Dwarf Heavenly Bamboo	1 Gal	36" O.C.	Planting Scheme B	L
		Salvia 'Bee's Bliss'	Bee's Bliss Sage	1 Gal	60" O.C.	Planting Scheme C	L
		Bolero Plus available from Delta Bluegrass Co		Sod	-	-	H/M
		Nandina domestica	Heavenly Bamboo	5 Gal	36" O.C.	-	L
		Buxus sempervirens 'Suffruticosa'	Dwarf English Boxwood	5 Gal	30" O.C.	-	L
		Rhaphiolepis umbellata 'Minor'	Dwarf Yeddo Hawthorn	5 Gal	36" O.C.	-	L
		Carex pansa	Dune Sedge	1 Gal	12" O.C.	-	L
		Agave 'Blue Glow'	Blue Glow Agave	5 Gal	36" O.C.	-	L
		Festuca glauca 'Elijah Blue'	Elijah Blue Fescue	1 Gal	12" O.C.	-	L

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PLAZA CONCEPT IMAGE

0 20 40 60

SCALE IN FEET: 1"= 20'

SR 2020-0020

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PRELIMINARY LANDSCAPE PLAN

THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

SCALE	DATE
AS SHOWN	AUG. 25, 2020

DATE	BY	CK
4-28-2023	JAM	RD

SHEET REVISIONS
MISC. REVISIONS PER CITY COMMENTS

SHEET
L-05
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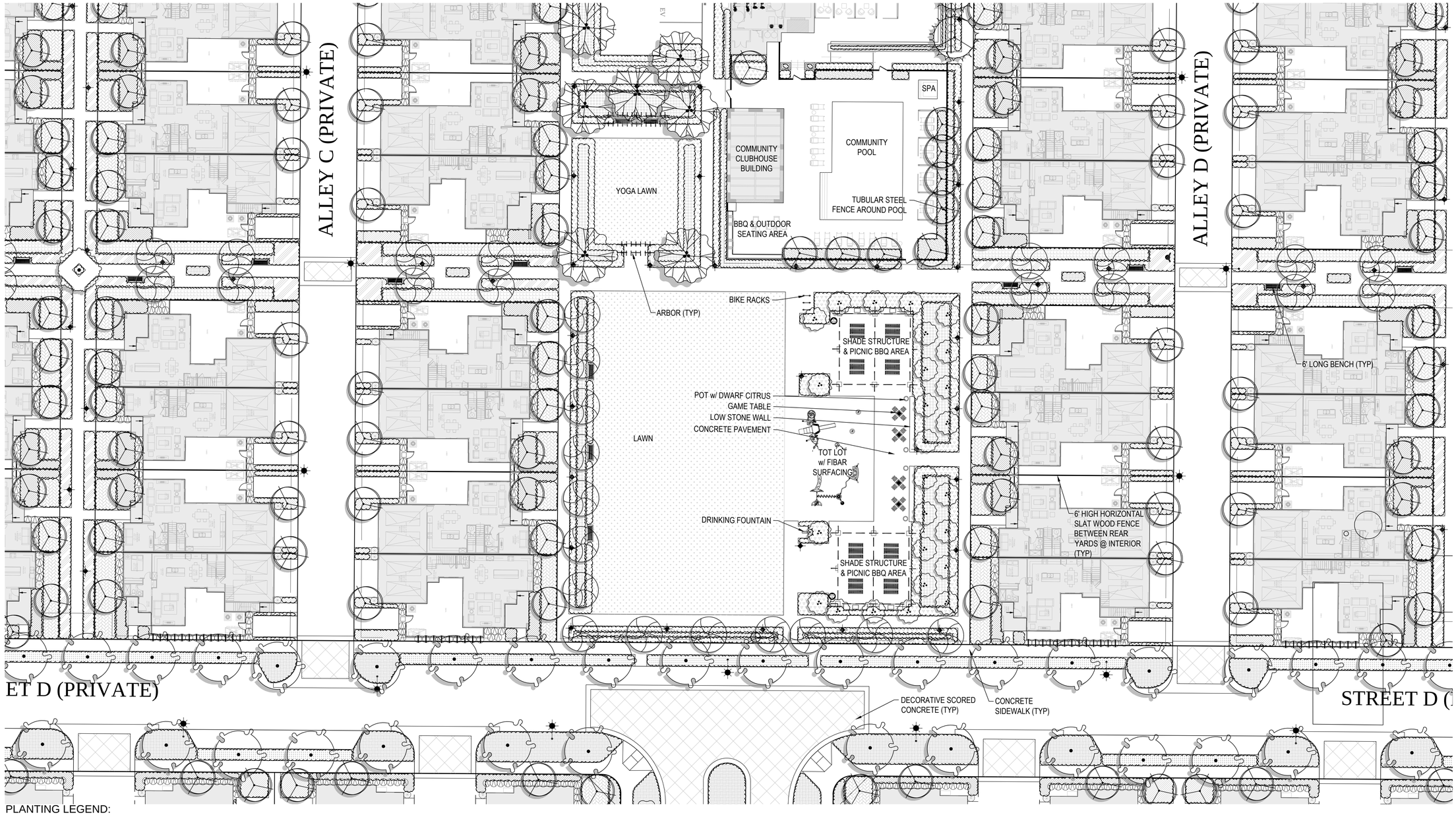
182032-2001



PLANTING LEGEND:

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
		TREES					
		Acer rubrum 'Columnare'	Columnar Red Maple	24" Box	30' O.C.	Mission View Drive Street Tree	M
		Celtis sinensis	Chinese Hackberry	24" Box	30' O.C.	Standard	M
		Acer rubrum 'Columnare'	Columnar Red Maple	24" Box	30' O.C.	Depaul Drive Street Tree. Final tree to match industrial plans.	M
		Lophostemon confertus	Brisbane Box	24" Box	As shown	Standard	L
		Ginkgo biloba	Maidenhair Tree	24" Box	As shown	Standard, males only	M
		Acer x freemanii 'Jeffersed'	Autumn Blaze Red Maple	24" Box	As shown	Standard	M
		Platanus acerifolia 'Columbia'	London Plane Tree	24" Box	As shown	Standard	M
		Tristania laurina	Water Gum	24" Box	As shown	Standard	L
		Arbutus 'Marina'	Marina Madrone	24" Box	As shown	Standard	L
		Olea europaea 'Swan Hill'	Swan Hill Olive	24" Box	As shown	Multi-trunk	L
		Lyonothamnus floribundus ssp. asplenifolius	Catalina Ironwood	24" Box	As shown	Standard, Planting Scheme A	L
		Magnolia grandiflora 'Little Gem'	Dwarf Southern Magnolia	24" Box	As shown	Standard, Planting Scheme B	M
		Laurus 'Saratoga'	Saratoga Laurel	24" Box	As shown	Standard, Planting Scheme C	L
		Pistacia chinensis	Chinese Pistache	24" Box	As shown	Standard	L
		Quercus suber	Cork Oak	24" Box	As shown	Standard	L
		Lagerstroemia indica	Crape Myrtle	24" Box	As shown	Standard	L

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
		SHRUBS & GROUNDCOVERS					
		Westringia 'Wynyabie Gem'	Coast Rosemary	5 Gal	48" O.C.	-	L
		Cistus x pulverulentus 'Sunset'	Magenta Rockrose	5 Gal	48" O.C.	-	L
		Muhlenbergia rigens	Deer Grass	5 Gal	36" O.C.	-	L
		Rosmarinus officinalis 'Huntington Carpet'	Huntington Carpet Rosemary	1 Gal	60" O.C.	-	L
		Cotoneaster Lowfast	Bearberry	1 Gal	48" O.C.	-	L
		Cistus x hybridus	White Rockrose	1 Gal	48" O.C.	-	L
		Rhamnus californica 'Eve Case'	Coffeeberry	5 Gal	48" O.C.	-	L
		Lavandula x ginginsii 'Goodwin Creek Gray'	Goodwin Creek Gray Lavender	1 Gal	36" O.C.	-	L
		Arctostaphylos 'Emerald Carpet'	Emerald Carpet Manzanita	1 Gal	36" O.C.	-	L
		Ilex crenata 'Sky Pencil'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	M/L
		Podocarpus macrophyllus 'Maki'	Shrubby yew Podocarpus	5 Gal	As shown	Planting Scheme B	M/L
		Cupressus sempervirens 'Monshel'	Tiny Tower Italian Cypress	5 Gal	As shown	Planting Scheme C	L
		Callistemon 'Little John'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	L
		Rhaphiolepis indica 'Clara'	Indian Hawthorn	5 Gal	36" O.C.	Planting Scheme B	L
		Myrtus communis 'Compacta'	Dwarf Myrtle	5 Gal	36" O.C.	Planting Scheme C	L
		Salvia leucantha	Purple Mexican Sage	5 Gal	48" O.C.	-	L
		Phormium tenax 'Jack Spratt'	Jack Spratt New Zealand Flax	1 Gal	18" O.C.	-	L

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		SHRUBS & GROUNDCOVERS					
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		Ceanothus 'Centennial'	Centennial Ceanothus	1 Gal	60" O.C.	Planting Scheme B	L
		Geranium incanum	Cranesbill	1 Gal	24" O.C.	Planting Scheme C	L
		Phormium 'Duet'	Dwarf Variegated Flax	1 Gal	36" O.C.	Planting Scheme A	L
		Dietes bicolor	Fortnight Lily	1 Gal	36" O.C.	Planting Scheme B	L
		Festuca mairei	Atlas Fescue	1 Gal	36" O.C.	Planting Scheme C	L
		Lantana montevidensis 'Alba'	White Trailing Lantana	1 Gal	60" O.C.	Planting Scheme A	L
		Nandina domestica 'Harbour Dwarf'	Harbour Dwarf Heavenly Bamboo	1 Gal	36" O.C.	Planting Scheme B	L
		Salvia 'Bee's Bliss'	Bee's Bliss Sage	1 Gal	60" O.C.	Planting Scheme C	L
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		Nandina domestica	Heavenly Bamboo	5 Gal	36" O.C.	-	L
		Buxus sempervirens 'Suffruticosa'	Dwarf English Boxwood	5 Gal	30" O.C.	-	L
		Rhaphiolepis umbellata 'Minor'	Dwarf Yeddo Hawthorn	5 Gal	36" O.C.	-	L
		Carex pansa	Dune Sedge	1 Gal	12" O.C.	-	L
		Agave 'Blue Glow'	Blue Glow Agave	5 Gal	36" O.C.	-	L
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SR 2020-0020

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MORGAN HILL, CALIFORNIA

DATE	BY	CK
4-28-2023	JAM	JAM RD

SHEET REVISIONS
MISC. REVISIONS PER CITY COMMENTS

SCALE: AS SHOWN
DATE: AUG. 25, 2020

SHEET
L-06
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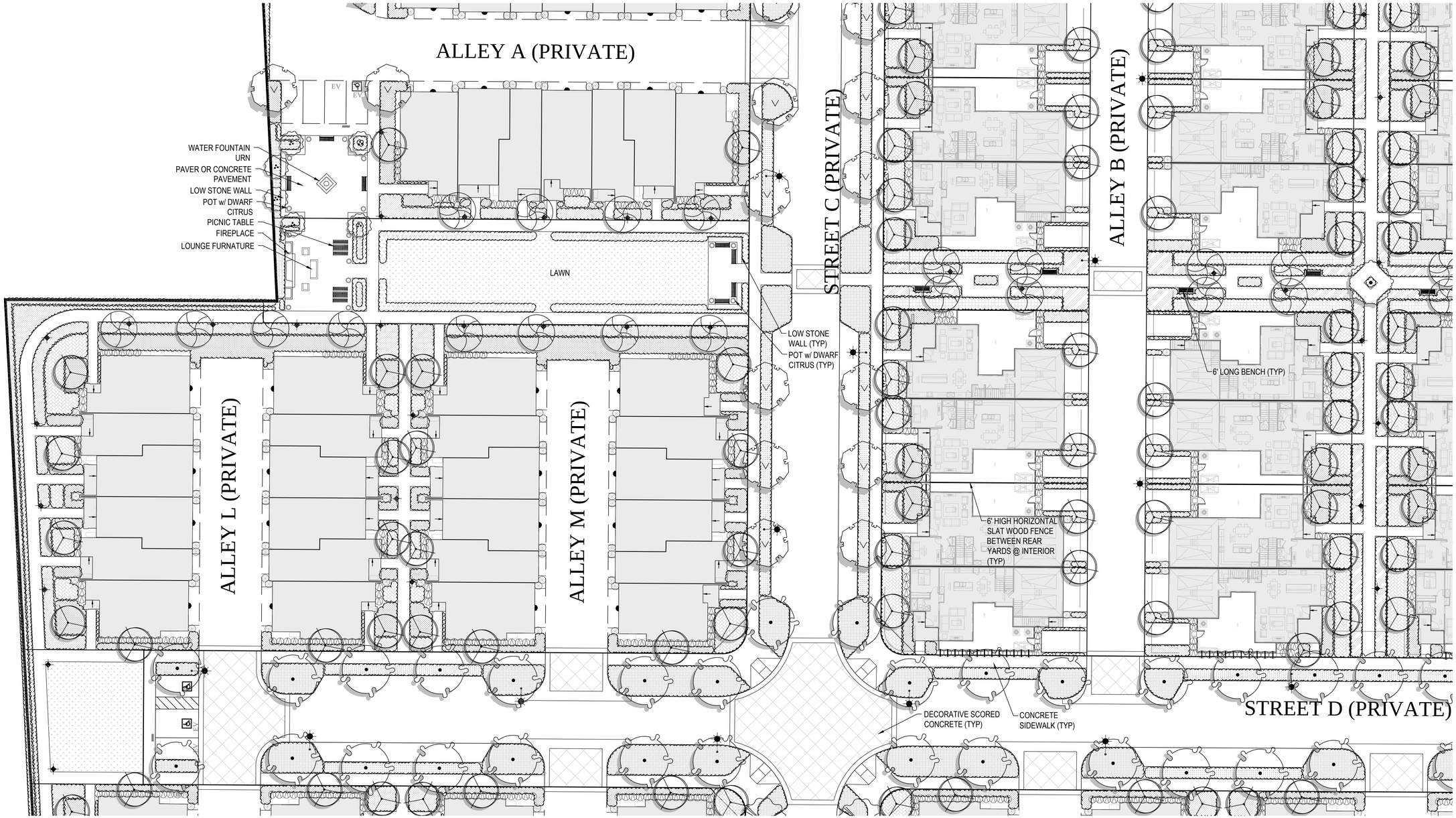

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		Arbutus 'Marina'	Marina Madrone	24" Box	As shown	Standard	L
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		Arctostaphylos 'Emerald Carpet'	Emerald Carpet Manzanita	1 Gal	36" O.C.	-	L
		Ilex crenata 'Sky Pencil'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	M/L
		Podocarpus macrophyllus 'Maki'	Shrubby yew Podocarpus	5 Gal	As shown	Planting Scheme B	M/L
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		Phormium 'Duet'	Dwarf Variegated Flax	1 Gal	36" O.C.	Planting Scheme A	L
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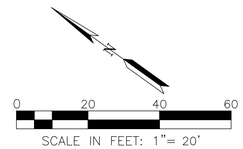
CONCRETE PAVER PAVEMENT



SR 2020-0020

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DIVIDEND
385 WOODVIEW AVE, SUITE 100
MORGAN HILL, CA 95037

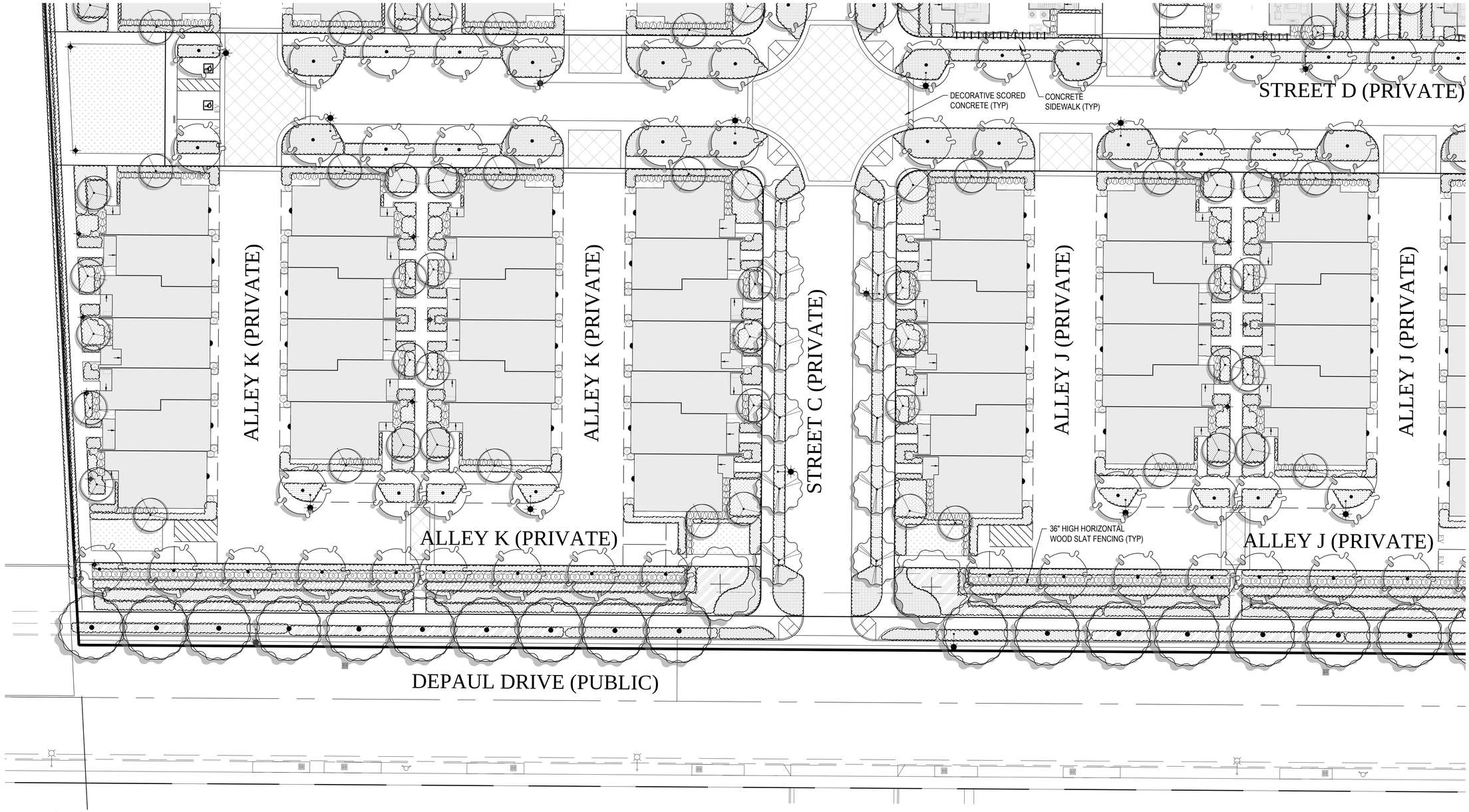
DESIGN REVIEW PERMIT
PRELIMINARY LANDSCAPE PLAN
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

DATE	MK	SHEET REVISIONS	BY	CK
4-28-2023	JAM	MISC. REVISIONS PER CITY COMMENTS	JAM	RD

SCALE: AS SHOWN
DATE: AUG. 25, 2020

SHEET
L-07
OF 33 SHEETS

JOB NO.
182032-2001



PLANTING LEGEND:

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
		TREES					
		Acer rubrum 'Columnare'	Columnar Red Maple	24" Box	30' O.C.	Mission View Drive Street Tree	M
		Celtis sinensis	Chinese Hackberry	24" Box	30' O.C.	Standard	M
		Acer rubrum 'Columnare'	Columnar Red Maple	24" Box	30' O.C.	Depaul Drive Street Tree. Final tree to match industrial plans.	M
		Lophostemon confertus	Brisbane Box	24" Box	As shown	Standard	L
		Ginkgo biloba	Maidenhair Tree	24" Box	As shown	Standard, males only	M
		Acer x freemanii 'Jeffersed'	Autumn Blaze Red Maple	24" Box	As shown	Standard	M
		Platanus acerifolia 'Columbia'	London Plane Tree	24" Box	As shown	Standard	M
		Tristania laurina	Water Gum	24" Box	As shown	Standard	L
		Arbutus 'Marina'	Marina Madrone	24" Box	As shown	Standard	L
		Olea europaea 'Swan Hill'	Swan Hill Olive	24" Box	As shown	Multi-trunk	L
		Lyonothamnus floribundus ssp. asplenifolius	Catalina Ironwood	24" Box	As shown	Standard, Planting Scheme A	L
		Magnolia grandiflora 'Little Gem'	Dwarf Southern Magnolia	24" Box	As shown	Standard, Planting Scheme B	M
		Laurus 'Saratoga'	Saratoga Laurel	24" Box	As shown	Standard, Planting Scheme C	L
		Pistacia chinensis	Chinese Pistache	24" Box	As shown	Standard	L
		Quercus suber	Cork Oak	24" Box	As shown	Standard	L
		Lagerstroemia indica	Crape Myrtle	24" Box	As shown	Standard	L

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
		SHRUBS & GROUNDCOVERS					
		Westringia 'Wynyabie Gem'	Coast Rosemary	5 Gal	48" O.C.	-	L
		Cistus x pulverulentus 'Sunset'	Magenta Rockrose	5 Gal	48" O.C.	-	L
		Muhlenbergia rigens	Deer Grass	5 Gal	36" O.C.	-	L
		Rosmarinus officinalis 'Huntington Carpet'	Huntington Carpet Rosemary	1 Gal	60" O.C.	-	L
		Cotoneaster Lowfast	Bearberry	1 Gal	48" O.C.	-	L
		Cistus x hybridus	White Rockrose	1 Gal	48" O.C.	-	L
		Rhamnus californica 'Eve Case'	Coffeeberry	5 Gal	48" O.C.	-	L
		Lavandula x ginginsii 'Goodwin Creek Gray'	Goodwin Creek Gray Lavender	1 Gal	36" O.C.	-	L
		Arctostaphylos 'Emerald Carpet'	Emerald Carpet Manzanita	1 Gal	36" O.C.	-	L
		Ilex crenata 'Sky Pencil'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	M/L
		Podocarpus macrophyllus 'Maki'	Shrubby yew Podocarpus	5 Gal	As shown	Planting Scheme B	M/L
		Cupressus sempervirens 'Monshel'	Tiny Tower Italian Cypress	5 Gal	As shown	Planting Scheme C	L
		Callistemon 'Little John'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	L
		Rhaphiolepis indica 'Clara'	Indian Hawthorn	5 Gal	36" O.C.	Planting Scheme B	L
		Myrtus communis 'Compacta'	Dwarf Myrtle	5 Gal	36" O.C.	Planting Scheme C	L
		Salvia leucantha	Purple Mexican Sage	5 Gal	48" O.C.	-	L
		Phormium tenax 'Jack Spratt'	Jack Spratt New Zealand Flax	1 Gal	18" O.C.	-	L

SYMBOL	CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
		SHRUBS & GROUNDCOVERS					
		Gazania Red	Red Gazania	1 Gal	24" O.C.	Planting Scheme A	L
		Ceanothus 'Centennial'	Centennial Ceanothus	1 Gal	60" O.C.	Planting Scheme B	L
		Geranium incanum	Cranesbill	1 Gal	24" O.C.	Planting Scheme C	L
		Phormium 'Duet'	Dwarf Variegated Flax	1 Gal	36" O.C.	Planting Scheme A	L
		Dietes bicolor	Fortnight Lily	1 Gal	36" O.C.	Planting Scheme B	L
		Festuca mairei	Atlas Fescue	1 Gal	36" O.C.	Planting Scheme C	L
		Lantana montevidensis 'Alba'	White Trailing Lantana	1 Gal	60" O.C.	Planting Scheme A	L
		Nandina domestica 'Harbour Dwarf'	Harbour Dwarf Heavenly Bamboo	1 Gal	36" O.C.	Planting Scheme B	L
		Salvia 'Bee's Bliss'	Bee's Bliss Sage	1 Gal	60" O.C.	Planting Scheme C	L
		Bolero Plus available from Delta Bluegrass Co		Sod	-	-	H/M
		Nandina domestica	Heavenly Bamboo	5 Gal	36" O.C.	-	L
		Buxus sempervirens 'Suffruticosa'	Dwarf English Boxwood	5 Gal	30" O.C.	-	L
		Rhaphiolepis umbellata 'Minor'	Dwarf Yeddo Hawthorn	5 Gal	36" O.C.	-	L
		Carex pansa	Dune Sedge	1 Gal	12" O.C.	-	L
		Agave 'Blue Glow'	Blue Glow Agave	5 Gal	36" O.C.	-	L
		Festuca glauca 'Elijah Blue'	Elijah Blue Fescue	1 Gal	12" O.C.	-	L

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1. Tree and shrub layout is conceptual in nature. Final plant locations and species are subject to City review and final design refinement.
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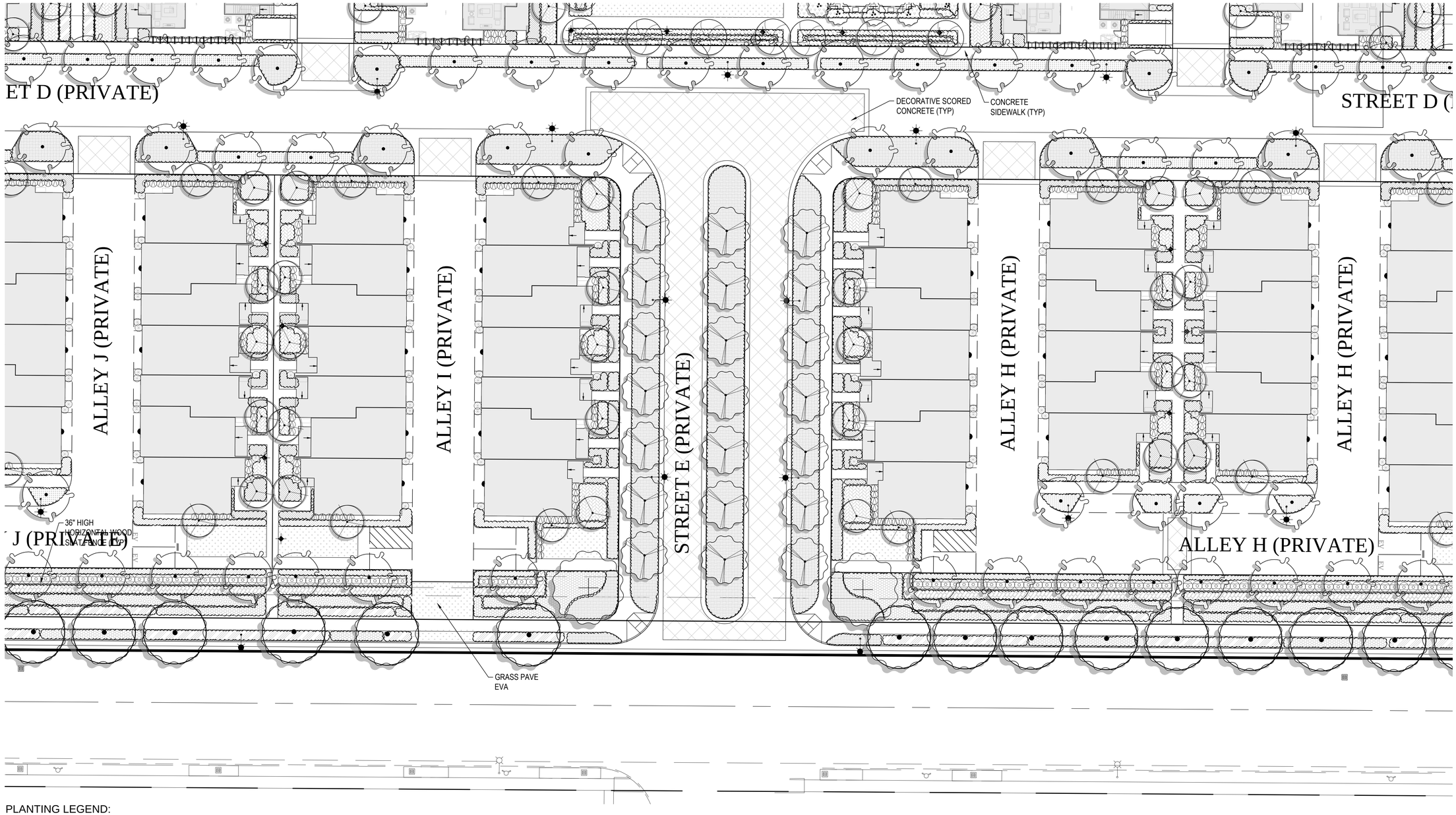

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	Acer rubrum 'Columnare'	Columnar Red Maple	24" Box	30' O.C.	Depaul Drive Street Tree. Final tree to match industrial plans.	M
	Lophostemon confertus	Brisbane Box	24" Box	As shown	Standard	L
	Ginkgo biloba	Maidenhair Tree	24" Box	As shown	Standard, males only	M
	Acer x freemanii 'Jeffersed'	Autumn Blaze Red Maple	24" Box	As shown	Standard	M
	Platanus acerifolia 'Columbia'	London Plane Tree	24" Box	As shown	Standard	M
	Tristania laurina	Water Gum	24" Box	As shown	Standard	L
	Arbutus 'Marina'	Marina Madrone	24" Box	As shown	Standard	L
	Olea europaea 'Swan Hill'	Swan Hill Olive	24" Box	As shown	Multi-trunk	L
	Lyonothamnus floribunduss ssp. asplenifolius	Catalina Ironwood	24" Box	As shown	Standard, Planting Scheme A	L
	Magnolia grandiflora 'Little Gem'	Dwarf Southern Magnolia	24" Box	As shown	Standard, Planting Scheme B	M
	Laurus 'Saratoga'	Saratoga Laurel	24" Box	As shown	Standard, Planting Scheme C	L
	Pistacia chinensis	Chinese Pistache	24" Box	As shown	Standard	L
	Quercus suber	Cork Oak	24" Box	As shown	Standard	L
	Lagerstroemia indica	Crape Myrtle	24" Box	As shown	Standard	L

SYMBOL / CALLOUT	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	COMMENTS	WATER USE
SHRUBS & GROUNDCOVERS						
	Westringia 'Wynyabie Gem'	Coast Rosemary	5 Gal	48" O.C.	-	L
	Cistus x pulverulentus 'Sunset'	Magenta Rockrose	5 Gal	48" O.C.	-	L
	Muhlenbergia rigens	Deer Grass	5 Gal	36" O.C.	-	L
	Rosmarinus officinalis 'Huntington Carpet'	Huntington Carpet Rosemary	1 Gal	60" O.C.	-	L
	Cotoneaster Lowfast	Bearberry	1 Gal	48" O.C.	-	L
	Cistus x hybridus	White Rockrose	1 Gal	48" O.C.	-	L
	Rhamnus californica 'Eve Case'	Coffeeberry	5 Gal	48" O.C.	-	L
	Lavandula x ginginsii 'Goodwin Creek Gray'	Goodwin Creek Gray Lavender	1 Gal	36" O.C.	-	L
	Arctostaphylos 'Emerald Carpet'	Emerald Carpet Manzanita	1 Gal	36" O.C.	-	L
	Ilex crenata 'Sky Pencil'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	M/L
	Podocarpus macrophyllus 'Maki'	Shrubby yew Podocarpus	5 Gal	As shown	Planting Scheme B	M/L
	Cupressus sempervirens 'Monshel'	Tiny Tower Italian Cypress	5 Gal	As shown	Planting Scheme C	L
	Callistemon 'Little John'	Sky Pencil Japanese Holly	5 Gal	As shown	Planting Scheme A	L
	Rhaphiolepis indica 'Clara'	Indian Hawthorn	5 Gal	36" O.C.	Planting Scheme B	L
	Myrtus communis 'Compacta'	Dwarf Myrtle	5 Gal	36" O.C.	Planting Scheme C	L
	Salvia leucantha	Purple Mexican Sage	5 Gal	48" O.C.	-	L
	Phormium tenax 'Jack Spratt'	Jack Spratt New Zealand Flax	1 Gal	18" O.C.	-	L

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	Geranium incanum	Cranesbill	1 Gal	24" O.C.	Planting Scheme C	L
	Phormium 'Duet'	Dwarf Variegated Flax	1 Gal	36" O.C.	Planting Scheme A	L
	Dietes bicolor	Fortnight Lily	1 Gal	36" O.C.	Planting Scheme B	L
	Festuca mairei	Atlas Fescue	1 Gal	36" O.C.	Planting Scheme C	L
	Lantana montevidensis 'Alba'	White Trailing Lantana	1 Gal	60" O.C.	Planting Scheme A	L
	Nandina domestica 'Harbour Dwarf'	Harbour Dwarf Heavenly Bamboo	1 Gal	36" O.C.	Planting Scheme B	L
	Salvia 'Bee's Bliss'	Bee's Bliss Sage	1 Gal	60" O.C.	Planting Scheme C	L
	Bolero Plus available from Delta Bluegrass Co		Sod	-	-	H/M
	Nandina domestica	Heavenly Bamboo	5 Gal	36" O.C.	-	L
	Buxus sempervirens 'Suffruticosa'	Dwarf English Boxwood	5 Gal	30" O.C.	-	L
	Rhaphiolepis umbellata 'Minor'	Dwarf Yeddo Hawthorn	5 Gal	36" O.C.	-	L
	Carex pansa	Dune Sedge	1 Gal	12" O.C.	-	L
	Agave 'Blue Glow'	Blue Glow Agave	5 Gal	36" O.C.	-	L
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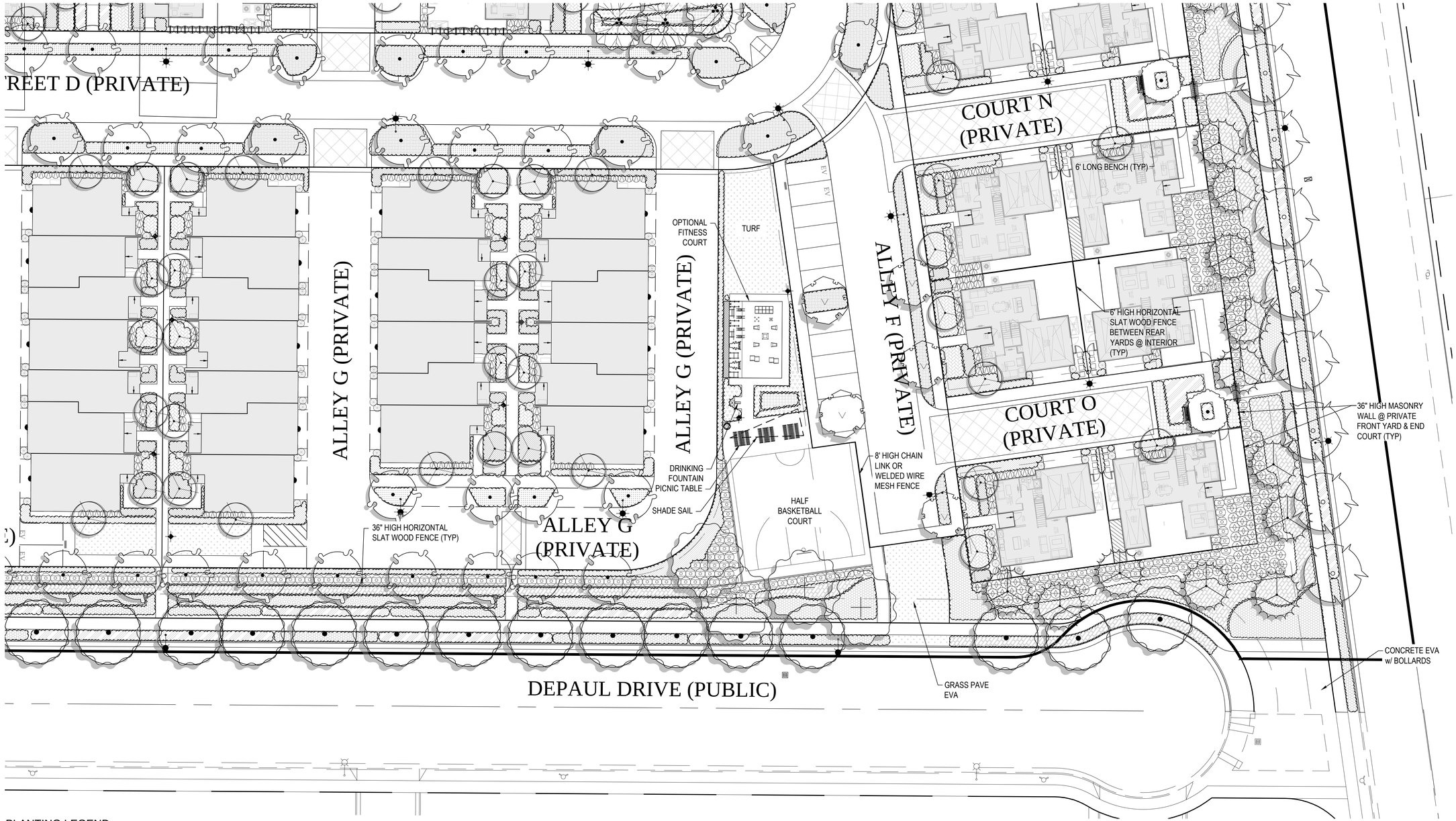

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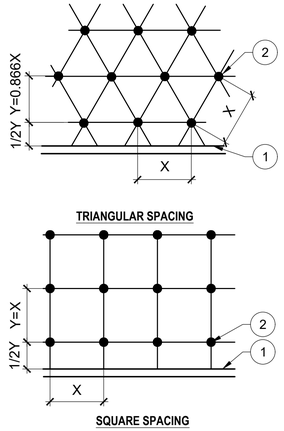


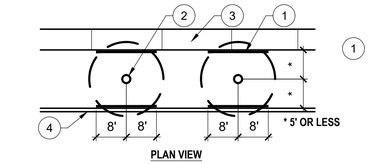
LEGEND

1. BACK OF CURB OR EDGE OF PAVING
2. PLANT LOCATION

NOTE:

A. ALL SHRUB/GROUND COVER TO BE TRIANGULAR SPACING UNLESS OTHERWISE INDICATED ON THE PLANTING PLANS.

A SHRUB & GROUNDCOVER SPACING
SCALE: N.T.S.

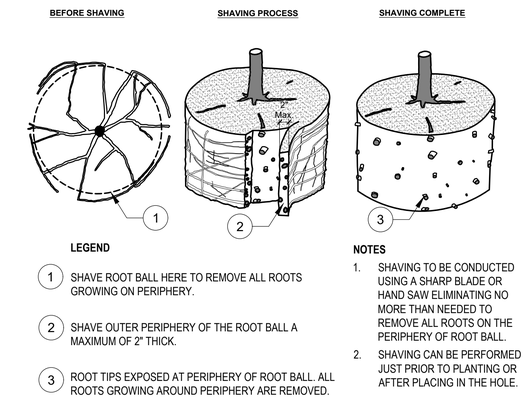


LEGEND

1. 18" DEEP LINEAR STYLE ROOT BARRIER AS MADE BY CENTURY ROOT BARRIER MODEL# CP18-2 OR APPROVED EQUAL.

   PLACE BARRIER IN TRENCH WITH THE VERTICAL RIBS FACING TOWARD THE TREE & ALIGN IN A STRAIGHT FASHION. USE HARDSCAPE EDGE AS A GUIDE AND BACKFILL AGAINST THE BARRIERS TO PROVIDE CLEAN FIT. TOP OF BARRIER TO EXTEND 1" BELOW TOP OF CURB OR WALK.
2. TREE TRUNK LOCATION (CANOPY SHOWN DASHED IN)
3. CONCRETE SIDEWALK OR SLAB
4. CONCRETE CURB OR SITE WALL
5. VERTICAL RIBS

B LINEAR ROOT BARRIER
SCALE: N.T.S.



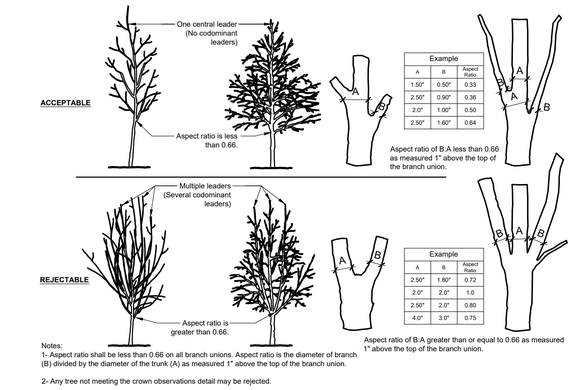
LEGEND

1. SHAVE ROOT BALL HERE TO REMOVE ALL ROOTS GROWING ON PERIPHERY.
2. SHAVE OUTER PERIPHERY OF THE ROOT BALL A MAXIMUM OF 2" THICK.
3. ROOT TIPS EXPOSED AT PERIPHERY OF ROOT BALL. ALL ROOTS GROWING AROUND PERIPHERY ARE REMOVED.

NOTES

1. SHAVING TO BE CONDUCTED USING A SHARP BLADE OR HAND SAW ELIMINATING NO MORE THAN NEEDED TO REMOVE ALL ROOTS ON THE PERIPHERY OF ROOT BALL.
2. SHAVING CAN BE PERFORMED JUST PRIOR TO PLANTING OR AFTER PLACING IN THE HOLE.

C ROOT BALL SHAVING
SCALE: N.T.S.



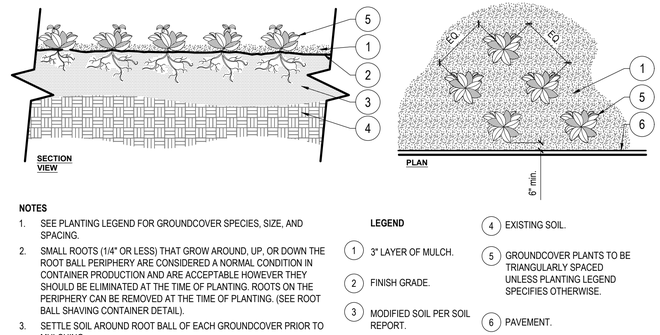
Example		
A	B	Aspect Ratio
1.50"	0.50"	0.33
2.50"	0.90"	0.36
2.0"	1.00"	0.50
2.50"	1.60"	0.64

Example		
A	B	Aspect Ratio
2.50"	1.80"	0.72
2.0"	2.0"	1.0
2.50"	2.0"	0.80
4.0"	3.0"	0.75

Notes:
1- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.

2- Any tree not meeting the crown observations detail may be rejected.

D CROWN OBSERVATION
SCALE: N.T.S.



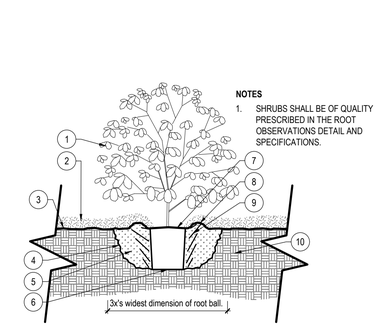
NOTES

1. SEE PLANTING LEGEND FOR GROUNDCOVER SPECIES, SIZE, AND SPACING.
2. SMALL ROOTS (1/4" OR LESS) THAT GROW AROUND, UP, OR DOWN THE ROOT BALL PERIPHERY ARE CONSIDERED A NORMAL CONDITION IN CONTAINER PRODUCTION AND ARE ACCEPTABLE HOWEVER THEY SHOULD BE ELIMINATED AT THE TIME OF PLANTING. ROOTS ON THE PERIPHERY CAN BE REMOVED AT THE TIME OF PLANTING. (SEE ROOT BALL SHAVING CONTAINER DETAIL).
3. SETTLE SOIL AROUND ROOT BALL OF EACH GROUNDCOVER PRIOR TO MULCHING.

LEGEND

1. 3" LAYER OF MULCH.
2. FINISH GRADE.
3. MODIFIED SOIL PER SOIL REPORT.
4. EXISTING SOIL.
5. GROUNDCOVER PLANTS TO BE TRIANGULARLY SPACED UNLESS PLANTING LEGEND SPECIFIES OTHERWISE.
6. PAVEMENT.

E GROUNDCOVER INSTALLATION
SCALE: N.T.S.



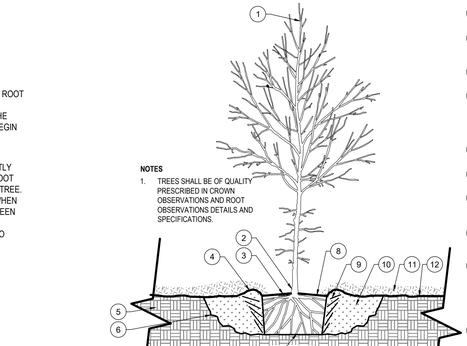
NOTES

1. SHRUBS SHALL BE OF QUALITY PRESCRIBED IN THE ROOT OBSERVATIONS DETAIL AND SPECIFICATIONS.

LEGEND

1. SHRUB.
2. 3" LAYER OF MULCH. NO MORE THAN 1" OF MULCH ON TOP OF ROOT BALL.
3. FINISH GRADE.
4. SLOPE SIDES OF LOOSENED SOIL.
5. LOOSENED SOIL. DIG & TURN THE SOIL TO REDUCE THE COMPACTION TO THE AREA AND DEPTH SHOWN.
6. ROOT BALL RESTS ON EXISTING OR RECOMPACTED SOIL.
7. TOP OF ROOT BALL SHALL BE FLUSH WITH FINISHED GRADE.
8. 4" HIGH x 8" WIDE ROUND - TOPPED SOIL BERM ABOVE ROOT BALL SURFACE SHALL BE CONSTRUCTED AROUND THE ROOT BALL. BERM SHALL BEGIN AT ROOT BALL PERIPHERY.
9. PRIOR TO MULCHING, LIGHTLY TAMP SOIL AROUND THE ROOT BALL IN 6" LIFTS TO BRACE TREE. DO NOT OVER COMPACT. WHEN THE PLANTING HOLE HAS BEEN BACKFILLED, POUR WATER AROUND THE ROOT BALL TO SETTLE THE SOIL.
10. EXISTING SOIL.

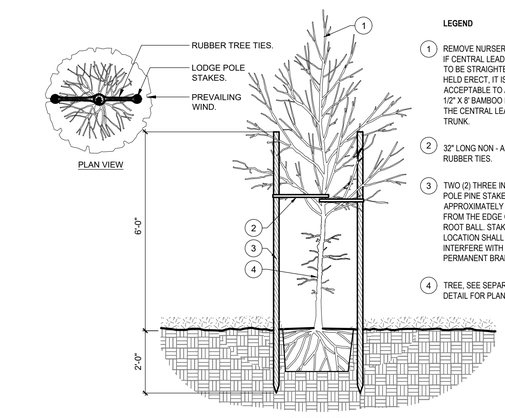
F SHRUB INSTALLATION
SCALE: N.T.S.



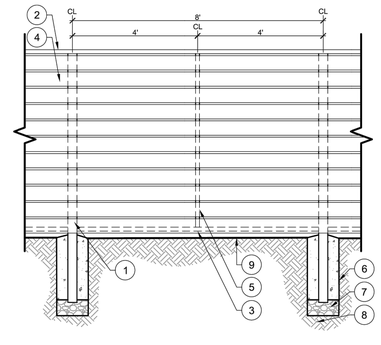
LEGEND

1. REMOVE NURSERY STAKE. IF CENTRAL LEADER NEEDS TO BE STRAIGHTENED OR HELD ERECT, IT IS ACCEPTABLE TO ATTACH A 1/2" X 8' BAMBOO POLE TO THE CENTRAL LEADER AND TRUNK.
2. 32" LONG NON - ABRASIVE RUBBER TIES.
3. TWO (2) THREE INCH LODGE POLE PINE STAKES. INSTALL APPROXIMATELY 2' AWAY FROM THE EDGE OF THE ROOT BALL. STAKE LOCATION SHALL NOT INTERFERE WITH PERMANENT BRANCHES.
4. TREE, SEE SEPARATE DETAIL FOR PLANTING.

G TREE INSTALLATION
SCALE: N.T.S.



H TREE STAKING
SCALE: N.T.S.



LEGEND

1. 4x4 PTDF POST. LP-22 CEDAR TONE PT#2 OR BETTER @ 8'-0" O.C. (MAX). CONSISTENT SPACING THROUGHOUT. EXTEND 1" THROUGH FOOTING.
2. 2x6 RS TOP RAIL.
3. 2x4 PTDF BOTTOM RAIL. LP-22 CEDAR TONE PT#2 OR BETTER.
4. 1x6 NO HOLE FENCE BOARD w/ 1" GAPS BETWEEN. STAGGER BOARDS ON EITHER SIDE OF FENCE.
5. 2x4 RS MID VERTICAL BRACE/POST. CENTER BETWEEN POSTS.
6. 12" DIAMETER CONCRETE FOOTING.
7. AGGREGATE DRAIN ROCK.
8. COMPACTED SUBGRADE PER GEOTECHNICAL REPORT.
9. FINISH GRADE.

NOTE

1) ALL WOOD SHALL BE CEDAR UNLESS OTHERWISE SPECIFIED.

2) ALL NAILS SHALL BE HOT DIPPED GALVANIZED.

I GOOD NEIGHBOR FENCE
SCALE: 1/2" = 1'-0"

PLANTING NOTES:

1. Shrub layout as shown on plan indicates "shrub masses." Quantities are as shown on legend, on-center spacing as shown on legend. Contractor to verify quantities based on spacing and add additional plant material (at no additional cost to the owner) required to maintain design intent due to existing site conditions not anticipated during design. Layout/spacing shall be as shown on plan or legend. Landscape architect to approve final layout in field prior to installation.
2. Contractors shall notify the landscape architect of site conditions which prevent installation per plans and specifications.
3. Contractor shall be liable for removing and re-installing irrigation equipment, and replanting areas which are not installed per plan and specifications.
4. Refer to planting specifications for inspection/certification schedule.
5. Irrigation system shall be installed and operational prior to installation of plant materials.
6. Trees and shrubs shall be planted after concrete placement, but not before irrigation coverage test no. 1 has been approved. (see specifications).
7. Place trees between irrigation heads wherever possible.
8. Shredded mulch installation: Install shredded mulch in all shrub and groundcover areas per specifications unless otherwise indicated on plans.
9. Contractor is responsible for all repairs and/or replacement of any damaged landscape areas beyond the limit of work, including repairing any irrigation lines/sprinkler heads, that is a direct result of the landscape construction and/or his sub-contractor. Replacement items shall be exact duplication of original work or plants, unless otherwise approved by the landscape architect.
10. Clean-up shall take place on a daily basis unless otherwise approved by the owner's representative.
11. It is the contractor's responsibility to maintain all grades and flow lines as shown on the grading plan. Where sod is to be installed on a swale, the finish grade must be adjusted so the sod does not restrict the flow.
12. Landscape contractor shall take additional soil samples from the site. The samples shall be taken at a depth of 12" after rough grading and submitted to an approved soil and plant laboratory for agricultural suitability testing. The cost of testing shall be included in the contractor's bid.
13. The recommendations of the soil report shall supersede the soil preparation and backfill mix specifications (see specifications). The contractor shall submit a copy of all soils reports to the landscape architect prior to modification of these specifications.

SOILS REPORT AND RECOMMENDATIONS:

the soil management report and soil amendment recommendations shall be prepared and submitted with construction documents as permitted by code.

MULCH NOTE:

Contractor shall install a 3" layer of "Mahogany Mulch Mini" available from Zanker Landscape Materials in all shrub and groundcover areas unless otherwise noted.

SOIL AMENDMENT NOTE:

Regardless of the recommendations as a result of the required soils testing, the soil amendment "Tri-C Humate" available from TRI-C Enterprises and distributors or approved equal shall be top dressed and incorporated into the soil at a rate of 10 LBS./1,000SF

J PLANTING NOTES
SCALE: N.T.S.

SR 2020-0020

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MORGAN HILL, CA 95037

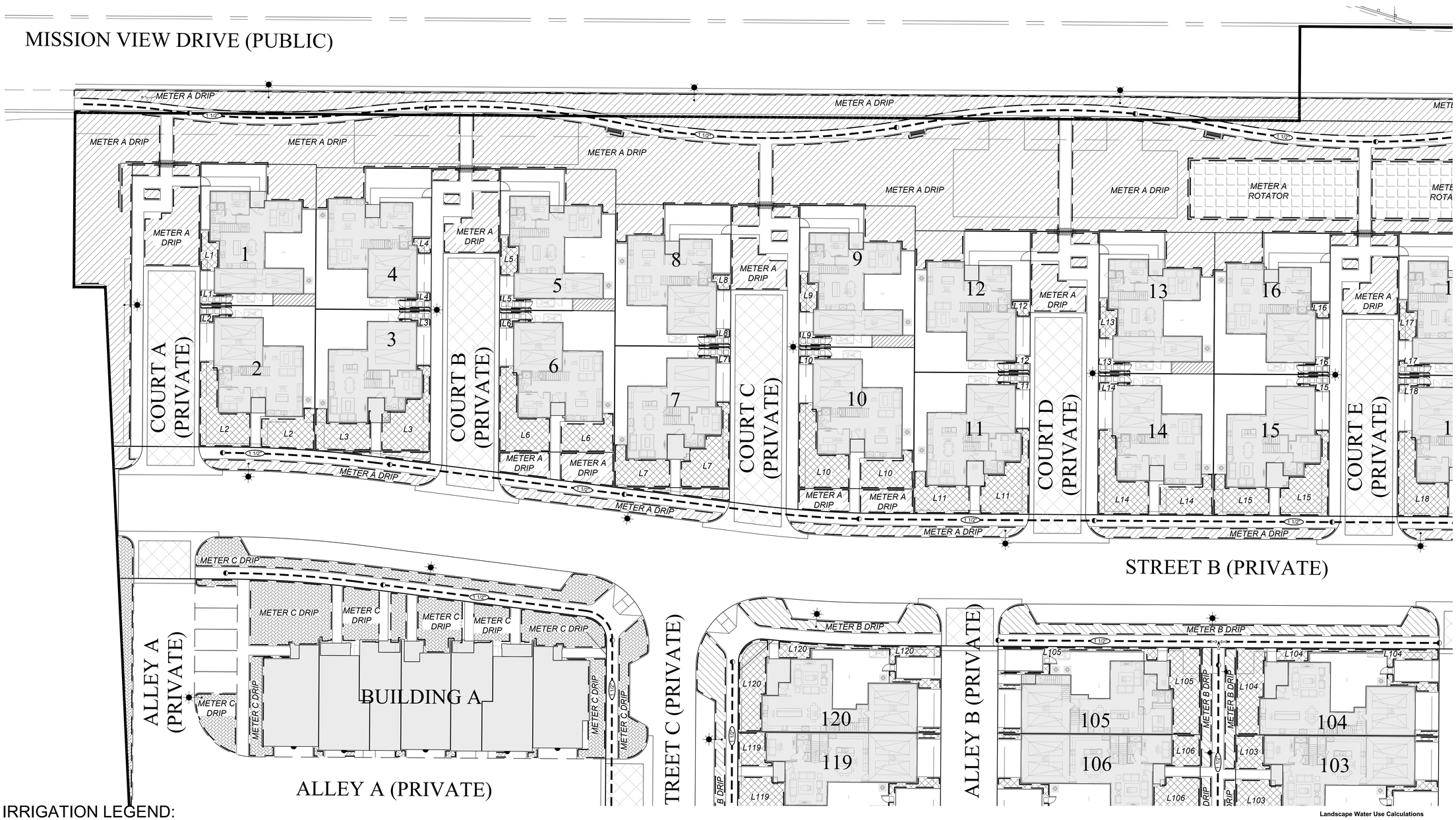
DESIGN REVIEW PERMIT
PRELIMINARY LANDSCAPE DETAILS
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

DATE	BY	SHEET REVISIONS	BY	CK
4-28-2021	JAM	MISC. REVISIONS PER CITY COMMENTS	JAM	RD

SCALE: AS SHOWN
DATE: AUG. 25, 2020

SHEET
L-11
OF 33 SHEETS

JOB NO.
182032-2001



IRRIGATION LEGEND:

SYMBOL	MANUFACTURER	MODEL NUMBER	DESCRIPTION	RADIUS	GPM	IN/HR	PSI	COMMENTS
Meter A, Meter B, Meter C, Meter D, Res Lot	Rainbird	XBS-700-500	1/2" Black distribution drip tubing w/ flush valve	Drip	-	-	0-60	Install lines on surface
		XQ-1000-B	1/4" Distribution tubing	Drip	-	-	0-60	
		XB-10PC	1.0 barb inlet x barb outlet drip emitter	Drip	0.002	3.79	15-50	Install 2 emitter per shrub.
		OPERIND	Drip operation indicator	Drip	-	-	15-60	Install 6" from edge of pavement/curb. Install at ends of drip zones.
	Hunter	PCN-25	Tree bubbler	Bubbler	0.25	0.7	10-60	Install (2) two per tree.
Meter A, Meter B, Meter C, Meter D	Rainbird	1806-SAM-R-VANSeries	Pop-up rotator spray	17'-24'	Varies	1.58	40	Adjust arc & radius to prevent over spray.

SYMBOL	MANUFACTURER	MODEL NUMBER	DESCRIPTION
	Nibco	T-585-70	Line size full port bronze ball valve in valve box.
	Hunter	ICV Series - 50	Electronic remote control valve, 50 PSI regulator, size as shown.
	Hunter	ICZ-101-25	Drip remote control medium/high flow valve.
	Hunter	HQ-44LRC	1" quick coupler in round valve box.
MV	Superior	3000150	1 1/2" normally closed master valve.
	Hunter	HFS-FCT-158	Flow sensor.
	Febco	LF825YA-QT RP	Line size reduced pressure backflow device.
	GuardShack	Econo-cage (Size as needed)	Green backflow device cage.
	GuardShack	FrostGuard (Size as needed)	Green backflow device frost blanket.
ET	Hunter	WSS-SEN	ET, Rain, and freeze sensor. Mount on building eave.
C	Hunter	ACC-1200-ACM-600	Pedestal mount mount modular controller w/ expansion module.
	Approved	SCH. 40 PVC	Mainline, size as shown, minimum 24" cover.
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M	New 1 1/2" water meter		

0 20 40 60
SCALE IN FEET: 1"= 20'

Landscape Water Use Calculations

Project Information
Total square footage of Landscape Area (including Special Landscape Area) **LA=** 355,573
Total square footage of Special Landscape Area **SLA=** 33,750
Hist. ETo for the area **ETo=** 49.5

Maximum Annual Water Allocation (MAWA)
MAWA is calculated using the following formula: (Eto) (.62) [(0.55 x LA) + (1.0 - 0.55) x SLA)]

MAWA = 6,467,995

Estimated Total Water Use (ETWU)
ETWU is calculated using the following formula: (Eto) (.62) [(PF x HA / IE)+ SLA]

Hydrozone # 1 Medium Trees Bubbler — Plant Factor **PF=** 0.5
square footage of hydrozone **HA=** 4,060 (SQ.FT.)
hydrozone irrigation efficiency **IE=** 0.81
#1 ETWU = 76,914 gallons / yr

Hydrozone # 2 Turf Grass Rotator — Plant Factor **PF=** 1
square footage of hydrozone **HA=** 39,373 (SQ.FT.)
hydrozone irrigation efficiency **IE=** 0.75
#2 ETWU = 1,611,143 gallons / yr

Hydrozone # 3 Low Shrubs/GC Drip — Plant Factor **PF=** 0.3
square footage of hydrozone **HA=** 316,200 (SQ.FT.)
hydrozone irrigation efficiency **IE=** 0.81
#3 ETWU = 3,594,137 gallons / yr

Total ETWU = 5,282,195

MAWA - ETWU = 1,185,800
Estimated Total Water Use must be less than the Maximum Annual W

SR 2020-0020

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DIVIDEND
385 WOODVIEW AVE, SUITE 100
MORGAN HILL, CA 95037

DESIGN REVIEW PERMIT
PRELIMINARY IRRIGATION PLAN

THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

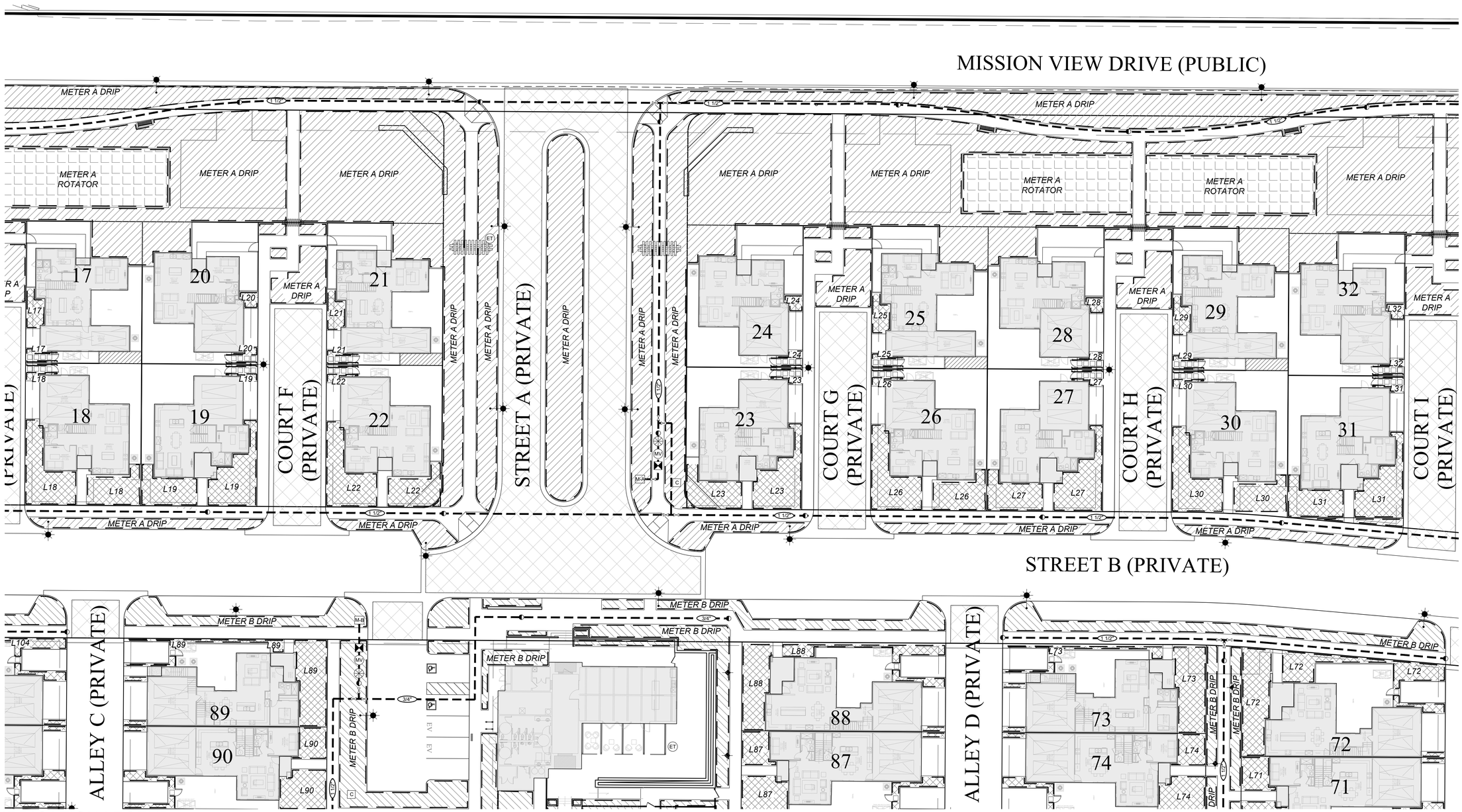
SCALE: AS SHOWN
DATE: AUG. 25, 2020

DATE	BY	CK
4-28-2023	JAM	RD

SHEET REVISIONS
MISC. REVISIONS PER CITY COMMENTS

SHEET
L-12
OF 33 SHEETS

JOB NO.
182032-2001



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M	New 1 1/2" water meter		

DRIPLINE INSTALLATION NOTES:

1. Dripline emitters and spacing between lines as per Irrigation Legend.
2. Locate flush valve at lowest and furthest points of system. Install in planter area. See flush valve detail for installation. Locate air relief valve near system high point, if needed.
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MAINLINE & LATERAL LINE NOTE:

Mainline & lateral lines shown for clarity only. Place pipe in adjacent planter. Do not install any piping under wall footings (exception when crossing & sleeved) fence posts or lighting footings. Maintain a minimum of 12" clearance from above items.

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E	2"	32-50 GPM

0 20 40 60

SCALE IN FEET: 1"= 20'

THIS IS A POTABLE IRRIGATION SYSTEM

SLEEVING NOTE:
Sleeve all hardscape crossing prior to hardscape placement.

SOLAR SYNC SENSOR NOTE:
Contractor to install a wireless solar sync sensor on wall pilaster in an open area to collect solar and rain water.

PRELIMINARY PLAN NOTE:
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SR 2020-0020

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DIVIDEND
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DESIGN REVIEW PERMIT
PRELIMINARY IRRIGATION PLAN

THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

SHEET REVISIONS	BY	CK	DATE
MISC. REVISIONS PER CITY COMMENTS	JAM	RD	4-28-2023
	JAM	MK	

SCALE: AS SHOWN
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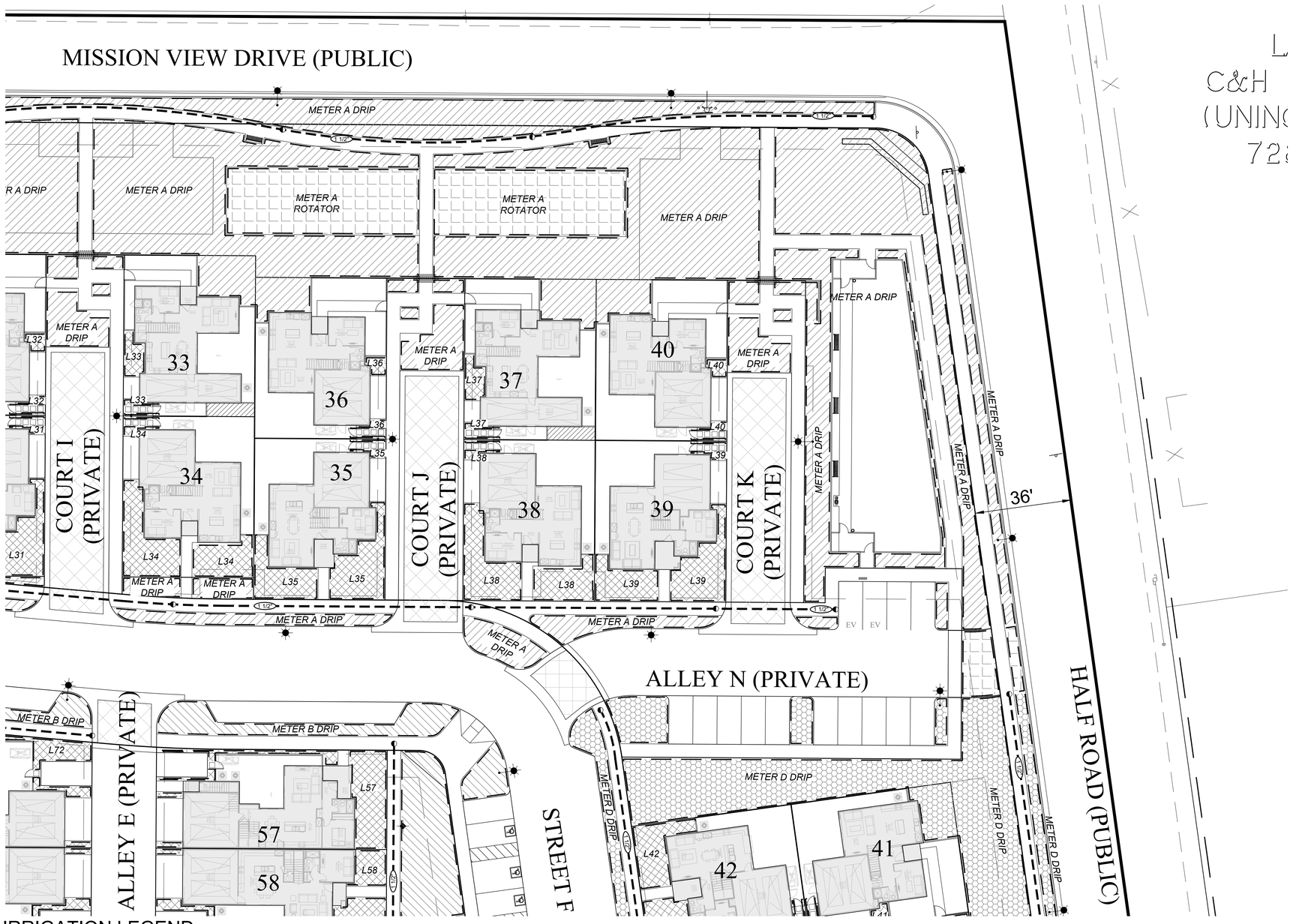
SHEET
L-13
OF 33 SHEETS

JOB NO.
182032-2001


MISSION VIEW DRIVE (PUBLIC)
METER A DRIP
METER A ROTATOR
METER A ROTATOR
METER A DRIP
METER A DRIP
METER A DRIP

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SR 2020-0020

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DATE	BY	CK
4-28-2023	JAM	MK
MISC. REVISIONS PER CITY COMMENTS	JAM	RD

SCALE: AS SHOWN
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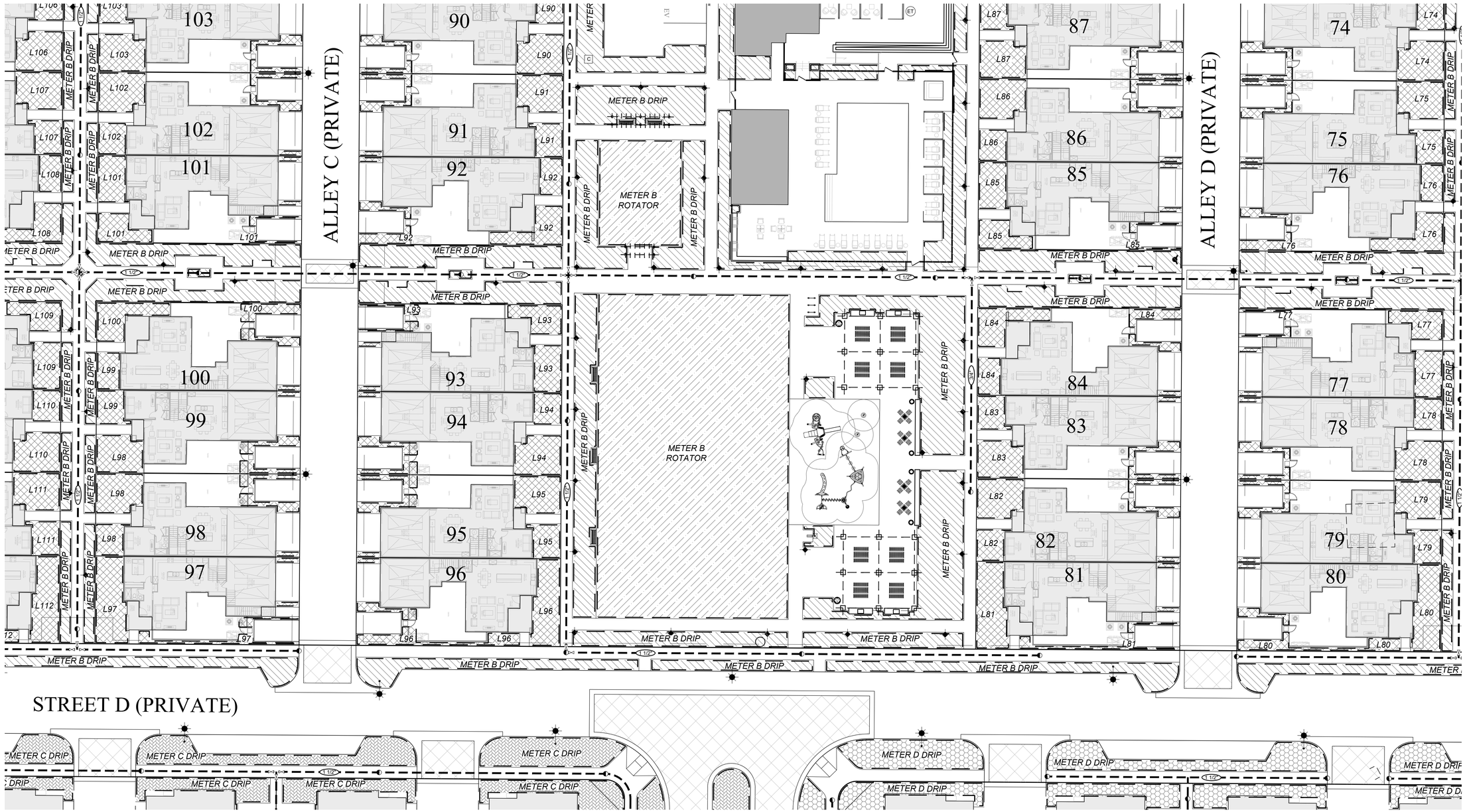
SHEET
L-15
OF 33 SHEETS

JOB NO.
182032-2001



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	Hunter	PCN-25	Tree bubbler	Bubbler	0.25	0.7	10-60	Install (2) two per tree.
Meter A Meter B Meter C Meter D	Rainbird	1806-SAM-R-VANSeries	Pop-up rotator spray	17'-24'	Varies	1.58	40	Adjust arc & radius to prevent over spray.

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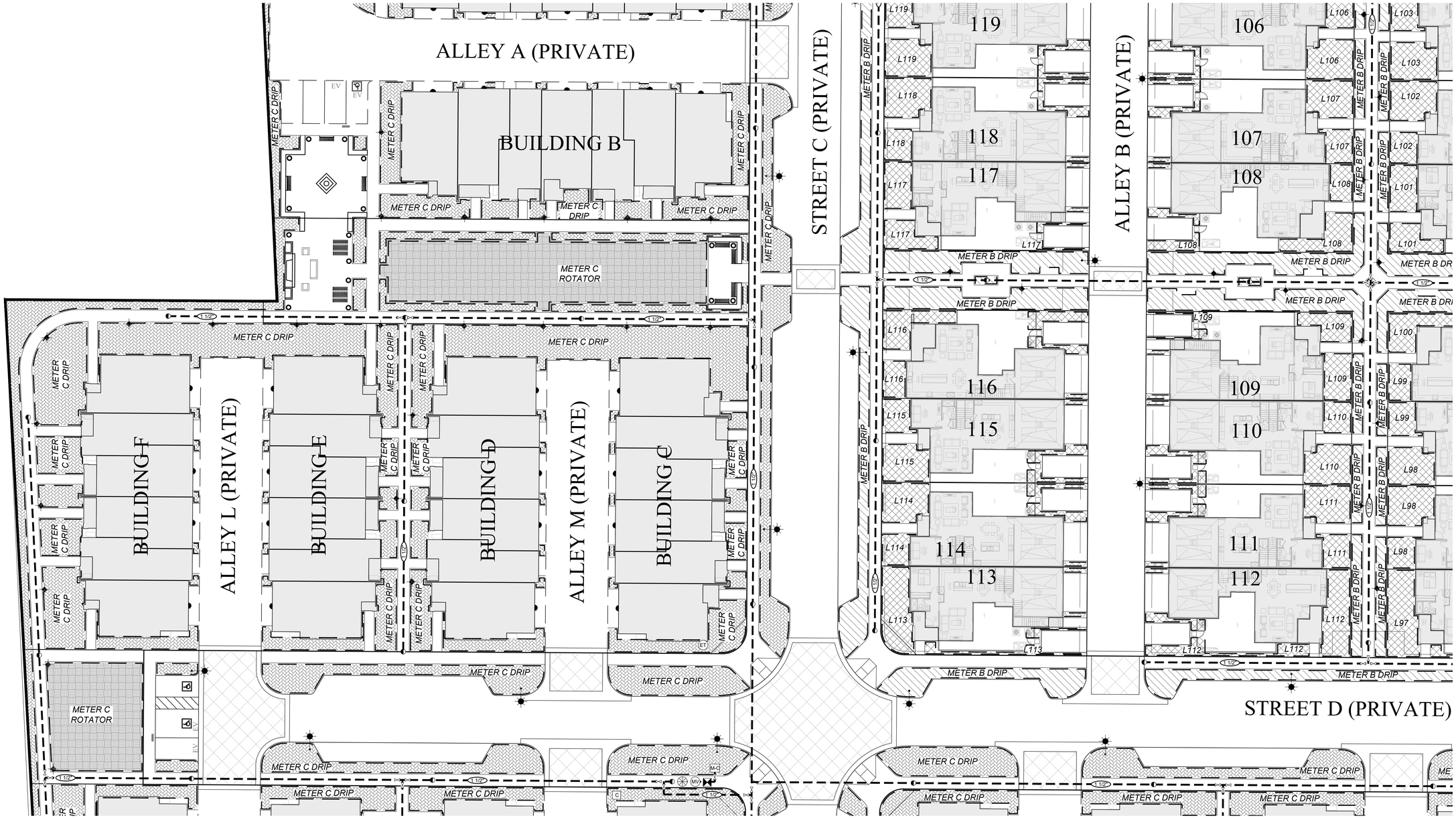
MORGAN HILL, CALIFORNIA

DATE	BY	SHEET REVISIONS	BY	CK
4-28-2023	JAM	MISC. REVISIONS PER CITY COMMENTS	JAM	RD

SCALE: AS SHOWN
DATE: AUG. 25, 2020

SHEET
L-16
OF 33 SHEETS

JOB NO.
182032-2001



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		XQ-1000-B	1/4" Distribution tubing	Drip	-	-	0-60	
		XB-10PC	1.0 barb inlet x barb outlet drip emitter	Drip	0.002	3.79	15-50	Install 2 emitter per shrub.
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SR 2020-0020

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SHEET
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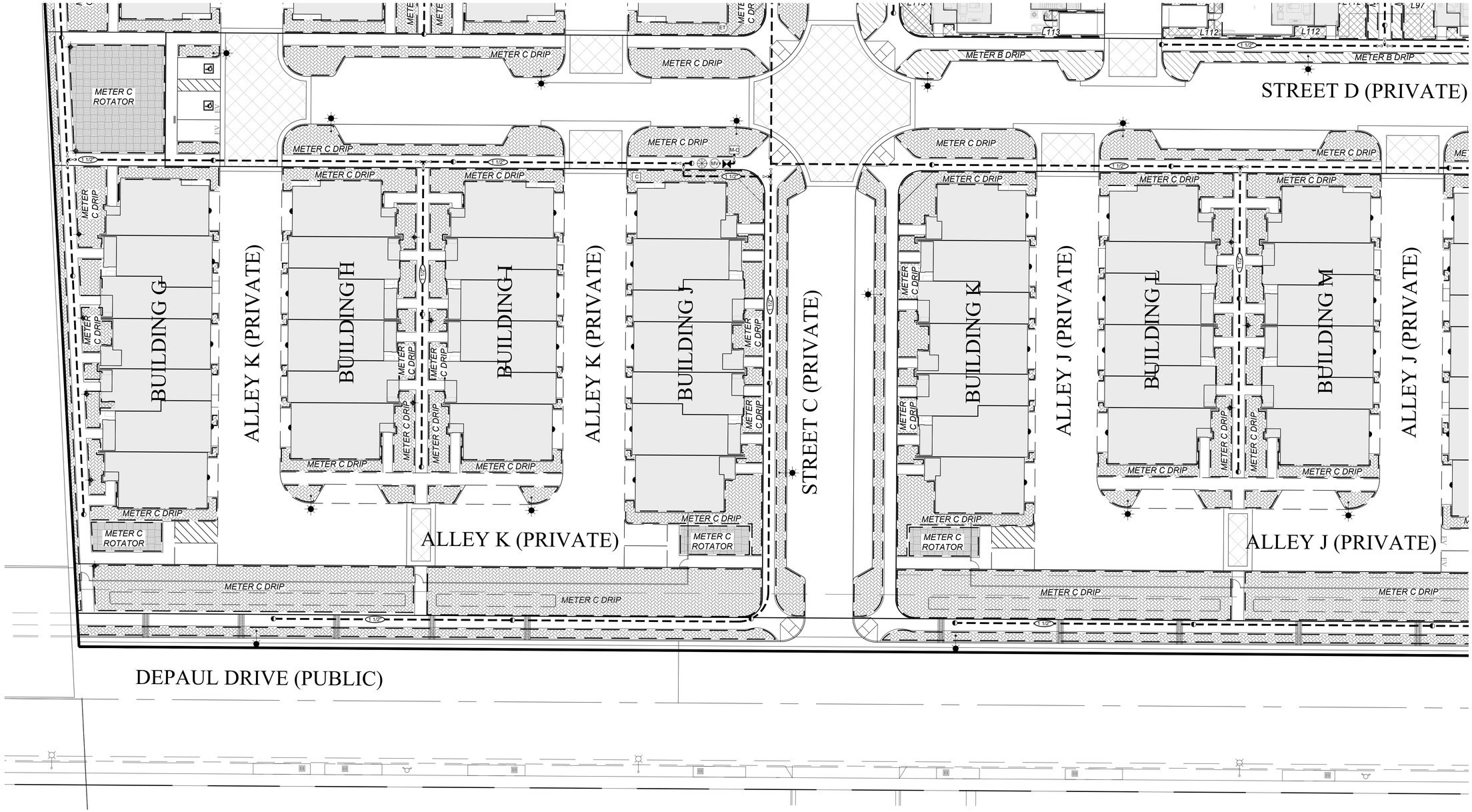
182032-2001



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SR 2020-0020

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SHEET
L-18
OF 33 SHEETS

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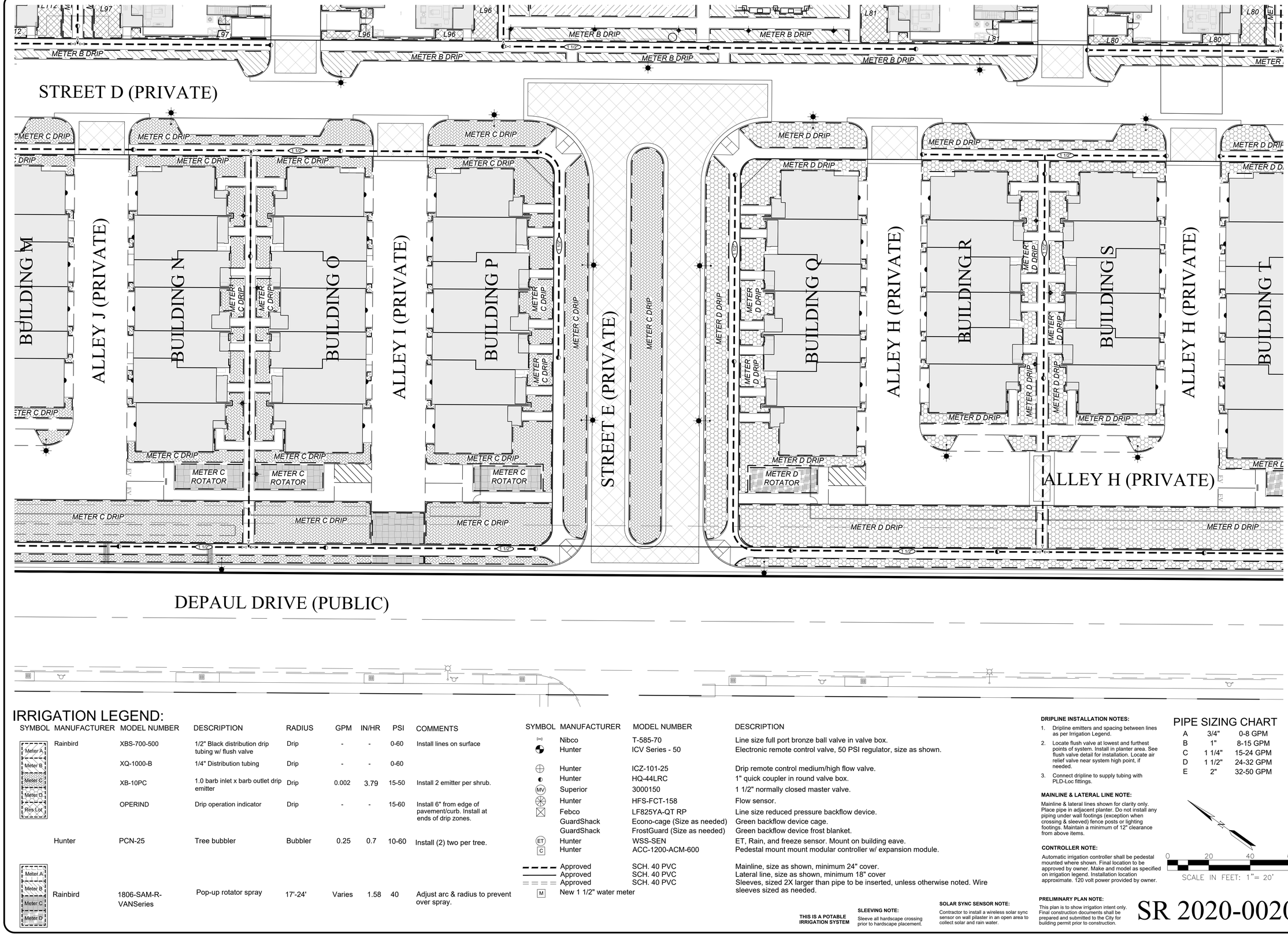

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L-19
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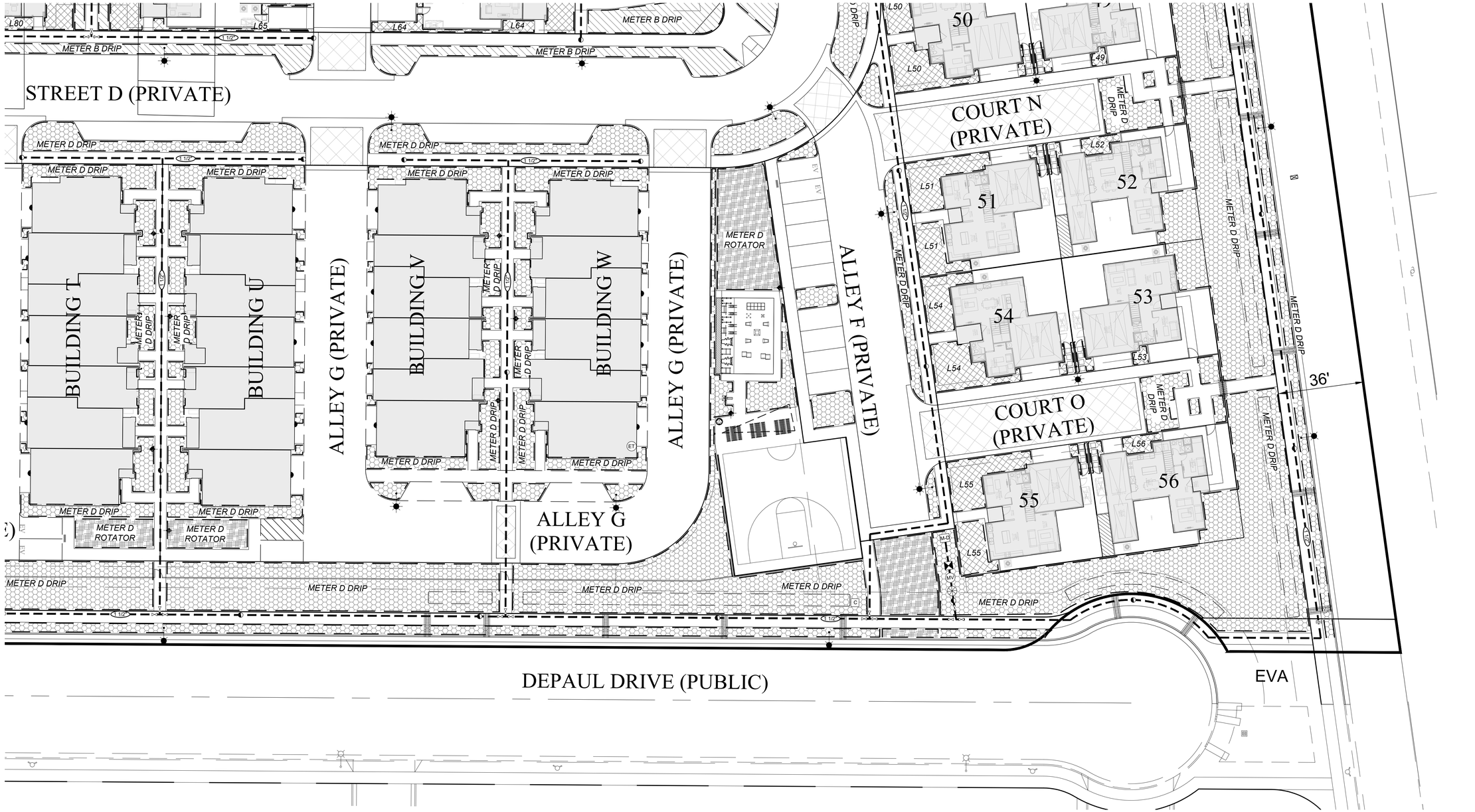
182032-2001



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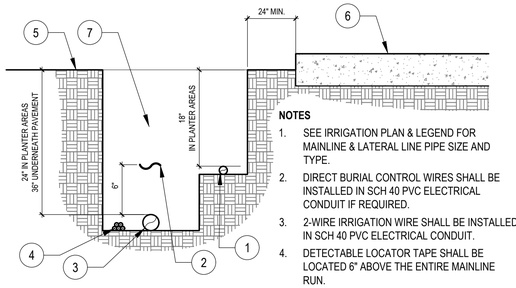
SHEET
L-20
OF 33 SHEETS

JOB NO.
182032-2001

LEGEND

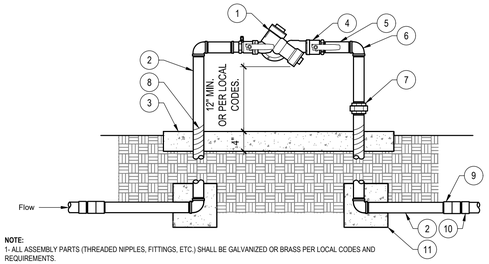
1. NON-PRESSURIZED LINE (LATERAL LINE).
2. DETECTABLE LOCATOR TAPE.
3. PRESSURIZED LINE (MAINLINE).
4. DIRECT BURIAL LOW VOLTAGE CONTROL WIRES.
5. FINISH GRADE.
6. PAVEMENT
7. CLEAN BACKFILL, 90% COMPACTION.



NOTES

1. SEE IRRIGATION PLAN & LEGEND FOR MAINLINE & LATERAL LINE PIPE SIZE AND TYPE.
2. DIRECT BURIAL CONTROL WIRES SHALL BE INSTALLED IN SCH 40 PVC ELECTRICAL CONDUIT IF REQUIRED.
3. 2-WIRE IRRIGATION WIRE SHALL BE INSTALLED IN SCH 40 PVC ELECTRICAL CONDUIT.
4. DETECTABLE LOCATOR TAPE SHALL BE LOCATED 6" ABOVE THE ENTIRE MAINLINE RUN.

A TRENCHING
SCALE: N.T.S.



NOTE:
1- ALL ASSEMBLY PARTS (THREADED NIPPLES, FITTINGS, ETC.) SHALL BE GALVANIZED OR BRASS PER LOCAL CODES AND REQUIREMENTS.

2- GALVANIZED NIPPLE SHALL EXTEND 12" PAST THE EDGE OF THE CONCRETE FOOTING.

3- SCH. 80 PVC MALE ADAPTER SHALL BE USED IN CONNECTION FROM GALVANIZE TO THE MAINLINE.

4- BACKFLOW PREVENTION DEVICE SHALL BE LOCATED AS CLOSE AS POSSIBLE TO THE LANDSCAPE METER.

5- BACKFLOW PREVENTION DEVICE SHALL BE LOCATED IN PLANTING AREA UNLESS APPROVED BY OWNER'S REPRESENTATIVE.

6- SEE DETAIL FOR BACKFLOW CAGE INSTALLATION.

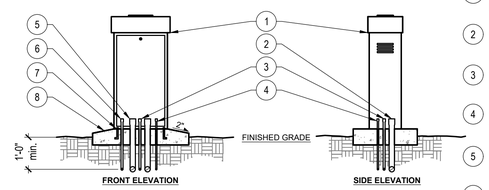
7- ALL BACKFLOW PREVENTION DEVICES SHALL HAVE FREEZE BLANKET INCLUDED UPON INSTALLATION.

8- ALL GALVANIZED CONNECTIONS SHALL TO BE MADE USING PIPE THREAD SEALANT. ALL SCH. 80 PVC TO GALVANIZED CONNECTIONS TO BE MADE USING TEFLON TAPE.

LEGEND

1. BACKFLOW PREVENTION DEVICE PER LEGEND.
2. GALVANIZED NIPPLE
3. 4" THICK CONCRETE PAD. 1" ABOVE FINISHED GRADE. SEE BACKFLOW CAGE DETAIL
4. BRASS BALL VALVE
5. THREADED GALVANIZED NIPPLE
6. GALVANIZED NINETY DEGREE ELBOW
7. GALVANIZED UNION
8. WRAP 20 MIL TAPE TWICE AROUND ALL GALVANIZED PIPE UNDER FINISHED GRADE AND THROUGH THE CONCRETE.
9. GALVANIZED COUPLING
10. SCH. 80 PVC MALE ADAPTER
11. CONCRETE THRUST BLOCKS REQUIRED ON BACKFLOW DEVICES 2.5" AND LARGER.

B BACKFLOW DEVICE
SCALE: N.T.S.



FRONT ELEVATION **SIDE ELEVATION**

NOTES:
1- COMMON AND CONTROLLER WIRE TO BE BUNDLED USING ELECTRICAL TAPE AT 10'-0" ON CENTER.

2- GROUNDING RODS SHALL BE LOCATED BETWEEN 8'-0" AND 12'-0" AWAY FROM THE CONTROLLER. GROUNDING RODS SHALL BE ¾" IN DIAMETER X 8' IN LENGTH. CONNECT THE GROUNDING ROD TO THE CONTROLLER USING 6 GAUGE BARE COPPER WIRE OR PER THE MANUFACTURER'S SPECIFICATIONS. SEE GROUNDING ROD DETAIL.

3- ET STATION TO BE INSTALLED NO FURTHER THAN 90' AWAY FROM THE CONTROLLER AND A MINIMUM OF 15' OFF OF THE GROUND, OUT FROM UNDER ANY OVERHEAD OBSTRUCTIONS SUCH AS, BUT NOT LIMITED TO BUILDING OVERHANGS, TREES, OR UTILITIES.

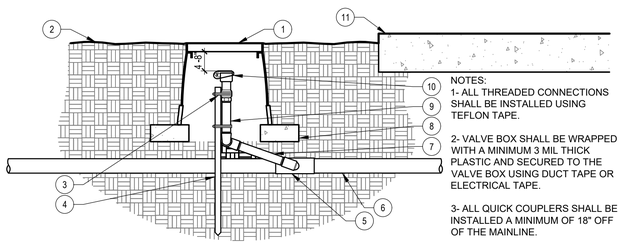
LEGEND

1. PEDESTAL MOUNTED CONTROLLER PER IRRIGATION LEGEND
2. OPTIONAL 2" ELECTRICAL CONDUIT FOR ADDITIONAL STATIONS
3. 1" PVC ELECTRICAL CONDUIT FOR GROUNDING ROD WIRE.
4. 1" PVC ELECTRICAL CONDUIT FOR SENSOR WIRES.
5. 2" PVC ELECTRICAL CONDUIT FOR REMOTE CONTROL WIRES UP TO 24 STATIONS.
6. 1" PVC ELECTRICAL CONDUIT FOR INPUT POWER PER LOCAL AND NATIONAL.
7. 1/2" DIA. x 4" LONG CADIUM PLATED J ANCHOR BOLTS AT 4 LOCATIONS
8. CONCRETE FOOTING (INSTALL PER MANUFACTURE'S SPECIFICATIONS)

C PEDESTAL MOUNT CONTROLLER
SCALE: N.T.S.

LEGEND

1. ROUND VALVE BOX
2. FINISHED GRADE
3. STAINLESS STEEL SCREW CLAMP
4. #6 x 48" REBAR
5. SCH. 80 PVC TEE OR ELBOW
6. MAINLINE.
7. SCH. 80 PVC SWING JOINT PER SEPARATE DETAIL.
8. THREE BRICKS
9. SCH. 80 PVC NIPPLE
10. QUICK COUPLER VALVE PER LEGEND
11. PAVEMENT



NOTES:
1- ALL THREADED CONNECTIONS SHALL BE INSTALLED USING TEFLON TAPE.

2- VALVE BOX SHALL BE WRAPPED WITH A MINIMUM 3 MIL THICK PLASTIC AND SECURED TO THE VALVE BOX USING DUCT TAPE OR ELECTRICAL TAPE.

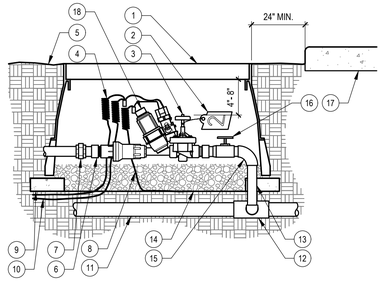
3- ALL QUICK COUPLERS SHALL BE INSTALLED A MINIMUM OF 18" OFF OF THE MAINLINE.

4- VALVE BOXES SHALL BE LOCATED IN PLANTING AREAS.

D QUICK COUPLER VALVE
SCALE: N.T.S.

LEGEND

1. RECTANGULAR VALVE BOX w/ LOCKING LID
2. PLASTIC TAG w/ VALVE STATION NUMBER ID
3. REMOTE CONTROL IRRIGATION VALVE PER IRRIGATION LEGEND
4. CONTROLLER WIRES w/ 12" MIN. EXPANSION CURLS
5. FINISHED GRADE
6. SCH 80 PVC MALE ADAPTER
7. SCH 80 PVC MALE UNION
8. VALVE WIRE.
9. FOUR (4) 4"X8" BRICKS.
10. COMMON WIRES
11. MAINLINE PER PLAN
12. SCH 80 PVC TEE OR ELBOW.
13. SCH 40 PVC PIPE
14. 3/8" WELDED WIRE MESH
15. SCH 40 PVC 90° ELBOW
16. SCH 80 PVC BALL VALVE.
17. PAVEMENT
18. DRIP ZONE KIT

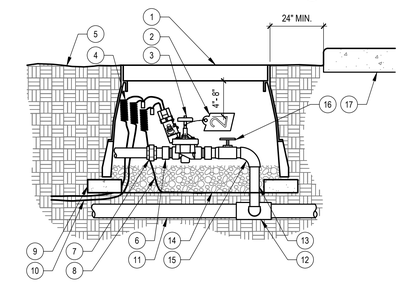


Note:
1- Locate valve box within 24" of pavement edge in planting area where easily accessible whenever possible.
2- Common wire and controller wire shall be direct burial 14 AWG or larger. Color: Common (white), controller wire for turf (blue), and controller wire for shrubs (red).
3- All wire runs shall be continuous without any splices unless approved by the Owner's Representative. See splice box detail. Wire connections shall be made using DBR/Y-6 connectors or approved equal.
4-Valve box shall be wrapped with min. 3 mil thick plastic and secure it using duct tape or electrical tape.
5- Mainlines 4" or larger shall use saddles at the connections points to the irrigation valve. (See specifications for irrigations saddles).
6- All Sch. 80 PVC to Sch. 40 PVC threaded connections shall be made using teflon tape.
7- Valve boxes shall be located in planting areas.

E REMOTE CONTROL VALVE w/ DRIP KIT
SCALE: N.T.S.

LEGEND

1. RECTANGULAR VALVE BOX w/ LOCKING LID
2. PLASTIC TAG w/ VALVE STATION NUMBER ID
3. REMOTE CONTROL IRRIGATION VALVE PER IRRIGATION LEGEND
4. CONTROLLER WIRES w/ 12" MIN. EXPANSION CURLS
5. FINISHED GRADE
6. SCH 80 PVC MALE ADAPTER
7. SCH 80 PVC MALE UNION
8. VALVE WIRE.
9. FOUR (4) 4"X8" BRICKS.
10. COMMON WIRES
11. MAINLINE PER PLAN
12. SCH 80 PVC TEE OR ELBOW.
13. SCH 40 PVC PIPE
14. 3/8" WELDED WIRE MESH
15. SCH 40 PVC 90° ELBOW
16. SCH 80 PVC BALL VALVE.
17. PAVEMENT

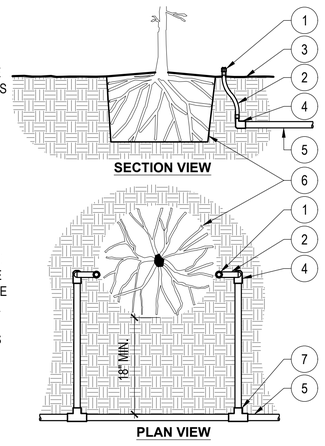


Note:
1- Locate valve box within 24" of pavement edge in planting area where easily accessible whenever possible.
2- Common wire and controller wire shall be direct burial 14 AWG or larger. Color: Common (white), controller wire for turf (blue), and controller wire for shrubs (red).
3- All wire runs shall be continuous without any splices unless approved by the Owner's Representative. See splice box detail. Wire connections shall be made using DBR/Y-6 connectors or approved equal.
4-Valve box shall be wrapped with min. 3 mil thick plastic and secure it using duct tape or electrical tape.
5- Mainlines 4" or larger shall use saddles at the connections points to the irrigation valve. (See specifications for irrigations saddles).
6- All Sch. 80 PVC to Sch. 40 PVC threaded connections shall be made using teflon tape.
7- Valve boxes shall be located in planting areas.

F REMOTE CONTROL VALVE
SCALE: N.T.S.

NOTES

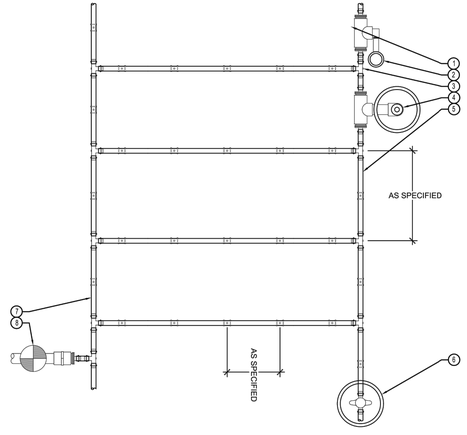
1. ALL IRRIGATION FITTINGS SHALL BE SCH 40 PVC UNLESS SPECIFIED OTHERWISE.
2. ALL THREADED CONNECTIONS FROM SCH 40 TO SCH 80 PVC SHALL BE MADE USING TEFLON TAPE.
3. CONTRACTOR SHALL SETTLE THE AREA AROUND THE BUBBLER AND EDGE OF THE ROOT BALL SO THAT ALL IRRIGATION FLOWS THROUGH THE ROOT BALL.



LEGEND

1. BUBBLER NOZZLE PER IRRIGATION LEGEND
2. 24" FLEXIBLE RISER PER IRRIGATION LEGEND
3. FINISH GRADE.
4. SCH 40 PVC 90° ELBOW SLIP TO 1/2" FPT THREAD.
5. LATERAL LINE IRRIGATION. (SEE IRRIGATION PLAN FOR SIZING).
6. EDGE OF ROOT BALL. SETTLE BACKFILL SO THAT IRRIGATION FLOWS THROUGH THE ROOT BALL.
7. SCH 40 PVC TEE OR 90° ELBOW.

G TREE BUBBLER
SCALE: N.T.S.



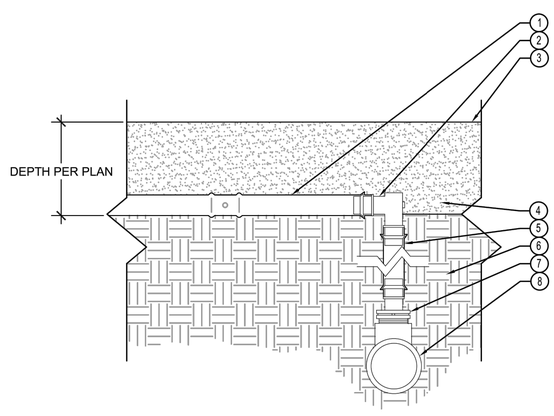
LEGEND:
1. HUNTER DRIPLINE (HDL) PER PLAN
2. ECO-INDICATOR ON SWING ARM
3. PLD OR PLD-LOC FITTINGS TYP.
4. AIR RELIEF VALVE IN VALVE BOX
5. HDL TUBING EXHAUST HEADER
6. FLUSH POINT (PLD-BV) IN SUBTERRANEAN BOX PER PLAN
7. HDL TUBING SUPPLY HEADER
8. DRIP CONTROL ZONE KIT PER PLAN

NOTES
AIR RELIEF VALVE (PLD-AVR) INSTALLED IN VALVE BOX AT OPTIMAL HIGHEST POINT FROM CONTROL ZONE KIT. MULTIPLE AIR RELIEF VALVES MAY BE NEEDED TO ACCOMMODATE DIFFERENCES IN GRADE.

ECO-INDICATOR TO BE INSTALLED AT OPTIMAL FURTHEST POINT FROM CONTROL ZONE KIT IN CLEAR VIEW WHEN POPPED UP.

FLUSH POINT TO BE INSTALLED AT OPTIMAL FURTHEST POINT FROM CONTROL ZONE KIT TO ALLOW FOR MAXIMUM DEBRIS FLUSH IN SYSTEM.

H DRIPLINE
SCALE: N.T.S.



LEGEND:
1. HUNTER DRIPLINE (HDL) PER PLAN
2. PLD OR PLD-LOC FITTING
3. FINISHED GRADE
4. MULCH (AS SPECIFIED)
5. HDL RISER - LENGTH AS REQUIRED
6. SOIL
7. PLD OR PLD-LOC FITTING
8. PVC SUPPLY HEADER - SIZE PER PLAN

I DRIPLINE CONNECTION
SCALE: N.T.S.

SR 2020-0020

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MORGAN HILL, CA 95037

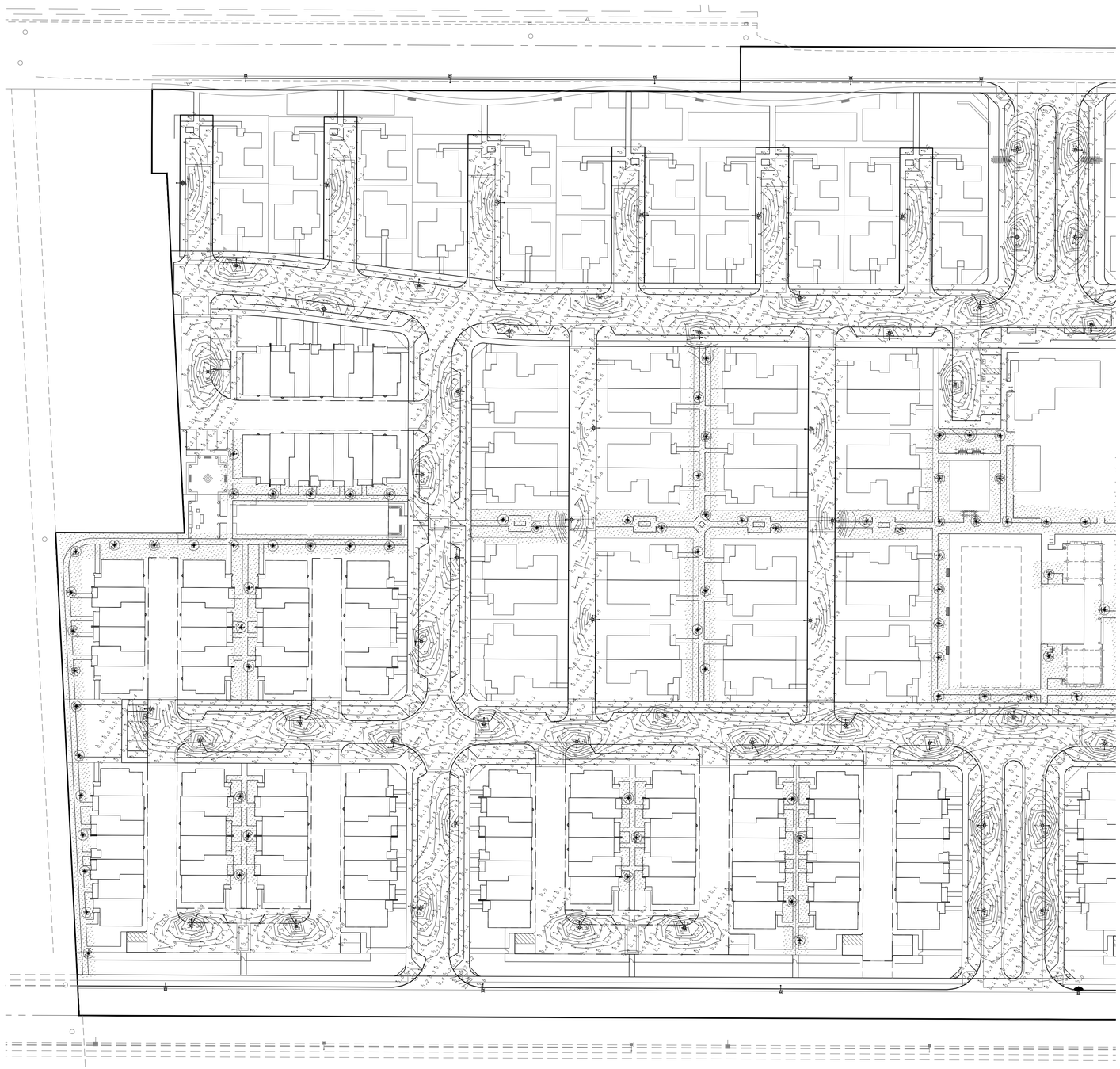
DESIGN REVIEW PERMIT
PRELIMINARY IRRIGATION DETAILS
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

DATE	BY	SHEET REVISIONS	BY	CK
4-28-2023	MK	MISC. REVISIONS PER CITY COMMENTS	JAM	RD
	JAM			

SCALE: AS SHOWN
DATE: AUG. 25, 2020

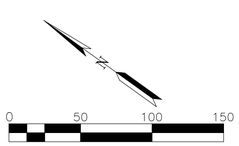
SHEET
L-21
OF 33 SHEETS

JOB NO.
182032-2001



Luminaire Schedule						
Symbol	Qty	Label	Arrangement	LLF	Description	Arr. Watts
+	123	4027_db30-12l5v-11	SINGLE	0.910	DB30AA010IE	12.7
☼	113	cxfxx48-g2-2n3-16	SINGLE	0.910	CXFxx48-G2-2N3-16	52

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ALLEY A PARKING	Illuminance	Fc	0.80	4.2	0.0	N.A.	N.A.
ALLEY B	Illuminance	Fc	1.33	4.5	0.1	13.30	45.00
ALLEY B WALK	Illuminance	Fc	0.46	4.6	0.0	N.A.	N.A.
ALLEY B-C WALK	Illuminance	Fc	0.14	2.7	0.0	N.A.	N.A.
ALLEY C	Illuminance	Fc	1.35	4.7	0.1	13.50	47.00
ALLEY D	Illuminance	Fc	1.35	4.7	0.1	13.50	47.00
ALLEY E	Illuminance	Fc	1.37	4.3	0.1	13.70	43.00
ALLEY E WALK	Illuminance	Fc	0.23	4.7	0.0	N.A.	N.A.
ALLEY F PARKING	Illuminance	Fc	0.97	4.6	0.0	N.A.	N.A.
ALLEY G PARKING	Illuminance	Fc	1.16	4.7	0.0	N.A.	N.A.
ALLEY G WALK 2	Illuminance	Fc	0.10	1.3	0.0	N.A.	N.A.
ALLEY G WALK	Illuminance	Fc	0.11	1.2	0.0	N.A.	N.A.
ALLEY H PARKING	Illuminance	Fc	1.18	4.7	0.0	N.A.	N.A.
ALLEY H WALK	Illuminance	Fc	0.11	1.2	0.0	N.A.	N.A.
ALLEY I	Illuminance	Fc	0.10	1.2	0.0	N.A.	N.A.
ALLEY J PARKING	Illuminance	Fc	1.22	4.7	0.0	N.A.	N.A.
ALLEY J WALK	Illuminance	Fc	0.11	1.2	0.0	N.A.	N.A.
ALLEY K PARKING	Illuminance	Fc	1.40	4.7	0.1	14.00	47.00
ALLEY K WALK	Illuminance	Fc	0.10	1.2	0.0	N.A.	N.A.
ALLEY M WALK	Illuminance	Fc	0.13	1.3	0.0	N.A.	N.A.
ALLEY N PARKING	Illuminance	Fc	0.88	4.4	0.0	N.A.	N.A.
COURT A	Illuminance	Fc	0.98	4.8	0.2	4.90	24.00
COURT B	Illuminance	Fc	1.02	4.7	0.1	10.20	47.00
COURT C	Illuminance	Fc	0.94	4.3	0.1	9.40	43.00
COURT D	Illuminance	Fc	1.07	4.7	0.1	10.70	47.00
COURT E	Illuminance	Fc	1.07	4.7	0.1	10.70	47.00
COURT F	Illuminance	Fc	1.05	4.7	0.1	10.50	47.00
COURT G	Illuminance	Fc	1.10	4.7	0.1	11.00	47.00
COURT H	Illuminance	Fc	1.07	4.7	0.1	10.70	47.00
COURT I	Illuminance	Fc	0.99	4.2	0.1	9.90	42.00
COURT J	Illuminance	Fc	1.05	4.7	0.1	10.50	47.00
COURT K	Illuminance	Fc	1.07	4.7	0.1	10.70	47.00
COURT L	Illuminance	Fc	1.10	4.3	0.2	5.50	21.50
COURT M	Illuminance	Fc	1.10	4.3	0.2	5.50	21.50
COURT N	Illuminance	Fc	1.09	4.3	0.2	5.45	21.50
COURT O	Illuminance	Fc	1.10	4.3	0.2	5.50	21.50
INNER WALKS	Illuminance	Fc	0.19	4.4	0.0	N.A.	N.A.
NORTH WALKWAY	Illuminance	Fc	0.11	1.2	0.0	N.A.	N.A.
PARKING MID	Illuminance	Fc	1.00	4.5	0.0	N.A.	N.A.
STREET A	Illuminance	Fc	1.39	4.7	0.1	13.90	47.00
STREET B	Illuminance	Fc	1.18	4.8	0.0	N.A.	N.A.
STREET C	Illuminance	Fc	1.04	4.5	0.0	N.A.	N.A.
STREET D_ST C-ST F	Illuminance	Fc	1.10	4.8	0.0	N.A.	N.A.
STREET D_TO ST C	Illuminance	Fc	1.14	4.6	0.0	N.A.	N.A.
STREET E	Illuminance	Fc	1.21	4.5	0.0	N.A.	N.A.
STREET F	Illuminance	Fc	1.11	4.8	0.0	N.A.	N.A.
STREET F WALK	Illuminance	Fc	0.14	1.2	0.0	N.A.	N.A.



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DIVIDEND
385 WOODVIEW AVE, SUITE 100
MORGAN HILL, CA 95037

DESIGN REVIEW PERMIT
LIGHTING PLAN
THE CROSSWINDS AT MORGAN HILL
MORGAN HILL, CALIFORNIA

DATE	BY	SHEET REVISIONS	BY	CK
4-28-2023	JAM	MISC. REVISIONS PER CITY COMMENTS	JAM	RD

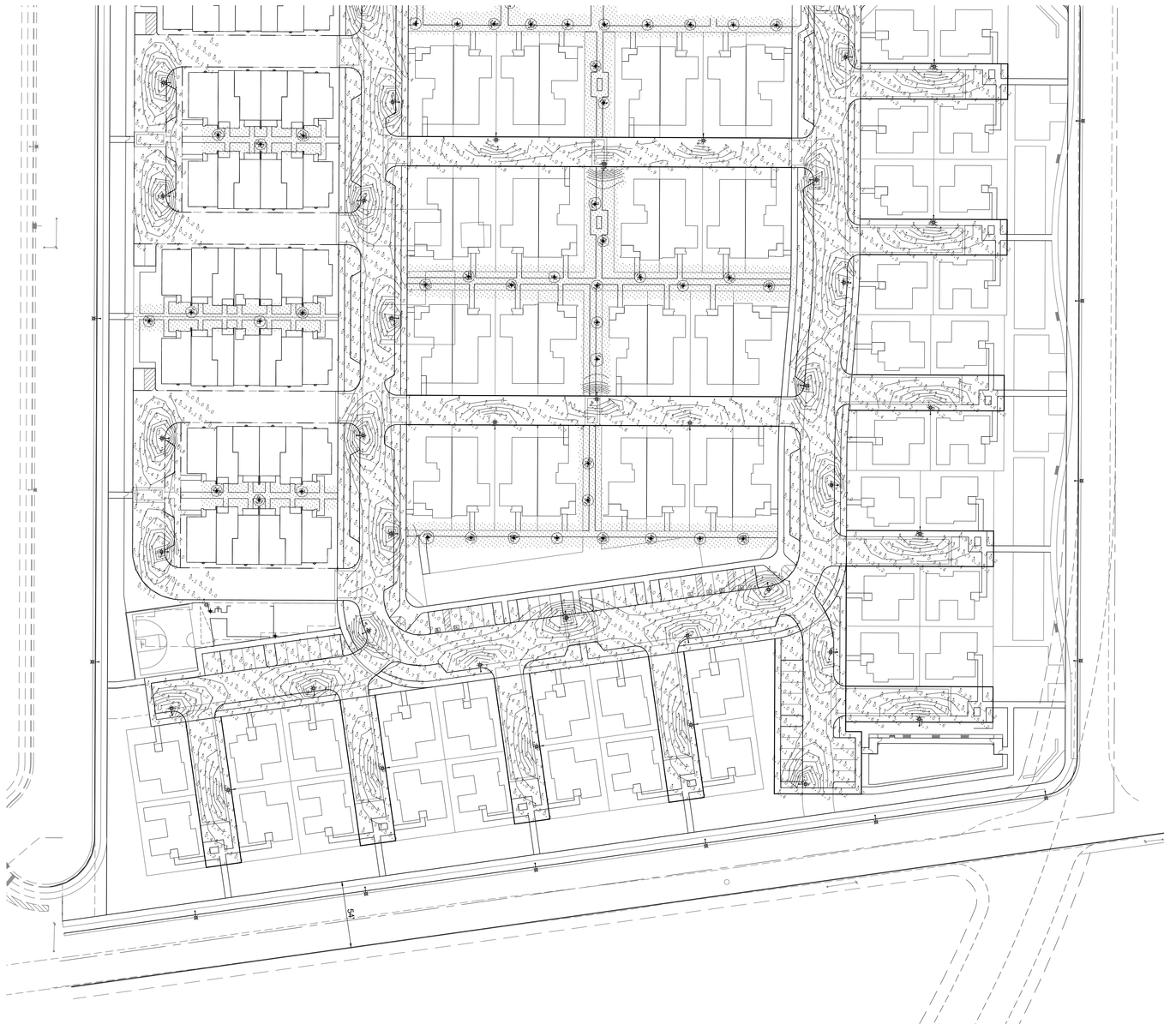
SCALE: AS SHOWN
DATE: AUG. 25, 2020

SHEET
P-01
OF 33 SHEETS

JOB NO.
182032-2001

W:\JOBS 18\182032 DEPAUL_COCHRANE\DRAWINGS\PRELIM\APPLICATIONS\2023 DESIGN REVIEW\P-01_P-02 LIGHTING PLANS.DWG

W:\JOBS 18\182032 DEPAUL_COCHRANE\DRAWINGS\PRELIM\APPLICATIONS\2023 DESIGN REVIEW\P-01_P-02 LIGHTING PLANS.DWG



Luminaire Schedule

Symbol	Qty	Label	Arrangement	LLF	Description	Arr. Watts
	123	427-dbl30-125-11	SINGLE	0.910	DBL30A40-100-E	127
	113	cdx-x48-sq-213-16	SINGLE	0.910	CDX-X48-SQ-213-16	124

Calculation Summary

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
ALLEY A PARKING	Illuminance	Fc	0.80	4.2	0.0	N.A.	N.A.
ALLEY B	Illuminance	Fc	1.33	4.5	0.1	13.30	45.00
ALLEY B WALK	Illuminance	Fc	0.46	2.6	0.0	N.A.	N.A.
ALLEY C - WALK	Illuminance	Fc	1.35	4.7	0.1	13.50	47.00
ALLEY D	Illuminance	Fc	1.35	4.7	0.1	13.50	47.00
ALLEY E	Illuminance	Fc	1.37	4.3	0.1	13.70	43.00
ALLEY F PARKING	Illuminance	Fc	0.97	4.6	0.0	N.A.	N.A.
ALLEY G PARKING	Illuminance	Fc	1.16	4.7	0.0	N.A.	N.A.
ALLEY G WALK 2	Illuminance	Fc	0.10	1.3	0.0	N.A.	N.A.
ALLEY G WALKS	Illuminance	Fc	0.18	1.2	0.0	N.A.	N.A.
ALLEY H WALK	Illuminance	Fc	0.11	1.2	0.0	N.A.	N.A.
ALLEY I	Illuminance	Fc	0.10	1.2	0.0	N.A.	N.A.
ALLEY J PARKING	Illuminance	Fc	1.22	4.7	0.0	N.A.	N.A.
ALLEY K WALK	Illuminance	Fc	0.10	1.2	0.0	N.A.	N.A.
ALLEY L PARKING	Illuminance	Fc	1.40	4.7	0.1	14.00	47.00
ALLEY M WALK	Illuminance	Fc	0.13	1.3	0.0	N.A.	N.A.
ALLEY N PARKING	Illuminance	Fc	0.88	4.4	0.0	N.A.	N.A.
COURT B	Illuminance	Fc	1.02	4.7	0.1	10.20	47.00
COURT C	Illuminance	Fc	0.94	4.3	0.1	9.40	43.00
COURT D	Illuminance	Fc	1.07	4.7	0.1	10.70	47.00
COURT E	Illuminance	Fc	1.07	4.7	0.1	10.70	47.00
COURT F	Illuminance	Fc	1.06	4.7	0.1	10.60	47.00
COURT G	Illuminance	Fc	1.10	4.7	0.1	11.00	47.00
COURT H	Illuminance	Fc	1.07	4.7	0.1	10.70	47.00
COURT I	Illuminance	Fc	0.99	4.2	0.1	9.90	42.00
COURT J	Illuminance	Fc	1.07	4.7	0.1	10.70	47.00
COURT K	Illuminance	Fc	1.07	4.7	0.1	10.70	47.00
COURT L	Illuminance	Fc	1.10	4.3	0.2	5.50	21.50
COURT M	Illuminance	Fc	1.10	4.3	0.2	5.50	21.50
COURT N	Illuminance	Fc	1.09	4.3	0.2	5.45	21.50
COURT O	Illuminance	Fc	1.10	4.3	0.2	5.50	21.50
INNER WALKWAY	Illuminance	Fc	0.19	4.4	0.0	N.A.	N.A.
NORTH WALKWAY	Illuminance	Fc	0.11	1.2	0.0	N.A.	N.A.
PARKING MID	Illuminance	Fc	1.00	4.5	0.0	N.A.	N.A.
STREET A	Illuminance	Fc	1.18	4.8	0.0	N.A.	N.A.
STREET B	Illuminance	Fc	1.18	4.8	0.0	N.A.	N.A.
STREET C	Illuminance	Fc	1.04	4.5	0.0	N.A.	N.A.
STREET D_ST C-ST F	Illuminance	Fc	1.10	4.8	0.0	N.A.	N.A.
STREET D_TO ST C	Illuminance	Fc	1.21	4.5	0.0	N.A.	N.A.
STREET F	Illuminance	Fc	1.11	4.8	0.0	N.A.	N.A.
STREET F WALK	Illuminance	Fc	0.14	1.2	0.0	N.A.	N.A.

SCALE IN FEET: 1" = 50'

0 50 100 150

DATE	MK	SHEET REVISIONS	BY	CK
4-28-2023	JAM	MISC. REVISIONS PER CITY COMMENTS	JAM	RD

SCALE: AS SHOWN

DATE: AUG. 25, 2020

SHEET P-02 OF 33 SHEETS

JOB NO. 182032-2001

DESIGN REVIEW PERMIT

LIGHTING PLAN

THE CROSSWINDS AT MORGAN HILL

MORGAN HILL, CALIFORNIA

DIVIDEND

385 WOODVIEW AVE, SUITE 100

MORGAN HILL, CA 95037

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PHONE: (408) 848-0300 FAX: (408) 848-0302

SCH#: 2021010358

Draft Environmental Impact Report

Crosswinds Residential Project

File Numbers: EA2020-0007, SD2020-0003, and SR2020-0010: Half – Dividend (Crosswinds)

Prepared by the

CITY OF MORGAN HILL

In Consultation with

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SECTION 1.0 SUMMARY

The City of Morgan Hill, as the Lead Agency, has prepared this Draft Environmental Impact Report (EIR) for the Crosswinds Residential Project in compliance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines.

As the CEQA Lead Agency for this project, the City of Morgan Hill is required to consider the information in this EIR along with any other available information in deciding whether to approve the project. The basic requirements for an EIR include discussions of the environmental setting, significant environmental impacts including growth-inducing impacts, cumulative impacts, mitigation measures, and alternatives. It is not the intent of an EIR to recommend either approval or denial of a project.

1.1 SUMMARY OF PROJECT

The approximately 33-acre project site is located at the intersection of Half Road and Mission View Drive in the City of Morgan Hill. The project proposes to construct a total of 269 new residential units, comprised of 56 single-family, 64 duets[1], and 149 condominium units. The project would provide a total of 606 parking spaces, including 538 covered spaces for residences, and 68 uncovered parking spaces for visitors.

The project would include recreational areas including a clubhouse, pool, children's play area, and barbeque/picnic areas. The project would also include pedestrian paths, and landscaping, including trees and lawn areas. The EIR evaluates two project options related to the management of stormwater. Under Option 1, stormwater runoff would be directed to underground retention facilities designed for a 25-year, 24-hour storm event and under Option 2, 100 percent of stormwater from the site would be directed to underground retention facilities designed for a 100-year, 24-hour storm event (as described in further detail in Section 3.2 Project Description).

1.2 SUMMARY OF SIGNIFICANT IMPACTS

The following table is a summary of the significant environmental impacts identified and discussed in the EIR, and the mitigation measures proposed to avoid or reduce those impacts. The project description and full discussion of the impacts and mitigation measures can be found in Section 3.0 Project Information and Description and Section 4.0 Environmental Setting, Impacts, and Mitigation of this EIR.

[1] A duet unit is a residential unit that is attached to one other residential unit.

Table 1.2-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impacts	**Mitigation and Avoidance Measures**
Agriculture	
Impact AG-1: The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. **(Significant and Unavoidable Impact with Mitigation Incorporated)**	**MM AG-1.1:** A minimum of one acre of agricultural land (1:1 mitigation ratio) shall be preserved for each acre of agricultural land changed to a non-agricultural use. The required acreage of area to be protected through an agricultural conservation easement or agricultural preservation in-lieu fee will depend on the measurement of affected area. The 16 acres of Prime Farmland will be used for calculating the required mitigation. **MM AG-1.2:** Conversion of agricultural land shall require off-setting acquisition and/or dedication of agricultural conservation easements over approved agricultural mitigation land, or payment to the City of the agricultural preservation in-lieu fee, to support agricultural preservation activities. Developer acquisition/dedication of easements shall require the project to pay an agricultural lands preservation program stewardship fee to cover administrative costs and ongoing management and monitoring of the easements. Agricultural mitigation fees shall be required prior to the acceptance of a final parcel or subdivision map, or prior to issuance of building or grading permits. Easement dedication is required prior to issuance of building permits. Agricultural mitigation fees shall be required prior to the acceptance of a final parcel or subdivision map, or prior to issuance of building or grading permits. Easement dedication is required prior to issuance of building permits.
Biological Resources	
Impact BIO-1: The project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. **(Less than Significant Impact with Mitigation Incorporated)**	**MM BIO-1.1:** Construction shall be scheduled to avoid the nesting season. If construction can be scheduled to occur between September 1st and January 31st (inclusive) to avoid the raptor nesting season, no impacts will be expected. If construction will take place between February 1st and August 31st, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. Performance of the required surveys for

Table 1.2-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impacts	**Mitigation and Avoidance Measures**
	construction occurring between February 1st and August 31st will ensure that impacts to nesting raptors are reduced to less than significant. Surveys will be completed within 30 days of the on-set of site clearing or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g., trees, shrubs, buildings) onsite trees as well as all trees within 250 feet of the site for nests. The pre-construction survey shall be submitted to the City's Development Services Director or the Director's designee for review prior to tree removals or issuance of a grading permit. **MM BIO-1.2:** If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50-100 feet for other species) that will remain off limits to construction until the nesting season is over, to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Wildlife Code will be disturbed during project implementation. A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the City's Development Services Director or Director's designee prior to issuance of a grading permit.
Impact BIO-5: The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. **(Less than Significant Impact with Mitigation Incorporated)**	**MM BIO-5.1:** The project applicant shall comply with local ordinances and submit permit applications for removal, trimming, damage, or relocation of all trees covered by the City ordinance. Any trees to be removed shall require replacement at a two-to-one ratio on a comparable ratio of size. The replacement trees shall be planted on site to the extent feasible and the project proponent shall comply with all other replacement requirements imposed by the City. Prior to tree removal, the project applicant shall apply for a tree removal permit, which will be reviewed by the City's Development Services Director or Director's designee.

Table 1.2-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impacts	**Mitigation and Avoidance Measures**
Cultural Resources	
Impact CUL-2: Demolition and construction activities on the project site could unearth sensitive archaeological resources. **(Less than Significant Impact with Mitigation Incorporated)**	**MM CUL-2.1:** A moderate potential exists for unrecorded historic-period archaeological resources to be within the project area. The developer shall enter into written contracts with an archaeologist and the Tamien Nation Tribe, and pay all fees associated with the activities required by this Mitigation Measure. The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply: (a) Prior to the start of grading or earthmoving activity (includes demolition and moving of heavy equipment on site) on the "first day of construction," the archaeologist and Tribal Monitor shall hold a pre-construction meeting for the purposes of "cultural sensitivity training" with the general contractor or subcontractors. (b) A Tamien Nation Tribal Monitor shall be present on-site to monitor all ground-disturbing activities and an archaeologist shall be on-call. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below: 1. Work at the location of the find shall halt immediately within 50 feet of the find. If an archaeologist is not present at the time of the discovery, the applicant shall contact an archaeologist for evaluation of the find to determine whether it qualifies as a unique archaeological resource as defined by this chapter. 2. If the find is determined not to be a Unique Archaeological resource, construction can continue. The archaeologist shall prepare a brief informal memo/letter in collaboration with a tribal representative that describes and assesses the significance of the resource, including a discussion of

Table 1.2-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impacts	**Mitigation and Avoidance Measures**
	the methods used to determine significance for the find. 3. If the find appears significant and to qualify as a unique archaeological resource, the archaeologist shall determine if the resource can be avoided and shall detail avoidance procedures in a formal memo/letter. 4. If the resource cannot be avoided, the archaeologist in collaboration with a tribal representative shall develop within forty-eight hours an action plan to avoid or minimize impacts. The field crew shall not proceed until the action plan is approved by the City' Development Services Director or Director's designee. The action plan shall be in conformance with California Public Resources Code 21083.2. An archaeologist shall be on-call during ground disturbing activities. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below. (c) The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply. If human remains are discovered, it is probable they are the remains of Native Americans. 1. If human remains are encountered, they shall be treated with dignity and respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a need-to-know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs, and around artifacts shall be upheld.

Table 1.2-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impacts	**Mitigation and Avoidance Measures**
	2. Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled. 3. Surgical masks should also be worn to prevent exposure to pathogens that may be associated with the remains. (d) In the event that known or suspected Native American remains are encountered, or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, ground stone mortars and pestles), culturally altered ash stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-altered rock and/or burned or charred organic materials and historic structure remains such as stone lined building foundations, wells, or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below. (e) An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the contractor foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time of discovery, by the monitoring archaeologist and tribal representative (typically 25 to 50 feet for single burial or archaeological finds). (f) The discovery locale shall be secured (e.g., 24-hour surveillance) as directed by the City or County Coroner if considered prudent to avoid further disturbances. (g) The contractor foreman or authorized representative, or party who made the discovery

Table 1.2-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impacts	**Mitigation and Avoidance Measures**
	and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition: • The City of Morgan Hill Development Services Director (408) 779-7247 • The Contractor's Point(s) of Contact • The Coroner of the County of Santa Clara (if human remains found) (408) 793-1900 • The Native American Heritage Commission (NAHC) in Sacramento (916) 653-4082 • The Amah Mutsun Tribal Band (916) 481-5785 (H) or (916) 743-5833 (C) • The Tamien Nation (707) 295-4011 (office) and (925) 336-5359 (THPO) (h) The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American, the Coroner has 24 hours to notify the NAHC. (i) The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD). (Note: NAHC policy holds that the Native American Monitor will not be designated as the MLD). (j) Within 24 hours of their notification by the NAHC, the MLD will be granted permission to inspect the discovery site if they so choose. (k) Within 24 hours of their notification by the NAHC, the MLD may recommend to the City's Development Services Director or Director's designee, the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the appropriate tribe may be considered and carried out.

Table 1.2-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impacts	**Mitigation and Avoidance Measures**
	(i) If the MLD recommendation is rejected by the City of Morgan Hill, the parties will attempt to mediate the disagreement with the NAHC. If mediation fails, then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance. **MM CUL-2.2:** The project applicant shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources including prehistoric Native American burials. Any archaeological site information supplied to the Contractor Foreman or authorized representative shall be considered confidential. Information on the project plans shall be verified by the City's Development Services Director or Director's designee prior to issuance of a grading permit or any building permit.
Greenhouse Gas Emissions	
Impact GHG-1: The project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. **(Less than Significant Impact with Mitigation Incorporated)**	**MM GHG-1.1:** The project applicant shall develop a GHG reduction plan to reduce GHG emissions in the build-out year by 206 MT/year prior to issuance of a grading permit and to the satisfaction of the City's Development Services Director or Director's designee. These reductions shall be kept in place by the project until the City adopts a qualified GHG reduction plan (consistent with CEQA Guidelines Section 15183.5) that contains goals and associated strategy to decrease emissions in a manner consistent with meeting the State's interim 2030 GHG emissions reduction target of 40 percent below 1990 levels. **MM GHG-1.2:** A combination of the GHG reduction elements listed below would reduce project GHG impacts. The project applicant shall implement some or all of the following elements to further reduce GHG emission from operation of the project and the service population efficiency metric such that the metric would be below the significance threshold. The GHG reduction elements to be included within the project shall be verified prior to the issuance of a building permit and shall be to the satisfaction of

Table 1.2-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impacts	**Mitigation and Avoidance Measures**
	the City's Development Services Director or Director's designee. • Prior to issuance of any building permits, the project applicant shall submit a Transportation Demand Management (TDM) Plan, which would include measures to reduce vehicle miles traveled (VMT) and GHG emissions, to the City's Development Services Director or Director's designee; • The TDM Plan shall be implemented by the Homeowners Association (HOA) once the proposed residences are occupied. • The project applicant shall install solar power systems or other renewable electric generating systems that provide electricity to power on-site equipment and possibly provide excess electric power; • The project applicant shall provide infrastructure for electric vehicle charging for residential units (i.e., provide 220 VAC power); and, • The project applicant shall increase water conservation above state average conditions for residential uses by installing low flow water utilities and irrigation. **MM GHG-1.3:** The project applicant shall purchase verifiable carbon emission offsets through a verified registry for remaining amount of GHG reduction required, after exhausting on-site reduction options prior to issuance of a building permit. Offsets shall be determined by calculating the total estimated number of GHG emissions the project would create over a 30-year period, and purchasing verifiable offsets based on the calculated number of GHG emissions.
Hazards and Hazardous Materials	
Impact HAZ-2: The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the	**MM HAZ-2.1:** Since lead-impacted soils are determined to be present in concentrations above established regulatory environmental screening levels, the project applicant shall enter into the Santa Clara County Department of

Table 1.2-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impacts	**Mitigation and Avoidance Measures**
environment. **(Less than Significant Impact with Mitigation Incorporated)**	Environmental Health's (SCCDEH) Voluntary Cleanup Program (VCP), or equivalent, to formalize regulatory oversight of the mitigation of contaminated soil to ensure the site is safe for construction workers and the public after development. The project applicant responsible for the contaminated area of the site shall remove contaminated soil to levels acceptable to the SCCDEH (or equivalent oversight agency) for residential exposure prior to issuance of any grading permits. **MM HAZ-2.2:** A Removal Action Plan, Soil Mitigation Plan or other similarly titled report describing the remediation shall be prepared and implemented to document the removal and /or capping of contaminated soil. Prior to issuance of any grading permits, a copy of any reports prepared shall be submitted to the Development Services Director or Director's designee. All work and reports produced shall be performed under the regulatory oversight and approval of the SCCDEH (or equivalent oversight agency). **MM HAZ-2.3:** The project applicant shall prepare a Site Management Plan (SMP) prior to issuance of any grading permits to reduce or eliminate exposure risk to human health and the environment, specifically, potential risks associated with the presence of organochlorine pesticides and pesticide-based metals. The SMP shall include, but is not limited to, the following elements to mitigate potential risks associated with environmental conditions: • Procedures for transporting and disposing the waste material generated during removal activities, if such transport and disposal is necessary; • Procedures for stockpiling soil on-site if such stockpiling is necessary; • Provisions for collecting soil samples to prior to grading activities; • Provisions for confirmation soil sampling as appropriate to obtain a "No Further Action" letter (or equivalent) from the state and/or local agency assuming oversight for the site;

Table 1.2-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impacts	**Mitigation and Avoidance Measures**
	• Procedures to ensure that fill and cap materials are verified as clean truck routes; • Staging and loading procedures and record keeping requirements. The SMP shall reference the Storm Water Pollution Prevention Plan (SWPPP) required for the project in accordance with the Construction General Permit Order issued by the California State Water Resources Control Board. The SMP shall be submitted to the Santa Clara County Department of Environmental Health (SCCDEH), or equivalent regulatory agency, for review and approval. Copies of the approved SMP shall be provided to the City's Development Services Department prior to issuance of any grading permits. **MM HAZ-2.4:** All contractors and subcontractors at the project site shall develop a health and safety plan (HSP) specific to their scope of work and based upon the known environmental conditions for the site. Each Health and Safety plan shall be implemented under the direction of a Site Safety and Health Officer. The Health and Safety Plan shall include, but not limited to, the following elements, as applicable: • Provisions for personal protection and monitoring exposure to construction workers; • Procedures to be undertaken in the event that contamination is identified above action levels or previously unknown contamination is discovered; • Procedures for the safe storage, stockpiling, and disposal of contaminated soils; • Provisions for the on-site management and/or treatment of contaminated groundwater during extraction or dewatering activities; • Emergency procedures and responsible personnel. The HSP shall be submitted to the Santa Clara County Department of Environmental Health (SCCDEH), or equivalent regulatory agency, for

Table 1.2-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impacts	**Mitigation and Avoidance Measures**
	review and approval. Copies of the approved HSP shall be provided to the City's Development Services Department prior to issuance of any grading permits. **MM HAZ-2.5:** Prior to issuance of any grading permits, the project applicant shall excavate lead-impacted soils identified at sample locations SS-R-16A, SS-R-16D, and SS-R-17B (near the single-family residence and barn structure) to a depth of at least 2.5 below the ground. The soil shall be properly disposed of in accordance with state and SCCDEH and California Code of Regulations, Title 8 waste disposal requirements. The SCCDEH (or equivalent oversight agency) may also approve leaving in-place some of the contaminated soil if the contaminated soil will be buried under hardscape and/or several feet of clean soil and not at risk of being encountered by future site users or nearby residents. **MM HAZ-2.6:** Prior to issuance of a demolition permit for on-site structures, the project applicant shall consult with certified Asbestos and/or Lead Risk Assessors to complete and submit for review to the Building Department an asbestos and lead survey. If asbestos-containing materials or lead-containing materials are not discovered during the survey, further mitigation related to asbestos-containing materials or lead-containing materials shall not be required. If asbestos containing materials and/or lead-containing materials are discovered by the survey, the project applicant shall prepare a work plan to demonstrate how the on-site asbestos-containing materials and/or lead-containing materials shall be removed in accordance with current California Occupational Health and Safety (Cal-OSHA) Administration regulations and disposed of in accordance with all CalEPA regulations, prior to the demolition and/or removal of the on-site structures. The plan shall include the requirement that work shall be conducted by a Cal-OSHA registered asbestos and lead abatement contractor in accordance with Title 8 CCR 1529 and Title 8 CCR 1532.1 regarding asbestos and lead training, engineering controls,

Table 1.2-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impacts	**Mitigation and Avoidance Measures**
	and certifications. The applicant shall submit the work plan to the City for review and approval. The City has the right to defer the work plan to the Santa Clara County Department of Environmental Health for additional review. The following measures shall be included in the work plan: • During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Title 8, California Code of Regulations (CCR), Section 1532.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of lead being disposed. • All potentially friable asbestos containing materials (ACMs) shall be removed in accordance with National Emission Standards for Air Pollution (NESHAP) guidelines prior to demolition or renovation activities that may disturb ACMs. All demolition activities shall be undertaken in accordance with Cal/OSHA standards contained in Title 8, CCR, Section 1529, to protect workers from asbestos exposure. • A registered asbestos abatement contractor shall be retained to remove and dispose of ACMs identified in the asbestos survey performed for the site in accordance with the standards stated above. • Materials containing more than one-percent asbestos are also subject to Bay Area Air Quality Management District (BAAQMD) regulations. Removal of materials containing more than one-percent asbestos shall be completed in accordance with BAAQMD requirements and notifications.

Table 1.2-1: Summary of Significant Impacts and Mitigation Measures	
Significant Impacts	**Mitigation and Avoidance Measures**
	• Based on Cal/OSHA rules and regulations, the following conditions are required to limit impacts to construction workers. • Prior to commencement of demolition activities, a building survey, including sampling and testing, shall be completed to identify and quantify building materials containing lead-based paint. • During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Construction Standard, Title 8, CCR, Section 1532.1, including employee training, employee air monitoring and dust control. • Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of waste being disposed. **MM HAZ-2.7:** Prior to issuance of a grading permit, the project applicant shall research well records from Valley Water and attempt to locate abandoned wells at the site. If the wells are identified, or subsequently encountered during earthwork activities, the wells shall be properly destroyed in accordance with Valley Water Ordinance 90-1. If septic systems are encountered during earthwork activities, those systems shall be abandoned in accordance with SCCDEH requirements.
Impact TRN-2: The project would conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). **(Significant and Unavoidable Impact with Mitigation Incorporated)**	**MM TRN-2.1:** During project operations, the management entity/HOA shall provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director or Director's designee prior to issuance of occupancy.

1.3 SUMMARY OF ALTERNATIVES

CEQA requires that an EIR identify alternatives to a project as it is proposed. CEQA Guidelines Section 15126.6 specifies that the EIR should identify alternatives which "would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project." Below is a summary of the project alternatives analyzed in this EIR. A full analysis of the project alternatives is provided in Section 8.0 Alternatives.

Alternatives Considered but Rejected

The following alternative was considered but rejected and described in detail in Section 8.5, Alternatives Considered but Rejected:

- Location Alternative

Analyzed Alternatives

The following were evaluated as alternatives to the project and described in detail in Section 8.6, Project Alternatives:

- No Project Alternative as required by CEQA (Section 15126.6[e]),
- No Project – Existing General Plan/ Zoning Development Alternative
- Reduced Footprint Alternative: Agricultural Preservation

The CEQA Guidelines state that an EIR shall identify an environmentally superior alternative. In addition to the No Project Alternative, the environmentally superior alternative to the proposed project is the Reduced Footprint: Agricultural Preservation Alternative, as further detailed in Section 8.6, Alternatives.

SECTION 2.0 INTRODUCTION

2.1 PURPOSE OF THE ENVIRONMENTAL IMPACT REPORT

The City of Morgan Hill (City), as the Lead Agency, has prepared this Draft Environmental Impact Report (EIR) for the Crosswinds Half Road and Mission View Drive Residential Project in compliance with the California Environmental Quality Act (CEQA) and the CEQA Guidelines.

As described in CEQA Guidelines Section 15121(a), an EIR is an informational document that assesses potential environmental impacts of a proposed project, as well as identifies mitigation measures and alternatives to the proposed project (under Options 1 and 2 described in Section 3.2) that could reduce or avoid adverse environmental impacts (CEQA Guidelines 15121(a)). As the CEQA Lead Agency for this project, the City of Morgan Hill is required to consider the information in the EIR along with any other available information in deciding whether to approve the project. The basic requirements for an EIR include discussions of the environmental setting, significant environmental impacts including growth-inducing impacts, cumulative impacts, mitigation measures, and alternatives. It is not the intent of an EIR to recommend either approval or denial of a project.

2.2 EIR PROCESS

2.2.1 Notice of Preparation and Scoping

In accordance with Section 15082 of the CEQA Guidelines, the City prepared a Notice of Preparation (NOP) for this EIR. The NOP was circulated to local, state, and federal agencies on January 29, 2021. The standard 45-day comment period concluded on March 17, 2021. The NOP provided a general description of the proposed project and identified possible environmental impacts that could result from implementation of the project. Appendix A of this EIR includes the NOP and comments received on the NOP. See Table 2.2-1 below for summaries of NOP comments.

Table 2.2-1: Summaries of Comments Received on NOP

Commenter	Summary of Comment
Bay Area Air Quality Management District (BAAQMD)	• Air quality: o Draft Environmental Impact Report (DEIR) should estimate and evaluate the potential health risk to existing and future sensitive populations within and near the Project area from toxic air contaminants (TACs) and fine particulate matter (PM2.5) as a result of the Project's construction and operations. o DEIR should evaluate all feasible mitigation measures, onsite and offsite. o DEIR should evaluate Project's consistency with the Air District's 2017 Clean Air Plan. o DEIR should evaluate Project's consistency with the City of Morgan Hill Climate Action Plan.

Table 2.2-1: Summaries of Comments Received on NOP	
Commenter	**Summary of Comment**
	• Greenhouse gases: o The GHG impact analysis should include an evaluation of the Project's consistency with the most recent draft of the AB 32 Scoping Plan. o DEIR should evaluate all feasible mitigation measures, onsite and offsite.
County of Santa Clara Parks and Recreation Department	• Recreation: o If the Project is determined to have any direct or indirect impacts to the Madrone Channel Trail or other recreational units, those impacts must be analyzed in the EIR.
County of Santa Clara Roads and Airports Department	• Transportation: o The traffic analysis for the project should evaluate the same intersections that were evaluated in the Morgan Hill Technology Center project. o All-way stop sign installation at Half Road and Mission View Drive is underway by the County. o Ensure project site alleyway has no public vehicle access to Half Road and is only for emergency use.
Mariani Family Properties (1615 Half Road)	• Land Use: o Discuss project site plan consistency with the adjacent General Plan land uses. • Population/Housing: o Discuss how the proposed housing helps satisfy the Association of Bay Area Governments (ABAG)-adopted Regional Housing Needs Allocation (RHNA) housing allocation for Morgan Hill. • Greenhouse Gases: o The proposed project and neighboring properties are within short commuting distance of Morgan Hill job centers. Discuss the implication of such locational circumstances to state and regional law and policy concerning the need to reduce greenhouse gas emissions by shortening/lessening car commutes. • Transportation and Utilities: o EIR should include discussion of planned bicycle, pedestrian, and public transit/bus service. In particular, discuss impact of the connections provided by the bus line on Mission View Drive and Half Road to citywide job and education centers.
Native American Heritage Commission (NAHC)	• Tribal Cultural Resources: o NAHC recommends consultation with California Native American tribes that are traditionally and culturally

Table 2.2-1: Summaries of Comments Received on NOP	
Commenter	**Summary of Comment**
	affiliated with the geographic area of the proposed project.
Santa Clara Valley Transportation Authority (VTA)	• Transportation: o VTA's Congestion Management Program (CMP) requires a Transportation Impact Analysis (TIA) for any project expected to generate 100 or more net new peak-hour trips. o TIA's analysis of pedestrian and bicycle modes should consider the completeness of the pedestrian and bicycle network on roadways and intersections adjacent to and nearby the project site. o VTA recommends installing a new southbound bus stop after the main entrance on Mission View Drive. o VTA recommends the project install street lighting at the bus stop, place trees and landscaping outside the bus stop area, and install a new passenger pad.

2.2.2 Draft EIR Public Review and Comment Period

Publication of this Draft EIR will mark the beginning of a 60-day public review period. During this period, the Draft EIR will be available to the public and local, state, and federal agencies for review and comment. Notice of the availability and completion of this Draft EIR will be sent directly to every agency, person, and organization that commented on the NOP, as well as the Office of Planning and Research. Written comments concerning the environmental review contained in this Draft EIR during the 60-day public review period should be sent to:

Gina Paolini, Principal Planner
City of Morgan Hill
17575 Peak Avenue
Morgan Hill, California 95037
Email: gina.paolini@morganhill.ca.gov

2.3 FINAL EIR/RESPONSES TO COMMENTS

Following the conclusion of the 60-day public review period, the City of Morgan Hill will prepare a Final EIR in conformance with CEQA Guidelines Section 15132. The Final EIR will consist of:

- Revisions to the Draft EIR text, as necessary;
- List of individuals and agencies commenting on the Draft EIR;
- Responses to comments received on the Draft EIR, in accordance with CEQA Guidelines (Section 15088);
- Copies of letters received on the Draft EIR.

Section 15091(a) of the CEQA Guidelines stipulates that no public agency shall approve or carry out a project for which an EIR has been certified which identifies one or more significant environmental effects of the project unless the public agency makes one or more written findings. If the lead agency approves a project despite it resulting in significant adverse environmental impacts that cannot be mitigated to a less than significant level, the agency must state the reasons for its action in writing. This Statement of Overriding Considerations must be included in the record of project approval.

2.3.1 Notice of Determination

If the project is approved, the City of Morgan Hill will file a Notice of Determination (NOD), which will be available for public inspection and posted within 24 hours of receipt at the County Clerk's Office and available for public inspection for 30 days. The filing of the NOD starts a 30-day statute of limitations on court challenges to the approval under CEQA (CEQA Guidelines Section 15094(g)).

SECTION 3.0 PROJECT INFORMATION AND DESCRIPTION

3.1 PROJECT SETTING AND LOCATION

The approximately 33-acre project site is located at the intersection of Half Road and Mission View Drive in the City of Morgan Hill. The site is bounded by Half Road to the south, and Mission View Drive to the east. The project is located on four parcels. The Assessor's Parcel Numbers (APNs) are 728-30-001, 728-30-002, 728-30-003, and 728-30-004. The project site is mostly undeveloped and consists of grassland, fallowed agricultural fields, and boxed trees. A vacant single-family residence constructed in the 1950s is located on the southwestern section of the site. Regional, vicinity, and aerial maps of the project site are shown on Figure 3.2-1, Figure 3.2-2, and Figure 3.2-3, respectively.

The adjacent parcels (APNs 728-30-006, 728-30-008, and 728-30-009) to the west are undeveloped, consisting of mostly grasses and boxed trees. South of the project site, across Half Road, is a vacant field with grasses and buildings used for industrial purposes. East of the project site, across Mission View Drive, is a field with orchards and associated structures, and single-family residences. North of the project site, is an adjacent vacant parcel of land, followed by a health center and associated parking.

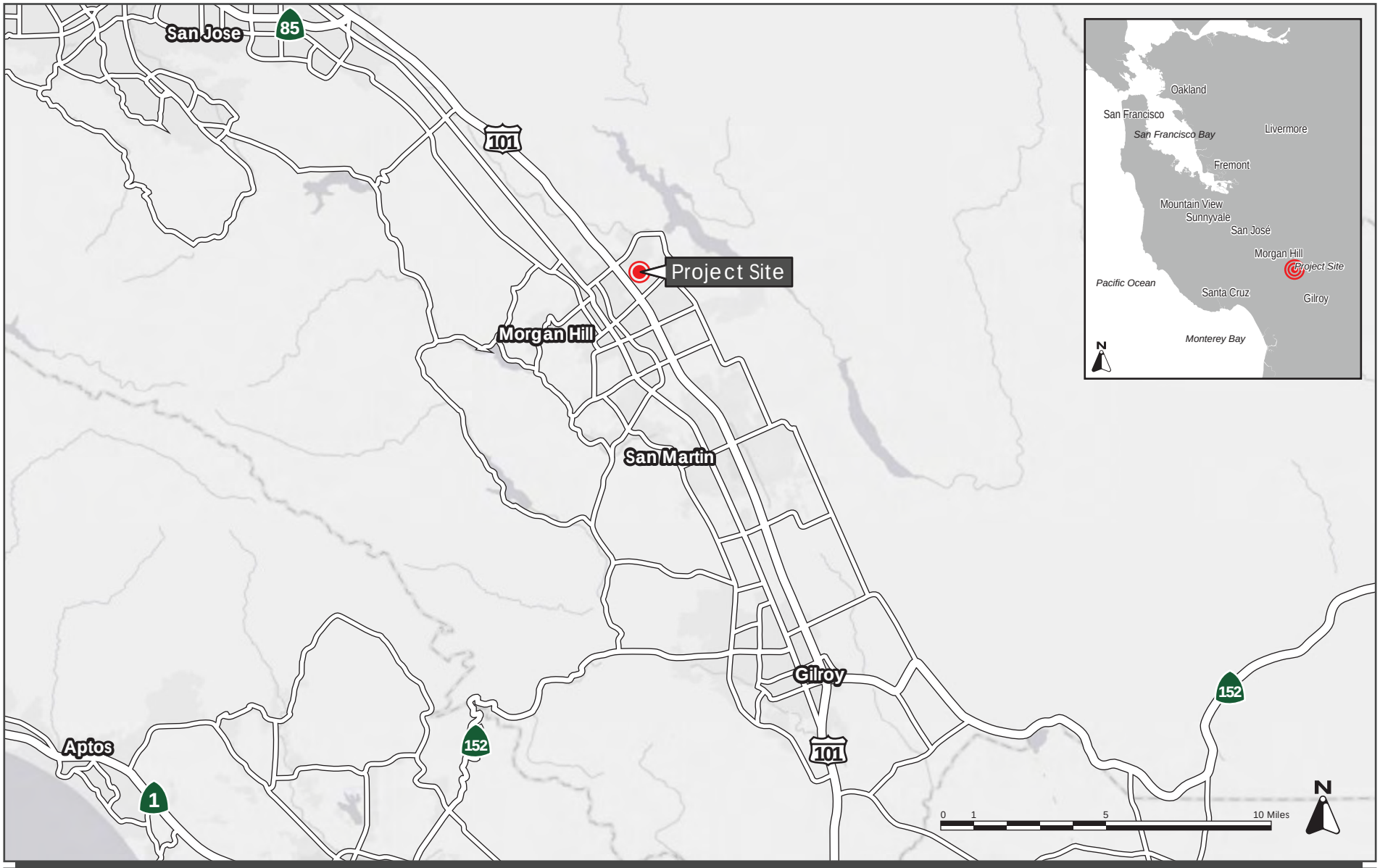
The project (Options 1 and 2 discussed in Section 3.2) also proposes an off-site sanitary sewer line extension from Half Road to East Main Avenue (see Section 3.2 for a description). The area where the off-site sewer line is proposed is surrounded by agricultural lands and residences.

3.2 PROJECT DESCRIPTION

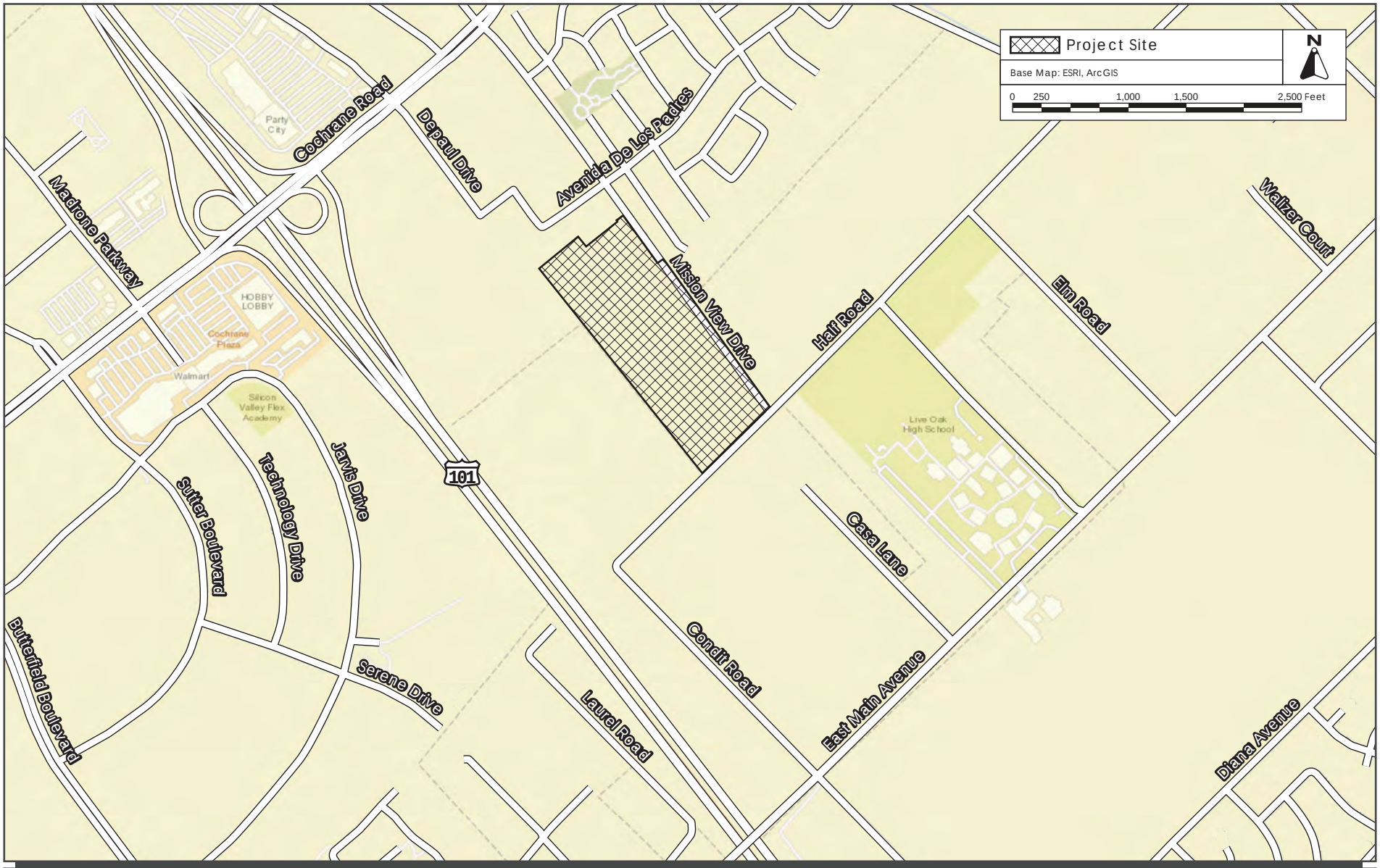
This EIR evaluates two project options related to the management of stormwater. Under Option 1, stormwater runoff would be directed to underground retention facilities designed for a 25-year, 24-hour storm event and under Option 2, 100 percent of stormwater from the site would be directed to underground retention facilities designed for a 100-year, 24-hour storm event (as described in further detail in Section 3.2.4, Stormwater Drainage Improvements). The two project options would have the same site design described below including the proposed number of residences, building elevations, and site layout.

The project (under Options 1 and 2) proposes a Vesting Tentative Map and Design Review Permit to construct a total of 269 residential units, comprised of 56 single-family detached, 64 duets, and 149 condominium units. There would be a total of 40 below-market-rate (BMR) units. Each unit would include a two-car garage on the ground floor. The single-family detached residences would be constructed on the eastern and southern perimeters of the project site, along Mission View Drive and Half Road. The single-family residences would be two-stories and reach a maximum height of 30 feet.

The two-story attached duets would be located in the center of the project site and would reach a maximum height of 30 feet. Three-story condominiums would be constructed along the western



REGIONAL MAP | FIGURE 3.2-1



VICINITY MAP | FIGURE 3.2-2

AERIAL PHOTOGRAPH AND SURROUNDING LAND USES | FIGURE 3.2-3

and northwestern perimeters of the project site, along DePaul Drive and adjacent to a vacant parcel. The condominiums would reach a maximum height of 39 feet.

The residences would be set back from the edge of the sidewalk by at least 30 feet from the proposed DePaul Drive, which would be extended from the north along the project and adjacent property frontage to the south terminating in a cul-de-sac north of Half Road; refer to Section 3.2.2 Site Access and Parking for a more detailed description of the proposed extension), 15 feet from the sidewalk on Half Road, 15 feet from the sidewalk along Mission View Drive, and 10 feet from the northern property line. A site plan of the proposed project is shown on Figure 3.2-4.

As referenced in Section 3.1, a 2,745-foot off-site sanitary sewer line would also be constructed from Half Road to Condit Road and connect to an existing sewer line on East Main Avenue as a part of the project. The width of the sewer line trench would be approximately two feet; the trench/area of disturbance for the off-site sanitary sewer line would be 0.1 acres (or 5,260 square feet). The off-site sewer line would serve the project site, adjacent development, and planned development in the area (refer to Figure 3.2-4, Figure 3.2-5, and Figure 3.2-6).

Building elevations for the single-family detached units are shown on Figure 3.2-7, elevations of the attached duets are shown on Figure 3.2-8, and elevations of the condominiums are shown on Figure 3.2-9.

3.2.1 Landscaping and Outdoor Areas

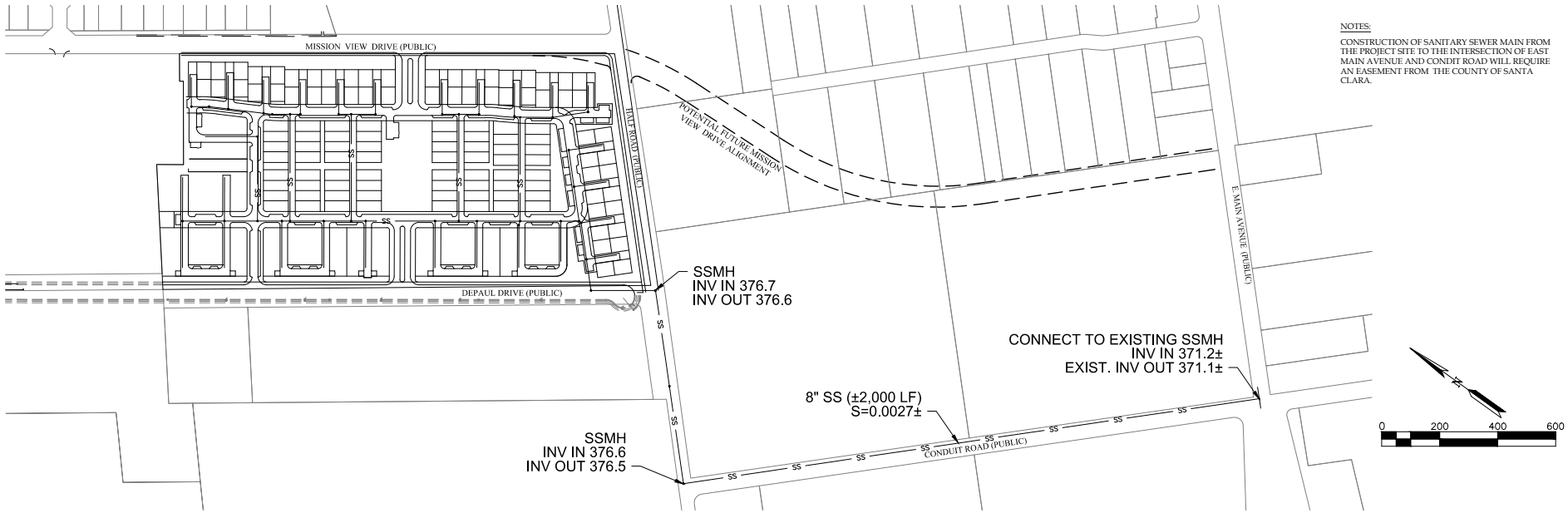
Project Options 1 and 2 would include private recreational areas including a clubhouse, pool, children's play area, basketball court, fitness court, and barbeque/picnic areas. The project would also include pedestrian paths, and landscaping, including trees and lawn areas. The proposed project would remove all existing trees on-site and would plant new trees throughout the site.

3.2.2 Site Access and Parking

Project Options 1 and 2 would provide 606 parking spaces including 538 covered spaces and 68 uncovered parking spaces. The 538 covered (garages and carports) parking spaces would be designated for the residences and on-street parking and uncovered parking stalls would be available to guests.

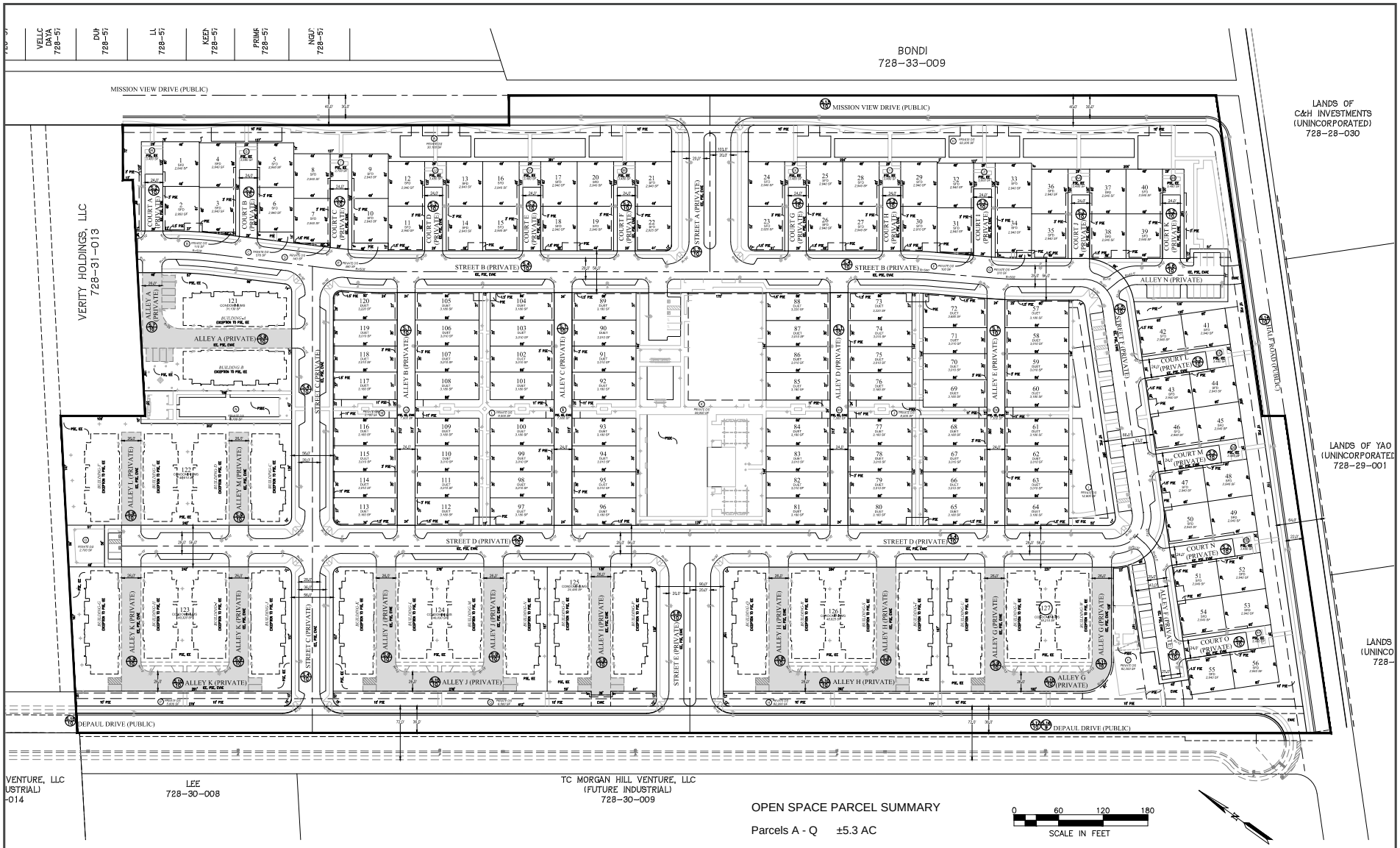
The project site would be accessed via three vehicular connections: two project entries from DePaul Drive and one entry from Mission View Drive. DePaul Drive is proposed to be extended by approximately 2,280 feet south along the project site's western frontage to provide direct access to the project site via full access driveways. DePaul Drive would terminate at a cul-de-sac just north of Half Road. The project would extend DePaul Drive from the northern and southern edges of the development. The western portion of DePaul Drive would extend onto the adjacent property

ILLUSTRATIVE SITE PLAN | FIGURE 3.2-4



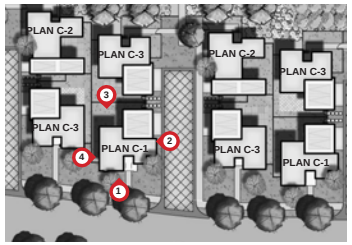
Source: Ruggeri-Jensen-Azar, June 8, 2020.

OFF-SITE SANITARY SEWER LINES | FIGURE 3.2-5

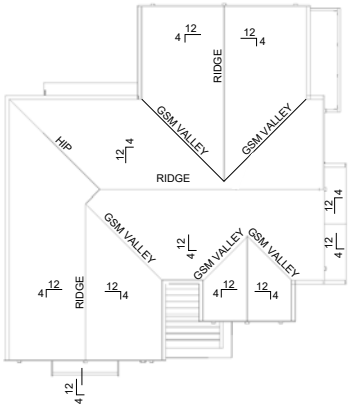


Source: Ruggeri-Jensen-Azar, June 8, 2020.

VESTING TENTATIVE MAP | FIGURE 3.2-6



TYPICAL CLUSTER LAYOUT



ROOF PLAN, ELEVATION STYLE B

PLAN C-1, ELEVATION STYLE B, FRONT ELEVATION

RIGHT ELEVATION

REAR ELEVATION

LEFT ELEVATION

SINGLE-FAMILY DETACHED ELEVATIONS | FIGURE 3.2-7

BUILDING 201, ELEVATION STYLE D, FRONT ELEVATION

RIGHT ELEVATION (PLAN D-1)

REAR ELEVATION (PLAN D-1 AND D-2)

LEFT ELEVATION (PLAN D-2)

DUET ELEVATIONS | FIGURE 3.2-8

BUILDING 601, ELEVATION STYLE F, FRONT ELEVATION

LEFT ELEVATION

REAR ELEVATION

RIGHT ELEVATION

CONDOMINIUM ELEVATIONS | FIGURE 3.2-9

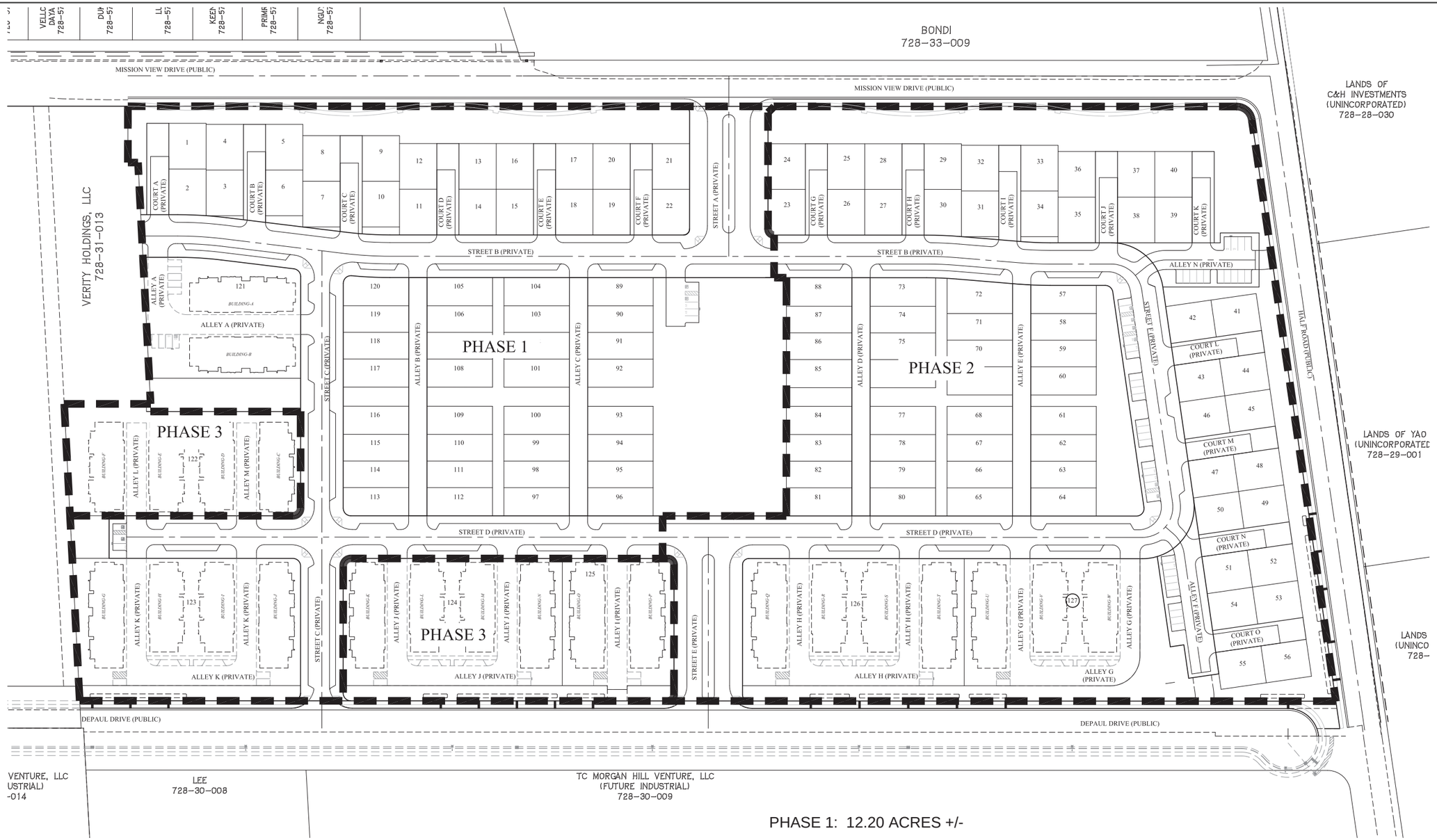
immediately to the west and provide access to a future industrial Redwood Tech site (refer to Figure 3.2-6). The project (under Options 1 and 2) would also include three emergency vehicle access points: one along Half Road and two along DePaul Drive.

3.2.3 Construction and Demolition

There would be 46,000 cubic yards of soil cut and fill during construction for Option 1 and 52,500 cubic yards of soil under Option 2, respectively. There would be no soil exported or imported from the site for either project option, with the exception of minimal excavation and export of soil that would be required for lead-impacted soil Under both options. Demolition and construction of the proposed residential project and DePaul Drive extension would take approximately 41 months.

The proposed project (under Options 1 and 2) would be constructed in four phases. The construction schedule for Options 1 and 2 would be similar, as both would require an overall duration of approximately 41 months. The implementation of Option 2 would require three more construction workdays during the grading/excavation phase compared to Option 1, resulting in a total of 18 workdays for grading and excavation. Option 2 would include an increase in equipment usage for 16 of the 18 workdays for the use of certain heavy equipment such as excavators (which would be seven more days than Option 1), graders (five more days than Option 1), scrapers (two more days than Option 1), and tractors/loaders (two more days than Option 1) during the grading/excavation phase.

Table 3.2-1 and Figure 3.2-10 show which residences would be constructed during each phase and the duration of each construction phase. Construction of the off-site sewer line would occur within the grading phase and would take approximately one month (or 18 construction workdays).



NOTES

1. THIS PLAN ILLUSTRATES PROPOSED PHASING FOR UNITS, OPEN SPACE, AND IN-TRACT ROADWAY IMPROVEMENTS. UTILITY CONNECTIONS FOR PHASE 1 WILL REQUIRE EXTENDING UTILITIES THROUGH A PORTION OF PHASE 2, INCLUDING STREET D AND ALLEY F.

PHASE 1: 12.20 ACRES +/-

PHASE 2: 12.88 ACRES +/-

PHASE 3: 2.85 ACRES +/-

DEPAUL RIGHT-OF-WAY WITHIN THE CROSSWINDS: 59,400 S.F. +/- (1.36 ACRES +/-)

DEPAUL RIGHT-OF-WAY FROM EXISTING STUB TO HALF ROAD (INCLUDING CROSSWINDS): 163,000 S.F. +/- (3.74 ACRES)

PHASING PLAN | FIGURE 3.2-10

Table 3.2-1: Construction Phasing: Project Options 1 and 2			
Construction	Number of Units	Construction Duration[1]	Acreage
Phase 1 (overall site preparation)	N/A	1 month – May 2023 to June 2023 (Demolition and site preparation; grading/excavation of proposed residential area) Grading/Excavation - Option 1: Total of 15 construction workdays Option 2: Total of 18 construction workdays.	33.18
	Off-site Sewer Line Installation	1 month – June 2023 (Options 1 and 2)	Approximately 0.19 acres (the length of the "off-site" sewer improvement is approximately 2,745 linear feet)
Phase 2	40 condominium units (Buildings A and B, G -J) 32 single-family attached units (Building units 89 – 120) 22 single-family detached units (Building units 1-22) Clubhouse/pool area	16 months: June 2023 to October 2024 (Options 1 and 2) (Trenching, foundations, framing, exterior building construction, paving, and interior building construction, construction of swimming pool area)	12.2
Phase 3	34 single-family detached units (Building units 23 through 56) 32 single-family detached units (Building units 57-88)	17 months: October 2024 to March 2026 (Options 1 and 2) (Trenching, foundations, framing, exterior building construction, paving, and interior building construction)	12.9

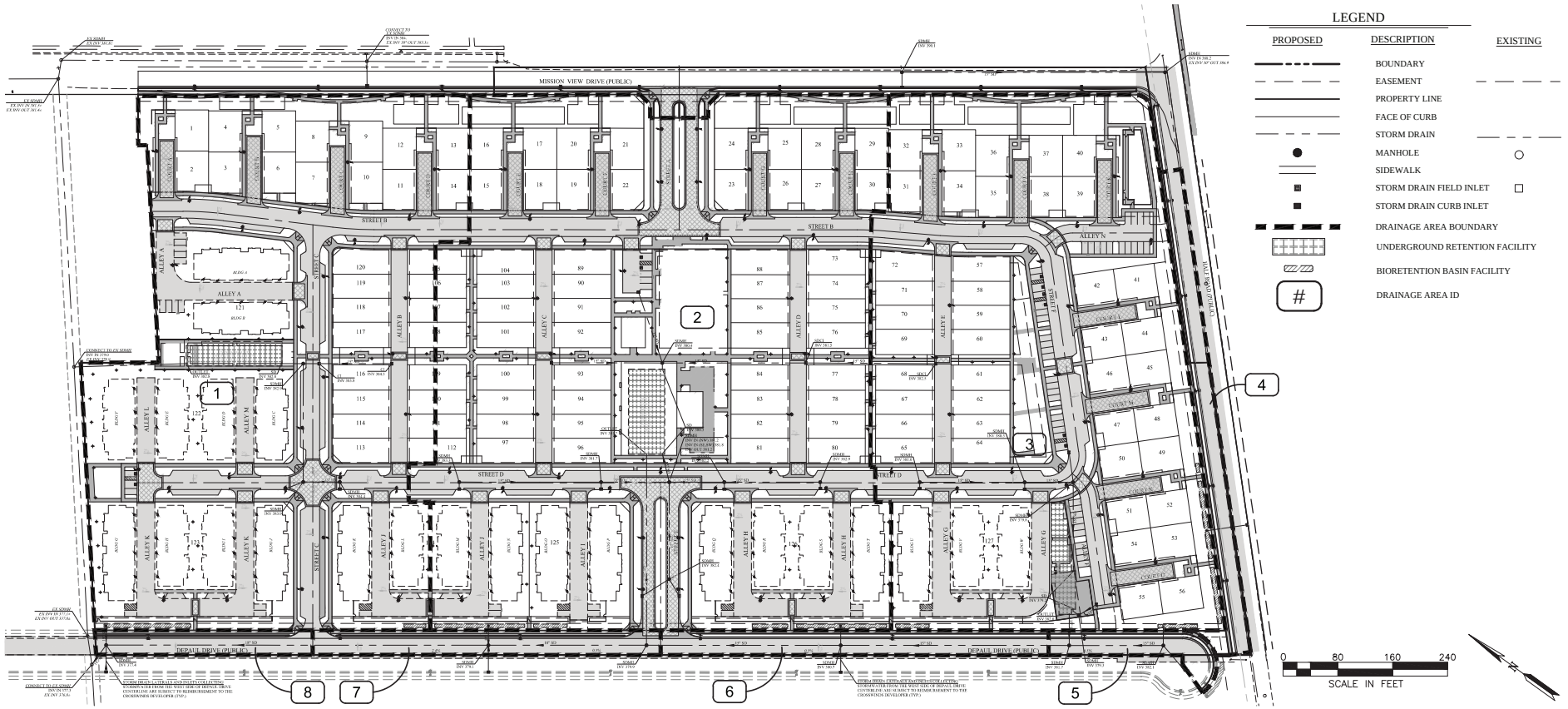
Table 3.2-1: Construction Phasing: Project Options 1 and 2			
Construction	Number of Units	Construction Duration[1]	Acreage
	45 condominium units (Buildings Q through W)		
	DePaul Drive Extension	3 months: October 2024 to January 2025 (Options 1 and 2) October 2024 to November 2024 (Grading /excavation, trenching, and paving)	3.74
Phase 4	64 condominium units Buildings C through F and K through P	14 months: April 2026 to June 2027 (Options 1 and 2) (Trenching, foundations, framing, exterior building construction, paving, and interior building construction)	2.9

3.2.4 Storm Drainage Improvements

Storm drain lines would be included on the site's internal streets and would connect to new 15-inch to 18-inch storm drain lines on DePaul Drive and an existing storm drain line on Mission View Drive.

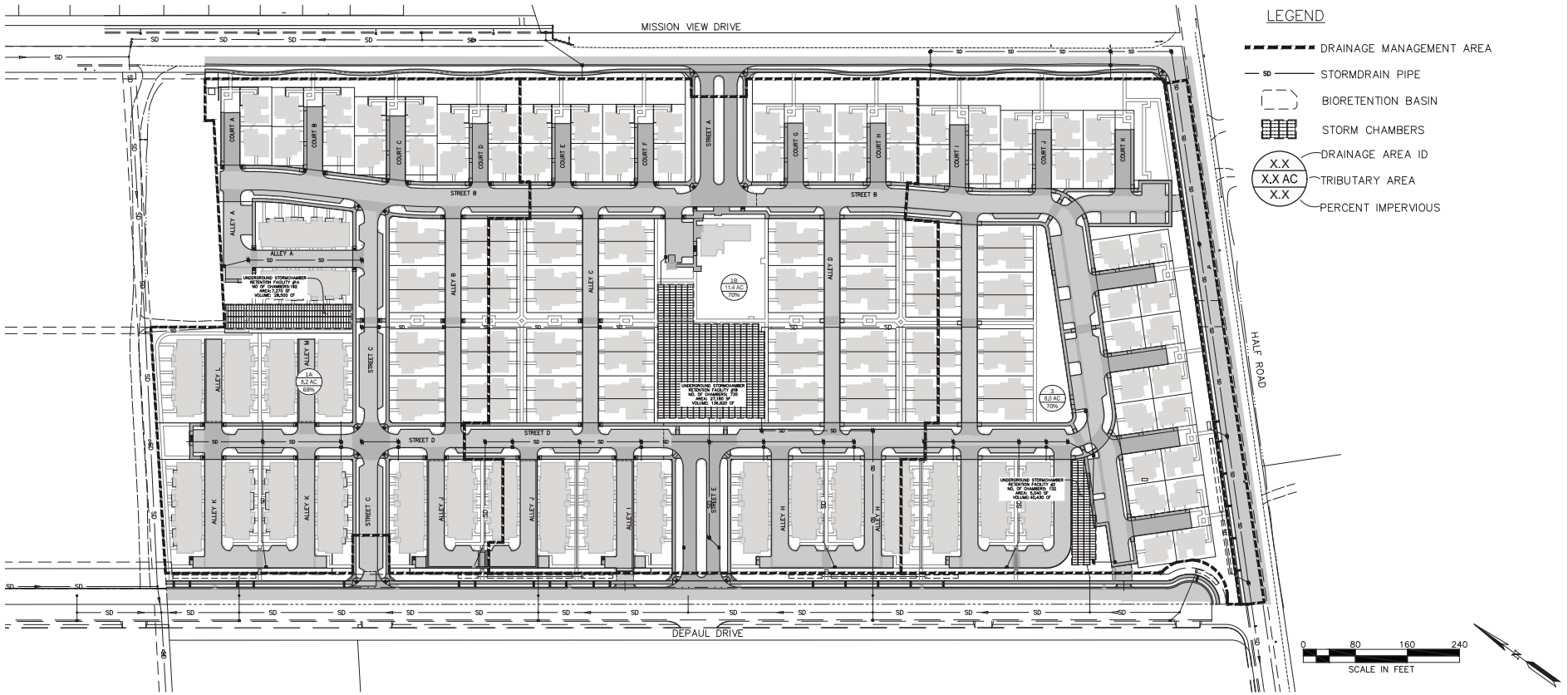
Under Option 1, stormwater runoff would be directed to retention basins designed for a 25-year, 24-hour storm event. This option would include five underground bioretention facilities with a maximum depth of four feet below the ground surface and a total combined surface area of 4,670 square feet. The basins would be located along the southern perimeter of the project site (north of Half Road) and in the southeast corner of the project site. Excess runoff from the site would drain to the Santa Clara Valley Water District's (Valley Water's) Madrone Channel. The proposed residential development would convey stormwater to the Madrone Channel via public storm drains and lines in Half Road. Option 1 is shown on Figure 3.2-11.

Under Option 2, 100 percent of stormwater runoff from the site would be directed to retention basins designed for a 100-year, 24-hour storm event. The project would include three retention facilities (with a maximum depth of nine feet below the ground surface) located on the western portion of the site (retention facility 1A), center of the site (retention facility 1B), and southeast corner of the site (retention facility 2), as shown on Figure 3.2-12. Retention facility 1A would have a surface area of 7,270 square feet and a maximum volume of 27,500 cubic feet of water, retention facility 1B would have a surface area of 27,180 square feet and a maximum volume of 136,920 cubic feet, and retention facility 2 would have a surface area of 5,040 square feet and a maximum volume of 40,430 cubic feet. Under this option, no water would be conveyed to the Madrone Channel.



Source: Ruggeri-Jensen-Azar, June 8, 2020.

OPTION 1 STORMWATER PLAN – STORMWATER DETENTION | FIGURE 3.2-11



Source: Ruggeri-Jensen-Azar, June 8, 2020.

OPTION 2 STORMWATER PLAN – STORMWATER RETENTION | FIGURE 3.2-12

3.2.5 Utilities

The proposed project would connect to existing water lines in the surrounding roadways. New domestic water lines and fire service water lines would connect to existing 10-inch water mains on Half Road and to a new eight-inch water main on DePaul Drive.

The proposed project (under Options 1 and 2) would construct new sanitary sewer lines within the internal streets that would connect to a new eight-inch sewer line in the DePaul Drive extension. The eight-inch sanitary sewer line would connect to a proposed a 2,745-foot off-site sanitary sewer line that would extend from Half Road to Condit Road, to the existing sanitary sewer line in East Main Avenue. The depth of the proposed off-site sewer line trench would range from 10 and 13 feet and the width would be approximately two feet. The extension of the sanitary sewer line on to Half Road, Condit Road, and East Main Avenue would be within an existing right of way among existing underground utilities.

Electricity at the project site would be provided by Silicon Valley Clean Energy (SVCE). Solid waste services would be provided by Recology South Valley.

3.2.6 Green Building Measures

The project would include the following green building measures, in compliance with the California Green Building Standards Code:

- Solar-ready area for PV solar panels on the roof
- Low volatile organic compound (VOC) emission interior wall and ceiling paints
- Insulation with 30 percent post-consumer recycled content for walls and floors
- Energy Star General Electric (GE) appliances.
- High efficiency heating, ventilation, and air conditioning (HVAC) units.
- Drought-tolerant landscaping and low flow irrigation system.
- Bicycle storage for residents.
- Electric vehicle (EV) charging stations.

3.2.7 General Plan and Zoning

The 33-acre site, where the proposed 269 residences and De Paul Drive extension are planned, has a General Plan Land Use Designation of Residential Attached Low (six to 16 dwelling units per acre) and a Zoning district of Residential Attached Low Density. The proposed project would maintain consistency with the existing General Plan and Zoning Designations.

3.3 PROJECT OBJECTIVES

Pursuant to CEQA Guidelines Section 15124, the EIR must include a statement of the objectives sought by the proposed project. The overall goal of the project applicant is to construct a residential housing development, following the requirements of the Morgan Hill 2035 General Plan.
Project objectives, as proposed by the applicant, include:

- Provide market-rate and below-market rate housing, as envisioned in the City of Morgan Hill General Plan.
- Create a visually appealing pedestrian corridor along the Mission View Drive and Half Road frontages.
- Implement improvements to provide private vehicular and pedestrian circulation.
- Increase passive and active open space throughout the project site.

3.4 USES OF THE EIR

This EIR would provide decision-makers in the City of Morgan Hill, other public agencies, and the general public with relevant environmental information to use in considering the project. If the proposed project is approved, the EIR could be used by the City in conjunction with appropriate discretionary approvals including, but not limited to, the following:

- Vesting Tentative Map
- Design Permit
- Issuance of Demolition, Grading, Building, and Occupancy Permits
- Tree Removal Permits

SECTION 4.0 ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION

This section presents the discussion of impacts related to the following environmental subjects in their respective subsections:

4.1	Aesthetics	4.11	Land Use and Planning
4.2	Agriculture and Forestry Resources	4.12	Mineral Resources
4.3	Air Quality	4.13	Noise
4.4	Biological Resources	4.14	Population and Housing
4.5	Cultural Resources	4.15	Public Services
4.6	Energy	4.16	Recreation
4.7	Geology and Soils	4.17	Transportation
4.8	Greenhouse Gas Emissions	4.18	Tribal Cultural Resources
4.9	Hazards and Hazardous Materials	4.19	Utilities and Service Systems
4.10	Hydrology and Water Quality	4.20	Wildfire

The discussion for each environmental subject includes the following subsections:

Environmental Setting – This subsection 1) provides a brief overview of relevant plans, policies, and regulations that compose the regulatory framework for the project and 2) describes the existing, physical environmental conditions at the project site and in the surrounding area, as relevant.

Impact Discussion – This subsection includes the recommended checklist questions from Appendix G of the CEQA Guidelines to assess impacts.

- **Project Impacts** – This subsection discusses the project's impact on the environmental subject as related to the checklist questions. For significant impacts, feasible mitigation measures are identified. "Mitigation measures" are measures that will minimize, avoid, or eliminate a significant impact (CEQA Guidelines Section 15370). Each impact is numbered to correspond to the checklist question being answered. For example, Impact BIO-1 answers the first checklist question in the Biological Resources section. Mitigation measures are also numbered to correspond to the impact they address. For example, MM BIO-1.3 refers to the third mitigation measure for the first impact in the Biological Resources section.
- **Cumulative Impacts** – This subsection discusses the project's cumulative impact on the environmental subject. Cumulative impacts, as defined by CEQA, refer to two or more individual effects, which when combined, compound or increase other environmental impacts. Cumulative impacts may result from individually minor, but collectively significant effects taking place over a period of time. CEQA Guideline Section 15130 states that an EIR should discuss cumulative impacts "when the project's incremental effect is cumulatively considerable." The discussion does not need to be in as great detail as is necessary for project impacts but is to be "guided by the standards of practicality and reasonableness." The purpose of the cumulative analysis is to allow decision makers to better understand the

impacts that might result from approval of past, present, and reasonably foreseeable future projects, in conjunction with the proposed project addressed in this EIR.

The CEQA Guidelines advise that a discussion of cumulative impacts should reflect both their severity and the likelihood of their occurrence (CEQA Guidelines Section 15130(b)). To accomplish these two objectives, the analysis should include either a list of past, present, and probable future projects or a summary of projections from an adopted general plan or similar document (CEQA Guidelines Section 15130(b)(1)). This EIR uses the list of projects approach.

The analysis must determine whether the project's contribution to any cumulatively significant impact is cumulatively considerable, as defined by CEQA Guideline Section 15065(a)(3). The cumulative impacts discussion for each environmental issue accordingly addresses the following issues: 1) would the effects of all of past, present, and probable future (pending) development result in a significant cumulative impact on the resource in question; and, if that cumulative impact is likely to be significant, 2) would the contribution from the proposed project to that significant cumulative impact be cumulatively considerable?

Table 3.4-1 below identifies the approved (but not yet constructed or occupied) and pending projects within one mile of the project site that are evaluated in the cumulative analysis. Other pending projects in the City are located at least two miles away from the project site.

Table 3.4-1: Cumulative Projects List

Name and Location	Description	Distance to Proposed Project
Redwood Tech at 101, west of DePaul Road, south of Cochrane Road, east of U.S. 101, and north of Half Road	Construction of five industrial buildings totaling approximately 500,000 square feet	Less than 50 feet west of the site
Borello Subdivision Peet Road	Construction of 244 residential units. The project is processing the final phase of the development which includes 114 lots.	0.5 mile north of the site
Santa Clara Valley Water District 18300 Peet Road	21,625 square foot industrial warehouse (under construction)	0.5 mile north of the site
Condit-Cardinale Automotive, 17085 Condit Road	Construction a 36,665 square foot commercial car dealership (pending)	0.8 mile southwest of the site
Condit Road, 650 feet south of Diana Avenue	Construction of a 32,795 square foot commercial car dealership (approved)	0.9 mile south of the site

For each resource area, cumulative impacts may occur over different geographic areas. For example, the project effects on air quality would combine with the effects of projects in the entire air basin, whereas noise impacts would primarily be localized to the surrounding area. The geographic area that could be affected by the proposed project varies depending upon the type of environmental issue being considered. Section 15130(b)(3) of the CEQA Guidelines states that lead agencies should define the geographic scope of the area affected by the cumulative effect. Table 3.4-2 below provides a summary of the different geographic areas used to evaluate cumulative impacts.

Table 3.4-2: Geographic Considerations in Cumulative Analysis

Resource Area	Geographic Area
Aesthetics	Project site and adjacent parcels
Agriculture and Forestry Resources	Countywide
Air Quality	San Francisco Bay Area Air Basin Sensitive Receptors within 1,000 feet for construction toxic air contaminants
Biological Resources	Project site and adjacent parcels
Cultural Resources	Project site and adjacent parcels
Energy	Energy provider's territory
Geology and Soils	Project site and adjacent parcels
GHGs	Global
Hazards and Hazardous Materials	Project site and adjacent parcels
Hydrology and Water Quality	Monterey Bay watershed
Land Use and Planning/Population and Housing	Citywide
Minerals	Identified mineral recovery or resource area
Noise and Vibration	Project site and adjacent parcels
Public Services and Recreation	Citywide
Transportation/Traffic	Citywide
Tribal Cultural Resources	Project site and adjacent parcels
Utilities and Service Systems	Citywide
Wildfire	Within or adjacent to the wildfire hazard zone

4.1 AESTHETICS

4.1.1 Environmental Setting

4.1.1.1 *Regulatory Framework*

State

Streets and Highway Code Sections 260 through 263

The California Scenic Highway Program (Streets and Highway Code, Sections 260 through 263) is managed by the California Department of Transportation (Caltrans). The program is intended to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. There are no state-designated scenic highways in Morgan Hill.

In Santa Clara County, the one state-designated scenic highway is SR 9 from the Santa Cruz County line to the Los Gatos City Limit. Eligible State Scenic Highways (not officially designated) include SR 17 from the Santa Cruz County line to SR 9, SR 35 from Santa Cruz County line to SR 9, Interstate 280 from the San Mateo County line to SR 17, and the entire length of SR 152 within the County.

Local

Morgan Hill 2035 General Plan

The Morgan Hill 2035 General Plan includes goals, policies, and actions to avoid significant impacts due to aesthetic and visual impacts.[2] The following policies are applicable to the proposed project:

Policy CNF-8.1: **High Quality Design.** Require all development to feature high quality design that enhances the visual character of Morgan Hill.

Policy CNF-8.2: **Design Features.** Encourage design features and amenities in new development and redevelopment, including but not limited to:

- Highly connected street layouts, supporting multiple paths of travel for all modes.
- Cluster buildings to create useable open space.
- Abundant landscaping.
- Attractive transitions between uses.
- Comfortable pedestrian facilities that promote a high level of pedestrian activity.
- Distinctiveness and variety in architectural design.

[2] City of Morgan Hill. *City of Morgan Hill 2035 General Plan.* Adopted July 27, 2016. October 19, 2020. https://www.morgan-hill.ca.gov/DocumentCenter/View/22839/MH2035-General-Plan---December-2017?bidId.

Policy CNF-8.3: **Changes in Building Scale.** Discourage abrupt changes in building scale. A gradual transition between low-rise to mid-rise buildings should be achieved by using the low-rise buildings at the edge of the project site. Consider the relationship of buildings to the street, to one another and to adjacent structures and land uses.

Policy CNF-8.7: **Design Sensitivity.** Ensure that new development is sensitive to the character of adjacent structures and the immediate neighborhood.

Policy NRE-2.1: **Hillside and Ridgeline Views.** Protect views of hillsides, ridgelines, and prominent natural features surrounding the City. These features help define the City's historical rural character, sense of place, image, and identity.

4.1.1.2 *Existing Conditions*

Project Site

The 33-acre site is located along the east side of the U.S. 101 in central Morgan Hill. The project site is flat and mostly covered with non-native grasses, boxed trees on the western portion, and several trees located along the north and northwestern perimeter of the site. There is a vacant one-story single-family residence located in the center of the project site. The former residence is a ranch style house primarily made of concrete, manufactured board siding, and metal siding, and has a gable-styled roof. The front façade has windows above a concrete block wall, a slightly recessed covered porch an entry door. An ancillary utility barn structure is located to the rear of the single-family house. The ancillary structure is wood-framed and made with vertical boarding. The structure has a pitched roof and concrete foundation. Since the vacant residence and ancillary structure are set back from Half Road and Mission View Drive and their views are blocked by trees, these structures are not visible from a public vantage point. Views of the project site are shown in Photos 1 through 4.

Surrounding Visual Character

The 33-acre site is surrounded by developed and undeveloped parcels of land. The parcels to the north and west are undeveloped, flat, and covered with grasses. The parcel to the north contains a small fence which surrounds the utilities on the property. Immediately to the west of the site is a graveled road (future DePaul Drive). South of the site is a paved two-way roadway (Half Road), an open grassland area and a one-story wood-framed structure with a hipped roof. To the east of the site is a paved road (Mission View Drive) and an orchard with three one-story structures with gable-styled roofs facing Half Road. Modern two-story residences made of stucco and hipped roofs are also east of Mission View Drive. Views of the surrounding area are shown in Photos 5 through 8.

Scenic Vistas and Resources

Due to the flat topography, existing development, and orchard trees in the project area, views of the northwestern portion of the project site are limited to the immediate vicinity. The southeastern

Photo 1: View of the project site facing southwest from Mission View Drive.

Photo 2: View of the project site and boxed nursery trees from Mission View Drive.

PHOTOS 1 & 2

Photo 3: View of the site to the west and adjacent orchard to the east from Mission View Drive.

Photo 4: View of the existing vacant residence on the project site.

PHOTOS 3 & 4

Photo 5: View of the project site facing west from De Paul Drive.

Photo 6: View of the project site facing east from De Paul Drive.

PHOTOS 5 & 6

Photo 7: View of the surrounding residential uses across Half Road.

Photo 8: View of the agricultural field across Half Road.

PHOTOS 7 & 8

portion of the project site is surrounded by low-lying development or agricultural fields and has views of the western and eastern foothills. The site is not located within a designated scenic view corridor or visible from a designated scenic highway. The nearest state-designated highway is State Route (SR) 9, approximately 19 miles west of the site (at the SR 17 interchange).[3]

4.1.2 Impact Discussion

For the purpose of determining the significance of the project's impact on aesthetics, except as provided in Public Resources Code Section 21099, would the project:

1) Have a substantial adverse effect on a scenic vista?
2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
3) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings?[4] If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?
4) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The aesthetic impacts would be the same for Project Options 1 and 2 because the proposed differences in storm drainage management, size and depth of the underground retention facilities, and construction equipment usage would not be apparent once the underground facilities are constructed and construction equipment is removed from the site. Because the differing stormwater facilities would be underground and not visible, the fully implemented condition for each option would be indistinguishable visually, and therefore, Options 1 and 2 are discussed together below.

4.1.2.1 *Project Impacts*

Impact AES-1:	The project would not have a substantial adverse effect on a scenic vista. **(Less than Significant Impact)**

There are no scenic corridors, highways, or vistas in Morgan Hill that are designated by the state or the City. However, there are a few vistas within Morgan Hill that could be considered scenic. The City of Morgan Hill General Plan EIR identified El Toro peak as one of the most prominent visual landmarks in the City. El Toro peak is located to the west and is visible from U.S. Highway 101, along Monterey Road, and along Cochrane Avenue, Main Avenue, Dunne Avenue, and Tennant Avenue. Broader views of the Diablo Range to the east and the Santa Cruz Mountains to the west are visible from U.S. Highway 101 and from many points within the City.

[3] Caltrans. *California State Scenic Highway System Map.* Accessed April 16, 2021. https://www.arcgis.com/apps/webappviewer/index.html?id=2e921695c43643b1aaf7000dfcc19983.
[4] Public views are those that are experienced from publicly accessible vantage points.

Views of hillsides are partially visible to the west from the residences east of the project site across Mission View Drive. Given the distance of the residences from the hillsides and trees/landscaping that block views, the views of the hillsides are partially visible. These views would be partially obstructed by the new residential development. However, mountains would be intermittently visible between buildings. Additionally, private views are not protected under CEQA, which focuses on scenic vistas as seen from public vantage points. Thus, the proposed project (under Options 1 and 2) would not have a substantial adverse effect on a scenic vista. **(Less than Significant Impact)**

Impact AES-2:	The project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. **(No Impact)**

The 33-acre site and 0.1-acre off-site sewer installation area are not located within or adjacent to a state-designated scenic highway. The nearest scenic highway is SR 9, approximately 19 miles west of the site. Therefore, the project (under Options 1 and 2) would not damage scenic resources within a state scenic highway. **(No Impact)**

Impact AES-3:	The project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. The project would not conflict with applicable zoning and other regulations governing scenic quality. **(Less than Significant Impact)**

The proposed residential units would be made of stucco, cement, brick, stone, panel and lap siding, and vinyl windows along the facades. The roofs would be asphalt shingled and gable-style. The 56 single-family detached and 64 duet units would be two-stories and the condominiums would be three stories. The proposed residences would be made of materials similar to the existing single-family houses across Mission View Drive. The proposed project would be subject to review and approval by the City of Morgan Hill Design Permit process to ensure the development meets local design and aesthetic standards. For these reasons, the proposed project (under Options 1 and 2) would not substantially degrade the existing visual character or quality of the project area, which is not considered a sensitive visual environment due to the varied nature of the developed land uses. **(Less than Significant Impact)**

Impact AES-4:	The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. **(Less than Significant Impact)**

The proposed project would incrementally increase light and glare in the project area, due to the new reflective surfaces and outdoor lighting on the site and vehicles traveling on and to and from the site. These new sources of light and glare from the project would be similar in character to light and glare from the nearby existing residential development. Building design, glazing materials and outdoor lighting would be subject to review by the City of Morgan Hill Design Permit process for conformance with City standards. For these reasons, development on the site under the proposed

project (under Options 1 and 2) would not result in a new source of substantial light or glare that would affect day or nighttime views in the area. **(Less than Significant Impact)**

4.1.2.2 *Cumulative Impacts*

Impact AES-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant aesthetics impact. **(Less than Significant Cumulative Impact)**

The proposed project (under Options 1 and 2) is surrounded by adjacent development and vacant parcels of land. Views of the proposed residences from the adjacent buildings are limited to the immediate area. Therefore, the geographic area for cumulative aesthetic impacts is defined as the immediate project vicinity of locations from which the project would be visible. The approved Redwood Tech at 101 Project would be immediately adjacent (west of DePaul Drive) to the project site. As discussed in Section 4.1.2.1 Project Impacts above, the proposed project (under Options 1 and 2) would have no impact on scenic resources within a state scenic highway; therefore, the project would not contribute to a cumulative impact on these resources. The proposed project and Redwood Tech project (combined projects) would partially block views of hillsides from residences to the east, however, views are partially obstructed by existing trees and landscaping. Building elevations for the Redwood Tech project would not exceed 43 feet. Since the industrial buildings would not be significantly taller that the proposed residences, hillsides would be partially visible from the residences to the east. Therefore, the combined projects would not result in a significant cumulative impact on scenic vistas. Both projects would be consistent with the City's design and lighting standards and, therefore, the combined projects would not result in a significant cumulative impact to the visual character of the area or residences in the area due to light and glare. **(Less than Significant Cumulative Impact)**

4.2 AGRICULTURE AND FORESTRY RESOURCES

4.2.1 Environmental Setting

4.2.1.1 *Regulatory Framework*

State

Farmland Mapping and Monitoring Program

The California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) assesses the location, quality, and quantity of agricultural land and conversion of these lands over time. Agricultural land is rated according to soil quality and irrigation status. The best quality land is called Prime Farmland. In CEQA analyses, the FMMP classifications and published county maps are used, in part, to identify whether agricultural resources that could be affected are present on-site or in the project area.[5]

California Land Conservation Act

The California Land Conservation Act (Williamson Act) enables local governments to enter into contracts with private landowners to restrict parcels of land to agricultural or related open space uses. In return, landowners receive lower property tax assessments. In CEQA analyses, identification of properties that are under a Williamson Act contract is used to also identify sites that may contain agricultural resources or are zoned for agricultural uses.[6]

Fire and Resource Assessment Program

The California Department of Forestry and Fire Protection (CAL FIRE) identifies forest land, timberland, and lands zoned for timberland production that can (or do) support forestry resources.[7] Programs such as CAL FIRE's Fire and Resource Assessment Program are used to identify whether forest land, timberland, or timberland production areas that could be affected are located on or adjacent to a project site.[8]

[5] California Department of Conservation. "Farmland Mapping and Monitoring Program." Accessed April 15, 2021. http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx.

[6] California Department of Conservation. "Williamson Act." http://www.conservation.ca.gov/dlrp/lca. Accessed April 15, 2021.

[7] Forest Land is land that can support 10 percent native tree cover and allows for management of forest resources (California Public Resources Code Section 12220(g)); Timberland is land not owned by the federal government or designated as experimental forest land that is available for, and capable of, growing trees to produce lumber and other products, including Christmas trees (California Public Resources Code Section 4526); and Timberland Production is land used for growing and harvesting timber and compatible uses (Government Code Section 51104(g)).

[8] California Department of Forestry and Fire Protection. "Fire and Resource Assessment Program." Accessed April 15, 2021. http://frap.fire.ca.gov/.

Local

Morgan Hill Agricultural Lands Preservation Program and Agricultural Mitigation Ordinance

The City of Morgan Hill has adopted an Agricultural Lands Preservation Program to encourage the preservation and enhancement of open space/agriculture outside of the City boundaries, for areas within the City's Urban Growth Boundary (UGB) Sphere of Influence (SOI), while identifying certain properties within the boundaries for mitigation and compatible development with sports, recreation, and leisure uses. The ordinance establishes CEQA mitigation procedures to mitigate the loss of agricultural lands primarily located within the City boundaries. Mitigation for the loss of farmland with a designated "soil quality" on the State Farmland Maps and provides for payment of an agricultural mitigation fee, acquisition of other agricultural land, dedication of a permanent agricultural conservation easement on agricultural land and payment of a fee to cover ongoing stewardship and monitoring activities. Mitigation is required at a ratio of 1:1 (meaning one acre of perpetual farmland preservation for each acre of farmland development/conversion). Should a mitigation fee be paid, the City will combine those fees with open space fees to acquire easements near the City boundary.

4.2.1.2 *Existing Conditions*

The 33-acre site is comprised of four parcels in a primarily suburban setting. The site is largely undeveloped, with the exception of one vacant single-family residence, and is predominantly covered by grassland with trees around the perimeters of the site.

While the project site is largely undeveloped, it has been historically used for agricultural activities. The project site is currently not used for agricultural purposes and is not the subject of a Williamson Act contract.[9] No forestry resources are present on or near the site.

According to the Santa Clara County Important Farmland 2016 Map, the project site consists of *Prime Farmland* and *Grazing Land*. The project site consists of approximately 16 acres of Prime Farmland and 17 acres of Grazing Land (refer to Figure 4.2-1). Prime Farmland is defined as having the best combination of physical and chemical features able to sustain long-term agricultural production. Grazing Land is defined as land on which the existing vegetation is suited to livestock grazing.

[9] City of Morgan Hill. *Morgan Hill 2035 DEIR*. *Figure 4.2-2: Williamson Act Contracts*. January 2016.

AGRICULTURAL LAND ON PROJECT SITE | FIGURE 4.2-1

4.2.2 Impact Discussion

For the purpose of determining the significance of the project's impact on agriculture and forestry resources, would the project:

1) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
2) Conflict with existing zoning for agricultural use, or a Williamson Act contract?
3) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?
4) Result in a loss of forest land or conversion of forest land to non-forest use?
5) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

The agricultural and forestry resources impacts would be the same for Project Options 1 and 2, which only differ in the way in which stormwater is managed on-site. The proposed differences in storm drainage management, size and depth of the underground retention facilities, and construction equipment usage, when comparing Project Options 1 and 2, would not result in differing agricultural and forestry resources impacts, therefore, the two options are discussed together below.

4.2.2.1 *Project Impacts*

Impact AG-1:	The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. **(Significant and Unavoidable Impact)**

The City of Morgan Hill adopted its Agricultural Lands Preservation Program (Preservation Program) in November 2014 to preserve potential agricultural land subject to development.[10] As discussed, the western portion of the project site is designated as *Prime Farmland* (which makes up 16 acres of the site). The project proposes to develop the site with residential uses. The 0.1-acre off-site sewer line area is located within a right-of-way for existing utilities and is not designated as Prime Farmland. Conversion of the Prime Farmland would constitute a significant impact to agricultural resources. The loss of 16 acres mapped as Grazing Land is not considered an impact under CEQA.

[10] City of Morgan Hill. *Agricultural Lands Preservation Program.* Accessed February 12, 2020. https://www.morgan-hill.ca.gov/1468/Agricultural-Lands-Preservation.

Mitigation Measures: The project would be required to comply with the Preservation Program's mitigation measures as detailed in the Agricultural Mitigation Ordinance (Chapter 18.152 of the Municipal Code). The applicant shall implement the following measures:

MM AG-1.1: A minimum of one acre of agricultural land (1:1 mitigation ratio) shall be preserved for each acre of agricultural land changed to a non-agricultural use. The required acreage of area to be protected through an agricultural conservation easement or agricultural preservation in-lieu fee will depend on the measurement of affected area. The 16 acres of Prime Farmland shall be used for calculating the required mitigation.

MM AG-1.2: Conversion of agricultural land shall require off-setting acquisition and/or dedication of agricultural conservation easements over approved agricultural mitigation land, or payment to the City of the agricultural preservation in-lieu fee, to support agricultural preservation activities. Developer acquisition/dedication of easements shall require the project to pay an agricultural lands preservation program stewardship fee to cover administrative costs and ongoing management and monitoring of the easements. Agricultural mitigation fees shall be required prior to the acceptance of a final parcel or subdivision map, or prior to issuance of building or grading permits. Easement dedication is required prior to issuance of building permits.

Implementation of the mitigation measures described above, pursuant to the City's Agricultural Preservation Program and Agricultural Mitigation Ordinance, would reduce the project's impacts associated with conversion of Prime Farmland, but not to a less than significant level. There are no other feasible mitigation measures which could be implemented to reduce the loss of agricultural lands to a less than significant level, as CEQA case law affirms the principle that the loss of prime farmland is irreversible, and protection of other existing farmland does not fully offset the lost farmland, but rather prevents further loss.

The project site is not designated for agricultural use in the City's General Plan and the site's conversion to urban land uses would be consistent with what was analyzed in the General Plan EIR in respect to agricultural impacts. The General Plan EIR concluded that the conversion of farmland to urban uses would remain significant and unavoidable despite the adoption and implementation of the Preservation Program, as there would nonetheless be a substantial loss of farmland. Therefore, the proposed project would result in a significant and unavoidable impact to agricultural resources, consistent with the impact identified in the General Plan EIR. **(Significant and Unavoidable Impact)**

Impact AG-2:	The project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. **(No Impact)**

The 33-acre site is currently zoned for residential uses under the Residential Attached Low-Density zoning district. The site is not under Williamson Act contract. Therefore, the project (under Options 1 and 2) would not conflict with existing zoning for agricultural use, or a Williamson Act contract. **(No Impact)**

Impact AG-3:	The project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. **(No Impact)**

The 33-acre site is zoned for residential uses. The project (under Options 1 and 2) would not conflict with existing zoning, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. **(No Impact)**

Impact AG-4:	The project would not result in a loss of forest land or conversion of forest land to non-forest use. **(No Impact)**

The 33-acre site does not contain any forest land. The proposed project (under Options 1 and 2) would not convert and forest land to non-forest use. **(No Impact)**

Impact AG-5:	The project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. **(Less than Significant Impact)**

As discussed under Impact AG-1, the project would convert *Prime Farmland* to non-agricultural use and would be required to incorporate mitigation measures per the City's Agricultural Preservation Program and Agricultural Mitigation Ordinance to offset impacts to Farmland, although those impacts would remain significant and unavoidable. Aside from the physical conversion of land, the proposed project (under Options 1 and 2) would not result in other changes in the existing environment which could result in the conversion of agricultural land or forest land. **(Less than Significant Impact)**

4.2.2.2 *Cumulative Impacts*

Impact AG-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant agricultural and forestry resources impact. **(Significant and Unavoidable Cumulative Impact)**

The geographic area for cumulative agricultural and forestry resource impacts is the County of Santa Clara. As discussed under Impact AG-1, the project (under Options 1 and 2) would incorporate mitigation measures per the City's Agricultural Mitigation Ordinance to reduce project-level impacts to Prime Farmland, Farmland of Statewide Importance, and Unique Farmland, although those impacts would remain significant and unavoidable. These mitigation measures would require the project to preserve the 16 acres of Prime Farmland lost at a 1:1 ratio for the 33-acre site, either through land dedication or in-lieu fees paid to the City. Although these mitigation measures can be applied to the project and other farmland conversion in the City, in the General Plan EIR the City determined that full buildout through 2035 would result in the conversion of approximately 1,125 acres of farmland to non-agricultural use.[11] This was recognized as a significant and unavoidable impact to agricultural resources. Therefore, the project (under Options 1 and 2) would contribute to the significant and unavoidable cumulative impact to agricultural resources identified in the City's General Plan EIR. **(Significant and Unavoidable Cumulative Impact)**

[11] City of Morgan Hill. *2035 Draft Environmental Impact Report.* January 2016. Page 4.2-26.

4.3 AIR QUALITY

The following discussion is based in part on an Air Quality and Greenhouse Gas Assessment Analysis completed by Illingworth & Rodkin, Inc. on April 6, 2021, and revised on May 12, 2022. A copy of the report is attached as Appendix B of this DEIR.

As shown in Table 2.2-1, NOP comments on the subject of air quality were received from the BAAQMD. These comments addressed the need for an air quality analysis, and consistency with state and local regulatory plans. See responses to checklist questions 1 through 4, in Section 4.3.2 below.

4.3.1 Environmental Setting

4.3.1.1 *Background Information*

Criteria Pollutants

Air quality in the Bay Area is assessed related to six common air pollutants (referred to as criteria pollutants), including ground-level ozone (O_3), nitrogen oxides (NO_x), particulate matter (PM), carbon monoxide (CO), sulfur oxides (SO_x), and lead.[12] Criteria pollutants are regulated because they result in health effects. An overview of the sources of criteria pollutants and their associated health are summarized in Table 4.3-1. The most commonly regulated criteria pollutants in the Bay Area are discussed further below.

Table 4.3-1: Health Effects of Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O_3)	Atmospheric reaction of organic gases with nitrogen oxides in sunlight	• Aggravation of respiratory and cardiovascular diseases • Irritation of eyes • Cardiopulmonary function impairment
Nitrogen Dioxide (NO_2)	Motor vehicle exhaust, high temperature stationary combustion, atmospheric reactions	• Aggravation of respiratory illness • Reduced visibility
Fine Particulate Matter ($PM_{2.5}$) and Coarse Particulate Matter (PM_{10})	Stationary combustion of solid fuels, construction activities, industrial processes, atmospheric chemical reactions	• Reduced lung function, especially in children • Aggravation of respiratory and cardiorespiratory diseases • Increased cough and chest discomfort • Reduced visibility

[12] The area has attained both state and federal ambient air quality standards for CO. The project does not include substantial new emissions of sulfur dioxide or lead. These criteria pollutants are not discussed further.

Table 4.3-1: Health Effects of Air Pollutants		
Pollutants	**Sources**	**Primary Effects**
Toxic Air Contaminants (TACs)	Cars and trucks, especially diesel-fueled; industrial sources, such as chrome platers; dry cleaners and service stations; building materials and products	• Cancer • Chronic eye, lung, or skin irritation • Neurological and reproductive disorders

High O_3 levels are caused by the cumulative emissions of reactive organic gases (ROG) and NO_x. These precursor pollutants react under certain meteorological conditions to form high O_3 levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce O_3 levels. The highest O_3 levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources.

PM is a problematic air pollutant of the Bay Area. PM is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide emissions and localized emissions.

Toxic Air Contaminants

TACs are a broad class of compounds known to have health effects. They include but are not limited to criteria pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, diesel fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway).

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs. Diesel exhaust is a complex mixture of gases, vapors, and fine particles. Medium- and heavy-duty diesel trucks represent the bulk of DPM emissions from California highways. The majority of DPM is small enough to be inhaled into the lungs. Most inhaled particles are subsequently exhaled, but some deposit on the lung surface or are deposited in the deepest regions of the lungs (most susceptible to injury).[13] Chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the California Air Resources Board (CARB).

Sensitive Receptors

Some groups of people are more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly

[13] California Air Resources Board. "Overview: Diesel Exhaust and Health." Accessed October 16, 2020. https://www.arb.ca.gov/research/diesel/diesel-health.htm.

over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools.

4.3.1.2 *Regulatory Framework*

Federal and State

Clean Air Act

At the federal level, the United States Environmental Protection Agency (EPA) is responsible for overseeing implementation of the Clean Air Act and its subsequent amendments. The federal Clean Air Act requires the EPA to set national ambient air quality standards for the six common criteria pollutants (discussed previously), including PM, O_3, CO, SO_x, NO_x, and lead.

CARB is the state agency that regulates mobile sources throughout the state and oversees implementation of the state air quality laws and regulations, including the California Clean Air Act. The EPA and the CARB have adopted ambient air quality standards establishing permissible levels of these pollutants to protect public health and the climate. Violations of ambient air quality standards are based on air pollutant monitoring data and are determined for each air pollutant. Attainment status for a pollutant means that a given air district meets the standard set by the EPA and/or CARB.

Risk Reduction Plan

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles. In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, the plan involves application of emission control strategies to existing diesel vehicles and equipment to reduce DPM (in additional to other pollutants). Implementation of this plan, in conjunction with stringent federal and CARB-adopted emission limits for diesel fueled vehicles and equipment (including off-road equipment), will significantly reduce emissions of DPM and NO_X.

Regional

2017 Clean Air Plan

The BAAQMD is the agency primarily responsible for assuring that the federal and state ambient air quality standards are maintained in the San Francisco Bay Area. Regional air quality management districts, such as BAAQMD, must prepare air quality plans specifying how state and federal air quality standards will be met. BAAQMD's most recently adopted plan is the Bay Area 2017 Clean Air Plan (2017 CAP). The 2017 CAP focuses on two related BAAQMD goals: protecting public health and protecting the climate. To protect public health, the 2017 CAP describes how BAAQMD will continue its progress toward attaining state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. To protect the climate,

the 2017 CAP includes control measures designed to reduce emissions of methane and other super-greenhouse gases (GHGs) that are potent climate pollutants in the near-term, and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.[14]

CEQA Air Quality Guidelines

The BAAQMD CEQA Air Quality Guidelines are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects and plans in the San Francisco Bay Area. Jurisdictions in the San Francisco Bay Area Air Basin utilize the thresholds and methodology for assessing air quality impacts developed by BAAQMD within their CEQA Air Quality Guidelines. The guidelines include information on legal requirements, BAAQMD rules, methods of analyzing impacts, and recommended mitigation measures.

Local

City of Morgan Hill 2035 General Plan

The Morgan Hill 2035 General Plan includes goals and policies to improve air quality issues facing the City of Morgan Hill.[15] The following policies are applicable to the proposed project:

Policy NRE-10.1: **Regional and Subregional Cooperation.** Cooperate with regional agencies in developing and implementing air quality management plans. Support subregional coordination with other cities, counties, and agencies in the Santa Clara Valley and adjacent areas to address land use, jobs/housing balance, and transportation planning issues as a means of improving air quality.

Policy NRE-10.2: **State and Federal Regulation.** Encourage effective regulation of mobile and stationary sources of air pollution and support State and federal regulations to improve automobile emission controls.

Policy NRE-10.3: **Automobile Emissions.** Encourage the use of and infrastructure for alternative fuel, hybrid, and electric vehicles. Encourage new and existing public and private development to include electric vehicle charging stations.

Policy NRE-10.4: **Reduced Automobile Use.** To reduce air pollution the frequency and length of automobile trips and the amount of traffic congestion by controlling sprawl, promoting infill development, and encouraging mixed uses and higher density development near transit. Support the expansion and improvement of alternative modes of transportation. Encourage

[14] BAAQMD. *Final 2017 Clean Air Plan.* April 19, 2017. http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans.

[15] City of Morgan Hill. *City of Morgan Hill 2035 General Plan.* Adopted July 27, 2016. Accessed February 12, 2020. https://www.morgan-hill.ca.gov/DocumentCenter/View/22839/MH2035-General-Plan---December-2017?bidId.

development project designs that protect and improve air quality and minimize direct and indirect air pollutant emissions by including components that reduce vehicle trips.

Policy NRE-11.1: **TACs and Proposed Sensitive Uses.** Require modeling for sensitive land uses, such as residential development, proposed near sources of pollution such as freeways and industrial uses. Require new residential development and projects categorized as sensitive receptors to incorporate effective mitigation measures into project designs or be located adequate distances from sources of toxic air contaminants (TACs) to avoid significant risk to health and safety.

Policy NRE-11.2: **TACs and Existing Sensitive Uses.** Encourage the installation of appropriate air filtration mechanisms at existing schools, residences, and other sensitive receptors adversely affected by existing or proposed pollution sources.

Policy NRE-11.3: **Health Risk Assessments.** For proposed development that emits toxic air contaminants, require project proponents to prepare health risk assessments in accordance with Bay Area Air Quality Management District procedures as part of environmental review and implement effective mitigation measures to reduce potential health risks to less-than-significant levels. Alternatively, require these projects to be located an adequate distance from residences and other sensitive receptors to avoid health risks. Consult with the Bay Area Air Quality Management District to identify stationary and mobile toxic air contaminant sources and determine the need for and requirements of a health risk assessment for proposed developments.

Policy NRE-11.4: **Truck Routes.** For development projects generating significant heavy-duty truck traffic, design truck routes that minimize exposure of sensitive receptors to toxic air contaminants and particulate matter.

Policy NRE-11.5: **Truck Idling.** For development projects generating significant truck traffic, require signage to remind drivers that the State truck idling law limits truck idling to five (5) minutes.

Policy NRE-11.6: **Vegetation Buffers.** Encourage the use of pollution-absorbing trees and vegetation in buffer areas between substantial sources of toxic air contaminants and sensitive receptors.

Policy NRE-12.1: **Best Practices.** Requirement that development projects implement best management practices to reduce air pollutant emissions associated with construction and operation of the project.

Policy NRE-12.2: **Conditions of Approvals.** Include dust, particulate matter, and construction equipment exhaust control measures as conditions of approval for subdivision

maps, site development and planned development permits, grading permits, and demolition permits. At a minimum, conditions shall conform to construction mitigation measures recommended in the current BAAQMD CEQA Guidelines.

Policy NRE-12.3: **Control Measures.** Require construction and demolition projects that have the potential to disturb asbestos (from soil or building material) to comply with all the requirements of the California Air Resource Board's air toxics control measures (ATCMs) for Construction, Grading, Quarrying, and Surface Mining Operations.

Policy NRE-12.4: **Grading.** Require subdivision designs and site planning to minimize grading and use landform grading in hillside areas.

Morgan Hill Municipal Code

Chapter 15.63 of the Morgan Hill Municipal Code prohibits natural gas infrastructure in new buildings.

4.3.1.3 *Existing Conditions*

The 33-acre site and 0.1-acre off-site sewer line areas are located at the south end of the Santa Clara Valley, within the San Francisco Bay Area Air Basin. The region typically has moderate ventilation and frequent inversions that restrict vertical dilution. The Santa Cruz Mountains and Diablo Range, located on either side of the Santa Clara Valley, restrict horizontal dilution. The surrounding terrain results in a prevailing wind that follows along the valley's northwest-southeast axis. The combined effects of these geographical and meteorological factors make air pollution potential in the Santa Clara Valley quite high. The San Francisco Bay Area, however, is considered to be one of the cleanest metropolitan areas in the country, with respect to air quality.

Existing Air Pollutant Levels

As mentioned previously, the San Francisco Bay Area Air Basin, within which the 33-acre housing site and off-site sewer line areas are located, has non-attainment status for ground level ozone, fine particulate matter ($PM_{2.5)}$, and respirable particulate matter (PM_{10}). The San Francisco Bay Area Air Basin has attainment or undetermined status for all other regional criteria pollutants for which the US EPA and CARB have set standards. The nearest official monitoring station to the City of Morgan Hill is located at 158 East Jackson Street in San José, approximately 20 miles north of the site.[16] Pollutant monitoring results for the years 2017 to 2019 at the San José monitoring station are shown in Table 4.3-2. The station monitors ozone, carbon monoxide, nitrogen oxide, PM_{10} and $PM_{2.5}$ levels.

[16] BAAQMD, Meteorology and Measurement Division. 2019 Air Monitoring Network Plan. July 2019. Accessed April 19, 2021. https://www.baaqmd.gov/~/media/files/technical-services/2019_network_plan-pdf.pdf?la=en. The San Martin monitoring station only monitors ground-level ozone.

Table 4.3-2: Ambient Air Quality Standards Violations and Highest Concentrations				
Pollutant	**Standard**	**Days Exceeding Standard**		
		2017	**2018**	**2019**
San José Station				
Ozone	State 1-hour	6	2	6
	Federal 8-hour	6	3	9
Carbon Monoxide	Federal 8-hour	0	0	0
	State 8-hour	0	0	0
Nitrogen Dioxide	State 1-hour	1	0	0
	Federal 1-hour	0	0	0
PM_{10}	Federal 24-hour	0	1	0
	State 24-hour	6	6	5
$PM_{2.5}$	Federal 24-hour	18	18	1
Source: BAAQMD. Air Pollution Summaries (2017-2019). Available at: http://www.baaqmd.gov/about-air-quality/air-quality-summaries.				

Sensitive Receptors

The closest sensitive receptors to the project site are the residents in the single-family houses (approximately 70 feet east of the site) and a rural residence (approximately 300 feet east of the site), located east of Mission View Drive (approximately 300 feet east of the site). There are other single-family residences to the north, east, and south of the site at further distances. The De Paul Health Center is located approximately 500 feet north of the site. In addition, there are children (13 years and older) at the Live Oak High School, 400 feet southeast of the site. This project would also introduce new sensitive receptors (residents).

Odors

Common sources of odors and odor complaints include wastewater treatment plants, transfer stations, coffee roasters, painting/coating operations, and landfills. Significant sources of offending odors are typically identified based on complaint histories received and compiled by BAAQMD. Typical large sources of odors that result in complaints are wastewater treatment facilities, landfills including composting operations, food processing facilities, and chemical plants. Other sources, such as restaurants, paint or body shops, and coffee roasters typically result in localized sources of odors. There are no substantial sources of odor in the project area.

4.3.2 Impact Discussion

For the purpose of determining the significance of the project's impact on air quality, would the project:

1) Conflict with or obstruct implementation of the applicable air quality plan?
2) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?
3) Expose sensitive receptors to substantial pollutant concentrations?
4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The proposed differences in on-site stormwater drainage capacity, size and depth of the underground retention facilities, and construction equipment usage when comparing Project Options 1 and 2 would not result in substantially different air quality impacts. The proposed differences in storm drainage, size and depth of the underground retention facilities, and construction equipment usage when comparing Project Options 1 and 2 would not affect the conclusions for air quality impacts. The three additional construction workdays required during the grading/excavation for Option 2 (with the increased use of certain heavy construction equipment) would not result in substantially more construction criteria pollutant emissions and TAC emissions when compared to Option 1 (refer to the discussion in Impact AIR-1). There would be no difference in operational air pollutant emissions for Project Options 1 and 2 given the proposed stormwater drainage/control would not affect operational emissions for either option.

Bay Area Air Quality Management District

As discussed in CEQA Guidelines Section 15064(b), the determination of whether a project may have a significant effect on the environment calls for judgment on the part of the lead agency and must be based to the extent possible on scientific and factual data. The City of Morgan Hill has considered the air quality thresholds updated by BAAQMD in May 2017 and regards these thresholds to be based on the best information available for the San Francisco Bay Area Air Basin and conservative in terms of the assessment of health effects associated with TACs and $PM_{2.5}$. The BAAQMD CEQA Air Quality thresholds used in this analysis are identified in Table 4.3-3.

Table 4.3-3: BAAQMD Air Quality Significance Thresholds			
Pollutant	**Construction Thresholds**	**Operation Thresholds**	
	Average Daily Emissions (pounds/day)	**Annual Daily Emissions (pounds/year)**	**Annual Average Emissions (tons/year)**
Criteria Air Pollutants			
ROG, NO_x	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
CO	Not Applicable	9.0 ppm (eight-hour) or 20.0 ppm (one-hour)	
Fugitive Dust	Dust Control Measures/Best Management Practices	Not Applicable	
Health Risks and Hazards for New Sources (within a 1,000-foot Zone of Influence)			
Health Hazard	**Single Source**	**Combined Cumulative Sources**	
Excess Cancer Risk	10 per one million	100 per one million	
Hazard Index	1.0	10.0	
Incremental Annual $PM_{2.5}$	0.3 $\mu g/m^3$	0.8 $\mu g/m^3$ (average)	

Friant Ranch Case

In a 2018 decision (*Sierra Club v. County of Fresno*), the Supreme Court of California determined that CEQA requires that the potential for the project's emissions to affect human health in the air basin must be disclosed when a project's criteria air pollutant emissions would exceed applicable thresholds and contribute considerably to a significant cumulative impact. State and federal ambient air quality standards are health-based standards and exceedances of those standards result in continued unhealthy levels of air pollutants. As stated in the BAAQMD CEQA Air Quality Guidelines, air pollution by its nature is largely a cumulative impact. No single project is sufficient in size to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project has a less than significant impact for criteria air pollutants, it is assumed not to have an adverse health effect with respect to those pollutants.

4.3.2.1 *Project Impacts*

Impact AIR-1:	The project would not conflict with or obstruct implementation of the applicable air quality plan**. (Less than Significant Impact)**

The BAAQMD CEQA Air Quality Guidelines set forth criteria for determining consistency with the CAP. In general, a project is considered consistent if it: a) supports the primary goals of the Clean Air Plan; b) includes relevant control measures; and c) does not interfere with implementation of CAP control measures. The 2017 CAP contains a control strategy intended to complement efforts to improve air quality and protect the climate being made by other partner agencies at the state, regional and local levels. The strategy is based on the following four key priorities and identifies 85 individual control measures to reduce pollutant emissions.

- Reduce emissions of criteria pollutants and TACs from all key sources.
- Reduce emissions of "Super GHGs" such as methane, black carbon, and fluorinated gases.
- Decrease demand for fossil fuels.
- Decarbonize our energy system.

The proposed project would not conflict with the 2017 CAP because as discussed below, the proposed project's emissions would be below the BAAQMD construction and operational criteria pollutant thresholds. Implementation of the project would not inhibit BAAQMD or partner agencies from continuing progress toward attaining state and federal air quality standards and eliminating health-risk disparities from exposure to air pollution among Bay Area communities, as described within the 2017 CAP. **(Less than Significant Impact)**

Regional Criteria Pollutants

As discussed previously in Section 4.3.1, the Bay Area is considered a non-attainment area for ground-level O_3 and $PM_{2.5}$ under both the federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act. As part of an effort to attain and maintain ambient air quality standards for O_3 and PM_{10}, BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for O_3 precursor pollutants (ROG and NO_x), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts and are summarized in Table 4.3-5 and Table 4.3-6.

Construction-Related Criteria Pollutant Emissions

The proposed project (under Options 1 and 2) is anticipated to be constructed in four phases. The construction schedule for Options 1 and 2 would be similar, as both would require an overall duration of approximately 41 months. The implementation of Option 2 would require three more construction workdays compared to Option 1, resulting in a total of 18 workdays. Option 2 would include an increase in equipment usage for 16 of the 18 workdays for the use of certain heavy equipment such as excavators (which would be seven more days than Option 1), graders (five more days than Option 1), scrapers (two more days than Option 1), and tractors/loaders (two more days

than Option 1). The California Emissions Estimator Model (CalEEMod) was used to estimate annual emissions for both on- and off-site construction activities. Average daily emissions were annualized for each year of construction by dividing the annual construction emissions by the number of active workdays during that year. On-site activities would include construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The project land use types and size, and anticipated construction schedule, for the proposed development and De Paul Drive extension were input to CalEEMod, as shown in Table 4.3-4 below.

Table 4.3-4: Summary of Residential and De Paul Drive Extension Phasing				
Project Land Uses	**Size**	**Units**	**Square Feet**	**Acreage**
Phase 1 (Whole Site Preparation/Grading), 2023				
Single Family Housing	269	Dwelling Units	512,363	30.5
Phase 2 (40 condominium units, 32 single-family attached units, and 34 single-family detached units), 2023-2024				
Single Family Housing	54	Dwelling Units	39,600	12.2
Condo/Townhouse	40	Dwelling Units	40,000	
Recreational Swimming Pool	3	1,000 square feet	3,000	
Other Asphalt Surface	1.2	Acre	52,272	
Phase 3 (66 single-family detached units and 45 condominium units), 2024-2026				
Single Family Housing	66	Dwelling Units	118,000	12.9
Condo/Townhouse	45	Dwelling Units	45,000	
Other Asphalt Surface	1.3	Acre	56,528	
DePaul Extension, 2024-2025				
Other Asphalt Surface	1.4	Acre	60,984	1.4
Phase 4 (64 condominium units), 2026-2027				
Condo/Townhouse	64	Dwelling Units	64,000	2.9
Other Asphalt Surface	0.5	Acre	21,780	

Table 4.3-5 shows the average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the proposed residential development and DePaul Drive extension.

Table 4.3-5: Construction Period Emissions: Residential Development and DePaul Drive				
Year	**ROG**	**NO_X**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Construction Emissions Per Year (Tons)				
2022 (Whole Site Prep/Grading Phase and Phase 1) – Option 1	1.05	0.67	0.03	0.03
2022 (Whole Site Prep/Grading Phase and Phase 1) – Option 2	1.06	0.70	0.04	0.03
2023 (Phase 2, DePaul Extension Phase, and Phase 2)	0.03	0.29	0.02	0.02
2024 (Phase 3)	1.20	0.27	0.02	0.01
2025 (Phase 4)	0.49	0.27	0.01	0.01
Annualized Daily Construction Emissions (Pounds/Day)				
2022 (154 construction workdays) – Option 1	13.68	8.64	0.44	0.42
2022 (157 construction workdays) – Option 2	13.74	9.10	0.47	0.44
2023 (220 construction workdays)	0.30	2.60	0.18	0.17
2024 (210 construction workdays)	11.39	2.53	0.15	0.14
2025 (140 construction workdays)	6.95	3.85	0.21	0.21
BAAQMD Thresholds	*54 lbs/day*	*54 lbs/day*	*82 lbs/day*	*54 lbs/day*
Exceed Threshold?	***No***	***No***	***No***	***No***

As shown in Table 4.3-5, the difference between construction period emissions for Option 1 and Option 2 is minimal. Under both project options, the proposed project would not exceed BAAQMD thresholds for construction emissions.

As stated in Section 3.2-5, Water and Sanitary Sewer Utilities, the project would install a 2,745-foot off-site sanitary sewer line that would extend from Half Road to Condit Road, and then to East Main Avenue. Construction of the sewer line would be completed in 18 construction workdays and occur during the grading phase of the residential site and DePaul Drive. Table 4.3-6 shows the average

daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the proposed off-site sanitary sewer line.

Table 4.3-6: Construction Period Emissions: Off-site Sanitary Sewer Line				
Year	**ROG**	**NO_X**	**PM_{10} Exhaust**	**$PM_{2.5}$ Exhaust**
Construction Emissions Per Year (Tons)				
2022 (Construction of 2,745-foot off-site sanitary sewer line)	0.01	0.13	0.01	<0.01
Annualized Daily Construction Emissions (Pounds/Day)				
2022 (18 construction workdays)	1.10	14.08	0.56	0.42
BAAQMD Thresholds	*54 lbs/day*	*54 lbs/day*	*82 lbs/day*	*54 lbs/day*
Exceed Threshold?	***No***	***No***	***No***	***No***

As shown, construction period criteria pollutant emissions for the proposed residential development, DePaul Drive extension, and off-site sanitary sewer line would not exceed BAAQMD significance thresholds. However, construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries.

Implementation of the BAAQMD best management practices listed below, labeled as Standard Condition AIR-1, would reduce construction criteria pollutant emissions impacts to a less than significant level.

Standard Condition AIR-1: The following measures shall be implemented during all phases of construction to control dust and exhaust at the project site:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Replant vegetation in disturbed areas as soon as possible after completion of construction.
7. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne

toxics control measure Title 13, Section 2485 of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

8. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
9. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Emissions from project construction would not exceed BAAQMD emissions thresholds. The project, with the implementation of Standard Condition AIR-1, would reduce fugitive dust emissions to a less than significant level by controlling dust and exhaust, limiting exposed soil surfaces, and reducing PM_{10} and $PM_{2.5}$ exhaust emissions from construction equipment.

Operational Period Emissions

The difference in storm drainage options and underground bioretention basins, when comparing Project Options 1 and 2, would have no effect on operational air pollutant emissions. Operational air pollutant emissions from the proposed project (under Options 1 and 2) would be generated primarily from vehicles driven by future project residents. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to estimate emissions from operation of the proposed project.

The same land uses shown in Table 4.3-4 were input for operational project land uses (269 single-family residential units; 3,000 square foot recreational swimming pool, and three acres of other asphalt surfaces). Operational emissions were modeled based on the assumption that construction would begin in 2022 and the earliest year of full project operation would be 2026. Additionally, the project-specific daily trip generation rate from the Transportation Impact Analysis (TIA) completed for the project was entered in the CalEEMod model. The model assumed the project would generate a vehicle miles traveled (VMT) of 27.41 miles per capita (i.e., resident) per day. Based on a population rate of 3.14 persons per household, the project would equate to 845 residents that would result in a weekday VMT estimate of 23,161 miles per day.[17,18] It was assumed that natural gas would not be used for the proposed residences.

Table 4.3-7 shows average daily operational emissions of ROG, NO_X, total PM_{10} and total $PM_{2.5}$ during operation of the project.

[17] State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2010-2019*. Sacramento, California. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/.

[18] 3.11 persons per household x 269 dwelling units = 837 people x 27.41 miles per person per day = VMT estimate of 23,161 miles per day.

Table 4.3-7: Operational Period Emissions				
Scenario	**ROG**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**
2026 Project Operational Emissions (tons/year)	3.35 tons	1.68 tons	3.12 tons	0.86 tons
BAAQMD Thresholds (tons/year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Thresholds?	No	No	No	No
2026 Project Operational Emissions (lbs/day)	18.36 lbs	9.21 lbs	17.10 lbs	4.71 lbs
BAAQMD Thresholds (lbs/day)	*54 lbs*	*54 lbs*	*82 lbs*	*54 lbs*
Exceed Thresholds?	No	No	No	No

As shown in Table 4.3-7 above, operational period emissions would not exceed BAAQMD significant thresholds emissions for the project, under both project options.[19]

For all the reasons listed above, the project (under Options 1 and 2) would not result in a significant criteria air pollutant impact from construction or operational emissions**.** (**Less than Significant Impact)**

Impact AIR-2:	The project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard. **(Less than Significant Impact)**

Construction and operational criteria pollutant emissions associated with the project (for Options 1 and 2) would not exceed the BAAQMD significance thresholds (refer to the response to question Impact AIR-1). Since the project would have a less than significant criteria pollutant impact, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment. **(Less than Significant Impact)**

Impact AIR-3:	The project would not expose sensitive receptors to substantial pollutant concentrations. **(Less than Significant Impact)**

Project impacts related to increased community health risk can occur either by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity or by significantly exacerbating existing cumulative TAC impacts. The project would introduce new sources of TACs during construction (i.e., on-site construction and truck hauling emissions) and operation (i.e., mobile sources).

[19] The air quality/GHG assessment assumed an average household size 3.11 as this was the latest data available at the time the assessment was initially prepared; the VMT total VMT per day was estimated to be 22,942 miles per day. Given the project's operational criteria pollutant emissions are well below the BAAQMD thresholds, an additional 219 VMT miles per day would not cause the project's operational emissions to exceed BAAQMD thresholds.

Community Health Risks from Project Construction

Construction of the proposed project (under Options 1 and 2) would generate dust and equipment exhaust that could affect nearby sensitive receptors. Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. Construction exhaust emissions would not be considered to contribute substantially to air quality violations; however, these exhaust emissions could pose health risks for sensitive receptors. The primary community risk impact issue associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.

Community Health Risks from Project Operation

Operation of the project (under Options 1 and 2) would have long-term emissions from mobile sources (i.e., traffic). Stationary equipment that could emit substantial TACs, such as emergency generators, are not planned for this project. Per BAAQMD recommended risks and methodology, a road with less than 10,000 total vehicles per day is considered a low-impact source of TACs. The proposed project would generate 2,539 daily trips dispersed on the roadway systems with a majority of the trips generated by light-duty vehicles. As a result, emissions from project traffic would be negligible and would have a less than significant impact on sensitive receptors in the area.

Summary of Project-Related Community Health Risks

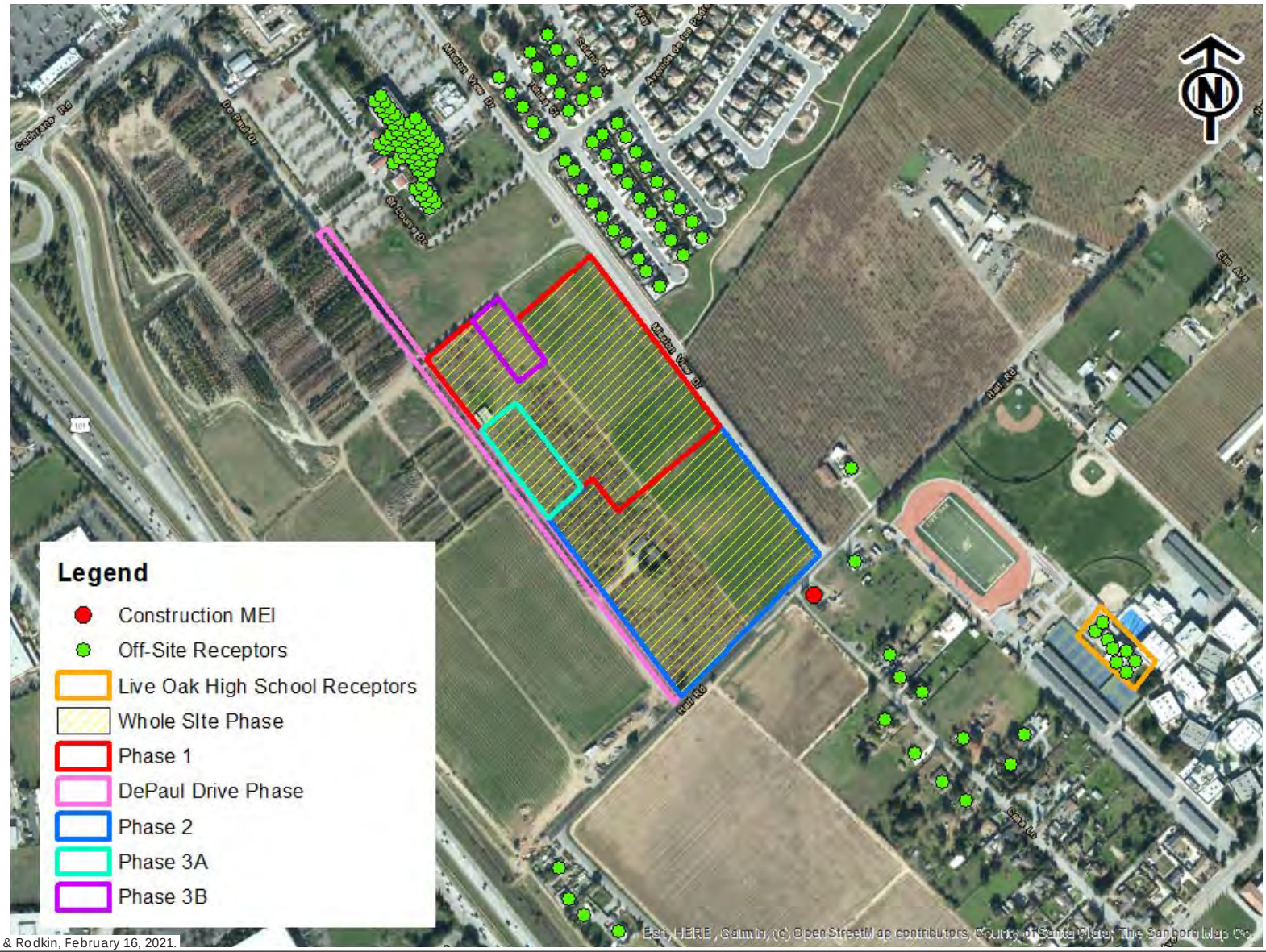
The overall project increased cancer risk is computed by summing the project construction cancer risk and operation cancer risk contributions. The project maximally exposed individual (MEI) is identified as the sensitive receptor that is most impacted by the project's construction and operation. As shown on Figure 4.3-1, the construction off-site MEI (also the project MEI) was determined to be the residence south of the project site. [20,21] At this location, the MEI would be exposed to four years of construction cancer risks. Table 4.3-8 shows the construction risk impacts at the off-site project MEI.

[20] The construction off-site MEI refers to the sensitive receptor most affected by construction of the proposed project, while the project MEI refers to the residential receptor that would be most affected by emissions from traffic on Mission View Drive.

[21] Although the construction MEI appears to currently be used for commercial/industrial purposes. It is possible that it is also occupied by residents or could be in the future.

Table 4.3-8: Construction and Operation Risk Impacts at the Off-Site Receptors			
Source	**Cancer Risk (per million)**	**Annual $PM_{2.5}$ ($\mu g/m^3$)**	**Hazard Index (HI)**
Option 1 Project Construction, unmitigated Option 2 Project Construction, unmitigated	3.6 (infant) 3.8 (infant)	0.02 (0.02)	<0.01 (<0.01)
..Off-site Sanitary Sewer Line Construction	0.02 (infant)	<0.01	<0.01
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0
Exceed Threshold?	No	No	No
Live Oak High School Student Receptors			
Option 1 Project Construction, unmitigated Option 2 Project Construction, unmitigated	0.1 (child) 0.1 (child)	0.01 0.01	<0.01 <0.01
Off-site Sanitary Sewer Line Construction	<0.01 (child)	<0.01	<0.01
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0
Exceed Threshold?	No	No	No
Source: Illingworth & Rodkin, Inc. *The Crosswinds at Morgan Hill Air Quality and Greenhouse Gas Assessment.* May 12, 2022.			

Cancer risks, $PM_{2.5}$ concentration, and HI from construction activities at the project MEI location would not exceed the BAAQMD single-source significance thresholds. As stated above, given the project would generate average daily trips well below 10,000, the cancer risk, $PM_{2.5}$ concentration, and HI at the project MEI would be BAAQMD thresholds. Therefore, toxic air contaminant emissions from project construction and operations (under both project options) would have a less than significant impact on sensitive receptors. **(Less than Significant Impact)**



Source: Illingworth & Rodkin, February 16, 2021.

LOCATIONS OF OFF-SITE SENSITIVE RECEPTORS AND MAXIMUM TAC IMPACT LOCATIONS | FIGURE 4.3-1

Impact AIR-4:	The project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people. **(Less than Significant Impact)**

Emissions of air pollutants or TACs are addressed under Impacts AIR-2 and AIR-3. In terms of odor emissions, BAAQMD has identified a variety of land uses and types of operations that would produce emissions that may lead to odors in their CEQA Air Quality Guidelines. Some of the identified land uses include wastewater treatment plants, sanitary landfills, food processing facilities, coffee roasters, compositing facilities, and confined animal facility/feed lot/dairy facility. The proposed project would construct residential units, which do not fall under any of the land uses BAAQMD has identified.

Future construction activities in the project area could result in odorous emissions from diesel exhaust associated with construction equipment. Because of the temporary nature of these emissions and the highly diffusive properties of diesel exhaust, exposure of sensitive receptors to these emissions would be limited. Therefore, odors that could cause complaints from the general public and affect a substantial number of people are not expected and impact would be less than significant. **(Less than Significant Impact)**

4.3.2.2 *Cumulative Impacts*

Impact AIR-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant air quality impact. **(Less than Cumulatively Considerable Contribution to a Significant Cumulative Impact)**

Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to result in the region being in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. The proposed project (under Options 1 and 2) would not result in significant construction or operational emissions above BAAQMD thresholds; therefore, with the implementation of standard permit condition to minimize dust and exhaust emissions, the project would not result in a cumulatively considerable contribution toward regional emissions. Therefore, the project would result in a less than significant cumulatively considerable contribution to a significant regional air quality impact. **(Less than Cumulatively Considerable Contribution to a Significant Cumulative Impact)**

Combined Impact of TAC Sources on the Off-Site MEI

The geographic area for cumulative impacts to sensitive receptors most affected (i.e., the project MEI) by construction of the proposed residences, DePaul Drive extension, and off-site sanitary sewer line is within 1,000 feet of the site. Without mitigation, the project's community risk from project construction activities would not exceed the single-source maximum increased cancer risk, $PM_{2.5}$ concentration or HI thresholds, as shown in Table 4.3-9 (for both project options). In addition,

the combined unmitigated cancer risk, $PM_{2.5}$ concentration, and HI values would not exceed their respective cumulative thresholds.

Table 4.3-9: Cumulative Community Risk Impacts from Combined TAC Sources at MEIs			
Source	**Cancer Risk (per million)**	**Annual PM2.5 (µg/m³)**	**Hazard Index (HI)**
Project Impacts			
Project Residential and DePaul Drive Extension Construction, unmitigated	3.6 (infant) – Option 1 3.8 (infant) – Option2	0.02 (Options 1 and 2)	<0.01 (Options 1 and 2)
Off-site Sanitary Sewer Line Construction	0.02 (infant)	<0.01	<0.01
BAAQMD Single-Source Threshold	>10.0	>0.3	>1.0
Exceed Threshold?	No	No	No
Cumulative Sources			
Mission View Drive, ADT[1] 14,020	1.5 (infant)	0.09	<0.01
Combined Sources, unmitigated	5.12 (infant) – Option1 5.32 (infant) – Option 2	0.12 (Options 1 and 2)	<0.03 (Options 1 and 2)
BAAQMD Cumulative Source Threshold	>100	>0.8	>10.0
Exceed Threshold?	No	No	No

[1] ADT = Average Daily Traffic

Source: Illingworth and Rodkin, Inc. *The Crosswinds at Morgan Hill Air Quality & Greenhouse Gas Assessment.* May 12, 2022.

There is one relevant cumulative project, the Redwood Tech at 101 Project, immediately south of DePaul Drive, located within 1,000 feet of the project site. Diesel-operated emissions during construction of this project is considered a TAC source. The construction dates, phasing, and type of equipment for this project are unknown at this time. The Redwood Tech project would implement BAAQMD construction best management practices that identify construction equipment necessary to reduce impacts on sensitive receptors to less than significant levels. As a Condition of Approval, the Redwood Tech Center project would implement a dust, noise, vibration, and materials management plan which would reduce air pollutant emissions during construction. The management plan would include requirements such as developing a plan demonstrating off-road equipment (more than 50 horsepower) to achieve a project fleetwide average of 20 percent reduction in NO_x and 45 percent reduction in particulate matter (PM) emissions. All off-road equipment would be required to meet CARB's most recent standards for heavy-duty diesel engines. Additionally, all construction equipment, diesel trucks, and generators would be equipped with the

Best Available Control Technology for emission reductions of NO_x and PM. As a result, based on the best information available, the cumulative impact from construction of the approved Redwood Tech project, emissions from mobile TAC sources (e.g., Mission View Drive), and project construction (with the implementation of Standard Condition AIR-1 to reduce fugitive dust emissions) would be less than significant.

4.3.3 Non-CEQA Effects

Pursuant to *California Building Industry Association v. Bay Area Air Quality Management District,* 62 Cal. 4th 369 *(BIA v. BAAQMD)*, effects of the environment on the project are not considered CEQA impacts. The following discussion is included for informational purposes only because the City of Morgan Hill has policies that address existing air quality conditions affecting a proposed project.

In addition to evaluating health impacts from project construction, a health risk assessment was completed to assess the impact that existing TAC sources would have on the new proposed sensitive receptors (residences) that the project would introduce.

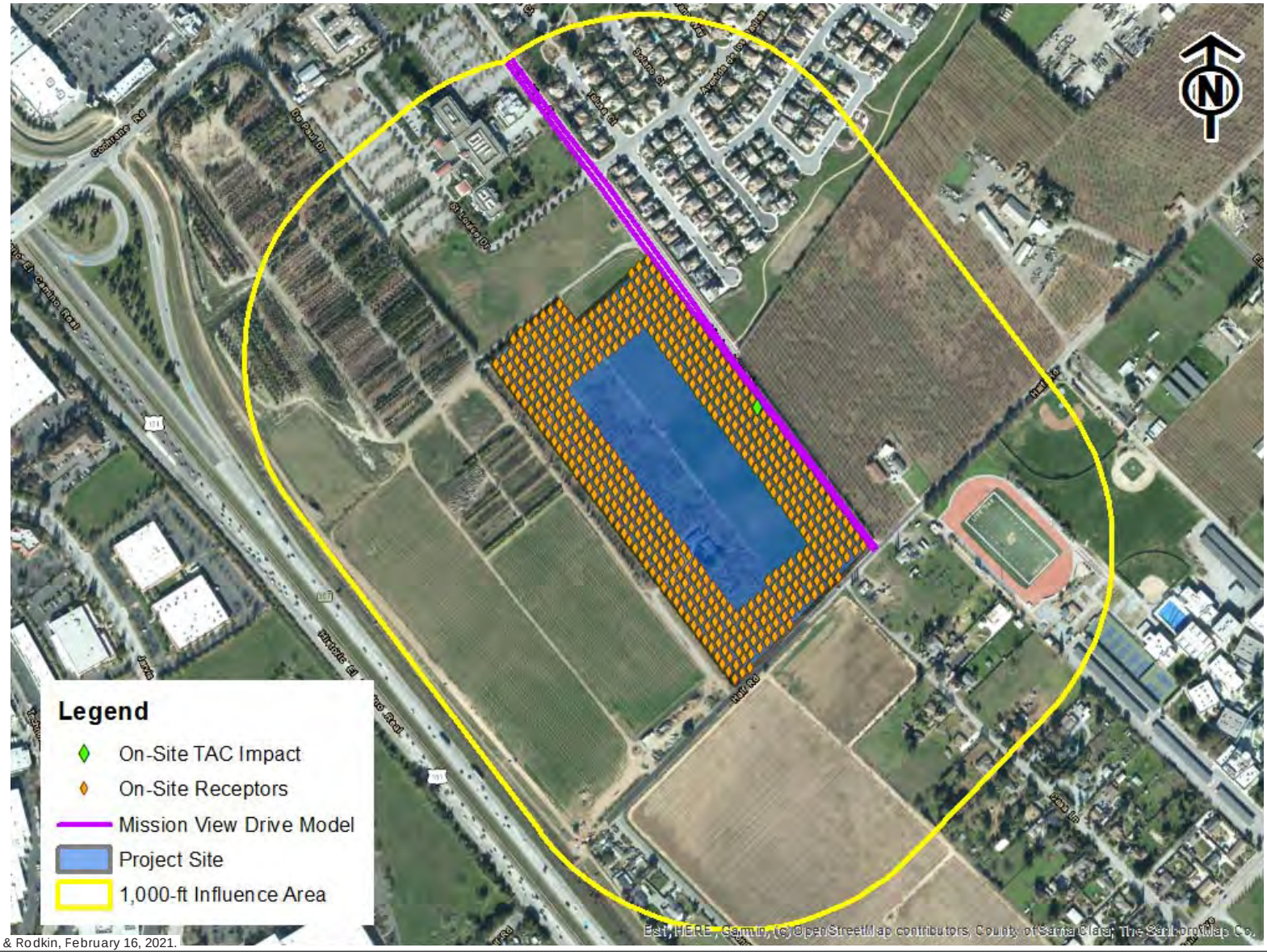
On-Site Community Risk Assessment for TAC Sources

Local Roadways – Mission View Drive

Maximum increased cancer risks were calculated for the residents at the project site using the maximum modeled TAC concentrations. A 30-year exposure period was used in calculating cancer risks assuming the residents would include third trimester pregnancy and infants/children. It was assumed residents would be exposed to TAC concentrations for 24 hours per day for 350 days per year. The maximally exposed on-site receptor would be located on the first floor at a residence along the eastern boundary of the project site (closest to the Mission View Drive). Cancer risks associated with Mission View Drive are greatest closest to Mission View Drive and decrease with distance from the road (the project's on-site sensitive receptors are shown on).

Community Health Risks at the Project Site

The location of future receptors at the site are shown on Figure 4.3-2. The results from the community health risk assessment of the effects of TAC sources on future receptors at the project site are shown in Table 4.3-10. The TAC sources are compared against the BAAQMD single-source threshold.



Source: Illingworth & Rodkin, February 16, 2021.

PROJECT SITE, ON-SITE RESIDENTIAL RECEPTORS, ROADWAY SEGMENTS EVALUATED, AND LOCATIONS OF MAXIMUM ROADWAY TAC IMPACTS | FIGURE 4.3-2

Table 4.3-10: Effects of TAC Sources to Project Site Receptors			
Source	**Cancer Risk (per million)**	**Annual $PM_{2.5}$ ($\mu g/m^3$)**	**Hazard Index (HI)**
Mission View Drive, ADT 14,020	8.5 (infant)	**0.55**	<0.01
BAAQMD Single-Source Threshold	**>10.0**	**>0.3**	**>1.0**
Exceed Threshold?	No	**Yes**	No
BAAQMD Cumulative Source Threshold	**>100**	**>0.8**	**>10.0**
Source: Illingworth and Rodkin, Inc. *The Crosswinds at Morgan Hill Air Quality & Greenhouse Gas Assessment.* May 12, 2022.			

The only other known TAC source within 1,000 feet that would affect residents of the proposed project are operational truck trips that would be associated with the approved Redwood Tech project immediately west of the site. At this time, the number of operational truck trips, truck routes, or associated emissions with the pending Redwood Tech project are unknown. However, based on modeling completed for a former industrial project proposed on that site in 2019 approximately two times larger than the current Redwood Tech project, the combined effect of emissions of truck operations from the pending Redwood Tech project and vehicle emissions from Mission View Drive would not likely result in a substantial cumulative effect from TAC sources (i.e., would not likely exceed cumulative BAAQMD thresholds) on sensitive receptors at the site. If the Redwood Tech project undergoes construction after the proposed project (under Options 1 and 2) starts operations (and residents are on-site), the cumulative effect of construction and operations of the Redwood Tech project may result in substantial cancer risks without the implementation of conditions of approval for construction emissions.

However, as discussed in Section 4.3.2.2 Cumulative Impacts, as a Condition of Approval for the Redwood Tech project, all construction equipment would consist of the Best Available Control Technology for emission reductions of NO_x and PM. The Redwood Tech project would also comply with Conditions of Approval related to reduce emissions of off-road equipment. With the implementation of the proposed project's Standard Condition AIR-1 (under Options 1 and 2) and Redwood Tech project Conditions of Approval, the combined projects would not result in cumulative cancer risk, $PM_{2.5}$ concentrations, and His above BAAQMD cumulative thresholds at the project's residences.

Design Features to Reduce Project Receptor Exposure

Filtration in ventilation systems at the project site would be recommended to reduce the level of harmful pollutants to below the significant thresholds. The substantial exposure to TACs for new project receptors is evaluated via the following criteria: (1) increased cancer risk, and (2) annual $PM_{2.5}$ concentration. Exposure to annual $PM_{2.5}$ concentrations from Mission View Drive traffic is above the BAAQMD single-source threshold of 0.3 $\mu g/m^3$. Cancer risk mostly results from exposure to diesel particulate matter, although, gasoline vehicle exhaust contributes to this effect. Annual $PM_{2.5}$ concentrations are based on the exposure to $PM_{2.5}$ resulting from emissions attributable to truck and automobile exhaust, the wearing of brakes and tires, and roadway dust from vehicles traveling over pavement. Reducing particulate matter exposure would reduce both annual $PM_{2.5}$ exposures and cancer risk.

Condition of Approval: The project shall include the following conditions prior to building occupancy to reduce long-term increased cancer risk and annual $PM_{2.5}$ exposure for new project occupants:

1. Install air filtration in the project's residential units within 75 feet of Mission View Drive travel lanes. Air filtration devices shall be rated MERV13 or higher. To ensure adequate health protection to sensitive receptors (i.e., residents), this ventilation system, whether mechanical or passive, shall filter all fresh air that would be circulated into the dwelling units.

2. The ventilation system shall be designed to keep the building at positive pressure when doors and windows are closed to reduce the intrusion of unfiltered outside air into the building.

3. As part of implementing this measure, an ongoing maintenance plan,, to be prepared by the Homeowners Association's (HOA's) heating, ventilation, and air conditioning (HVAC) contractor, for the buildings' HVAC air filtration system shall be required.

4. The HOA shall ensure the Covenants, Conditions and Restrictions and other property documents: (1) require cleaning, maintenance, and monitoring of the affected buildings for air flow leaks, (2) include assurance that new owners or tenants are provided information on the ventilation system, and (3) include provisions that fees associated with owning or leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed. The HOA's property managers/contractors will be responsible for maintaining the air filtration system at each residential unit.

Assuming the maximally exposed individual on-site is being exposed to 21 hours of indoor filtered air and three hours of outdoor unfiltered air, the overall effectiveness of a MERV13 filtration system would be about 70-percent for $PM_{2.5}$ exposure. With the installation of this filtration system, the maximum annual $PM_{2.5}$ concentration from Mission View Drive would be reduced to 0.16 $\mu g/m^3$ (below the BAAQMD single-source threshold of 0.3 $\mu g/m^3$).

4.4 BIOLOGICAL RESOURCES

The following discussion is based, in part, on an Arborist Report prepared by David L. Babby on February 12, 2021. A copy of the report is attached as Appendix C of this DEIR.

4.4.1 Environmental Setting

4.4.1.1 *Regulatory Framework*

Federal and State

Endangered Species Act

Individual plant and animal species listed as rare, threatened, or endangered under state and federal Endangered Species Acts are considered special-status species. Federal and state endangered species legislation has provided the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW) with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Permits may be required from both the USFWS and CDFW if activities associated with a proposed project would result in the take of a species listed as threatened or endangered. To "take" a listed species, as defined by the State of California, is "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" these species. Take is more broadly defined by the federal Endangered Species Act to include harm of a listed species.

In addition to species listed under state and federal Endangered Species Acts, Sections 15380(b) and (c) of the CEQA Guidelines provide that all potential rare or sensitive species, or habitats capable of supporting rare species, must be considered as part of the environmental review process. These may include plant species listed by the California Native Plant Society and CDFW-listed Species of Special Concern.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) prohibits killing, capture, possession, or trade of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. Hunting and poaching are also prohibited. The taking and killing of birds resulting from an activity is not prohibited by the MBTA when the underlying purpose of that activity is not to take birds.[22] Nesting birds are considered special-status species and are protected by the USFWS. The CDFW also protects migratory and nesting birds under California Fish and Game Code Sections 3503, 3503.5, and 3800. The CDFW defines taking as causing abandonment and/or loss of reproductive efforts through disturbance.

[22] United States Department of the Interior. "Memorandum M-37050. The Migratory Bird Treaty Act Does Not Prohibit Incidental Take." Accessed October 20, 2020. https://www.doi.gov/sites/doi.gov/files/uploads/m-37050.pdf.

Sensitive Habitat Regulations

Wetland and riparian habitats are considered sensitive habitats under CEQA. They are also afforded protection under applicable federal, state, and local regulations, and are generally subject to regulation by the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), CDFW, and/or the USFWS under provisions of the federal Clean Water Act (e.g., Sections 303, 304, 404) and State of California Porter-Cologne Water Quality Control Act.

Fish and Game Code Section 1602

Streambeds and banks, as well as associated riparian habitat, are regulated by the CDFW per Section 1602 of the Fish and Game Code. Work within the bed or banks of a stream or the adjacent riparian habitat requires a Streambed Alteration Agreement from the CDFW.

Regional and Local

Santa Clara Valley Habitat Plan/Natural Community Conservation Plan

The Santa Clara Valley Habitat Plan/Natural Community Conservation Plan (Habitat Plan) covers approximately 520,000 acres, or approximately 62 percent of Santa Clara County. It was developed and adopted through a partnership between Santa Clara County, the Cities of San José, Morgan Hill, and Gilroy, Valley Water, Santa Clara Valley Transportation Authority (VTA), USFWS, and CDFW. The Habitat Plan is intended to promote the recovery of endangered species and enhance ecological diversity and function, while accommodating planned growth in southern Santa Clara County. The Santa Clara Valley Habitat Agency is responsible for implementing the plan.

City of Morgan Hill 2035 General Plan

The Morgan Hill 2035 General Plan includes goals and policies to protect biological resources in the City of Morgan Hill. The following policies related to biological resources are applicable to the proposed project:

Policy NRE-6.2: **Habitat Conservation Plan**. Support the implementation of the Santa Clara Valley Habitat Plan to protect wildlife, rare and endangered plants and animals, and sensitive habitats from loss and destruction.

Policy NRE-6.4: **Tree Preservation and Protection.** Preserve and protect mature, healthy trees whenever feasible, particularly native trees, historically significant trees, and other trees which are of significant size or of significant aesthetic value to the immediate vicinity or to the community as a whole.

City of Morgan Hill Tree Removal Controls

The City of Morgan Hill maintains the urban natural landscape partly by promoting the health, safety, and welfare of the City by controlling the removal of significant sized trees (Municipal Code 12.32.020, G.). According to the City of Morgan Hill Tree Removal Controls, a significant tree is

considered to be a tree with a single stem or trunk of a circumference of 40 inches (or diameter of 12.7 inches) or more for nonindigenous species and a circumference of 18 inches (or diameter of 5.7 inches) or more for indigenous species measured at four and one-half feet vertically above the ground. Indigenous species to Morgan Hill include oak (all types), California bay, madrone, sycamore, and alder trees.

"Street trees" are also protected and defined as a tree, of any size, situated within the public street right-of-way or publicly accessible private street (e.g., trees within a landscape park strip), or within five feet of publicly accessible sidewalk adjacent to a public or private street in the case of a street without a landscape park strip.

A "community of trees," which is a group of trees of any size which are ecologically or aesthetically related to each other such that loss of several of them would cause a significant ecological, aesthetic, or environmental impact in the immediate area, are protected under the City's ordinance.

In addition, the Tree Removal Controls specify that all commercial tree farms, nonindigenous tree species in residential zones, and orchards (including individual fruit trees) are exempted from the definition of significant tree.

City of Morgan Hill Burrowing Owl Habitat Mitigation Plan

Since 2003, the City of Morgan Hill has implemented a citywide program (Burrowing Owl Habitat Mitigation Plan) to evaluate and mitigate impacts to burrowing owls and potential burrowing owl habitat that could result from development activities within the City limits. Under the Burrowing Owl Habitat Mitigation Plan, the City requires pre-construction owl surveys to be completed in areas of potentially suitable habitat (generally any grassland and/or mixed herbaceous vegetation below 600 feet above mean sea level) within 30 days of the onset of construction.

4.4.1.2 *Existing Conditions*

The approximately 33-acre site, where 269 residences and the DePaul Drive extension are proposed, is predominantly covered by fallowed agricultural fields, non-native grassland, and boxed trees. A vacant single-family residence is located on the southwestern section of the site. While the site is largely undeveloped, it has been historically disturbed by agricultural activities and is bordered by development to the north and east, with a vacant grassland area to the west, and Half Road to the south. For these reasons, the site contains limited habitat suitable for wildlife species occurring in the area. The Madrone Channel, a man-made drainage feature conveying storm water runoff south, is located approximately 500 feet west of the site.

Trees

The 33-acre site contains eight trees, four of which are ordinance-sized. Table 4.4-1 below shows the types, numbers, and conditions of trees on the project site.[23]

Table 4.4-1: Trees On-Site				
Common Name	**Count**	**Condition**	**Trunk Diameter (inches)**	**Ordinance-sized?**
California buckeye	1 (multiple trunks)	Poor	8, 7, 6, 5, 4 (multiple trunks)	No
Monterey pine	1	Fair	26	Yes
Pepper tree	1	Fair	44	Yes
Carolina laurel cherry	2	Dead	6, 7	No
Chaste tree	1 (multiple trunks)	Poor	10, 10, 7 (multiple trunks)	No
Ponderosa pine	2	Poor	25, 32	Yes

4.4.2 Impact Discussion

For the purpose of determining the significance of the project's impact on biological resources, would the project:

1) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS)?
2) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?
3) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
4) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?
5) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
6) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

[23] No trees would be located within the footprint of the off-site sanitary sewer installation.

The proposed differences in storm drainage management, size and depth of the underground retention facilities, and construction equipment usage, when comparing Project Options 1 and 2, would not result in differing biological resources impacts given the facilities are underground. Therefore, the mitigation measures to be implemented and conclusions for biological resources impacts would be the same for Project Options 1 and 2.

4.4.2.1 *Project Impacts*

Impact BIO-1:	The project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS. **(Less than Significant Impact with Mitigation Incorporated)**

The project site does not contain any known candidate, sensitive, or special-status species, nor does it contain sensitive habitat. The site is not located in a plant or wildlife survey area as identified in the Habitat Plan. The extent of disturbance of the areas surrounding the project site and the historical use of the project site greatly reduce its suitability for sensitive species. Further, the project site is surrounded by development to the north and northeast, agricultural lands to the south and southeast, and would provide minimal dispersal habitat for native wildlife in the area.

The proposed project (under Options 1 and 2) would remove all existing trees on the 33-acre site. The mature trees on-site have the potential to provide nesting or foraging habitat for nesting raptors and migratory birds. Nesting raptors and migratory birds are protected under state and federal regulations. At the time of development, raptors and migratory birds could be nesting in the trees and vegetation on and adjacent to the project site. Project construction and tree removal during the avian breeding season could result in direct or indirect impacts to eggs and nestlings. This would constitute a significant impact requiring project-level mitigation.

Mitigation Measures: The following mitigation measures will reduce impacts from construction at the project site nesting raptors and migratory birds to a less than significant level:

MM BIO-1.1: Construction shall be scheduled to avoid the nesting season. If construction can be scheduled to occur between September 1st and January 31st (inclusive) to avoid the raptor nesting season, no impacts will be expected. If construction will take place between February 1st and August 31st, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests will be disturbed during project implementation. Performance of the required surveys for construction occurring between February 1st and August 31st will ensure that impacts to nesting raptors are reduced to less than significant. Surveys will be completed within 30 days of the on-set of tree removal, site clearing or construction activities. During this survey, the ornithologist will inspect all trees and other potential nesting habitats (e.g.,

trees, shrubs, buildings) onsite trees as well as all trees within 250 feet of the site for nests. The pre-construction survey shall be submitted to the City's Development Services Director or the Director's designee for review prior to tree removals or issuance of a grading permit.

MM BIO-1.2: If an active nest is found sufficiently close to work areas to be disturbed by these activities, the ornithologist will determine the extent of a disturbance-free buffer zone to be established around the nest (typically 250 feet for raptors and 50-100 feet for other species) that will remain off limits to construction until the nesting season is over, to ensure that no nests of species protected by the Migratory Bird Treaty Act and California Fish and Wildlife Code will be disturbed during project implementation. A report indicating the result of the survey and any designated buffer zones shall be submitted to the satisfaction of the City's Development Services Director or Director's designee prior to removal of trees and issuance of a grading permit.

With the implementation of the above mitigation measures, the project (under Options 1 and 2) would not result in a substantial adverse impact on sensitive species regulated by the CDFW or USFW. **(Less Than Significant Impact with Mitigation Incorporated)**

Impact BIO-2:	The project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS. **(No Impact)**

The project site is located within a mixed urban and rural area of the City. There are no riparian habitats located on the 33-acre site or within the footprint of the proposed off-site sanitary sewer installation. The Madrone Channel is approximately 500 feet west of the site to the west but is an engineered drainage channel and provides minimal habitat value. There are no sensitive natural communities located on or adjacent to the project site. Therefore, the proposed project (under Options 1 and 2) would not result in adverse effects to riparian habitat or other sensitive natural communities. **(No Impact)**

Impact BIO-3:	The project would not have a substantial adverse effect on state or federally protected wetlands through direct removal, filling, hydrological interruption, or other means. **(No Impact)**

The 33-acre site and off-site sewer installation area do not contain any wetlands. Therefore, implementation of the project (under Options 1 and 2) would not result in a substantial adverse effect on protected wetlands. **(No Impact)**

Impact BIO-4:	The project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. **(No Impact)**

The 33-acre site and off-site sewer installation area are located within a mixed urban and rural area of the City. Since the 33-site is surrounded by development and the off-site sanitary sewer installation area is located within an existing right of way for utilities, these areas do not provide linkages to natural areas located at the City's northern and eastern boundaries. As discussed under Impact BIO-2, the 33-acre site and the proposed off-site sanitary sewer line area do not contain riparian corridors which could facilitate migratory fish and avian movement. The project (under Options 1 and 2) would, therefore, not interfere with the movement of fish or wildlife species, nor interfere with established migratory corridors or wildlife nursery sites. **(No Impact)**

Impact BIO-5:	The project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. **(Less than Significant Impact with Mitigation Incorporated)**

Tree Removal

The 33-acre site contains four ordinance-sized trees as defined by the City of Morgan Hill. This includes one Monterey pine, one Peruvian pepper tree, and two Ponderosa pines. No trees are located on the portions of Half Road, Condit Road, East Main Avenue in which the off-site sewer line would be located. Therefore, trees would not be impacted by the off-site sewer line installation.

In accordance with the Municipal Code Section 12.32.030, the applicant must apply for a tree removal permit prior to the removal of these trees. In accordance with Municipal Code Section 12.32.080, the project applicant would replace these trees with plantings of trees acceptable to the City's Development Services Director or Director's designee. The removal, cutting down, poisoning, or other destruction of protected trees, including pruning that would reduce the canopy area by more than 25 percent of any Ordinance sized tree, would require permits or mitigation measures under the City Municipal Code (Chapter 12.32). The project (under Options 1 and 2) would remove four ordinance-sized (protected) trees; mitigation to offset impacts to these trees would be required.

Mitigation Measures: The following mitigation measures will ensure impacts to ordinance sized trees are reduced to a less than significant level.

MM BIO-5.1: The project applicant shall comply with local ordinances and submit permit applications for removal, trimming, damage, or relocation of all trees covered by the City ordinance. Any trees to be removed shall require replacement at a two-to-one ratio on a comparable ratio of size. The replacement trees shall be planted on site to the extent feasible and the project proponent shall comply

with all other replacement requirements imposed by the City. Prior to tree removal, the project applicant shall apply for a tree removal permit, which will be reviewed by the City's Development Services Director or Director's designee.

With the implementation of the above mitigation measure, project construction would not result in a significant impact to any sensitive species, nor would it conflict with a tree preservation policy. **(Less Than Significant Impact with Mitigation Incorporated)**

Impact BIO-6:	The project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. **(Less than Significant Impact)**

As mentioned previously, the project site is covered under the Habitat Plan, designated as "Urban Development Equal to or Greater than 2 Acres".[24] The land cover of the site is comprised of a mix of "Grain, Row-crop, Hay and Pasture, Disked/Short-term Fallowed" and the entire site is located within Fee Zone B (Agricultural and Valley Floor Lands). The proposed project would be required to pay this fee to offset the loss of this land cover type. The project site is not located in any other fee zone or within or adjacent to any plant or wildlife survey area.

The Habitat Plan also considers covered activities to result in a certain number of indirect impacts from urban development mostly in the form of increased impervious surface and from the effects of nitrogen deposition. Development that increases the intensity of land use results in increased air pollutant emissions from vehicles. Emissions from these sources are known to increase airborne nitrogen, of which a certain amount is converted into forms that can fall to earth as depositional nitrogen. It has been shown that increased nitrogen in serpentine soils can favor the growth of nonnative annual grasses over native serpentine species and these nonnative species, if left unmanaged, can overtake the native serpentine species, which are host plants for larval Bay Checkerspot butterfly. As such, covered projects within the Habitat Plan area are subject to paying a "Nitrogen Deposition Impact Fee" which is calculated based on the number of daily vehicle trips attributed to the activity and collected prior to the commencement of the use.

In addition, all covered activities in the Habitat Plan are subject to certain conditions (as identified in Chapter 6 of the Plan) based on the project's location and type of project. To ensure that the project (under Options 1 and 2) complies with conditions of the Habitat Plan, the conditions would be applied to each component as part of the entitlement approval conditions and/or other permits (i.e., grading permits, building permits, etc.).

The City of Morgan Hill has adopted the Habitat Plan and, as an ordinance[25] implementing the measures and conditions set forth in the Habitat Plan, would levy applicable impact fees and

[24] Santa Clara Valley Habitat Agency. *Habitat Agency Geobrowser*. Accessed October 27, 2020. http://www.hcpmaps.com/habitat/.
[25] Chapter 18.132 of the City of Morgan Hill Municipal Code.

incorporate relevant conditions on covered activities into the project. Therefore, the project (under Options 1 and 2) would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan. **(Less Than Significant Impact)**

4.4.2.2 *Cumulative Impacts*

Impact BIO-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant biological resources impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

The geographic area for cumulative biological resources impacts is the project site and adjacent parcels. As described above, there is potential for nesting and migratory birds to occur in the project area. The project (under Options 1 and 2) would not impact sensitive habitats or special status species. Therefore, the project would not contribute to a cumulative impact. The Redwood Tech project was approved immediately west of DePaul Drive. The Redwood Tech project was exempt from CEQA and would not require mitigation measures; however, the project would comply with General Plan policies and would be subject to fees and conditions contained in the Habitat Plan. Other cumulative projects in the City would be required to undergo site-specific analyses for their potential to adversely affect sensitive natural communities, habitats and special-status plant and animal species; if potential impacts are identified, mitigation measures would be incorporated into individual projects to reduce impacts to a less than significant level. Cumulative projects would also be required to adhere to the City of Morgan Hill Municipal Code Section 12.32 for tree removal and replacement and applicable Habitat Plan conditions. Payment of Habitat Plan nitrogen deposition fees ensures that the cumulative effects of nitrogen deposition are offset.

The cumulative projects would not result in significant cumulative biological resources impacts. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

4.5 CULTURAL RESOURCES

The following discussion is based, in part, on an Archaeological Resources Assessment Report, prepared by *Basin Research Associates* and dated June 2019, and a Historic Evaluation Report, prepared by *Urban Programmers Historic Preservation and Urban Revitalization Consultants (Urban Programmers)* and dated June 2019. The Archaeological Resources Assessment Report contains sensitive information and is available for review by qualified persons at Morgan Hill City Hall. A copy of the Historic Evaluation Report is attached as Appendix D of this DEIR.

4.5.1 Environmental Setting

4.5.1.1 *Regulatory Framework*

Federal and State

National Historic Preservation Act

Federal protection is legislated by the National Historic Preservation Act of 1966 (NHPA) and the Archaeological Resource Protection Act of 1979. These laws maintain processes for determination of the effects on historical properties eligible for listing in the National Register of Historic Places (NRHP). Section 106 of the NHPA and related regulations (36 Code of Federal Regulations [CFR] Part 800) constitute the primary federal regulatory framework guiding cultural resources investigations and require consideration of effects on properties that are listed or eligible for listing in the NRHP. Impacts to properties listed in the NRHP must be evaluated under CEQA.

California Register of Historical Resources

The California Register of Historical Resources (CRHR) is administered by the State Office of Historic Preservation and encourages protection of resources of architectural, historical, archeological, and cultural significance. The CRHR identifies historic resources for state and local planning purposes and affords protections under CEQA. Under Public Resources Code Section 5024.1(c), a resource may be eligible for listing in the CRHR if it meets any of the NRHP criteria.[26]

Historical resources eligible for listing in the CRHR must meet the significance criteria described previously and retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if it maintains the potential to yield significant scientific or historical information or specific data.

The concept of integrity is essential to identifying the important physical characteristics of historical resources and, therefore, in evaluating adverse changes to them. Integrity is defined as "the authenticity of a historical resource's physical identity evidenced by the survival of characteristics

[26] California Office of Historic Preservation. "CEQA Guidelines Section 15064.5(a)(3) and California Office of Historic Preservation Technical Assistance Series #6." Accessed August 31, 2020. http://www.ohp.parks.ca.gov/pages/1069/files/technical%20assistance%20bulletin%206%202011%20update.pdf.

that existed during the resource's period of significance." The processes of determining integrity are similar for both the CRHR and NRHP and use the same seven variables or aspects to define integrity that are used to evaluate a resource's eligibility for listing. These seven characteristics include 1) location, 2) design, 3) setting, 4) materials, 5) workmanship, 6) feeling, and 7) association.

California Native American Historical, Cultural, and Sacred Sites Act

The California Native American Historical, Cultural, and Sacred Sites Act applies to both state and private lands. The act requires that upon discovery of human remains, construction or excavation activity must cease, and the County Coroner be notified.

Public Resources Code Sections 5097 and 5097.98

Section 15064.5 of the CEQA Guidelines specifies procedures to be used in the event of an unexpected discovery of Native American human remains on non-federal land. These procedures are outlined in Public Resources Code Sections 5097 and 5097.98. These codes protect such remains from disturbance, vandalism, and inadvertent destruction, establish procedures to be implemented if Native American skeletal remains are discovered during construction of a project, and establish the Native American Heritage Commission (NAHC) as the authority to resolve disputes regarding disposition of such remains.

Pursuant to Public Resources Code Section 5097.98, in the event of human remains discovery, no further disturbance is allowed until the county coroner has made the necessary findings regarding the origin and disposition of the remains. If the remains are of a Native American, the county coroner must notify the NAHC. The NAHC then notifies those persons most likely to be related to the Native American remains. The code section also stipulates the procedures that the descendants may follow for treating or disposing of the remains and associated grave goods.

Local

Morgan Hill 2035 General Plan

The Morgan Hill 2035 General Plan includes goals, policies, and actions to avoid significant impacts due to loss of cultural resources.[27] The following policies related to cultural resources are applicable to the proposed project:

Policy HC-8.1: **Identify and Protect Resources.** Identify and protect heritage resources from loss and destruction. (South County Joint Area Plan 15.09)

Policy HC-8.2: **Historic Structures.** Encourage the preservation and rehabilitation of the City's historic structures.

[27] City of Morgan Hill, California (2016). "Chapter 6, Healthy Community." *City of Morgan Hill General Plan 2035.* Accessed September 20, 2021. https://www.morgan-hill.ca.gov/DocumentCenter/View/22839/MH2035-General-Plan---December-2017?bidId.

Policy HC-8.3: **Demolition.** Prior to approving demolition or alteration of historically significant buildings, evaluate alternatives, including structural preservation, relocation, or other mitigation, and demonstrate that financing has been secured for replacement use.

Policy HC-8.4: **Tribal Consultation.** Consult with Native American tribes that have ancestral ties to Morgan Hill regarding proposed new development projects and land use policy changes.

Policy HC-8.5: **Mitigation.** Require that if cultural resources, including tribal, archaeological, or paleontological resources, are uncovered during grading or other on-site excavation activities, construction shall stop until appropriate mitigation is implemented.

Morgan Hill Historic Context Statement

The City's Historic Context Statement creates a framework against which to objectively qualify a property's significance in relation to larger historic themes and events. The Historic Context Statement includes a historical inventory and historical maps which recognize existing historic resources in the City. Historical evaluation of a subject property should use the context statement as a tool for understanding where a property's significance lies within the City's historical timeline. The City determines historical significance and eligibility for inclusion in the historical inventory based on the California Register criteria.[28]

Santa Clara County Heritage Resource Inventory

The Santa Clara County Heritage Resource Inventory compiles historical landmarks throughout the County and sets forth guidelines for their treatment and evaluation. Properties listed in the inventory are subject to a demolition review process by the Historical Heritage Commission (HHC) and the Board of Supervisors. The Heritage Resource Inventory was last updated in 2012.[29]

4.5.1.2 *Existing Conditions*

Historic Resources

The 33-acre site consists of a vacant single-story house, barn, tanks, and sheds. The house on-site was constructed circa 1957. Resources greater than 50 years in age are considered potentially historic and require evaluation for their potential historical significance under the California Register's eligibility criteria. As such, these properties were the subject of the historic evaluation completed by *Urban Programmers.*

[28] City of Morgan Hill. Municipal Code Chapter 18.60 – Historic Resources.
[29] County of Santa Clara – Department of Planning and Development. *Historic Context Statement.* December 2004. Revised February 2012.

The single-family house and ancillary (barn) structure (APN 728-30-004) were constructed in 1957 and are located in a rural setting. The house is a California Ranch Style common economical type of construction without artistic style. Across from the house is a single-story utility barn, which was likely used as a packing shed and storage space. The house and barn are vacant and in poor condition.

The property was historically used for agricultural purposes since at least 1912. The original owner was William Pierce. Ownership of the site has changed several times over the past century, most recently being sold by Patricia A. Hann to Llagas LLC in 2000. For the last several years, the house on-site has not been occupied by the owner. The site was used for agricultural purposes (orchard trees) until 2019.

The property is not listed in the Historic Properties Directory for Santa Clara County or the Morgan Hill Historic Resources Inventory. *Urban Programmers* found that the property was not directly associated with individuals or events that have made a significant contribution to the broad patterns of local or regional history, or to the cultural heritage of Morgan Hill. Neither the Mid-century Ranch House nor the barn structure on the property possess distinctive characteristics. Based on the historic evaluation, the property does not meet the criteria for architectural/engineering importance because the utilitarian structures and buildings are not distinctive or artistic and do not show unique engineering. For these reasons, the Half Road Property is not eligible for listing under the California Register or the National Register. No historic resources are identified on adjacent or surrounding properties.

Archaeological Resources

Prehistoric Background

Cultural/archaeological resources are traces of human occupation and activity. In Northern California, human occupation extends back to at least 9,000-11,500 years with Native American occupation and use of the Bay Area extending over 5,000-8,000 years and possibly longer. The Aboriginal inhabitants of the Santa Clara Valley include a group known as the Costanoans who occupied the central California coast as far east as the Diablo Range. The descendants of these Native Americans are referred to as Ohlone. The project site appears to have been within the *Mutsun* tribelet/group territory.

Prehistoric site types in the Santa Clara Valley include habitation sites ranging from villages to temporary campsites, stone tool and other manufacturing areas, quarries for tool stone procurement, cemeteries usually associated with large villages, isolated burial sites, rock art locations, bedrock mortars or other milling features sites, and trails.[30]

[30] Basin Research and Associates. *Archaeological Resources Assessment Report – Morgan Hill Technology and Mixed-Use Residential Project.* June 2019.

Prehistoric and Historic Resources

According to the City's archaeological sensitivity map (2000), the 33-acre site is located in an area of archaeological sensitivity due to the past presence of three historic-era ranch locations in the site vicinity. The off-site sewer installation area, extending from Half Road to Condit Road, to East Main Avenue, is not located in an archaeologically sensitive area based on the archaeological sensitivity map. *Basin Research Associates* completed a records search in the California Historical Resource Information System (CHRIS) database, reviewed archival literature, and completed a field inspection (in May 2019) to determine the potential presence of historic-era archaeological resources at the 33-acre residential and DePaul Drive extension area and the Redwood Tech site immediately west of DePaul Drive (an 89-acre site). A records search was also completed for areas within one quarter mile of these sites. The lack of archaeological discoveries over the past 20 years suggests a low to moderate sensitivity for the project site for historic archaeological resources. Based on the 2019 field survey, the soils on the 33-acre site and Redwood Tech site consisted of yellowish brown to brown clay with sandstone, chert, and quartz pebbles and cobbles. No surface indications of prehistoric or significant historic cultural materials or culturally modified soils were observed during the survey completed for the proposed project. Three cultural resource reports on file with the CHRIS/NWIC include the project site or areas adjacent; all of the studies were negative for prehistoric archaeological resources. For the reasons described above, the project site is considered to have low to moderate sensitivity for prehistoric resources.

No known historic dwellings or other features have been identified in or adjacent to the project site. The closest known Hispanic-Era feature, El Camino Real/Monterey Road/US Route 101 ("Old Monterey Road") is located approximately one mile west of the site. No American Period archaeological sites have been recorded in or adjacent to the project site. The historic map review indicates that a single circa-1876 historic era structure owned by "S. Matthews" was located within the project site but was no longer present in 1901/1907.

4.5.2 Impact Discussion

For the purpose of determining the significance of the project's impact on cultural resources, would the project:

1) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5?
2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?
3) Disturb any human remains, including those interred outside of dedicated cemeteries?

The proposed differences in storm drainage, size and depth of the underground retention basins, and construction equipment usage when comparing Project Options 1 and 2 would not affect the conclusions for cultural resources impacts. Although the construction of the underground retention basins under Option 2 would result in deeper excavation (maximum depth would be nine feet below the ground surface) than Option 1 (four feet below the ground surface), mitigation measures

and the conclusions for cultural resources impacts would be the same for Project Options 1 and 2, as discussed in more detail below. The project would excavate to a maximum depth of 10 feet to access utilities during construction for both options.

4.5.2.1 *Project Impacts*

Impact CUL-1:	The project would not cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines Section 15064.5. **(Less than Significant Impact)**

Pursuant to CEQA Guidelines Section 15064.5 (b)(1), a "substantial adverse change" in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired. The vacant single-family house and ancillary barn structure were evaluated for potential eligibility for listing on local, state, and national historical registers and were found to not meet the criteria for eligibility.

The proposed project (under Options 1 and 2) would completely redevelop the 33-acre site, including the demolition of existing structures and the conversion of land use to residential uses. While the existing structures would be permanently removed, the structures (and associated properties) were not found to qualify as historical resources under the California Register or the National Register, nor at the local level for the City or County register. Based on Table 4.5-1 Historic Properties in Morgan Hill in the General Plan EIR, there are no historic structures located adjacent to the site. Therefore, the proposed project (under Options 1 and 2) would not result in a significant impact to historical resources. **(Less than Significant Impact)**

Impact CUL-2:	The project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5. **(Less than Significant Impact with Mitigation Incorporated)**

As discussed in Section 4.5.1.2 Existing Conditions, the 33-acre site is considered to have low to moderate sensitivity for prehistoric and historic archaeological resources. The off-site sanitary sewer installation area is not located in an archaeologically sensitive area. While the project site not known to contain an archaeological site or buried deposits, construction operations could result in the inadvertent exposure of buried prehistoric or historic archaeological materials that could be eligible for inclusion on the California Register and/or meet the definition of a unique archaeological resource as defined in Section 21083.2 of the Public Resources Code.

Impact CUL-2: Demolition and construction activities on the project site could unearth sensitive archaeological resources. **(Potentially Significant Impact)**

Mitigation Measures: The following mitigation measures would be implemented during project demolition, grading, and construction activities to avoid impacts to unknown subsurface archaeological resources:

MM CUL-2.1: A moderate potential exists for unrecorded historic-period archaeological resources to be within the project area. The developer shall enter into written contracts with an archaeologist and the Tamien Nation Tribe, and pay all fees associated with the activities required by this Mitigation Measure. The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply:

(a) Prior to the start of grading or earthmoving activity (includes demolition and moving of heavy equipment on site) on the "first day of construction," the archaeologist and Tribal Monitor shall hold a pre-construction meeting for the purposes of "cultural sensitivity training" with the general contractor or subcontractors.

(b) A Tamien Nation Tribal Monitor shall be present on-site to monitor all ground-disturbing activities and an archaeologist shall be on-call. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below:

1. Work at the location of the find shall halt immediately within fifty feet of the find. If an archaeologist is not present at the time of the discovery, the applicant shall contact an archaeologist for evaluation of the find to determine whether it qualifies as a unique archaeological resource as defined by this chapter.

2. If the find is determined not to be a Unique Archaeological Resource, construction can continue. The archaeologist shall prepare a brief informal memo/letter in collaboration with a tribal representative that describes and assesses the significance of the resource, including a discussion of the methods used to determine significance for the find.

3. If the find appears significant and to qualify as a unique archaeological resource, the archaeologist shall determine if

the resource can be avoided and shall detail avoidance procedures in a formal memo/letter.

4. If the resource cannot be avoided, the archaeologist in collaboration with a tribal representative shall develop within forty-eight hours an action plan to avoid or minimize impacts. The field crew shall not proceed until the action plan is approved by the Development Services Director or Director's designee. The action plan shall be in conformance with California Public Resources Code 21083.2. An archaeologist shall be on-call during ground disturbing activities. Where historical or archaeological artifacts are found, work in areas where remains or artifacts are found will be restricted or stopped until proper protocols are met, as described below.

(c) The following policies and procedures for treatment and disposition of inadvertently discovered human remains or archaeological materials shall apply. If human remains are discovered, it is probable they are the remains of Native Americans,

1. If human remains are encountered, they shall be treated with dignity and respect as due to them. Discovery of Native American remains is a very sensitive issue and serious concern. Information about such a discovery shall be held in confidence by all project personnel on a need-to-know basis. The rights of Native Americans to practice ceremonial observances on sites, in labs and around artifacts shall be upheld.

2. Remains should not be held by human hands. Surgical gloves should be worn if remains need to be handled.

3. Surgical mask should also be worn to prevent exposure to pathogens that may be associated with the remains.

(d) In the event that known or suspected Native American remains are encountered, or significant historic or archaeological materials are discovered, ground-disturbing activities shall be immediately stopped. Examples of significant historic or archaeological materials include, but are not limited to, concentrations of historic artifacts (e.g., bottles, ceramics) or prehistoric artifacts (chipped chert or obsidian, arrow points, ground stone mortars and pestles), culturally altered ash stained midden soils associated with pre-contact Native American habitation sites, concentrations of fire-

altered rock and/or burned or charred organic materials and historic structure remains such as stone lined building foundations, wells or privy pits. Ground-disturbing project activities may continue in other areas that are outside the exclusion zone as defined below.

(e) An "exclusion zone" where unauthorized equipment and personnel are not permitted shall be established (e.g., taped off) around the discovery area plus a reasonable buffer zone by the contractor foreman or authorized representative, or party who made the discovery and initiated these protocols, or if on-site at the time or discovery, by the monitoring archaeologist and tribal representative (typically twenty-five to fifty feet for single burial or archaeological find).

(f) The discovery locale shall be secured (e.g., 24-hour surveillance) as directed by the City or County Coroner if considered prudent to avoid further disturbances.

(g) The contractor foreman or authorized representative, or party who made the discovery and initiated these protocols shall be responsible for immediately contacting by telephone the parties listed below to report the find and initiate the consultation process for treatment and disposition:

- The City of Morgan Hill Development Services Director (408) 779-7247
- The Contractor's Point(s) of Contact
- The Coroner of the County of Santa Clara (if human remains found) (408) 793-1900
- The Native American Heritage Commission (NAHC) in Sacramento (916) 653-4082
- The Amah Mutsun Tribal Band (916) 481-5785 (H) or (916) 743-5833 (C)
- The Tamien Nation (707)295-4011 (office) and (925)336-5359 (THPO)

(h) The Coroner has two working days to examine the remains after being notified of the discovery. If the remains are Native American the Coroner has 24 hours to notify the NAHC.

(i) The NAHC is responsible for identifying and immediately notifying the Most Likely Descendant (MLD). (Note: NAHC policy holds that the Native American Monitor will not be designated the MLD.)

(j) Within 24 hours of their notification by the NAHC, the MLD will be granted permission to inspect the discovery site if they so choose.

(k) Within 24 hours of their notification by the NAHC, the MLD may recommend to the City's Development Services Director or Director's designee, the recommended means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The recommendation may include the scientific removal and non-destructive or destructive analysis of human remains and items associated with Native American burials. Only those osteological analyses or DNA analyses recommended by the appropriate tribe may be considered and carried out.

(l) If the MLD recommendation is rejected by the City of Morgan Hill the parties will attempt to mediate the disagreement with the NAHC. If mediation fails, then the remains and all associated grave offerings shall be reburied with appropriate dignity on the property in a location not subject to further subsurface disturbance.

MM CUL-2.2: The project applicant shall note on any plans that require ground disturbing excavation that there is a potential for exposing buried cultural resources including prehistoric Native American burials. Any archaeological site information supplied to the Contractor Foreman or authorized representative shall be considered confidential. Information on the project plans shall be verified by the Development Services Director or Director's designee prior to issuance of a grading permit or any building permit.

Implementation of the mitigation measures described above would reduce the proposed project's impact to archaeological resources (under Options 1 and 2) to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

Impact CUL-3:	The project would not disturb any human remains, including those interred outside of dedicated cemeteries. **(Less than Significant Impact with Mitigation Incorporated)**

Although it is not expected, human remains could be discovered during construction of the project (under Options 1 and 2). Implementation of mitigation measures MM CUL-2.1 and MM CUL-2.2 described above would reduce the proposed project's impact on human remains discovered at the project site (under Options 1 and 2) to a less than significant level. **(Less than Significant Impact with Mitigation Incorporated)**

4.5.2.2 *Cumulative Impacts*

Impact CUL-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant cultural resources impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

The geographic area for cumulative cultural resources impacts is the 33-acre site, 0.1-acre sewer installation area, and adjacent parcels. The proposed project (under Options 1 and 2) has the potential to combine archaeological resources impacts with the adjacent Redwood Tech industrial project west of DePaul Drive. The cumulative projects may contain unknown historic and/or prehistoric archaeological resources. The proposed implementation of mitigation measure MM CUL-2.1, along with the Redwood Tech project's compliance with required Conditions of Approval, would reduce impacts to archaeological resources and human remains to less than significant levels. Neither the proposed development area or the Redwood Tech site contains historic resources and, therefore, the projects would not result a cumulative impact to historic resources. For these reasons, the cumulative projects would not result in significant cumulative impacts to cultural resources. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

4.6 ENERGY

The following discussion is based in part on an Air Quality/GHG Assessment completed by Illingworth & Rodkin, Inc. on April 6, 2021, and revised on May 12, 2022. A copy of this report is attached as Appendix B of this DEIR.

4.6.1 Environmental Setting

4.6.1.1 *Regulatory Framework*

Federal and State

Energy Star and Fuel Efficiency

At the federal level, energy standards set by the EPA apply to numerous consumer products and appliances (e.g., the EnergyStar™ program). The EPA also sets fuel efficiency standards for automobiles and other modes of transportation.

Renewables Portfolio Standard Program

In 2002, California established its Renewables Portfolio Standard Program, with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent of retail sales by 2010. Governor Schwarzenegger issued Executive Order (EO) S-3-05, requiring statewide emissions reductions to 80 percent below 1990 levels by 2050. In 2008, EO S-14-08 was signed into law, requiring retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. In October 2015, Governor Brown signed SB 350 to codify California's climate and clean energy goals. A key provision of SB 350 requires retail sellers and publicly owned utilities to procure 50 percent of their electricity from renewable sources by 2030. SB 100, passed in 2018, requires 100 percent of electricity in California to be provided by 100 percent renewable and carbon-free sources by 2045.

Executive Order B-55-18 To Achieve Carbon Neutrality

In September 2018, Governor Brown issued an executive order, EO-B-55-18 To Achieve Carbon Neutrality, setting a statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." The executive order requires CARB to "ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal." EO-B-55-18 supplements EO S-3-05 by requiring not only emissions reductions, but also that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO_2 from the atmosphere through sequestration.

California Building Standards Code

The Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in Title 24, Part 6 of the California Code of Regulations (Title 24), was established in 1978 in response to a legislative mandate to reduce California's energy consumption. Title 24 is updated approximately

every three years.[31] Compliance with Title 24 is mandatory at the time new building permits are issued by city and county governments.[32]

California Green Building Standards Code

CALGreen establishes mandatory green building standards for buildings in California. CALGreen was developed to reduce GHG emissions from buildings, promote environmentally responsible and healthier places to live and work, reduce energy and water consumption, and respond to state environmental directives. CALGreen covers five categories: planning and design, energy efficiency, water efficiency and conservation, material and resource efficiency, and indoor environmental quality.

Advanced Clean Cars Program

CARB adopted the Advanced Clean Cars program in 2012 in coordination with the EPA and National Highway Traffic Safety Administration. The program combines the control of smog-causing pollutants and GHG emissions into a single coordinated set of requirements for vehicle model years 2015 through 2025. The program promotes development of environmentally superior passenger cars and other vehicles, as well as saving the consumer money through fuel savings.[33]

Local

City of Morgan Hill 2035 General Plan

Adopted July 27, 2016, the *Morgan Hill 2035 General Plan* includes goals, policies, and actions to conserve energy and mitigate energy impacts resulting from planned developments within the City of Morgan Hill.[34] The following policies are applicable to the proposed project:

Policy NRE-16.1: **Energy Standards for New Development.** New development, including public buildings, should be designed to exceed State standards for the use of energy.

Policy NRE-16.2: **Energy Conservation.** Promote energy conservation techniques and energy efficiency in building design, orientation, and construction.

[31] California Building Standards Commission. "California Building Standards Code." Accessed October 27, 2020. https://www.dgs.ca.gov/BSC/Codes#@ViewBag.JumpTo.
[32] California Energy Commission (CEC). "2019 Building Energy Efficiency Standards." Accessed October 27, 2020. https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency.
[33] California Air Resources Board. "The Advanced Clean Cars Program." Accessed October 27, 2020. https://www.arb.ca.gov/msprog/acc/acc.htm.
[34] City of Morgan Hill. "Chapter 8 Natural Resources and Environment." *City of Morgan Hill 2035 General Plan*. Accessed September 20, 2021. https://www.morgan-hill.ca.gov/DocumentCenter/View/22839/MH2035-General-Plan---December-2017?bidId

Policy NRE-16.3: **Energy Use Data and Analysis**. Provide information to increase building owner, tenant, and operator knowledge about how, when, and where building energy is used.

Policy NRE-16.5: **Energy Efficiency.** Encourage development project designs that protect and improve air quality and minimize direct and indirect air pollutant emissions by including components that promote energy efficiency.

Policy NRE-16.6: **Landscaping for Energy Conservation.** Encourage landscaping plans for new development to address the planting of trees and shrubs that will provide shade to reduce the need for cooling systems and allow for winter daylighting.

Policy NRE-16.7: **Renewable Energy.** Encourage new and existing development to incorporate renewable energy generating features, like solar panels and solar hot water heaters.

Policy NRE-16.8: **Residential Development Code.** Emphasize energy conservation building techniques for new residential construction through the implementation of Chapter 18.78 of the Municipal Code.

Policy NRE-16.9: **Subdivision Design.** In compliance with Section 66473.1 of the State Subdivision Map Act, promote subdivision design that provides for passive solar heating and natural cooling through the Development Review Committee subdivision review procedures.

4.6.1.2 *Existing Conditions*

Total energy usage in California was approximately 6,956 trillion British thermal units (Btu) in the year 2020, the most recent year for which this data was available.[35] Out of the 50 states, California is ranked second in total energy consumption and 49th in energy consumption per capita. The breakdown by sector was approximately 21 percent (1,507.71 trillion Btu) for residential uses, 19.6 percent (1,358.31 trillion Btu) for commercial uses, 24.36 percent (1,701.21 trillion Btu) for industrial uses, and 34 percent (2,355.53 trillion Btu) for transportation.[36] This energy is primarily supplied in the form of natural gas, petroleum, nuclear electric power, and hydroelectric power.

Electricity

Electricity in Santa Clara County in 2019 was consumed primarily by the commercial sector (76 percent), followed by the residential sector consuming 24 percent. In 2019, a total of approximately 16,664 gigawatt hours (GWh) of electricity was consumed in Santa Clara County.

[35] United States Energy Information Administration. "State Profile and Energy Estimates, 2020." Accessed January 28, 2021. https://www.eia.gov/state/?sid=CA#tabs-2.
[36] United States Energy Information Administration. "State Profile and Energy Estimates, 2020." Accessed January 28, 2021. https://www.eia.gov/state/?sid=CA#tabs-2.

The community-owned Silicon Valley Clean Energy (SVCE) is the electricity provider for the City of Morgan Hill.[37] SVCE sources the electricity, and the Pacific Gas and Electric Company (PG&E) delivers it to customers over their existing utility lines. Customers are automatically enrolled in the GreenStart plan and can upgrade to the GreenPrime plan. Both options are considered 100 percent GHG-emission free.

California's total system electric generation in 2019 was approximately 277,704 gigawatt-hours (GWh), which was down 2.7 percent from 2018's total generation of approximately 285,488 GWh. California's in-state electric generation increased by three percent to 200,475 GWh compared to approximately 194,842 GWh in 2018.[38] This increase was due to increased generation from in-state large hydroelectric power plants, up 50 percent (11,049 GWh) from 2018.

In 2019, natural gas represented the largest portion of the state's energy sources (at 43 percent). Solar, wind, and hydro generation accounted for more than 40 percent of all renewable electricity generation.[39]

Natural Gas

PG&E provides natural gas services within the City of Morgan Hill. In 2020, approximately two percent of California's natural gas supply came from in-state production, while the remaining supply was imported from other western states and Canada.[40] In 2020, California used 2,144 trillion Btu of natural gas. In 2020, Santa Clara County used less than one percent of the state's total consumption of natural gas.[41]

In 2019, California consumed approximately 2,214,342,831 million Btu (MMBtu) of natural gas; a slight decrease from 2018 when approximately 2,197,781,751 MMBtu were consumed.[42] Overall natural gas demand in California is anticipated to decrease slightly through 2028. This decline is due to on-site residential, commercial, and industrial electricity generation; aggressive energy efficiency programs; and a decrease in demand for electrical power generation as a result of state-mandated renewable portfolio standard (RPS) targets (as the state moves to power generation resources that result in less GHG emissions than natural gas).[43]

[37] Silicon Valley Clean Energy. "Frequently Asked Questions." Accessed January 28, 2021. https://www.svcleanenergy.org/faqs.
[38] CEC. "2019 Total System Electric Generation." Accessed March 31, 2021. https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2019-total-system-electric-generation.
[39] Ibid.
[40] California Gas and Electric Utilities. 2019 *California Gas Report.* Accessed January 28, 2021. https://www.socalgas.com/regulatory/documents/cgr/2019_CGR_Supplement_7-1-19.pdf.
[41] California Energy Commission. "Natural Gas Consumption by County." Accessed January 28, 2021. http://ecdms.energy.ca.gov/gasbycounty.aspx.
[42] EIA. "Natural Gas Delivered to Consumers in California." Accessed March 31, 2021. https://www.eia.gov/dnav/ng/ng_sum_lsum_dcu_SCA_a.htm.
[43] California Gas and Electric Utilities. 2017 Natural Gas Market Trends and Outlook. Accessed March 31, 2021. http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-04/TN222400_20180131T074538_STAFF_FINAL_REPORT_2017_Natural_Gas_Market_Trends_and_Outlook.pdf.

Fuel for Motor Vehicles

In 2019, 15.4 billion gallons of gasoline were sold in California.[44] The average fuel economy for light-duty vehicles (autos, pickups, vans, and sport utility vehicles) in the United States has steadily increased from about 13.1 miles per gallon (mpg) in the mid-1970s to 24.9 mpg in 2019.[45] Federal fuel economy standards have changed substantially since the Energy Independence and Security Act was passed in 2007. That standard, which originally mandated a national fuel economy standard of 35 miles per gallon by the year 2020, was updated in March 2020 to require all cars and light duty trucks achieve an overall industry average fuel economy of 40.4 mpg by model year 2026. [46,47]

4.6.2 Impact Discussion

For the purpose of determining the significance of the project's impact on energy, would the project:

1) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?
2) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?
3) Result in a substantial increase in demand upon energy resources in relation to projected supplies?

The proposed differences in storm drainage, size and depth of the underground retention basins, and construction equipment usage when comparing Project Options 1 and 2 would not affect the conclusions for energy impacts in that they would have no effect on the project's operational energy usage. The three additional construction workdays required for the grading/excavation phase and 16 additional days that equipment such as excavators and graders are required would slightly increase energy use during construction. However, the conclusions for construction energy impacts would be the same for Project Options 1 and 2. The operational energy use (for the proposed residences) would be the same for Project Options 1 and 2.

[44] California Department of Tax and Fee Administration. "Net Taxable Gasoline Gallons." Accessed January 28, 2021. https://www.cdtfa.ca.gov/dataportal/dataset.htm?url=VehicleTaxableFuelDist.

[45] United States Environmental Protection Agency. "The 2018 EPA Automotive Trends Report: Greenhouse Gas Emissions, Fuel Economy, and Technology since 1975." March 2019.

[46] United States Department of Energy. *Energy Independence & Security Act of 2007.* Accessed February 18, 2021. http://www.afdc.energy.gov/laws/eisa.

[47] Public Law 110–140—December 19, 2007. *Energy Independence & Security Act of 2007.* Accessed February 18, 2021. http://www.gpo.gov/fdsys/pkg/PLAW-110publ140/pdf/PLAW-110publ140.pdf.

4.6.2.1 *Project Impacts*

Impact EN-1:	The project would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation. **(Less than Significant Impact)**

The proposed project (under Options 1 and 2) would construct single-family residences, parking spaces, and private recreational areas including a clubhouse and swimming pool on a vacant site. The proposed project (under Options 1 and 2) would result in an increased demand for energy at the project site during construction and operation.

Operational Energy Demand

The construction phase would require energy for the manufacture and transportation of building materials, preparation of the site for grading, and the actual construction of the buildings. Petroleum-based fuels such as diesel fuel and gasoline would be the primary sources of energy for these tasks. Implementation of the proposed development would consume energy (in the form of electricity and natural gas) during operation, primarily from building heating and cooling, lighting, and water heating. Table 4.6-1 below summarizes the estimated energy use of the proposed project (under Options 1 and 2).

Table 4.6-1: Estimated Annual Energy Use of Proposed Development

Land Use	Electricity Use (kWh/yr)	Natural Gas Use (kBTU/yr)	Gasoline Consumption (gal/yr)
Single Family Housing	2,176,360	0	333,805
Total	2,176,360	0[1]	333,805

Source: Illingworth & Rodkin, Inc. *The Crosswinds at Morgan Hill Air Quality and Greenhouse Gas Assessment: CalEEMod Model.* May 12, 2022.

[1] No natural gas use is assumed for the proposed residential development based on the City's Reach Code.

Compared to existing conditions, the proposed project would substantially increase on-site electricity use. However, the project would be built in accordance with the 2019 CALGreen requirements and Title 24 energy efficiency standards, which would improve the efficiency of the overall project and reduce impacts. Based on the CalEEMod results, the total annual vehicle miles traveled (VMT) for the project would be approximately 8,311,660.[48] Using the U.S. EPA fuel economy estimates (24.9 mpg) the proposed project would result in consumption of approximately 333,805 gallons of gasoline per year.[49] New automobiles purchased by future occupants of the proposed project would be subject to fuel economy and efficiency standards applied throughout

[48] Illingworth & Rodkin, Inc. *The Crosswinds at Morgan Hill Air Quality and Greenhouse Gas Assessment: CalEEMod Model.* May 12, 2022.

[49] 8,311,660 / 24.9 mpg = 333,802 gallons of gasoline

the State of California, which means that over time the fuel efficiency of vehicles associated with the project site would improve. Implementation of the proposed project would not result in a wasteful, inefficient, or unnecessary consumption of energy resources during operation. **(Less than Significant Impact)**

Energy Efficiency During Project Construction

The anticipated construction schedule assumes that the project (under Options 1 and 2) would be built in four phases, starting in 2023 and ending by 2027. The project (under Options 1 and 2) would require site preparation, grading and excavation, trenching, paving, and construction of building interior and exterior elements such as foundations and framing. Energy would not be wasted or used inefficiently by construction equipment, as the proposed project would include several measures to improve efficiency of the construction process. For example, during construction, construction waste management methods and processes would be employed to reduce the amount of and trash construction waste. The project would be required to achieve a 65 percent construction and demolition waste diversion rate and would be required to prepare a Construction Waste Management Plan or utilize a waste management company to recycle, reduce and/or reuse construction waste (CALGreen Code Sections 4.408 and 5.408). Adherence to CALGreen Code would further reduce energy expenditures during the construction phase.

In addition, the project (under Options 1 and 2) would implement Standard Condition AIR-1 which would restrict equipment idling times to five minutes or less and would require the applicant to post signs on the project site reminding workers to shut off idle equipment to prevent the inefficient use of construction equipment. The project site is within proximity to local sources of construction materials which would reduce fuel usage. Implementation of the proposed project would not result in a wasteful, inefficient, or unnecessary consumption of energy resources during construction. **(Less than Significant Impact)**

Energy Efficiency During Project Operation

Operation of the project (under Options 1 and 2) would consume energy for multiple purposes including, but not limited to, building heating and cooling, lighting, appliances, and electronics. Operational energy would also be consumed during each vehicle trip generated by future residents. The building would meet or exceed the requirements of the California Building Energy Efficiency Standards.

The project (under Options 1 and 2) would not use energy or fuel in a wasteful manner, given the project features that reduce energy use, including the following:

- Solar-ready area for PV solar panels on the roof
- Low volatile organic compound (VOC) emission interior wall and ceiling paints
- Insulation with 30 percent post-consumer recycled content for walls and floors
- Energy Star General Electric (GE) appliances.
- High efficiency heating, ventilation, and air conditioning (HVAC) units.

- Drought-tolerant landscaping and low flow irrigation system.
- Bicycle storage for residents.
- Electric vehicle (EV) charging stations.

The project (under Options 1 and 2) would include landscaping comprised of large shade trees throughout the site. This will have the effect of providing shade and reducing the heat island effect of the project (under both project options), thus reducing the energy demand required to cool the proposed buildings. To reduce operational VMT and vehicle fuel consumption, the project would include TDM measures (such as carpool programs) for the condominium units (refer to Section 4.17 Transportation). For all the reasons listed above, the proposed project (under both options) would have a less than significant impact. **(Less Than Significant Impact)**

Impact EN-2:	The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. **(Less than Significant Impact)**

Electricity for the proposed project (under Options 1 and 2) would be provided by Silicon Valley Clean Energy. SVCE sources the electricity and Pacific Gas and Electric Company delivers it to customers over their existing utility lines. Customers are automatically enrolled in the GreenStart plan, which generates its electricity from 100 percent carbon free sources; with 50 percent from solar and wind sources, and 50 percent from hydroelectric. Customers have the option to enroll in the GreenPrime plan, which generates its electricity from 100 percent renewable sources, such as wind and solar. The proposed development would be completed in compliance with the current energy efficiency standards set forth in Title 24, CALGreen, and the City's Municipal Code. For these reasons, the project would not conflict with or obstruct state or local plans for renewable energy or energy efficiency. **(Less than Significant Impact)**

Impact EN-3:	The project would not result in a substantial increase in demand upon energy resources in relation to projected supplies. **(Less than Significant Impact)**

Electricity

As discussed previously, California's total system electric generation in 2019 was approximately 277,704 GWh (a decrease of 2.7 percent from 2018). Despite this decrease, consumption is still expected to increase one percent per year in the future. Efficiency and production capabilities would help meet increased electricity demand in the future, such as improving energy efficiency in existing and future buildings, establishing energy efficiency targets, inclusion of microgrids and zero-net energy buildings, and integrating renewable technologies.[50] The project (under Options 1 and 2) would construct energy efficient buildings in accordance with Title 24, CALGreen, and the City's Green Building Program.

[50] CEC. *2016 Integrated Energy Policy Report*. February 2017.

Electricity supply and demand data and reporting is provided at the state level. The project would result in a net increase of 2,176,360 (2.17 GWh) of electricity use on the sites, which is a less than 0.00001 percent increase in the state's annual use. Also refer to the discussion under Impact EN-1 of why the project would not result in wasteful, inefficient, or unnecessary consumption of energy. The project's increase in electricity usage (under both options) is not considered to have a substantial effect on the state's supply. **(Less than Significant Impact)**

Natural Gas

The City of Morgan Hill's Ordinance No. 2306, which was effective in March 2020, prohibits the use natural gas infrastructure in new buildings.[51] New buildings are required to use all electric appliances. The proposed project would not use natural gas and, therefore, would not increase natural gas demand. **(No Impact)**

4.6.2.2 *Cumulative Impacts*

Impact EN-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant energy impact. **(Less than Significant Cumulative Impact)**

Cumulative projects in the City would result in an increase in energy use relative to existing development. The proposed project (under Options 1 and 2) would contribute to the expected regional increase in energy use, although its contribution would not be substantial. Implementation of energy efficiency requirements in adopted building codes, such as Title 24 and CALGreen, and implementation of various sustainability and conservation policies in the General Plan would ensure that cumulative development in the City does not result in a significant energy impact. This conclusion is consistent with the finding of the General Plan EIR, which concluded that General Plan implementation would result in a substantial increase in electrical service demands, but would use appropriate energy conservation and efficiency measures, and would not require new energy supply facilities and distribution infrastructure or capacity enhancing alterations to existing facilities. Therefore, the project (under both options) would not result in a cumulatively considerable contribution to a significant energy impact. **(Less than Significant Cumulative Impact)**

[51] Exceptions to Ordinance No. 2306 prohibition of natural gas is if a project applicant can demonstrate that it is not physically feasible to construct the new buildings without natural gas infrastructure.

4.7 GEOLOGY AND SOILS

4.7.1 Environmental Setting

4.7.1.1 *Regulatory Framework*

State

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed following the 1971 San Fernando earthquake. The act regulates development in California near known active faults due to hazards associated with surface fault ruptures. Alquist-Priolo maps are distributed to affected cities, counties, and state agencies for their use in planning and controlling new construction. Areas within an Alquist-Priolo Earthquake Fault Zone require special studies to evaluate the potential for surface rupture to ensure that no structures intended for human occupancy are constructed across an active fault.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (SHMA) was passed in 1990 following the 1989 Loma Prieta earthquake. The SHMA directs the California Geological Survey (CGS) to identify and map areas prone to liquefaction, earthquake-induced landslides, and amplified ground shaking. CGS has completed seismic hazard mapping for the portions of California most susceptible to liquefaction, landslides, and ground shaking, including the central San Francisco Bay Area. The SHMA requires that agencies only approve projects in seismic hazard zones following site-specific geotechnical investigations to determine if the seismic hazard is present and identify measures to reduce earthquake-related hazards.

California Building Standards Code

The CBC prescribes standards for constructing safe buildings. The CBC contains provisions for earthquake safety based on factors including occupancy type, soil and rock profile, ground strength, and distance to seismic sources. The CBC requires that a site-specific geotechnical investigation report be prepared for most development projects to evaluate seismic and geologic conditions such as surface fault ruptures, ground shaking, liquefaction, differential settlement, lateral spreading, expansive soils, and slope stability. The CBC is updated every three years.

California Division of Occupational Safety and Health Regulations

Excavation, shoring, and trenching activities during construction are subject to occupational safety standards for stabilization by the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) under Title 8 of the California Code of Regulations and Excavation Rules. These regulations minimize the potential for instability and collapse that could injure construction workers on the site.

Public Resources Code Section 5097.5

Paleontological resources are the fossilized remains of organisms from prehistoric environments found in geologic strata. They range from mammoth and dinosaur bones to impressions of ancient animals and plants, trace remains, and microfossils. These materials are valued for the information they yield about the history of the earth and its past ecological settings. California Public Resources Code Section 5097.5 specifies that unauthorized removal of a paleontological resource is a misdemeanor. Under the CEQA Guidelines, a project would have a significant impact on paleontological resources if it would disturb or destroy a unique paleontological resource or site or unique geologic feature.

City of Morgan Hill 2035 General Plan

The Morgan Hill 2035 General Plan includes goals, policies, and actions to avoid significant impacts to due to geological conditions and seismicity.[52] The following policies related to geology and soils is applicable to the proposed project:

Policy SSI-1.2: **Hazard Reporting.** Known or potential geologic, fire, and flood hazards shall be disclosed as part of every real estate transaction and recorded on documents to be reported for building permits, subdivisions, and land development reports. Mitigation of hazards shall be noticed in the same manner.

Policy SSI-2.1: **Land Use and Geologic Hazards.** Limit uses on lands with geologic hazards but allow uses on previously urbanized lands with proper mitigation. Keep development in hazardous areas to a minimum by encouraging low-density, low intensity uses and the types of uses least disruptive to the soil and vegetative cover.

4.7.1.2 *Existing Conditions*

Geology and Soils

The project site is located in the Santa Clara Valley, an alluvial basin, bounded by the Santa Cruz Mountains to the west, the Hamilton/Diablo Range to the east, and the San Francisco Bay to the north. The Santa Clara Valley was formed when sediments derived from the Santa Cruz Mountains and the Hamilton/Diablo Range were exposed by the continued tectonic uplift and regression of the inland sea that had previously inundated this area. Bedrock in this area is made up of the Franciscan Complex, a diverse group of igneous, sedimentary, and metamorphic rocks of Upper Jurassic to Cretaceous age (70-140 million years old). Overlaying the bedrock at substantial depths are marine and terrestrial sedimentary rocks of Tertiary and Quaternary age.

[52] City of Morgan Hill, California (2016). "Chapter 9, Safety, Services, and Infrastructure." *City of Morgan Hill General Plan 2035.* Accessed May 16, 2019. https://www.morgan-hill.ca.gov/DocumentCenter/View/22839/MH2035-General-Plan---December-2017?bidId=

Soils on the site and in the immediate project area consist of Arbuckle gravelly loam.[53] The shrink-swell potential of these soils ranges from low to high, respectively. The site is predominantly Arbuckle gravelly loam, which has a low shrink-swell potential. The shrinking and swelling is the result of the soil absorbing water in the winter and drying in the summer. The shrinking and swelling action can damage improperly designed and/or constructed building foundations and pavements.

The potential for erosion and landslides at the project site is low, due to the flat slope of the project site and surrounding area. The project site is not located within a landslide hazard zone.[54]

Seismicity

An earthquake of moderate to high magnitude generated within the San Francisco Bay region could cause considerable ground shaking at the project site. The degree of shaking is dependent on the magnitude of the event, the distance to its zone of rupture and local geologic conditions. According to the City of Morgan Hill Geotechnical Hazards maps and the County's Geologic Hazard Zones Map, the project site is not located in a fault rupture hazard zone.

The nearest active fault lines to the site include the San Andreas Fault, Hayward Fault Southeast Extension, and Calaveras Fault, which are located approximately 12 miles southwest, 11 miles north, and three miles northeast of the project site, respectively. Other faults near the project site include the Coyote Creek Fault (approximately two miles northeast of the project site), and the Silver Creek Fault (approximately 2.5 miles northeast of the project site).

Liquefaction

Soil liquefaction is a phenomenon in which saturated, cohesion-less soils undergo a temporary loss of strength during earthquake ground shaking. The liquefaction potential of valley floor terrain is estimated based on groundwater elevations in alluvial deposits within 50 feet of the ground surface.[55] The project site is not located within a liquefaction hazard zone.[56]

Paleontological Resources

Paleontological resources or fossils are the remains of prehistoric plant and animal life. Paleontological resources do not include human remains or artifacts. Fossil remains such as bones, teeth, shells, and wood are found in geologic formations. Paleontological resources are limited, non-renewable, sensitive scientific and educational resources. The potential for fossil remains at a location can be predicted based on whether or not previous fossil finds have been made in the

[53] United States Department of Agriculture, Natural Resources Conservation Service. *Custom Soil Resource Report for Half Road and Mission View Project*. October 27, 2020.
[54] County of Santa Clara. *County Geologic Hazard Zones Map 53*. October 26, 2012.
[55] Pacific Geotechnical Engineering, *Geology, Geologic, and Geotechnical Hazards, City of Morgan Hill*, December 1991.
[56] County of Santa Clara, *County Geologic Hazard Zones Map 53*, October 26, 2012.

vicinity, as well as based on the age of the geologic formations. Based on the findings in the General Plan EIR, no paleontological resources have been identified in the City of Morgan Hill.

4.7.2 Impact Discussion

For the purpose of determining the significance of the project's impact on geology and soils, would the project:

1) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42)?
    - Strong seismic ground shaking?
    - Seismic-related ground failure, including liquefaction?
    - Landslides?
2) Result in substantial soil erosion or the loss of topsoil?
3) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?
4) Be located on expansive soil, as defined in the current California Building Code, creating substantial direct or indirect risks to life or property?
5) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
6) Directly or indirectly destroy a unique paleontological resource or site or unique geological feature?

The proposed differences in storm drainage management, size and depth of the underground retention facilities, and construction equipment usage when comparing Project Options 1 and 2 would not affect the conclusions for geology and soils impacts. Although the construction of the underground retention basins under Option 2 would result in deeper excavation (maximum depth would be nine feet below the ground surface) than Option 1 (four feet below the ground surface), mitigation measures, standard conditions, and the conclusions for geology and soils impacts would be the same for Project Options 1 and 2. The project under both options would excavate to a maximum depth of 10 feet to access utilities during construction for both options.

4.7.2.1 *Project Impacts*

Impact GEO-1:	The project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; or landslides**. (Less than Significant Impact)**

The likelihood that a fault rupture would occur at the project site is low; however, the site is located in a seismically active region and strong ground shaking will likely occur during the life of the project. The site is located in an area of relatively stable ground not likely to be involved in landsliding, faulting or other lateral displacement type ground failures. Based on the Santa Clara County Geologic Hazard Zones Map, the site is not located in a fault rupture, landslide, or liquefaction hazard zone.

Since the soils on the site are not susceptible to liquefaction and the site is not near a natural creek, the probability of lateral spreading occurring on-site is low. Impacts from seismic and seismic-related hazards would be reduced through the use of standard engineering and seismic safety design techniques per the City's Building Division and the California Building Code as required by the following standard measure.

In accordance with the City of Morgan Hill standards, the project (under Options 1 and 2) shall implement the following measures to reduce and/or avoid soil hazards. Implementation of the standard condition would ensure that impacts to the project from soil conditions and seismic hazards would be less than significant (under both project options).

Standard Condition GEO-1 (SC GEO-1): To avoid or minimize potential damage from seismic shaking, the proposed residential development shall be built using standard engineering and seismic safety design techniques. Prior to issuance of building permits, building design and construction at the site shall be completed in conformance with the recommendations of a design-level geotechnical investigation, which shall be included in a report to the City. The structural designs for the proposed development will account for repeatable horizontal ground accelerations. The report shall be reviewed and approved by the City of Morgan Hill Building Division prior to issuance of a building permit. The buildings shall be required to meet the requirements of applicable Building and Fire Codes, including the 2019 California Building Code Chapter 16, Section 1613, as adopted or updated by the City. The project will be designed to withstand soil hazards identified on the site and the project shall be designed to reduce the risk to life or property to the extent feasible and in compliance with the Building Code.

With implementation of SC GEO-1, the proposed development would be designed to withstand soil hazards and to reduce the risk to life or property to the extent feasible and in compliance with the California Building Code. **(Less Than Significant Impact)**

Impact GEO-2:	The project would not result in substantial soil erosion or the loss of topsoil. **(Less than Significant Impact)**

Ground disturbance would be required during grading, trenching, and construction of the proposed project. Ground disturbance would expose soils and increase the potential for wind or water related erosion and sedimentation at the site until construction is complete.

The City developed standard conditions to avoid significant soil erosion impacts during construction. The following conditions would be included as part of the project (under Options 1 and 2):

Standard Condition (SC GEO-2), Storm Drain System: Prior to final map approval or issuance of a grading permit the applicant shall complete the following to the satisfaction of the City Engineer or designee:

1. Storm drain calculations to determine detention pond sizing and operations.
2. Plan describing how material excavated during construction will be controlled to prevent this material from entering the storm drain system.
3. Water Pollution Control Drawings for Sediment and Erosion Control.

Standard Condition (SC GEO-3), Storm Drain System: As required by the State Water Resources Control Board (SWRCB) Order No. 2009-0009DWQ, construction activity resulting in a land disturbance of one acre or more of soil, or whose projects are part of a larger common plan of development that in total disturbs more than one (1) acre, are required to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 for Discharges of Storm Water Associated with Construction Activity (General Permit). To be permitted with the SWRCB under the General Permit, owners must file a complete Notice of Intent (NOI) package and develop a Storm Water Pollution Prevention Plan (SWPPP) Manual in accordance with Section A, B, and C of the General Permit prior to the commencement of soil disturbing activities. A NOI Receipt Letter assigning a Waste Discharger Identification number to the construction site will be issued after the State Water Resource Control Board (SWRCB) receives a complete NOI package (original signed NOI application, vicinity map, and permit fee); copies of the NOI Receipt Letter and SWPPP shall be forwarded for Building and Engineering Division review. The SWPPP shall be made a part of the improvement plans. (SWRCB NPDES General Permit CA000002)

With implementation of the above standard conditions, the proposed project would result in a less than significant soil erosion impact (under Options 1 and 2). **(Less than Significant Impact)**

Impact GEO-3:	The project would not be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. **(Less than Significant Impact)**

The project site is located in an area of moderate expansion potential, moderately low to low potential for vertical and lateral ground failure, and very strong ground shaking during an earthquake. As discussed in Impact GEO-1, the proposed project (under Project Options 1 and 2) would be constructed in compliance with the CBC and development of the project site would not change or exacerbate the geologic conditions of the project area and would not result in a significant geology hazards impact. **(Less than Significant Impact)**

Impact GEO-4:	The project would not be located on expansive soil, as defined in the current California Building Code, creating substantial direct or indirect risks to life or property. **(Less than Significant Impact)**

Soils on the project site have a moderate expansion potential. Expansive soil conditions could damage future development and improvements proposed under the project, which would represent a significant impact (unless substantial damage is avoided by incorporating appropriate engineering into the grading and foundation design of proposed buildings). The project shall (under Options 1 and 2) implement Standard Condition GEO-1 (see Impact GEO-1) to reduce and/or avoid soil hazards. Implementation of the standard measure would ensure that impacts to the project from soil conditions and seismic hazards would be less than significant. **(Less than Significant Impact)**

Impact GEO-5:	The project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater. **(No Impact)**

The proposed project will be connected to a City sewer system for waste-water disposal and will not require septic tanks or alternative waste-water disposal systems. For this reason, the project (under Options 1 and 2) will not have a significant impact due inadequate waste-water disposal stemming from incapable soils. **(No Impact)**

Impact GEO-6:	The project would not directly or indirectly destroy a unique paleontological resource or site or unique geological feature. **(Less than Significant Impact with Mitigation Incorporated)**

No paleontological resources have been identified in the City of Morgan Hill. The proposed project (under Options 1 and 2) would excavate to a maximum depth of approximately 10 feet to install necessary utility infrastructure. Although paleontological resources would not likely be encountered during construction (given no other paleontological resources have been discovered in the area), in

an abundance of caution, the project (under Options 1 and 2) would implement the following mitigation measure.

Mitigation Measures: The following mitigation measure would be implemented to reduce impacts to paleontological resources to a less than significant level:

MM GEO-6.1: If vertebrate fossils are discovered during construction, all work on the site shall stop immediately. The Development Services Director or the Director's designee shall be notified, and a qualified professional paleontologist shall assess the nature and importance of the find and recommend appropriate treatment. Treatment may include, but is not limited to, preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The project applicant shall be responsible for implementing the recommendations of the qualified paleontologist. A report of all findings shall be submitted to the Development Services Director or the Director's designee prior to work beginning on the site following a discovery.

With the implementation of the above mitigation measure, the project (under Options 1 and 2) would result in a less than significant impact to paleontological resources. **(Less than Significant Impact with Mitigation Incorporated)**

4.7.2.2 *Cumulative Impacts*

Impact GEO-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant geology and soils impact. **(Less than Significant Cumulative Impact)**

The geographic area for cumulative geology and soils impacts would be the project site and the Redwood Tech project immediately west of the site. Both cumulative projects occurring within the City of Morgan Hill would implement standard conditions related to geologic hazards and would be constructed consistent with the CBC and design-level geotechnical recommendations in order to avoid and reduce impacts from seismicity and geologic and soils hazards. For these reasons, the cumulative projects, would not result in significant cumulative geology and soils impacts. **(Less than Significant Cumulative Impact)**

4.8 GREENHOUSE GAS EMISSIONS

The following discussion is based upon an Air Quality and Greenhouse Gas Assessment prepared by Illingworth & Rodkin, Inc. on April 6, 2021, and revised on May 12, 2022. A copy of this report is attached as Appendix B of this DEIR.

As shown in Table 2.2-1, NOP comments on the subject of greenhouse gases (GHGs) were received from the BAAQMD and from owners of adjacent property, Mariani Family Properties (1615 Half Road). The BAAQMD comments addressed the need for GHG impact analysis, and consistency with state and local regulatory plans. Refer to responses to checklist questions 1 and 2. The Mariani Family Properties letter states that the proposed project and neighboring properties are within short commuting distance of Morgan Hill job centers and requests a discussion of how shorter vehicle commutes could contribute to reduced GHG emissions.

4.8.1 Environmental Setting

4.8.1.1 *Background Information*

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. In GHG emission inventories, the weight of each gas is multiplied by its global warming potential (GWP) and is measured in units of CO_2 equivalents (CO_2e). The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO_2 and N_2O are byproducts of fossil fuel combustion.
- N_2O is associated with agricultural operations such as fertilization of crops.
- CH_4 is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents, but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and SF_6 emissions are commonly created by industries such as aluminum production and semiconductor manufacturing.

An expanding body of scientific research supports the theory that global climate change is currently causing changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur.

Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes, and drought; and increased levels of air pollution.

4.8.1.2 *Regulatory Framework*

State

Assembly Bill 32

Under the California Global Warming Solutions Act, also known as AB 32, CARB established a statewide GHG emissions cap for 2020, adopted mandatory reporting rules for significant sources of GHGs, and adopted a comprehensive plan, known as the Climate Change Scoping Plan, identifying how emission reductions would be achieved from significant GHG sources.

In 2016, SB 32 was signed into law, amending the California Global Warming Solution Act. SB 32, and accompanying Executive Order B-30-15, require CARB to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. CARB updated its Climate Change Scoping Plan in December of 2017 to express the 2030 statewide target in terms of million metric tons of CO_2E ($MMTCO_2e$). Based on the emissions reductions directed by SB 32, the annual 2030 statewide target emissions level for California is 260 $MMTCO_2e$.

Senate Bill 350 and Senate Bill 100 – Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increased the state's Renewable Portfolio Standards (RPS) for content of electrical generation from the 33 percent target for 2020, to 50 percent renewables target by 2030.

In September 2018, SB 100 was signed into law, revising California's RPS program goals, furthering California's focus on using renewable energy and carbon-free power sources for its energy needs. SB 100 would require all California utilities to supply a specific percentage of retail sales from renewable resources by certain target years. The revised bill requires that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030. By December 31, 2045, all California utilities would be required to supply retail electricity that is 100 percent carbon-free and sourced from eligible renewable energy resource to all California end-use customers.

Senate Bill 375

SB 375, known as the Sustainable Communities Strategy and Climate Protection Act, was signed into law in September 2008. SB 375 builds upon AB 32 by requiring CARB to develop regional GHG reduction targets for automobile and light truck sectors for 2020 and 2035. The per-capita GHG

emissions reduction targets for passenger vehicles in the San Francisco Bay Area include a seven percent reduction by 2020 and a 15 percent reduction by 2035.

Consistent with the requirements of SB 375, the Metropolitan Transportation Commission (MTC) partnered with the Association of Bay Area Governments (ABAG), BAAQMD, and the Bay Conservation and Development Commission to prepare the region's Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan process. The SCS is referred to as Plan Bay Area 2040. Plan Bay Area 2040 establishes a course for reducing per-capita GHG emissions through the promotion of compact, high-density, mixed-use neighborhoods near transit, particularly within identified Priority Development Areas (PDAs).

Regional and Local

2017 Clean Air Plan

To protect the climate, the 2017 CAP (prepared by BAAQMD) includes control measures designed to reduce emissions of methane and other super-GHGs that are potent climate pollutants in the near-term, and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

CEQA Air Quality Guidelines

The BAAQMD CEQA Air Quality Guidelines are intended to serve as a guide for those who prepare or evaluate air quality impact analyses for projects and plans in the San Francisco Bay Area. The jurisdictions in the San Francisco Bay Area Air Basin utilize the thresholds and methodology for assessing GHG impacts developed by BAAQMD within the CEQA Air Quality Guidelines. The guidelines include information on legal requirements, BAAQMD rules, methods of analyzing impacts, and recommended mitigation measures.

City of Morgan Hill Climate Action Plan

On December 15th, 2021, the Morgan Hill City Council adopted a Climate Action Plan (CAP). The CAP was developed with a focus on reducing greenhouse gas emissions in the transportation and building sectors. The CAP's goals include the use of electric vehicles and decarbonizing existing buildings by reducing the use of fossil fuels. The CAP goal is to transition 95 percent of existing buildings in Morgan Hill to all-electric by 2045, with incremental targets every five years. The CAP also proposes to prohibit any new gas stations. Although the CAP establishes citywide GHG reduction goals, the CAP does not meet the criteria of a qualified GHG reduction plan listed in the CEQA Guidelines Section 15183.5. Therefore, future projects cannot tier from the CAP analysis under CEQA.

City of Morgan Hill 2035 General Plan

The Morgan Hill 2035 General Plan includes goals, policies, and actions to reduce greenhouse gas emissions from planned developments within the City of Morgan Hill.[57] The following policies are applicable to the proposed project:

Policy NRE-15.1: **Greenhouse Gas Emission Reduction Targets**. Maintain a greenhouse gas reduction trajectory that is consistent with the greenhouse gas reduction targets of Executive Orders B-30-15 (40 percent below 1990 levels by 2030) and S-03-05 (80 percent below 1990 levels by 2050) to ensure the City is consistent with statewide efforts to reduce greenhouse gas emissions.

Policy NRE-15.2: **Linking Land Use and Transportation**. Encourage land use and transportation patterns that reduce dependence on automobiles.

Policy NRE-15.4: **Sustainable Land Use.** Promote land use patterns that reduce the number and length of motor vehicle trips.

Policy NRE-15.5: **Jobs Housing Balance.** To the extent feasible, encourage a balance and match between jobs and housing.

Policy NRE-15.9: **Urban Forest.** Support development and maintenance of a healthy, vibrant urban forest through outreach, incentives, and strategic leadership.

Policy NRE-15.10: **VMT Reduction.** Continue to work with the Santa Clara Valley Transportation Authority on regional transportation solutions that will reduce vehicle miles traveled and greenhouse gas emissions.

Policy NRE-15.11: **Green Building**. Promote green building practices in new development.

Policy NRE-16.1: **Energy Standards for New Development.** New development, including public buildings, should be designed to exceed State standards for the use of energy.

Policy NRE-16.2: **Energy Conservation.** Promote energy conservation techniques and energy efficiency in building design, orientation, and construction.

Policy NRE-16.3: **Energy Use Data and Analysis**. Provide information to increase building owner, tenant, and operator knowledge about how, when, and where building energy is used.

[57] City of Morgan Hill. *City of Morgan Hill 2035 General Plan.* Adopted July 27, 2016. Accessed February 12, 2020. https://www.morgan-hill.ca.gov/DocumentCenter/View/22839/MH2035-General-Plan---December-2017?bidId.

Policy NRE-16.5: **Energy Efficiency.** Encourage development project designs that protect and improve air quality and minimize direct and indirect air pollutant emissions by including components that promote energy efficiency.

Policy NRE-16.6: **Landscaping for Energy Conservation.** Encourage landscaping plans for new development to address the planting of trees and shrubs that will provide shade to reduce the need for cooling systems and allow for winter daylighting.

Policy NRE-16.7: **Renewable Energy.** Encourage new and existing development to incorporate renewable energy generating features, like solar panels and solar hot water heaters.

Policy NRE-16.8: **Residential Development Code.** Emphasize energy conservation building techniques for new residential construction through the implementation of Chapter 18.78 of the Municipal Code.

Policy NRE-16.9: **Subdivision Design.** In compliance with Section 66473.1 of the State Subdivision Map Act, promote subdivision design that provides for passive solar heating and natural cooling through the Development Review Committee subdivision review procedures.

4.8.1.3 *Existing Conditions*

Unlike emissions of criteria and toxic air pollutants, which have regional and local impacts, emissions of GHGs have a broader, global impact. Global warming is a process whereby GHGs accumulating in the upper atmosphere contribute to an increase in the temperature of the earth and changes in weather patterns.

In its existing state, the project site contributes minimally to the City's GHG emissions. Emissions are primarily generated by vehicle travel to and from the site, emissions related to irrigation, and operation of agricultural equipment.

Post 2020-Impact Thresholds

As described previously, BAAQMD adopted GHG emissions thresholds of significance to assist in the review of projects under CEQA. These thresholds were designed to establish the level at which BAAQMD has determined that GHG emissions would cause significant environmental impacts. The GHG emissions thresholds identified by BAAQMD for 2020 are 1,100 metric tons (MT) of CO_2e per year or 4.6 MT CO_2e per service population per year.

The numeric thresholds set by BAAQMD were calculated to achieve the state's 2020 target for GHG emissions levels (and not the SB 32 specified 2030 target of 40 percent below the 1990 GHG emissions level). The project would be constructed in four phases beginning 2023 and lasting about

three years and five months. The project, therefore, would be subject to the state's 2030 GHG reduction goals.

CARB has completed a Scoping Plan to achieve SB 32 GHG reduction targets, which would be utilized by BAAQMD to establish the 2030 GHG efficiency threshold. BAAQMD has yet to publish a quantified GHG efficiency threshold for 2030. In lieu of an updated efficiency threshold from BAAQMD, a Substantial Progress efficiency threshold of 2.8 MT CO_2e/service population/year threshold, which is a 40 percent reduction from the BAAQMD 2020 service population emissions target of 4.6 MT CO_2e /service population/year, is utilized in this EIR. An adjusted bright-line threshold of 660 MTCO_2e/year, which is 40 percent below BAAQMD 2020 bright-line threshold of 1,100 MT CO_2e, is also used.[58] The efficiency and adjusted bright-line thresholds were calculated based on the GHG reduction goas of SB 32 and EO B-30-15 for 2030.[59]

4.8.2 Impact Discussion

For the purpose of determining the significance of the project's impact on greenhouse gas emissions, would the project:

1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

The proposed differences in storm drainage, size and depth of the underground retention basins, and construction equipment usage when comparing Project Options 1 and 2 would not affect the conclusions for greenhouse gas (GHG) impacts in that operational emissions would be the same for both options. Given the minimal number of additional construction workdays required for the Option 2 grading/excavation phase (three additional days than Option 1), there is no measurable increase in annual construction GHG emissions. The changes in construction usage would not affect construction emissions. Therefore, the construction emissions for Options 1 and 2 would be the same.

[58] The 2020 BAAQMD bright-line threshold of 1,100 MT CO_2e was established by BAAQMD to help the state reduce GHG emissions to 1990 levels by 2020. 1,100 MT CO_2e – (1,100 MT CO_2e * 0.4) = 660 MT CO_2e is the 2030 bright-line threshold calculated for projects constructed and operational post-2020 and pre-2031.
[59] Personal Communications: Reyff, James, Illingworth & Rodkin, Inc. (air quality consultant). March 4, 2020.

4.8.2.1 *Project Impacts*

Impact GHG-1:	The project would generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. **(Less than Significant Impact with Mitigation Incorporated)**

GHG emissions associated with development of the proposed project (under Options 1 and 2) would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with vehicular traffic within the project vicinity, energy, and water usage, and solid waste disposal. Emissions for the proposed project were analyzed using CalEEMod and the methodology recommended in the BAAQMD CEQA Air Quality Guidelines and are discussed below.

Service Population Emissions

The project service population efficiency rate is based on the number of future residents (under either project option). For this project, the number of future residents was estimated by multiplying the total number of units (i.e., 269 units) by the average persons per household rate for the City of Morgan Hill found in the California Department of Finance Population and Housing Estimate report.[60] Using the 3.11-person per household rate, the number of future residents was estimated to be 837 residents.[61] This total service population was used to calculate the per capita emissions.

Construction Emissions

GHG emissions associated with construction were computed to be 465 MT of CO_2e for the total construction period, or construction of the proposed residences, De Paul Drive extension, and off-site sewer line installation, and would occur over a several year period as the construction is phased. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

Operational Emissions

[60] State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2010-2019*. Sacramento, California. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/.

[61] The estimated average household size for 2020 is 3.14 persons per household which would result in 845 residents. The 837 residents used to calculate the service population GHG emissions would provide a conservative analysis.
State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2010-2019*. Sacramento, California. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/.

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully developed site under the proposed project. As shown in Table 4.8-1, the annual emissions resulting from occupancy of the new dwelling units of the proposed project are predicted to be 2,784 MT of CO_2e in 2026 and 2,292 MT of CO_2e in 2030. The service population emission for the year 2026 and 2030 are predicted to be 3.33 and 3.05 MT/CO_{2e}/year/service population, respectively.

Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.8 MT CO_2e/year/service population and a bright-line threshold of 660 MT CO_{2e}/year based on the GHG reduction goals of EO B-30-15 (discussed briefly in Section 4.8.1.2). The service population metric of 2.8 is calculated for 2030 based on the 1990 inventory and the projected 2030 statewide population and employment levels. [62] The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_{2e}/year threshold.

Table 4.8-1: Annual Project GHG Emissions (CO_2e) in Metric Tons and Per Capita

Source Category	Proposed Project in 2026	Proposed Project in 2030
Area	3	3
Energy Consumption	23	23
Mobile	2,577	2,341
Solid Waste Generation	171	171
Water Usage	10	10
Total (MT CO_{2e}/year)	**2,784**	**2,292**
Significance Threshold	***660 MT CO2e/year***	***660 MT CO_2e/year***
Service Population Emissions (MT CO_{2e}/year/service population)	3.33	3.05
Significance Threshold	***3.52[a] in 2026***	***2.8 in 2030***
Exceeds both thresholds?	*No*	*Yes*
Emissions over threshold (MT CO_2e/year)		**206 MT**

[a] The interim 2026 3.52 MT CO_2e/year efficiency threshold = [4.6 MT CO_2e/service population/year (2020 threshold) – 2.8 MT CO_2e /service population year]/10 years = 0.18 *6 = 3.52 MT CO_2e /service population

To be considered an exceedance, a project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold in the future year of 2030. The project (under Options 1 and 2) would exceed the annual emissions bright-line threshold of 660 MT CO_2e/year and the service population threshold of 2.8 MT of CO_2e/year/service population in 2030. Therefore, the project would exceed the brightline and service population GHG emissions target for 2030, which would result in a significant GHG impact.

[62] Bay Area Air Quality Management District, 2016. *CLE International 12th Annual Super-Conference CEQA Guidelines, Case Law and Policy Update*. December.

Mitigation Measures: The following mitigation measures would be implemented by the project to reduce its GHG emissions to below the per capita threshold by its earliest operable year:

MM GHG-1.1: The project applicant shall develop a GHG reduction plan to reduce GHG emissions in the build-out year by 206 MT/year prior to issuance of a grading permit and to the satisfaction of the City's Development Services Director or Director's designee. These reductions shall be kept in place by the project until the City adopts a qualified GHG reduction plan (consistent with CEQA Guidelines Section 15183.5) that contains goals and associated strategy to decrease emissions in a manner consistent with meeting the State's interim 2030 GHG emissions reduction target of 40 percent below 1990 levels.

MM GHG-1.2: A combination of the GHG reduction elements listed below would reduce project GHG impacts. The project applicant shall implement some or all of the following elements to further reduce GHG emission from operation of the project and the service population efficiency metric such that the metric would be below the significance threshold. The GHG reduction elements to be included within the project shall be verified prior to the issuance of a building permit and shall be to the satisfaction of the City's Development Services Director or Director's designee.

- Prior to issuance of any building permits, the project applicant shall submit a Transportation Demand Management (TDM) Plan, which would include measures to reduce vehicle miles traveled (VMT) and GHG emissions, to the City's Development Services Director or Director's designee.
- The TDM Plan shall be implemented by the Homeowners Association (HOA) once the proposed residences are occupied.
  ;
- The project applicant shall install solar power systems or other renewable electric generating systems that provide electricity to power on-site equipment and possibly provide excess electric power;
- The project applicant shall provide infrastructure for electric vehicle charging for residential units (i.e., provide 220 VAC power); and,
- The project applicant shall increase water conservation above state average conditions for residential uses by installing low flow water utilities and irrigation.

MM GHG-1.3: The project applicant shall purchase verifiable carbon emission offsets through a verified registry for remaining amount of GHG reduction required, after exhausting on-site reduction options prior to issuance of a building permit. Offsets shall be determined by calculating the total estimated

number of GHG emissions the project would create over a 30-year period, and purchasing verifiable offsets based on the calculated number of GHG emissions.

Some of the measures involve project features or operational measures (under Options 1 and 2) that would serve to reduce project emissions. However, it may not be possible to accomplish the required reduction through the design and operation of the project, in which case the use of carbon offsets would be required. Carbon offsets, as purchased through a verified registry, are a feasible and appropriate method to reduce a project's GHG emissions (under either project option) and is recognized by BAAQMD and CARB. Because the project (under both options) would be required to purchase whatever remaining amount of GHG reduction was required, after exhausting on-site reduction options, the project's GHG emissions (under Options 1 and 2) would be reduced to a level below the applicable 2030 target. Therefore, implementation of a GHG reduction plan, as set forth in the mitigation measures above, would reduce the project's GHG emissions impact to a less than significant level (under Options 1 and 2). **(Less than Significant Impact with Mitigation Incorporated)**

Impact GHG-2:	The project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. **(Less than Significant Impact)**

The proposed project would not conflict or otherwise interfere with the statewide GHG reduction measures identified in CARB's Scoping Plan nor would the project conflict with SB 100 goals (discussed in Section 4.8.1.2). For example, proposed buildings would be constructed in conformance with CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures, water-efficient irrigation systems, and compliance with current energy efficacy standards.

With implementation of MM GHG-1 through MM GHG-3, the proposed project's operational GHG emissions would fall below the efficiency metric of 2.8 MT CO_2e/year/service population for 2030, which is based on the statewide GHG emissions reduction targets established by SB 32 and Executive Order B-30-15. Therefore, the project would be consistent with state and local plans and policies pertaining to GHG emission reductions. **(Less than Significant Impact)**

4.8.2.2 *Cumulative Impacts*

Impact GHG-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant GHG emissions impact. **(Less than Significant Cumulative Impact)**

Past, present, and future development projects (including the proposed project and cumulative General Plan buildout) worldwide contribute to global climate change. No single project is sufficient in size to, by itself, change the global average temperature. Therefore, due to the nature of GHG impacts, a significant project impact is a significant cumulative impact. As discussed under Impact

GHG-1, with the implementation of mitigation measures MM GHG-1 through MM GHG-3, the project would result in less than significant GHG impact. The project, therefore, would not result in a cumulatively considerable contribution to a significant cumulative GHG impact. **(Less than Significant Cumulative Impact)**

4.9 HAZARDS AND HAZARDOUS MATERIALS

The following discussion is based upon a Phase I Environmental Site Assessment prepared by APEX Companies, LLC. in July of 2019. A copy of this report is attached as Appendix E of this DEIR.

4.9.1 Environmental Setting

4.9.1.1 *Regulatory Framework*

Overview

The storage, use, generation, transport, and disposal of hazardous materials and waste are highly regulated under federal and state laws. In California, the EPA has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (CalEPA). In turn, local agencies have been granted responsibility for implementation and enforcement of many hazardous materials regulations under the Certified Unified Program Agency (CUPA) program.

Worker health and safety and public safety are key issues when dealing with hazardous materials. Proper handling and disposal of hazardous material is vital if it is disturbed during project construction. Cal/OSHA enforces state worker health and safety regulations related to construction activities. Regulations include exposure limits, requirements for protective clothing, and training requirements to prevent exposure to hazardous materials. Cal/OSHA also enforces occupational health and safety regulations specific to lead and asbestos investigations and abatement.

Federal and State

Federal Aviation Regulations Part 77

Federal Aviation Regulations, Part 77 Objects Affecting Navigable Airspace (FAR Part 77) sets forth standards and review requirements for protecting the airspace for safe aircraft operation, particularly by restricting the height of potential structures and minimizing other potential hazards (such as reflective surfaces, flashing lights, and electronic interference) to aircraft in flight. These regulations require that the Federal Aviation Administration (FAA) be notified of certain proposed construction projects located within an extended zone defined by an imaginary slope radiating outward for several miles from an airport's runways, or which would otherwise stand at least 200 feet in height above the ground.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over five years, $1.6 billion was collected and the tax went to a trust fund for cleaning

up abandoned or uncontrolled hazardous waste sites. CERCLA accomplished the following objectives:

- Established prohibitions and requirements concerning closed and abandoned hazardous waste sites;
- Provided for liability of persons responsible for releases of hazardous waste at these sites; and
- Established a trust fund to provide for cleanup when no responsible party could be identified.

The law authorizes two kinds of response actions:

- Short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response; and
- Long-term remedial response actions that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life-threatening. These actions can be completed only at sites listed on the EPA's National Priorities List.

CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.[63]

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), enacted in 1976, is the principal federal law in the United States governing the disposal of solid waste and hazardous waste. RCRA gives the EPA the authority to control hazardous waste from the "cradle to the grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also sets forth a framework for the management of non-hazardous solid wastes.

The Federal Hazardous and Solid Waste Amendments (HSWA) are the 1984 amendments to RCRA that focused on waste minimization, phasing out land disposal of hazardous waste, and corrective action for releases. Some of the other mandates of this law include increased enforcement authority for the EPA, more stringent hazardous waste management standards, and a comprehensive underground storage tank (UST) program.[64]

[63] United States Environmental Protection Agency. "Superfund: CERCLA Overview." Accessed May 11, 2020. https://www.epa.gov/superfund/superfund-cercla-overview.
[64] United States Environmental Protection Agency. "Summary of the Resource Conservation and Recovery Act." Accessed May 11, 2020. https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act.

Government Code Section 65962.5

Section 65962.5 of the Government Code requires CalEPA to develop and update a list of hazardous waste and substances sites, known as the Cortese List. The Cortese List is used by state and local agencies and developers to comply with CEQA requirements. The Cortese List includes hazardous substance release sites identified by the Department of Toxic Substances Control (DTSC) and State Water Resources Control Board (SWRCB).[65]

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 provides the EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics, and pesticides. The TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint.

Asbestos-Containing Materials

Friable asbestos is any asbestos-containing material (ACM) that, when dry, can easily be crumbled or pulverized to a powder by hand, allowing the asbestos particles to become airborne. Common examples of products that have been found to contain friable asbestos include acoustical ceilings, plaster, wallboard, and thermal insulation for water heaters and pipes. Common examples of non-friable ACMs are asphalt roofing shingles, vinyl floor tiles, and transite siding made with cement. The EPA phased out use of friable asbestos products between 1973 and 1978. National Emission Standards for Hazardous Air Pollutants (NESHAP) guidelines require that potentially friable ACMs be removed prior to building demolition or remodeling that may disturb the ACMs.

CCR Title 8, Section 1532.1

The United States Consumer Product Safety Commission banned the use of lead-based paint in 1978. Removal of older structures with lead-based paint is subject to requirements outlined by the Cal/OSHA Lead in Construction Standard, CCR Title 8, Section 1532.1 during demolition activities. Requirements include employee training, employee air monitoring, and dust control. If lead-based paint is peeling, flaking, or blistered, it is required to be removed prior to demolition.

Regional and Local

Municipal Regional Permit Provision C.12.f

Polychlorinated biphenyls (PCBs) were produced in the United States between 1955 and 1978 and used in hundreds of industrial and commercial applications, including building and structure materials such as plasticizers, paints, sealants, caulk, and wood floor finishes. In 1979, the EPA banned the production and use of PCBs due to their potential harmful health effects and

[65] California Environmental Protection Agency. "Cortese List Data Resources." Accessed April 19, 2021. https://calepa.ca.gov/sitecleanup/corteselist/.

persistence in the environment. PCBs can still be released to the environment today during demolition of buildings that contain legacy caulks, sealants, or other PCB-containing materials.

With the adoption of the San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP) by the San Francisco Bay Regional Water Quality Control Board on November 19, 2015, Provision C.12.f requires that permittees develop an assessment methodology for applicable structures planned for demolition to ensure PCBs do not enter municipal storm drain systems.[66] Municipalities throughout the Bay Area are currently modifying demolition permit processes and implementing PCB screening protocols to comply with Provision C.12.f. Buildings constructed between 1950 and 1980 that are proposed for demolition must be screened for the presence of PCBs prior to the issuance of a demolition permit. Single family homes and wood-frame structures are exempt from these requirements.

Local

City of Morgan Hill 2035 General Plan

The following policy to reduce the effects of hazardous materials are applicable to the proposed project:

Policy SSI-4.16: **Contaminated Site Mitigation**. Require new or expanding development projects in areas contaminated from previous discharges to mitigate their environmental effects.

4.9.1.2 *Existing Conditions*

On-Site Uses and Conditions

Historic and Current Uses of the Site

The 33-acre site was used as agricultural land since 1939. The existing residence and barn structure on the western portion of the project site were constructed in 1957. The site was occupied by an orchard until 2019. The residence and barn structure remain on-site and have been vacant for several years. Based on a June 2019 site reconnaissance, a water well and septic system are currently located near the residence on-site.

On-Site Environmental Conditions

Previous Investigations

Given the site was used for agricultural purposes, a Phase II Environmental Site Assessment (Phase II ESA), based on recommendations from the Phase I ESA completed for the site and property to west in June 2018, was completed to determine if shallow soils had been impacted by

[66] California Regional Water Quality Control Board. *San Francisco Bay Region Municipal Regional Stormwater NPDES Permit.* November 2015.

organochlorine pesticides, arsenic, and lead in September 2018. The results showed organochlorine pesticides such as chlordane, p,p-DDD, p,p-DDE, and p,p-DDT, were detected below the regulatory environmental screening levels (ESLs). Arsenic was detected at concentrations below background levels. Therefore, the presence of organochlorine pesticides and arsenic on-site is not a recognized environmental condition.

Lead was detected in three samples (SS-R-16A, SS-R-16D, and SS-R-17B) above the residential ESL. Therefore, in October 2018, additional sampling for lead was completed around the residence and ancillary barn structure. Thirty-four (34) samples between zero to 2.5 feet below the ground surface in areas previously found to contain lead (at locations in the vicinity of SS-R-16A, SS-R-16D, and SS-R-17B). All of the soil samples were analyzed for lead using EPA Method 6020B and two soil samples were analyzed for Soluble Threshold Limit Concentration (STLC) lead analysis using EPA Method 6020B. Out of the 34 soil samples, 11 were detected above the residential ESL for lead. Additionally, the samples analyzed for STLC found soluble lead to be above the hazardous waste criteria. Since the lead-impacted soil remains on-site, this is considered a recognized environmental condition.

Hazardous Building Materials

The buildings on-site were constructed prior to 1978 and likely have materials that include asbestos-containing materials (ACMs) and/or lead-based paints (LBPs).

Vapor Encroachment

A vapor encroachment screening was completed as a part of the Phase I ESA, in accordance with American Society for Testing and Materials (ASTM) standards. The goal of the screening was to identify if a vapor encroachment condition (VEC) occurred on-site due to an off-site release of petroleum hydrocarbons from the St. Louise Hospital and Health Center/ De Paul Medical Center property (refer to Table 4.9-1). A VEC is defined as the presence or likely presence of chemicals of concern in the sub-surface of the property, caused by the release of vapors from contaminated soil or groundwater. Based on the screening, a VEC does not exist at the project site.

Regulatory Database Review

A regulatory database search was completed to determine whether the project site was listed as a hazardous materials site/ environmental concern. This included federal and state environmental regulatory listings. The project site was not identified in the databases reviewed.

Surrounding Land Uses

The properties surrounding the 33-acre site were developed as agricultural land by at least 1939. Residences were developed on the south and southwest adjacent properties by 1968. By 1998, the residences on the adjacent property to the southwest of the site were demolished and the north adjacent property was no longer in agricultural use. The existing residences on the northeast properties (east of Mission View Drive) property were developed by 2016. The property to the west of the 33-acre site is an open area and is no longer used for agricultural purposes.

Off-Site Environmental Conditions

A regulatory database search for properties within one mile that could be a potential environmental concern for the site was completed. The database information reviewed did indicate the presence of facilities within ASTM-recommended search distances of the project site. Most of the sites did not present an environmental concern to the project site because they had an operating permit that did not indicate there was a release, required no further action, or were too distant and/or topographically downgradient or cross-gradient relative to the project site to reasonably affect it. There were two off-site properties (given their proximity to the site) evaluated in the Phase I ESA to determine if the properties were a potential concern.

Table 4.9-1: Off-Site-Properties on Regulatory Listings

Facility	Database	Orientation from Project Site	Environmental Concern?
St. Louise Hospital and Health Center/ De Paul Medical Center 18500 St. Louise Drive	Delisted TNK, RCRA SQG, UST, CERS Tank, Santa Clara CUPA, RCRA NonGen	Approximately 305 feet north, upgradient	The property is not an environmental concern since there is no evidence of a release.
Mariani Orchards 1615 Half Road	RCRA NonGen	Approximately 900 feet northeast, cross-gradient	The property is not an environmental concern since there is no evidence of a release.

The properties listed in Table 4.9-1 are not considered an environmental concern since there is no indication of a chemical release at the properties.

Wildland Fires

The project site is not located within an identified Very High Fire Hazard Severity Zone in a State Responsibility Area (SRA) or a Local Responsibility (LRA).[67,68] The project site is not adjacent to any wildlands that could present a fire hazard.

Airport Hazards

The proposed project is located approximately 4.9 miles northwest of the San Martin Airport. The project site is not exposed to any airport hazards due to its distance from the San Martin Airport.

4.9.2 Impact Discussion

For the purpose of determining the significance of the project's impact on hazards and hazardous materials, would the project:

[67] CAL FIRE. *Santa Clara County Fire Hazard Safety Zone Map – State Responsibility Area*. November 2007.
[68] CAL FIRE. *Santa Clara County Fire Hazard Safety Zone Map – Local Responsibility Area.* October 2008.

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
2) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?
4) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area?
6) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
7) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The proposed differences in storm drainage, size and depth of the underground retention basins, and construction equipment usage when comparing Project Options 1 and 2 would not affect the conclusions for hazards and hazardous materials impacts. Although the construction of the underground retention basins under Option 2 would result in deeper excavation (maximum depth would be nine feet below the ground surface) than Option 1 (four feet below the ground surface), mitigation measures standard conditions and the conclusions for hazards and hazardous materials impacts would be the same for Project Options 1 and 2. The project under both options would excavate to a maximum depth of 10 feet to access utilities during construction for both options.

4.9.2.1 *Project Impacts*

Impact HAZ-1:	The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. **(Less than Significant Impact)**

The project proposes to develop a total of 269 new residential units (under Options 1 and 2). Operationally, the transport, use, and disposal of hazardous materials from residential uses would be minimal because these uses do not typically necessitate hazardous materials, except for ordinary substances such as household cleaners, paint, etc.

No long-term release of hazardous materials into the environment would occur as a result of project implementation. Project construction would require the temporary use of heavy equipment. Construction would also require the use of hazardous materials including petroleum products, lubricants, cleaners, paints, and solvents. The use and storage of hazardous materials in

the City of Morgan Hill is regulated by Santa Clara County Department of Environmental Health Hazardous Materials Compliance Division (SCCDEH). Construction of the proposed project would conform to the requirements of the SCCDEH (under Options 1 and 2). Compliance with applicable federal, state, and local handling, storage, and disposal requirements would ensure that no significant hazards to the public or the environment are created by these routine activities. For these reasons, the storage and handling of hazardous materials on the site, under the proposed project (under both options), would not result in a significant impact. **(Less than Significant Impact)**

Impact HAZ-2:	The project would create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. **(Less than Significant Impact with Mitigation Incorporated)**

Contaminated Soils

The 33-acre site contains lead-impacted soils in the vicinity of the existing and former residential structures. Lead in soils can impact the health of construction workers and adjacent uses when soil disturbance occurs. In addition, low concentrations of agricultural chemicals, including OCPs and arsenic, are present on the site. These chemicals can pose a health hazard to construction workers and adjacent uses when disturbed. Adverse effects to human health and/or the environment would constitute a significant impact.

Soils on the 33-acre site contain levels of elevated lead and agricultural chemicals (above regulatory screening levels) that could be released to the environment during project construction and could expose construction workers and nearby land uses.

Mitigation Measures: The project shall implement the following mitigation measures to reduce potential impacts resulting from the disturbance of soils containing lead and agricultural chemicals:

MM HAZ-2.1: Since lead-impacted soils are determined to be present in concentrations above established regulatory environmental screening levels, the project applicant shall enter into the Santa Clara County Department of Environmental Health's (SCCDEH) Voluntary Cleanup Program (VCP), or equivalent, to formalize regulatory oversight of the mitigation of contaminated soil to ensure the site is safe for construction workers and the public after development. The project applicant responsible for the contaminated area of the site shall remove contaminated soil to levels acceptable to the SCCDEH (or equivalent oversight agency) for residential exposure prior to issuance of any grading permits.

MM HAZ-2.2: A Removal Action Plan, Soil Mitigation Plan or other similarly titled report describing the remediation shall be prepared and implemented to document the removal and /or capping of contaminated soil. Prior to issuance of any grading permits, a copy of any reports prepared shall be submitted to the

Development Services Director or Director's designee. All work and reports produced shall be performed under the regulatory oversight and approval of the SCCDEH (or equivalent oversight agency).

MM HAZ-2.3: The project applicant shall prepare a Site Management Plan (SMP) prior to issuance of any grading permits to reduce or eliminate exposure risk to human health and the environment, specifically, potential risks associated with the presence of organochlorine pesticides and pesticide-based metals. The SMP shall include, but is not limited to, the following elements to mitigate potential risks associated with environmental conditions:

- Procedures for transporting and disposing the waste material generated during removal activities, if such transport and disposal is necessary;
- Procedures for stockpiling soil on-site if such stockpiling is necessary;
- Provisions for collecting soil samples to prior to grading activities;
- Provisions for confirmation soil sampling as appropriate to obtain a "No Further Action" letter (or equivalent) from the state and/or local agency assuming oversight for the site;
- Procedures to ensure that fill and cap materials are verified as clean truck routes;
- Staging and loading procedures and record keeping requirement.

The SMP shall reference the Storm Water Pollution Prevention Plan (SWPPP) required for the project in accordance with the Construction General Permit Order issued by the California State Water Resources Control Board. The SMP shall be submitted to the Santa Clara County Department of Environmental Health (SCCDEH), or equivalent regulatory agency, for review and approval. Copies of the approved SMP shall be provided to the City's Development Services Department prior to issuance of any grading permits.

MM HAZ-2.4: All contractors and subcontractors at the project site shall develop a health and safety plan (HSP) specific to their scope of work and based upon the known environmental conditions for the site. The HSP shall be implemented under the direction of a Site Safety and Health Officer. The HSP shall include, but not limited to, the following elements, as applicable:

- Provisions for personal protection and monitoring exposure to construction workers;
- Procedures to be undertaken in the event that contamination is identified above action levels or previously unknown contamination is discovered;
- Procedures for the safe storage, stockpiling, and disposal of contaminated soils;

- Provisions for the on-site management and/or treatment of contaminated groundwater during extraction or dewatering activities;
- Emergency procedures and responsible personnel.

The HSP shall be submitted to the Santa Clara County Department of Environmental Health (SCCDEH), or equivalent regulatory agency, for review and approval. Copies of the approved HSP shall be provided to the City's Development Services Department prior to issuance of any grading permits.

MM HAZ-2.5: Prior to issuance of any grading permits, the project applicant shall excavate lead-impacted soils identified at sample locations SS-R-16A, SS-R-16D, and SS-R-17B (near the single-family residence and barn structure) to a depth of at least 2.5 below the ground. The soil shall be properly disposed of in accordance with state and SCCDEH and California Code of Regulations, Title 8 waste disposal requirements. The SCCDEH (or equivalent oversight agency) may also approve leaving in-place some of the contaminated soil if the contaminated soil will be buried under hardscape and/or several feet of clean soil and not at risk of being encountered by future site users or nearby residents.

The implementation of mitigation measures MM HAZ-2.1 through MM HAZ-2.5 would ensure that hazardous conditions on-site would not create a significant hazard to the public (e.g., nearby residences and construction workers) or the environment. **(Less Than Significant Impact with Mitigation Incorporated)**

Asbestos-Containing Materials and Lead-Based Paint

The residential and barn structures on-site were constructed prior to 1978 and is likely have materials that include asbestos-containing materials (ACMs) and/or lead-based paint. The project (under Options 1 and 2) proposes to demolish the existing buildings, which could release asbestos particles and expose construction workers and nearby residents to harmful levels of asbestos. This would constitute a significant impact. As a result, an asbestos survey must be conducted under the National Emission Standards for Hazardous Air Pollutants (NESHAP) guidelines. The project (under Options 1 and 2) would be required to remove all potentially friable ACMs prior to building demolition that may disturb the ACMs.

If lead-based paint is still bonded to the building materials, its removal is not required prior to demolition. The project would be required to follow the requirements outlined by Cal/OSHA Lead in Construction Standard, Title 8, California Code of Regulation (CCR) 1532.1 during demolition activities; these requirements include employee training, employee air monitoring, and dust control. If lead-based paint is peeling, flaking, or blistered, it would be removed prior to demolition. It is assumed that such paint would become separated from the building components during demolition activities and must be managed and disposed of as a separate waste stream. Any debris

or soil containing lead paint or coating must be disposed of at landfills that are permitted to accept such waste.

Demolition of the existing buildings on site could expose construction workers and nearby residents to asbestos or lead. The project (under both options) would conform with the following regulatory programs and implement the mitigation measures to reduce impacts due to potential ACMs and lead-based paint:

Mitigation Measures: The following mitigation measures shall be implemented by the Project Options 1 and 2 to reduce impacts resulting from disturbance of lead-based paint or ACMs.

MM HAZ-2.6: Prior to issuance of a demolition permit for on-site structures, the project applicant shall consult with certified Asbestos and/or Lead Risk Assessors to complete and submit for review to the Building Department an asbestos and lead survey. If asbestos-containing materials or lead-containing materials are not discovered during the survey, further mitigation related to asbestos-containing materials or lead-containing materials shall not be required. If asbestos containing materials and/or lead-containing materials are discovered by the survey, the project applicant shall prepare a work plan to demonstrate how the on-site asbestos-containing materials and/or lead-containing materials shall be removed in accordance with current California Occupational Health and Safety (Cal-OSHA) Administration regulations and disposed of in accordance with all CalEPA regulations, prior to the demolition and/or removal of the on-site structures. The plan shall include the requirement that work shall be conducted by a Cal-OSHA registered asbestos and lead abatement contractor in accordance with Title 8 CCR 1529 and Title 8 CCR 1532.1 regarding asbestos and lead training, engineering controls, and certifications. The applicant shall submit the work plan to the City for review and approval. The City has the right to defer the work plan to the Santa Clara County Department of Environmental Health for additional review. The following measures shall be included in the work plan:

- During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Title 8, California Code of Regulations (CCR), Section 1532.1, including employee training, employee air monitoring, and dust control. Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of lead being disposed.
- All potentially friable asbestos containing materials (ACMs) shall be removed in accordance with National Emission Standards for Air Pollution (NESHAP) guidelines prior to demolition or renovation activities that may disturb ACMs. All demolition activities shall be undertaken in accordance with Cal/OSHA standards contained in

Title 8, CCR, Section 1529, to protect workers from asbestos exposure.

- A registered asbestos abatement contractor shall be retained to remove and dispose of ACMs identified in the asbestos survey performed for the site in accordance with the standards stated above.
- Materials containing more than one-percent asbestos are also subject to Bay Area Air Quality Management District (BAAQMD) regulations. Removal of materials containing more than one-percent asbestos shall be completed in accordance with BAAQMD requirements and notifications.
- Based on Cal/OSHA rules and regulations, the following conditions are required to limit impacts to construction workers.
- Prior to commencement of demolition activities, a building survey, including sampling and testing, shall be completed to identify and quantify building materials containing lead-based paint.
- During demolition activities, all building materials containing lead-based paint shall be removed in accordance with Cal/OSHA Lead in Construction Standard, Title 8, CCR, Section 1532.1, including employee training, employee air monitoring and dust control.
- Any debris or soil containing lead-based paint or coatings shall be disposed of at landfills that meet acceptance criteria for the type of waste being disposed.

Conformance with regulatory requirements and the mitigation measure MM HAZ-2.6 above would ensure that ACMs and lead on-site would not create a significant hazard to the public (e.g., nearby residences and construction workers) or the environment. **(Less than Significant Impact with Mitigation Incorporated)**

Water Well and Septic System

One water well and septic system was located on-site during a site reconnaissance. The water supply well and septic systems on the site will be abandoned. Improper abandonment of the well and septic system could lead to a recognized environmental condition by potentially exposing construction workers, neighboring uses, and the environment to hazardous materials.

Mitigation Measures: The project would implement the following mitigation measure to destroy the water well and septic system on-site.

MM HAZ-2.7: Prior to issuance of a grading permit, the project applicant shall research well records from Valley Water and attempt to locate abandoned wells at the site. If the wells are identified, or subsequently encountered during

earthwork activities, the wells shall be properly destroyed in accordance with Valley Water Ordinance 90-1. If septic systems are encountered during earthwork activities, those systems shall be abandoned in accordance with SCCDEH requirements.

With implementation of MM HAZ-2.7, historic wells and septic systems on the site would be destroyed in accordance with Valley Water and SCCDEH requirements and would not result in significant impacts. Therefore, the abandonment of the well and septic system is not considered a recognized environmental condition. **(Less than Significant Impact with Mitigation Incorporated)**

Impact HAZ-3:	The project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. **(Less than Significant Impact)**

The closest school to the project site is Live Oak High School, located approximately 450 feet northeast of the 33-acre site and 0.2 miles northeast of the sanitary sewer line installation area. With implementation of mitigation measures MM HAZ-2.1 through MM HAZ-2.7, the project (under Options 1 and 2) would not emit hazardous emissions or handle hazardous materials/substances within one-quarter mile of a school. **(Less than Significant Impact)**

Impact HAZ-4:	The project would not be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment. **(No Impact)**

As described in Section 4.9.1.1 Regulatory Framework, the project site is not included on a list of hazardous materials sites pursuant to Government Code Section 65962.5. The impacts of lead-contaminated soils and ACMs/lead-based paint at the site would be reduced to less than significant with the implementation of mitigation measures MM HAZ-2.1 through MM HAZ-2.6. **(No Impact)**

Impact HAZ-5:	The project would not be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. The project would not result in a safety hazard or excessive noise for people residing or working in the project area. **(No Impact)**

The project site is located approximately five miles north of the San Martin Airport. The project site is not located within an Airport Influence Area or Federal Aviation Administration Height Restriction Area; therefore, the project (under Options 1 and 2) would not result in an airport safety hazard. **(No Impact)**

Impact HAZ-6:	The project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. **(No Impact)**

The project (under Options 1 and 2) would be constructed in accordance with current building and fire codes to ensure structural stability and safety. In addition, the Morgan Hill Fire Department would review the site development plans to ensure fire protection design features are incorporated and adequate emergency access is provided. For these reasons, the operations of the proposed project would not interfere with the City-adopted Emergency Operations Plan or any adopted statewide emergency response or evacuation plans.[69] **(No Impact)**

Impact HAZ-7:	The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. **(No Impact)**

As mentioned in *Section 4.9.1.2 Existing Conditions*, the project site is not located within a designated Very High Fire Hazard Severity Zone. The proposed project (under Options 1 and 2) is an infill development and would not be located adjacent to any wildlands that could expose people or structures to wildfire risks. **(No Impact)**

4.9.2.2 *Cumulative Impacts*

Impact HAZ-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant hazards and hazardous materials impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

The geographic area for cumulative hazards and hazardous materials is the project site and adjacent parcels. With the implementation mitigation measures MM HAZ-2.1 through MM HAZ-2.5, lead contamination at the site would not affect off-site properties such as the Redwood Tech site west of the Crosswinds Residential site. Based on a Limited Phase II Agricultural Investigation completed by AEI in 2018 for the Draft EIR circulated for a previously proposed (but withdrawn) project at the adjacent Redwood Tech site, no soil samples for lead exceeded the residential ESLs. Therefore, the combined impacts of lead contamination would be less than significant.

The Redwood Tech property does not contain any structures and, therefore, no cumulative impacts related to ACMs and lead-based paint would result from the proposed Crosswinds Residential and Redwood Tech projects. The Crosswinds Residential project would be required to implement mitigation measures that require the preparation of a SMP and HSP. The Redwood Tech project would implement a dust, noise, vibration, and materials management plan that would reduce potential impacts related to hazardous materials. Both projects would comply with applicable

[69] City of Morgan Hill, Office of Emergency Services. *Emergency Operations Plan*. Revision 2.0. January 11, 2018.

federal, state, and local handling, storage, and disposal requirements would ensure that no significant hazards to the public or the environment are created by these routine activities.

The project (under Options 1 and 2) would not result in an aircraft hazard given the project site is not located within an AIA of a Comprehensive Land Use Plan and meets FAA FAR Part 77 height restriction requirements for new structures. The project would, therefore, not result in significant cumulative impacts due to aircraft hazards when combined with the impacts of other projects. The project has no impacts related to emergency operations or wildfires. Therefore, the project (under both options) does not have the potential to combine impacts related to these topics with other projects. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

4.10 HYDROLOGY AND WATER QUALITY

4.10.1 Environmental Setting

4.10.1.1 *Regulatory Framework*

Federal and State

The federal Clean Water Act and California's Porter-Cologne Water Quality Control Act are the primary laws related to water quality in California. Regulations set forth by the EPA and the SWRCB have been developed to fulfill the requirements of this legislation. EPA regulations include the National Pollutant Discharge Elimination System (NPDES) permit program, which controls sources that discharge pollutants into the waters of the United States (e.g., streams, lakes, bays, etc.). These regulations are implemented at the regional level by the Regional Water Quality Control Boards (RWQCBs). The project site is within the jurisdiction of the Central Coast RWQCB.

National Flood Insurance Program

The Federal Emergency Management Agency (FEMA) established the National Flood Insurance Program (NFIP) to reduce impacts of flooding on private and public properties. The program provides subsidized flood insurance to communities that comply with FEMA regulations protecting development in floodplains. As part of the program, FEMA publishes Flood Insurance Rate Maps (FIRMs) that identify Special Flood Hazard Areas (SFHAs). An SFHA is an area that would be inundated by the one-percent annual chance flood, which is also referred to as the base flood or 100-year flood.

Statewide Construction General Permit

The State Water Resources Control Board (SWRCB) has implemented an NPDES General Construction Permit for the State of California (Construction General Permit). For projects disturbing one acre or more of soil, a Notice of Intent (NOI) must be filed with the RWQCB by the project sponsor, and a Storm Water Pollution Prevention Plan (SWPPP) must be prepared by a qualified professional prior to commencement of construction and filed with the RWQCB by the project sponsor. The Construction General Permit includes requirements for training, inspections, record keeping, and, for projects of certain risk levels, monitoring. The general purpose of the requirements is to minimize the discharge of pollutants and to protect beneficial uses and receiving waters from the adverse effects of construction-related storm water discharges.

Regional and Local

Phase II Small MS4 General Permit

Gilroy, Morgan Hill, and the portion of Santa Clara County that drains to the Pajaro River-Monterey Bay watershed, which includes the project site, are traditional permittees under the state's Phase II Small MS4 General Permit. Since these regions are located in RWQCB Region 3 (Central Coast Region), they are subject to the Central Coast Post-Construction Requirements per Provision E.12.k

of the Phase II Permit. The Central Coast Post-Construction Requirements became effective in 2014 and are specific to the Central Coast Region. Post-construction controls are permanent features of a new development or redevelopment project designed to reduce pollutants in stormwater and/or erosive flows during the life of the project. Types of post-construction controls include low impact development (LID) site design, pollutant source control, stormwater treatment, and hydromodification management measures. The LID approach reduces stormwater runoff impacts by minimizing disturbed areas and impervious surfaces, maximizing opportunities for infiltration and evapotranspiration, and using stormwater as a resource (e.g., rainwater harvesting for non-potable uses).[70]

Water Resources Protection Ordinance and District Well Ordinance

Valley Water operates as the flood control agency for Santa Clara County. Their stewardship also includes creek restoration, pollution prevention efforts, and groundwater recharge. Permits for well construction and destruction work, most exploratory boring for groundwater exploration, and projects within Valley Water property or easements are required under Valley Water's Water Resources Protection Ordinance and District Well Ordinance.

Dam Safety

Since August 14, 1929, the State of California has regulated dams to prevent failure, safeguard life, and protect property. The California Water Code entrusts dam safety regulatory power to California Department of Water Resources, Division of Safety of Dams (DSOD). The DSOD provide oversight to the design, construction, and maintenance of over 1,200 jurisdictional sized dams in California.[71]

As part of its comprehensive dam safety program, Valley Water routinely monitors and studies the condition of each of its 10 dams. Valley Water also has its own Emergency Operations Center and a response team that inspects dams after significant earthquakes. These regulatory inspection programs reduce the potential for dam failure.

Construction Dewatering Waste Discharge Requirements

Each of the RWQCBs regulate construction dewatering discharges to storm drains or surface waters within its Region under the NPDES program and Waste Discharge Requirements.

[70] City of Gilroy, City of Morgan Hill, and County of Santa Clara. *Stormwater Management Guidance Manual for Low Impact Development & Post-Construction Requirements*. June 2015.
[71] California Department of Water Resources, Division of Safety of Dams. https://water.ca.gov/Programs/All-Programs/Division-of-Safety-of-Dams#:~:text=Since%20August%2014%2C%201929%2C%20the,Safety%20of%20Dams%20(DSOD). Accessed June 9, 2020.

Morgan Hill 2035 General Plan

The Morgan Hill 2035 General Plan includes goals, policies, and actions to avoid significant impacts to due to hydrology.[72] The following policies related to hydrology and water quality are applicable to the proposed project:

Policy SSI-16.2: **Drainage System Capacity.** Ensure that the level of detention or retention provided on the site of any new development is compatible with the capacity of the regional storm drainage system.

Policy SSI-16.3: **Stormwater Management Plans.** Require a stormwater management plan for each proposed development, to be presented early in the development process and describe the design, implementation, and maintenance of the local drainage.

4.10.1.2 *Existing Conditions*

Water Quality

The water quality of ponds, creeks, streams, and other surface waterbodies can be greatly affected by pollution carried in contaminated surface runoff. Pollutants from unidentified sources, known as "non-point" source pollutants, are washed from streets, construction sites, parking lots, and other exposed surfaces into storm drains. Grading and excavation activities during construction of the proposed billboard could increase the amount of surface water runoff (i.e., particles of fill or excavated soil) from the site, or could erode soil downgradient, if the flows are not controlled. Deposition of eroded material in water features could increase turbidity, thereby endangering aquatic life, and reducing wildlife habitat. Excessive precipitation can carry these non-point pollutants downstream.

Drainage and Flooding

The City of Morgan Hill is divided into several hydrologically distinct drainage areas. Each of these areas consist of conveyance facilities, pumps, and detention basins to collect and dispose of the runoff. The storm runoff from these areas is discharged into creeks or ponds that flow through the City and that are tributaries to Monterey Bay or San Francisco Bay. The project site is located in the Madrone Channel storm water drainage basin and drains to Monterey Bay.[73]

The project site is not located within a 100-year flood hazard area. According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (FIRM), the majority of project site is located within Zone X with a smaller strip extending from the southern property line north in

[72] City of Morgan Hill, California (2016). "Chapter 9, Safety, Services, and Infrastructure." *City of Morgan Hill General Plan 2035.* Accessed May 16, 2019. https://www.morgan-hill.ca.gov/DocumentCenter/View/22839/MH2035-General-Plan---December-2017?bidId=

[73] City of Morgan Hill. *2018 Storm Drainage System Master Plan.* September 2018.

Zone D.[74] Zone X is an area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. Zone D is an area of undetermined flood hazard.

Groundwater

The depth to groundwater at the project site is approximately 20 to 30 feet below ground surface.[75] The site does not contain aquifer recharge facilities, such as streams or ponds. There are two existing wells on the property associated with the agricultural activities that have been occurring on the property for decades. With the cessation of agricultural activities, the wells are no longer in regular use.

Dam Failure

The Association of Bay Area Governments has compiled dam failure inundation hazard maps submitted to the State Office of Emergency Services by dam owners throughout the Bay Area. The maps for the City of Morgan Hill show the project site to be in the dam failure inundation hazard zone for Anderson Reservoir.[76] The dams in Santa Clara County are managed by the Santa Clara Valley Water District. Anderson Dam is currently limited to about half its capacity due to seismic concerns, in order to protect against potential dam failure. The dam is currently drained and being retrofitted to solve the seismic issue.[77]

Seiches, Tsunamis, and Mudflows

A seiche is an oscillation of the surface of a lake or landlocked sea varying in period from a few minutes to several hours. There are no landlocked bodies of water near the project site that in the event of a seiche will affect the site.

A tsunami is a series of water waves caused by the displacement of a large volume of a body of water, such as an ocean or a large lake. Due to the immense volumes of water and energy involved, tsunamis can devastate coastal regions. The project site does not lie within a tsunami inundation hazard area.[78]

A mudflow is the rapid movement of a large mass of mud formed from loose soil and water. The project site is relatively flat and is not susceptible to mudflows.

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[74] Federal Emergency Management Agency, Flood Insurance Rate Map, Community Panel #06085C0443H, May 18, 2009.
[75] Haley Aldrich. *Due-Diligence Level Geotechnical Investigation DePaul Technology Center*. January 21, 2019. Groundwater depth estimation was for the property immediately west of the site (adjacent to DePaul Drive).
[76] Association of Bay Area Governments, *Bay Area Dam Failure Inundation Hazards*, October 5, 2009, http://www.abag.ca.gov/bayarea/eqmaps/damfailure/.
[77] Santa Clara Valley Water District. "Anderson Dam Seismic Retrofit". 2018. https://www.valleywater.org/project-updates/dam-reservoir-projects/anderson-dam-seismic-retrofit.
[78] California Emergency Management Agency, Tsunami Inundation Map for Emergency Planning San Francisco Bay Area, December 9, 2009. http://www.consrv.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Documents/Tsunami_Inundation_SanFranciscoBayArea300.pdf.

4.10.2 Impact Discussion

For the purpose of determining the significance of the project's impact on hydrology and water quality, would the project:

1) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?
2) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
3) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:
    - result in substantial erosion or siltation on- or off-site;
    - substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
    - create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
    - impede or redirect flood flows?
4) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?
5) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

4.10.2.1 *Project Impacts*

Impact HYD-1:	The project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. **(Less than Significant Impact)**

Construction Water Quality Impacts

There is the potential for water quality impacts to occur during project construction. In addition to generating dust, litter, oil, and other pollutants that could contaminate runoff from the project site, construction activities would increase the potential for erosion and sedimentation by disturbing and exposing underlying soil to the erosive forces of water and wind. Since construction of the proposed project (under Options 1 and 2) would disturb more than one acre of soil, the project would be required to comply with the NPDES General Permit for Construction Activities.

In accordance with the City of Morgan Hill Standard Conditions of Approval and the NPDES General Permit for Construction Activities, Standard Condition HYD-1 and Standard Measure HYD-1 are

included in the project to reduce construction-related water quality impacts to a less than significant level.

Standard Condition HYD-1: The applicant shall implement the following standard condition prior to construction:

- As required by the State Water Resources Control Board (SWRCB) Order No. 2009-0009-DWQ, construction activity resulting in a land disturbance of one acre or more of soil, or whose projects are part of a larger common plan of development that in total disturbs more than one (1) acre, are required to obtain coverage under the National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000002 for Discharges of Storm Water Associated with Construction Activity (General Permit). To be permitted with the SWRCB under the General Permit, owners shall file a complete Notice of Intent (NOI) package and develop a Storm Water Pollution Prevention Plan (SWPPP) in accordance with Section A, B, and C of the General Permit prior to the commencement of soil disturbing activities. A NOI Receipt Letter assigning a Waste Discharger Identification number to the construction site will be issued after the State Water Resource Control Board (SWRCB) receives a complete NOI package (original signed NOI application, vicinity map, and permit fee); copies of the NOI Receipt Letter and SWPPP shall be forwarded for Building and Engineering Division review. The SWPPP shall be made a part of the improvement plans. (SWRCB NPDES General Permit CA000002).

Standard Condition HYD-2: In accordance with the City of Morgan Hill Standard Conditions of Approval and the Construction General Permit, the following measures shall be included in the project to reduce construction-related water quality impacts to a less than significant level. The measures shall be implemented to the satisfaction of the Director of Development Services or Director's designee. The BMPs shall be approved by the Director of Development Services or Director's designee prior to the issuance of a grading permit.

The following BMPs shall be implemented during project construction:

- Burlap bags filled with drain rock shall be installed around storm drains to route sediment and other debris away from the drains.
- Earthmoving or other dust-producing activities shall be suspended during periods of high winds.
- All exposed or disturbed soil surfaces shall be watered at least twice daily to control dust.
- Stockpiles of soil or other materials that can be blown by the wind shall be watered or covered.
- All trucks hauling soil, sand, and other loose materials shall be covered and all trucks will be required to maintain at least two feet of freeboard.
- All paved access roads, parking areas, staging areas and residential streets adjacent to the construction site shall be swept daily (with water sweepers).
- Vegetation in disturbed areas shall be replanted as quickly as possible.

With the implementation of the above BMPs, the project (under Options 1 and 2) would not violate any water quality standards during construction. **(Less than Significant Impact)**

Post-Construction Water Quality

Stormwater runoff from urban uses such as the proposed project contains metals, pesticides, herbicides, and other contaminants such as oil, grease, lead, and animal waste. The project would conform to the City's Storm Water Management Plan (SWMP) to reduce the discharge of pollutants into waterways and to protect local water quality that could be degraded by storm water and urban run-off within the corporate limits of Morgan Hill.

Under Option 1, the project would include underground retention facilities designed for a 25-year, 24-hour storm event. In addition, an on-site network of drainpipes would collect the runoff filtered through the bioretention areas and underground retention facilities, before being discharged into the public storm drain system to Madrone Channel.

Under Option 2, the project would include underground retention facilities designed for a 100-year, 24-hour storm event. Stormwater runoff would be retained and treated on-site, with no discharge to the Madrone Channel.

With implementation of either stormwater retention option, the project would meet SWMP requirements. Conformance with the SWMP, as proposed by the project under both options, would reduce the potential for the project to result in post-construction water quality impacts. **(Less than Significant Impact)**

Impact HYD-2:	The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. **(Less than Significant Impact)**

The depth to groundwater is approximately 20 to 30 feet below ground surface based on a geotechnical investigation completed for the 58-acre property immediately west of DePaul Drive, deep enough such that ground disturbance during construction, expected at most to be 10 feet during utility trenching and up to 13 feet for off-site sewer installation (under Options 1 and 2), would not interfere with groundwater flow or expose any aquifers. The project site is not an aquifer recharge facility (i.e., streams or ponds); therefore, development of the project site (under Options 1 and 2) would not substantially interfere with aquifer recharge. The existing well on the 33-acre property would be properly removed under permit from the Santa Clara Valley Water District, as required per the District Well Ordinance. **(Less than Significant Impact)**

Impact HYD-3:	The project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows. **(Less than Significant Impact)**

Currently, the 33-acre (approximately 1,437,500 square foot) project site is nearly entirely pervious, with the exception of the two small residential structures and associated driveways (the site consists of less than one percent [8,000 square feet] of impervious surfaces). Under either project option for stormwater management, the proposed development would add approximately 21 acres (923,420 square feet) of impervious area consisting of roof tops, proposed walkways, and paved parking lots. The project includes 365,370 square feet of landscaping. In total, the proposed project would result in 1,072,130 square feet of impervious area (approximately 75 percent of impervious surfaces), and 365,370 square feet of pervious area.

Pursuant to the implementation of the SWPPP and other drainage standards implemented by the City, the project would not significantly increase stormwater flows into the existing system during routine rainfall events. The various components of the project would each be required to minimally retain all water from the 95th percentile of rainfall events (approximately two- to five-year storm events) on site; therefore, during 95 percent of the rainfall events, the existing storm drain system would not be impacted by the project (under Options 1 and 2).

Furthermore, on-site systems proposed under Option 1 would be constructed to detain a volume of water up to a 25-year storm event while releasing water at a rate reflective of the 10-year predevelopment flow. This design limits stormwater flows off-site to less than 10-year predevelopment flows. Alternatively, on-site systems proposed under Option 2 would be constructed to retain a volume of water up to a 100-year storm event.

The existing public storm water system is already designed to convey a 10-year storm event; therefore, the project, with either stormwater management option, should not significantly contribute to any additional flooding during the most frequent events. The final drainage system design for each of the project components would be subject to review and approval by the City of Morgan Hill Engineering Division, who would confirm that the proposed drainage system for each component of the project is consistent with the City's Storm Drainage Master Plan and standard stormwater-related Conditions of Approval. **(Less Than Significant Impact)**

Impact HYD-4:	The project would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. **(No Impact)**

The project (under Options 1 and 2) is not located within a 100-year flood hazard zone and, therefore, would have no impact on 100-year flows or expose people to flood hazards or release of pollutants due to inundation associated with the 100-year flood. **(No Impact)**

Impact HYD-5:	The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. **(No Impact)**

The project (under Options 1 and 2) would comply with the City's Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements. The project would not impact groundwater recharge and would not conflict with the SCVWD's 2016 Groundwater Management Plan. For these reasons, the project would not conflict with implementation of a water quality or groundwater management plan. **(No Impact)**

4.10.2.2 *Cumulative Impacts*

Impact HYD-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant hydrology and water quality impact. **(Less than Significant Cumulative Impact)**

The geographic area for cumulative hydrology and water quality impacts is the Madrone Channel storm water drainage basin. Cumulative developments near the project site would be subject to similar hydrological and urban runoff conditions. All cumulative projects occurring within Morgan Hill would be required to implement the same project conditions related to construction water quality as the proposed project (including preparation of a SWPPP if disturbance is greater than one acre), under Options 1 and 2. For these reasons, the cumulative projects, including the proposed project (under both options), would not result in significant cumulative hydrology or water quality impacts. **(Less than Significant Cumulative Impact)**

4.11 LAND USE AND PLANNING

As shown in Table 2.2-1, NOP comments on the subject of land use were received from the Mariani Family Properties (1615 Half Road). These comments addressed the project's consistency with adjacent General Plan land uses. Checklist question 2 below discusses the project's consistency with the General Plan; however, an evaluation of the project's consistency with the General Plan designation of adjacent or nearby properties is not required by CEQA.

4.11.1 Environmental Setting

4.11.1.1 *Regulatory Framework*

Regional

South County Airport Comprehensive Land Use Plan

A small portion of Morgan Hill extends into the Airport Influence Area (AIA) of the South County Airport, which is located in the unincorporated community of San Martin between Morgan Hill and Gilroy. The airport is operated by Santa Clara County and is used for general aviation, which includes all aviation activities other than commercial passenger flights, commuter/air taxi, and military uses. The subject site does not extend into the AIA.

The AIA includes all areas surrounding the airport that are affected by noise, height, and safety considerations. All development projects within the AIA must be reviewed by the Santa Clara County Airport Land Use Commission (ALUC) to ensure consistency with the Comprehensive Land Use Plan (CLUP). The Morgan Hill City limits are located outside of the airport's noise contours and safety zones.

The CLUP also establishes height restrictions for structures, and the area subject to these height restrictions is slightly greater than the AIA. Per Figure 6, FAR Part 77 Surfaces, of the CLUP, structures in the southern portion of the Morgan Hill City limits should not exceed the height limits of between 481 feet and 631 feet above mean sea level depending on the location of the structure.

Local

Morgan Hill 2035 General Plan

The Morgan Hill 2035 General Plan includes goals, policies, and actions to avoid significant impacts.[79] The following policies related to land use and planning are applicable to the proposed project:

[79] City of Morgan Hill, California (2016). "Chapter 3, City and Neighborhood Form." *City of Morgan Hill General Plan 2035.* Accessed May 16, 2019. https://www.morgan-hill.ca.gov/DocumentCenter/View/22839/MH2035-General-Plan---December-2017?bidId=

Policy CNF-9.1	Density Feathering from High to Low Densities. Encourage feathering from higher urban densities to lower rural densities to occur within the City limits. Feathering should begin as development nears the Urban Growth Boundary.
Policy CNF-17.3	Buffer between Industrial and Incompatible Uses. Ensure that all industrial uses are well sited and buffered from incompatible uses; buffers may include offices adjacent to sensitive uses, landscaping, berms, etc.

4.11.1.2 *Existing Conditions*

The Residential Attached Low-Density designation allows for six to 16 dwelling units per acre. The majority of the 33-acre site is vacant, with a vacant single-family residence located on the southwestern portion of the site. The project site is surrounded by a vacant parcel (open grassland) and the DePaul Health Center to the north, fallowed agricultural fields to the west, open grassland and commercial/industrial uses to the south (beyond Half Road), and agricultural and residential uses to the east (beyond Mission View Drive).

The 33-acre site has a General Plan land use designation of Residential Attached Low which allows for detached and attached residential units with density range of six to 16 units per acre. The site's existing zoning district is Residential Attached Low Density which allows low density housing including single-family detached and attached units, duet units, and duplexes.

4.11.2 Impact Discussion

For the purpose of determining the significance of the project's impact on land use and planning, would the project:

1) Physically divide an established community?
2) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed differences in storm drainage, size and depth of the underground retention facilities, and construction equipment usage when comparing Project Options 1 and 2 would not affect the conclusions for land use impacts. Neither option would result in significant land use impacts as described below.

4.11.2.1 *Project Impacts*

Impact LU-1:	The project would not physically divide an established community. **(No Impact)**

Examples of projects that have the potential to physically divide an established community include new freeways and highways, major arterial streets, and railroad lines. The project (under Option 1 and 2) proposes to construct a residential development containing 269 dwelling units. The site

project site is in a setting surrounded by residential, commercial, medical office, and school uses. The proposed residential development would be similar to the residential uses to the east of Mission View Drive. The proposed project would not include the construction of dividing infrastructure. The proposed extension of DePaul Drive which would provide access to the project site would not divide an established community, as it would instead serve the future residences of the site. Thus, the project (under both options) would not physically divide an established community. **(No Impact)**

Impact LU-2:	The project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. **(Less than Significant Impact)**

Land use conflicts can arise from a new development or land use that would cause impacts to persons or the physical environment in the vicinity of the project site or elsewhere. Potential incompatibility may arise from placing a particular development or land use at an inappropriate location, or from some aspect of the project's design or scope. Depending on the nature of the impact and its severity, land use compatibility conflicts can range from minor irritations and nuisance to potentially significant effects on human health and safety.

The project is consistent with the existing Residential Attached Low and Residential Attached Low Density General Plan designation and zoning district (described in Section 4.11.1, Land Use and Planning). The project's conformance with various City policies adopted for the purpose of avoiding or mitigating an environmental effect is discussed in various other sections of this EIR (e.g., Air Quality, Biological Resources, Noise, Hazards and Hazardous Materials). There are no additional policies pertaining specifically to land use and planning that were adopted for the purpose of avoiding or mitigating an environmental effect, therefore, the project would not create a significant environmental impact or create a conflict with any plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. **(Less than Significant Impact)**

4.11.2.2 *Cumulative Impacts*

Impact LU-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant land use and planning impact. **(Less than Significant Cumulative Impact)**

The geographic area for cumulative land use and planning impacts would be the project site and the surrounding neighborhood. The pending Redwood Tech industrial project is immediately west of the site. The project (under Options 1 and 2) would not physically divide a neighborhood; therefore, it would not combine impacts to the neighborhood with other projects. The cumulative projects would implement applicable land use plans, policies, and regulations for the purpose of avoiding or mitigating environmental impacts. Therefore, the cumulative projects would not result in a significant cumulative land use and planning impact. **(Less than Significant Cumulative Impact)**

4.12 MINERAL RESOURCES

4.12.1 Environmental Setting

4.12.1.1 *Regulatory Framework*

State

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act (SMARA) was enacted by the California legislature in 1975 to address the need for a continuing supply of mineral resources, and to prevent or minimize the negative impacts of surface mining to public health, property, and the environment. As mandated under SMARA, the State Geologist has designated mineral land classifications in order to help identify and protect mineral resources in areas within the state subject to urban expansion or other irreversible land uses which would preclude mineral extraction. SMARA also allowed the State Mining and Geology Board (SMGB), after receiving classification information from the State Geologist, to designate lands containing mineral deposits of regional or statewide significance.

4.12.1.2 *Existing Conditions*

The project site is located in a rural and suburban area within the City of Morgan Hill. Mineral resource recovery activities do not occur on or near the project site, nor does the site contain any known mineral resources.

4.12.2 Impact Discussion

For the purpose of determining the significance of the project's impact on mineral resources, would the project:

1) Result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state?
2) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The proposed differences in storm drainage, size and depth of the underground retention facilities, and construction equipment usage when comparing Project Options 1 and 2 would not affect the conclusions for mineral resources impacts. Neither option would result in no impacts to mineral resources as described below.

4.12.2.1 *Project Impacts*

Impact MIN-1:	The project would not result in the loss of availability of a known mineral resource that would be of value to the region and residents of the state. **(No Impact)**

Based on the United States Geological Survey (USGS) map of mines and mineral resources, the project site is not comprised of known mineral resources or mineral resource production areas.[80] The General Plan does not identify the project site or area as a mineral resource recovery site. Therefore, the proposed project (under Options 1 and 2) would not result in the loss of availability of a known mineral resource that would be of value to the residents in the state or region. **(No Impact)**

Impact MIN-2:	The project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. **(No Impact)**

As stated in the response to Impact MIN-1, the project (under Options 1 and 2) would not result in the loss of availability of a locally important mineral resource recovery site. **(No Impact)**

4.12.2.2 *Cumulative Impacts*

Impact MIN-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant mineral resources impact. **(No Cumulative Impact)**

The geographic areas for cumulative mineral resources impacts are identified mineral recovery or resource areas in the County or nearby adjoining counties that support the regional economy. The project would have no impact on mineral resources. The project (under Options 1 and 2), therefore, would not contribute to a cumulative mineral resources impact. As a result, the project (under both options) would not result in a cumulative mineral resources impact. **(No Cumulative Impact)**

[80] United States Geological Survey. *Mineral Resources Online Spatial Data: Interactive maps and downloadable data for regional and global Geology, Geochemistry, Geophysics, and Mineral Resources.* Available at https://mrdata.usgs.gov/general/map-us.html#home. Accessed April 16, 2021.

4.13 NOISE

The following discussion is based in part on a Noise and Vibration Assessment completed by Illingworth and Rodkin, Inc. on April 26, 2022. A copy of the report is attached as Appendix F of this DEIR.

4.13.1 Environmental Setting

4.13.1.1 *Background Information*

Noise

Factors that influence sound as it is perceived by the human ear, include the actual level of sound, period of exposure, frequencies involved, and fluctuation in the noise level during exposure. Noise is measured on a decibel scale, which serves as an index of loudness. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness. Because the human ear cannot hear all pitches or frequencies, sound levels are frequently adjusted or weighted to correspond to human hearing. This adjusted unit is known as the A-weighted decibel, or dBA.

Since excessive noise levels can adversely affect human activities and human health, federal, state, and local governmental agencies have set forth criteria or planning goals to minimize or avoid these effects. Noise guidelines are generally expressed using one of several noise averaging methods, including L_{eq}, DNL, or CNEL.[81] These descriptors are used to measure a location's overall noise exposure, given that there are times when noise levels are higher (e.g., when a jet is taking off from an airport or when a leaf blower is operating) and times when noise levels are lower (e.g., during lulls in traffic flows on freeways or in the middle of the night). L_{max} is the maximum A-weighted noise level during a measurement period.

Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Vibration amplitude can be quantified using Peak Particle Velocity (PPV), which is defined as the maximum instantaneous positive or negative peak of the vibration wave. PPV has been routinely used to measure and assess ground-borne construction vibration. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 inches/second (in/sec) PPV.

[81] L_{eq} is a measurement of average energy level intensity of noise over a given period of time. Day-Night Level (DNL) is a 24-hour average of noise levels, with a 10 dB penalty applied to noise occurring between 10:00 PM and 7:00 AM. Community Noise Equivalent Level (CNEL) includes an additional five dB applied to noise occurring between 7:00 PM and 10:00 PM. Where traffic noise predominates, the CNEL and DNL are typically within two dBA of the peak-hour L_{eq}.

4.13.1.2 *Regulatory Framework*

Federal

Federal Transit Administration Vibration Limits

The Federal Transit Administration (FTA) has developed vibration impact assessment criteria for evaluating vibration impacts associated with transit projects. The FTA has proposed vibration impact criteria based on maximum overall levels for a single event. The impact criteria for groundborne vibration are shown in Table 4.13-1 below. These criteria can be applied to development projects in jurisdictions that lack vibration impact standards.

Table 4.13-1: Groundborne Vibration Impact Criteria

Land Use Category	Groundborne Vibration Impact Levels (VdB inch/sec)		
	Frequent Event	Occasional Events	Infrequent Events
Category 1: Buildings where vibration would interfere with interior operations	65	65	65
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime use	75	78	83

Source: Federal Transit Administration. *Transit Noise and Vibration Assessment Manual.* September 2018.

State and Local

California Building Standards Code

The CBC establishes uniform minimum noise insulation performance standards to protect persons within new buildings housing people, including hotels, motels, dormitories, apartments, and dwellings other than single-family residences. Title 24 mandates that interior noise levels attributable to exterior sources do not exceed 45 L_{dn}/CNEL in any habitable room. Exterior windows must have a minimum Sound Transmission Class (STC) of 40 or Outdoor-Indoor Transmission Class (OITC) of 30 when the property falls within the 65 dBA DNL noise contour for a freeway or expressway, railroad, or industrial source.

City of Morgan Hill 2035 General Plan

The Morgan Hill 2035 General Plan includes goals, policies, and actions to reduce noise and vibration impacts from planned developments within the City of Morgan Hill.[82] The following policies are applicable to the proposed project:

Policy SSI-8.1: **Exterior Noise Level Standards**. Require new development projects to be designed and constructed to meet acceptable exterior noise level standards (as shown in Table SSI-1) as follows:

- Apply a maximum exterior noise level of 60 dBA L_{dn} in residential areas where outdoor use is a major consideration (e.g., backyards in single-family housing developments and recreation areas in multi-family housing projects). Where the City determines that providing a L_{dn} of 60 dBA or lower cannot be achieved after the application of reasonable and feasible mitigation, a L_{dn} of 65 dBA may be permitted.

Policy SSI-8.2: **Impact Evaluation**. The impact of proposed development project on existing land uses should be evaluated in terms of the potential for adverse community response based on significant increase in existing noise levels, regardless of compatibility guidelines.

Policy SSI-8.5: **Traffic Noise Level Standards**. Consider noise level increases resulting from traffic associated with new projects significant if: a) the noise level increase is 5 dBA L_{dn} or greater, with a future noise level of less than 60 dBA L_{dn}, or b) the noise level increase is 3 dBA L_{dn} or greater, with a future noise level of 60 dBA L_{dn} or greater.

Policy SSI-8.6: **Stationary Noise Level Standards**. Consider noise levels produced by stationary noise sources associated with new projects significant if they substantially exceed existing ambient noise levels.

Policy SSI-8.7: **Other Noise Sources**. Consider noise levels produced by other noise sources (such as ballfields) significant if an acoustical study demonstrates they would substantially exceed ambient noise levels.

Policy SSI-8.9: **Site Planning and Design**. Require attention to site planning and design techniques other than sound walls to reduce noise impacts, including a) installing earth berms, b) increasing the distance between the noise source and the receiver; c) using non-sensitive structures such as parking lots, utility areas, and garages to shield noise-sensitive areas; d) orienting buildings to

[82] City of Morgan Hill. *City of Morgan Hill 2035 General Plan.* Adopted July 27, 2016. Accessed February 12, 2020. https://www.morgan-hill.ca.gov/DocumentCenter/View/22839/MH2035-General-Plan---December-2017?bidId.

shield outdoor spaces from the noise source; and e) minimizing the noise at its source.

Policy SSI-9.1: **Techniques to Reduce Traffic Noise**. Use roadway design, traffic signalization, and other traffic planning techniques (such as limiting truck traffic in residential areas) to reduce noise caused by speed or acceleration of vehicles.

Policy SSI-9.3: **Sound Wall Design**. The maximum height of sound walls shall be eight feet. Residential projects adjacent to the freeway shall be designed to minimize sound wall height through location of a frontage road, use of two sound walls or other applicable measures. Sound wall design and location shall be coordinated for an entire project area and shall meet Caltrans noise attenuation criteria for a projected eight-lane freeway condition. If two sound walls are used, the first shall be located immediately adjacent to the freeway right-of-way and the second shall be located as necessary to meet Caltrans noise requirements for primary outdoor areas. The minimum rear yard setback to the second wall shall be 20 feet.

Policy SSI-9.5: **Noise Studies for Private Development**: In order to prevent significant noise impacts on neighborhood residents which are related to roadway extensions or construction of new roadways, require completion of a detailed noise study during project-level design to quantify noise levels generated by projects such as the Murphy Avenue extension to Mission View Drive and the Walnut Grove Extension to Diana Avenue. The study limits should include noise sensitive land uses adjacent to the project alignment as well as those along existing segments that would be connected to new segments. A significant impact would be identified where traffic noise levels would exceed the “normally acceptable” noise level standard for residential land uses and/or where ambient noise levels would be substantially increased with the project. Project specific mitigation measures could include, but not be limited to, considering the location of the planned roadway alignment relative to existing receivers in the vicinity, evaluating the use of noise barriers to attenuate project-generated traffic noise, and/or evaluating the use of “quiet pavement” to minimize traffic noise levels at the source. Mitigation should be designed to reduce noise levels into compliance with “normally acceptable” levels for residential noise and land use compatibility.

Policy SSI-9.6: **Earth Berms**. Allow and encourage earth berms in new development projects as an alternative to sound walls if adequate space is available.

Policy SSI-9.7: **Sound Barrier Design**. Require non-earthen sound barriers to be landscaped, vegetated, or otherwise designed and/or obscured to improve aesthetics and discourage graffiti and other vandalism.

4.13.1.3 *Existing Conditions*

The predominant noise source at the project site and surrounding area is vehicular traffic along U.S. 101. Local traffic along Mission View Drive and Half Road also contribute to the existing noise environment. Occasional aircraft flyovers associated with San Martin Airport and San José International Airport also contribute to the noise environment.

A noise monitoring survey consisting of two long-term (LT-1 and LT-2) and two short-term (ST-1 and ST-2) noise measurements was completed for a previous project (Morgan Hill Technology Park and Residential Project, State Clearinghouse Number 2019039137) that included the project site and the property to the west of DePaul Drive. These measurements were made between April 9, 2019, and April 11, 2019. While these measurements are more than two years old, they reflect typical conditions pre-COVID, whereas measurements taken during the pandemic would reflect artificially low traffic volumes.

Hourly average noise levels at LT-1 (65 feet south of the centerline of Cochrane Road) typically ranged from 66 to 72 dBA Leq during daytime hours (7:00 a.m. and 10:00 p.m.) and from 55 to 68 dBA L_{eq} during nighttime hours (10:00 p.m. and 7:00 a.m.). The day-night average noise level on Wednesday, April 10, 2019, was 71 dBA L_{dn}.

Hourly average noise levels at LT-2 (400 feet east of the centerline of the nearest through lane along northbound U.S. 101) ranged from 66 to 71 dBA Leq during daytime hours and from 61 to 71 dBA L_{eq} during nighttime hours. The day-night average noise level on Wednesday, April 10, 2019, was 73 dBA L_{dn}.

Short-term noise measurements were made on April 9, 2019, between 10:30 a.m. and 11:10 a.m. ST-1 was made in a single 10-minute interval, while ST-2 was made in two consecutive 10-minute intervals. Passenger cars generated the majority of the noise at the short-term measurement locations, with aircraft flyovers contributing to short-term noise levels. An emergency vehicle contaminated the initial short-term measurements made at ST-2; a second measurement was taken immediately after the initial measurement to characterize the noise environment more accurately at that location. The results of the short-term measurements on shown in. Measurement locations are shown on Figure 4.13-1.

Table 4.13-2: Summary of Short-Term Noise Measurements (dBA)							
Noise Measurement Location	**Date, Time**	**Measured Noise Level, dBA**					
		L_{max}	**$L_{(1)}$**	**$L_{(10)}$**	**$L_{(50)}$**	**$L_{(90)}$**	**$L_{eq(10\text{-}min)}$**
ST-1: ~35 feet east of the centerline of Mission View Drive	4/9/2019, 10:30 a.m. -10:40 a.m.	74	73	69	59	55	64
ST-2: End of De Paul Drive	4/9/2019, 10:50 a.m. -11:00 a.m.	74	75	62	58	56	62
	4/9/2019, 11:00 am -11:10 am	64	61	59	57	55	58
Notes: L_{max} = The maximum A-weighted noise level during the measurement period. $L_{(1)}$, $L_{(10)}$, $L_{(50)}$, $L_{(90)}$ = The A-weighted noise levels that are exceeded one percent, 10 percent, 50 percent, and 90 percent of the time during the measurement period. $L_{eq(10\text{-}min)}$ = The average A-weighted noise level during the measurement period (10-minute interval).							

Common vibration sources include, but are not limited to, railroads, airport runways, and heavy earth-moving equipment. There are no sources of vibration on or near the project site. Noise-sensitive receptors in the project area include the residences east of Mission View Drive, De Paul Health Center to the north, and Live Oak High School to the south.

NOISE MEASUREMENT LOCATIONS | FIGURE 4.13-1

150

4.13.2 Impact Discussion

For the purpose of determining the significance of the project's impact on noise, would the project result in:

1) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
2) Generation of excessive groundborne vibration or groundborne noise levels?
3) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

The proposed differences in storm drainage, size and depth of the underground retention facilities, and construction equipment usage when comparing Project Options 1 and 2 would not affect the conclusions for noise impacts. The increase in excavation and grading activities (during the grading/excavation phase) under Option 2 would result in noise levels that would be one dBA L_{eq}, above Option 1, as explained below. As discussed under Impact-NOI-1, with the implementation of Standard Condition NOI-1, both project options would result in a less than significant construction noise impact. There would be no difference in operational noise impacts (which would be less than significant) for Project Options 1 and 2, as discussed below.

4.13.2.1 *Project Impacts*

Impact NOI-1:	The project would not result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies. **(Less than Significant Impact)**

Construction

Construction of the proposed project would include temporary noise impacts from site preparation, grading, trenching, building exterior and interior, and paving. Noise impacts resulting from construction depend upon the noise generated by various pieces of equipment, the timing and duration of noise-generating activities, and the distance between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), if the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time.

The typical range of maximum instantaneous noise levels for the proposed project would be 70 to 90 dBA L_{max} at a distance of 50 feet.

As shown in Table 4.13-3, typical hourly average construction-generated noise levels for residential buildings are about 81 to 88 dBA L_{eq}, as measured at a distance of 50 feet from the center of the site during busy construction periods (e.g., earth moving equipment, impact tools, etc.). For office buildings and hospitals, typical hourly average noise levels would range from 78 to 89 dBA L_{eq}, and for a parking structure, hourly average noise levels would range from 77 to 89 dBA L_{eq}. The typical range of maximum instantaneous noise levels for construction equipment used at this site would be 77 to 90 dBA L_{max} at 50 feet, as shown in Table 4.13-4.

Table 4.13-3: Typical Ranges of Construction Noise Levels at 50 Feet, L_{eq} (dBA)

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

I – All pertinent equipment present at site.

II – Minimum required equipment present at site.

Source: U.S.E.P.A., Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

Table 4.13-4: Construction Equipment 50-foot Noise Emission Limits		
Equipment Category	**L_{max} Level (dBA)1,2**	**Impact/Continuous**
Arc Welder	73	Continuous
Auger Drill Rig	85	Continuous
Backhoe	80	Continuous
Bar Bender	80	Continuous
Boring Jack Power Unit	80	Continuous
Chain Saw	85	Continuous
Compressor[3]	70	Continuous
Compressor (other)	80	Continuous
Concrete Mixer	85	Continuous
Concrete Pump	82	Continuous
Concrete Saw	90	Continuous
Concrete Vibrator	80	Continuous
Crane	85	Continuous
Dozer	85	Continuous
Excavator	85	Continuous
Front End Loader	80	Continuous
Generator	82	Continuous
Generator (25 KVA or less)	70	Continuous
Gradall	85	Continuous
Grader	85	Continuous
Grinder Saw	85	Continuous
Horizontal Boring Hydro Jack	80	Continuous
Hydra Break Ram	90	Impact
Impact Pile Driver	105	Impact
In-situ Soil Sampling Rig	84	Continuous
Jackhammer	85	Impact
Mounted Impact Hammer (hoe ram)	90	Impact
Paver	85	Continuous
Pneumatic Tools	85	Continuous
Pumps	77	Continuous
Rock Drill	85	Continuous
Scraper	85	Continuous
Slurry Trenching Machine	82	Continuous
Soil Mix Drill Rig	80	Continuous
Street Sweeper	80	Continuous
Tractor	84	Continuous
Truck (dump, delivery)	84	Continuous
Vacuum Excavator Truck (vac-truck)	85	Continuous
Vibratory Compactor	80	Continuous
Vibratory Pile Driver	95	Continuous
All other equipment with engines larger than 5 HP	85	Continuous

Notes:

1. Measured at 50 feet from the construction equipment, with a "slow" (1 sec.) time constant.
2. Noise limits apply to total noise emitted from equipment and associated components operating at full power while engaged in its intended operation.
3. Portable Air Compressor rated at 75 cfm or greater and that operates at greater than 50 psi.

Table 4.13-4: Construction Equipment 50-foot Noise Emission Limits		
Equipment Category	**L_{max} Level (dBA)1,2**	**Impact/Continuous**
Source: Mitigation of Nighttime Construction Noise, Vibrations and Other Nuisances, National Cooperative Highway Research Program, 1999.		

Construction activities for the proposed 269 residences and DePaul Drive extension would be completed in stages. Each stage of construction would contain a different mix of equipment; therefore, noise levels would vary by stage. Under either option, demolition, site preparation, and grading/excavation would be completed for the entire project site in one phase. The trenching and exterior and interior building construction would be completed in three phases. Table 4.13-5 summarizes the proposed equipment to be used during each construction stage and associated noise levels typically generated by the equipment. The dates listed are estimates and subject to change.

Table 4.13-5: Estimated Construction Noise Levels during the Construction of the Proposed Residential Development: Options 1 and 2			
Construction Stage	**Time Duration**	**Construction Equipment (Quantity)**	**Calculated Hourly Average Noise Levels at 50 feet**
Phase 1 – overall site preparation			
Demolition (full site)	4 days	Excavator (1)	77 dBA Leq
Site preparation (full site)	5 days	Grader (1) Scraper (3)	86 dBA Leq
Grading/Excavating (full site)	0 days under Option 1 (Excavator) 7 days under Option 2 (Excavator) 15 days under Option 1 (Grader) 18 days under Option 2 (Grader)	Excavator (1) – Option 2 only Grader (1) Scraper (3) Tractor/Loader/Backhoe (1) Compactor (1)	87 dBA L_{eq} (Option 1) 88 dBA L_{eq} (Option 2)
Phase 2 – 40 condominium units, 32 single-family attached units, 22 single-family detached units, and clubhouse/pool area			
Trenching – Underground	35 days	Tractor/Loader/Backhoe (1) Excavator (1.5)	83 dBA L_{eq}
Building Exterior	175 days	Forklift (1) Tractor/Loader/Backhoe (1)	80 to 85 dBA L_{eq}
Building Interior	140 days	Air Compressor (4) Paving Equipment (1) Roller (1) Grader (1)	86 to 87 dBA L_{eq}

Table 4.13-5: Estimated Construction Noise Levels during the Construction of the Proposed Residential Development: Options 1 and 2			
Construction Stage	**Time Duration**	**Construction Equipment (Quantity)**	**Calculated Hourly Average Noise Levels at 50 feet**
Paving	16 days	Cement and Mortar Mixer (2) Paver (1) Paving Equipment (1) Roller (1) Tractor/Loader/Backhoe (2) Grader (2)	88 to 91 dBA L_{eq}
Phase 3 – 66 single-family detached units, 45 condominium units, off-site DePaul Drive Extension			
Trenching – Underground	35 days	Tractor/Loader/Backhoe (1) Excavator (1.5[a])	83 dBA L_{eq}
Building Exterior	175 days	Forklift (1) Tractor/Loader/Backhoe (1)	80 dBA L_{eq}
Building Interior	40 days	Air Compressor (5) Paving Equipment (1) Roller (1) Grader (1)	86 to 87 dBA L_{eq}
Paving	16 days	Cement and Mortar Mixer (2) Paver (1) Paving Equipment (1) Roller (1) Tractor/Loader/Backhoe (2) Grader (2)	88 to 91 dBA L_{eq}
Grading/Excavating (DePaul Drive Extension)	15 days	Grader (1) Scraper (1) Tractor/Loader/Backhoe (1) Compactor (1)	86 dBA L_{eq}
Trenching – Underground (DePaul Drive Extension)	35 days	Tractor/Loader/Backhoe (1) Excavator (1.5[a])	83 dBA L_{eq}
Paving (DePaul Drive Extension)	16 days	Cement and Mortar Mixer (2) Paver (1) Paving Equipment (1) Roller (1) Tractor/Loader/Backhoe (2) Grader (2)	88 dBA L_{eq}

Table 4.13-5: Estimated Construction Noise Levels during the Construction of the Proposed Residential Development: Options 1 and 2			
Construction Stage	**Time Duration**	**Construction Equipment (Quantity)**	**Calculated Hourly Average Noise Levels at 50 feet**
Phase 4 – 64 condominium units			
Trenching – Underground	25 days	Tractor/Loader/Backhoe (1) Excavator (1.5[a])	83 dBA L_{eq}
Building Exterior	40 days	Forklift (1) Tractor/Loader/Backhoe (1)	80 dBA L_{eq}
Building Interior	40 days	Air Compressor (5) Paving Equipment (1) Roller (1) Grader (1)	86 to 87 dBA L_{eq}
Paving	12 days	Cement and Mortar Mixer (2) Paver (1) Paving Equipment (1) Roller (1) Tractor/Loader/Backhoe (2) Grader (2)	88 to 91 dBA L_{eq}
Source: Illingworth & Rodkin, Inc. *Half Road and Mission View Residential Project Noise Assessment.* April 26, 2022.			

As shown in Table 4.13-5 above, there is a minimal difference in construction noise between Option 1 and Option 2. Option 1 requires 15 total workdays while Option 2 requires 18 total workdays. Option 2 would include an increase in equipment usage for 16 of the 18 workdays for the use of certain heavy equipment such as excavators (which would be seven more days than Option 1), graders (five more days than Option 1), scrapers (two more days than Option 1), and tractors/loaders (two more days than Option 1).

The use of heavier equipment under Option 2 would result in noise levels that would be one dBA L_{eq} above Option 1 during the grading/excavation phase.

Additionally, an offsite sewer line would be constructed as part of the proposed project. This sewer line would be constructed during the grading/excavation phase of the project and would run along the north side of Half Road and the east side of Condit Road, connecting to the existing sewer line at East Main Avenue. Total construction of the sewer line would last 18 days. The only existing residences that would be subject to noise from the construction of the offsite sewer line would be the single-family residences located west of Condit Road near the Half Road intersection, approximately 25 feet or more from the work area. However, due to the proximity of U.S. 101 and the short duration of the sewer line construction, noise levels due to the off-site sewer construction

would not substantially increase over those noise levels shown in Tables 4.13-3 and 4.13-5 for the grading/excavation phase of the project (under Option 1 and 2).

The noise analysis calculated construction noise levels from the center of the active construction site to the nearest surrounding land uses. Construction noise levels during most project construction would not exceed ambient conditions by more than five dBA L_{eq}. Therefore, exposure to excessive construction noise to sensitive receptors would be minimal.

Construction activities would be completed in accordance with the provisions of the City's General Plan and Municipal Code, which limit temporary construction work to between the hours of 7:00 AM and 8:00 PM Monday through Friday, and between 9:00 AM to 6:00 PM on Saturday. Construction is prohibited on Sundays and federal holidays. Additionally, the following measure would be implemented as a standard condition in order to reduce construction noise coming from the site and minimize disruption and annoyance at existing noise-sensitive receptors in the project vicinity.

Standard Condition NOI-1: The project applicant shall develop a noise construction control plan, which shall be submitted to the Development Services Director or Director's designee for review and approval prior to issuance of a grading permit. The noise construction control plan shall include but not be limited to the following construction best management controls:

- Equipment and trucks used for construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds);
- Impact tools (e.g., jackhammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools; and
- Stationary noise sources shall be located as far from noise-sensitive receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or include other measures.
- Construct temporary noise barriers, where feasible, to screen stationary noise-generating equipment. Temporary noise barrier fences would provide a 5 dBA noise reduction if the noise barrier interrupts the line-of-sight between the noise source and receptor and if the barrier is constructed in a manner that eliminates any cracks or gaps.
- Unnecessary idling of internal combustion engines shall be strictly prohibited.
- Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction. Locate material stockpiles, as well as maintenance/equipment staging and parking areas, as far as feasible from residential receptors.

- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.
- Where feasible, temporary power service from local utility companies should be used instead of portable generators.
- Locate cranes as far from noise-sensitive receptors as possible.
- During final grading, substitute graders for bulldozers, where feasible. Wheeled heavy equipment are quieter than track equipment and should be used where feasible.
- Substitute nail guns for manual hammering, where feasible.
- Avoid the use of circular saws, miter/chop saws, and radial arm saws near the adjoining noise-sensitive receptors. Where feasible, shield saws with a solid screen with material having a minimum surface density of two pounds per square foot (e.g., such as 0.75-inch plywood).
- Maintain smooth vehicle pathways for trucks and equipment accessing the site and avoid local residential neighborhoods as much as possible.
- During interior construction, the exterior windows facing noise-sensitive receptors should be closed.
- During interior construction, locate noise-generating equipment within the building to break the line-of-sight to the adjoining receptors.
- The contractor shall prepare a detailed construction schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.
- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.

With implementation of the above standard condition as well as the Municipal Code limits on allowable construction hours, the project (under Options 1 and 2) would not generate a substantial temporary increase in ambient noise levels (due to project construction) at noise-sensitive receptors in the project area, in excess of the City's noise standards. **(Less than Significant Impact)**

Operation

A significant permanent noise increase would occur if the project (under Options 1 and 2) would substantially increase noise levels at existing sensitive receptors in the project vicinity. A substantial increase would occur if: a) the noise level increase is five dBA L_{dn} or greater, with a future noise level of less than 60 dBA L_{dn} or greater at residences; or b) the noise level increase is three dBA L_{dn} or greater, with a future noise level of 60 dBA L_{dn} or greater at residences.

Traffic Noise

Based on the 2035 noise contours included in the Morgan Hill 2035 Draft EIR, the surrounding residences would have future noise levels exceeding 60 dBA L_{dn}. Therefore, a significant impact would occur if traffic due to the proposed project would permanently increase ambient levels by three dBA $L_{dn,}$, at which point the noise increase would be perceptible.

The noise report analyzed data from the TIA in order to compare existing traffic noise levels to estimated traffic noise levels associated with the project. When the existing plus project scenario was compared to the existing scenario, the noise level increase due to the proposed project was calculated to be one dBA L_{dn} or less along every roadway segment in the project vicinity, which would not be perceptible. Therefore, the project would not result in a noise level increase of three dBA L_{dn} or more. The project (under Options 1 and 2) would not result in a substantial permanent noise level increase; therefore, the project would not generate a substantial permanent increase in ambient noise levels (due to project traffic) in the vicinity of the project (under either project option) in excess of the City's noise standards. **(Less than Significant Impact)**

Mechanical Equipment

Under the City of Morgan Hill's Noise Element and Municipal Code, noise levels generated by the operation of mechanical equipment included in project units would be considered significant if noise levels were to substantially exceed existing ambient noise levels. Various mechanical equipment, such as heating, ventilation, and air conditioning (HVAC) units are typical for residential units.

Typical noise levels produced by residential HVAC units would range from 53 to 63 dBA at three feet during operation. These types of units typically cycle on and off continuously during daytime and nighttime hours. Therefore, multiple units clustered in the same general vicinity are usually operating simultaneously at any given time. The detached single-family residences are located along the eastern boundary of the project site in clusters of two or four units. Assuming up to three HVAC units would operate simultaneously at any given time for a 24-hour period, the estimated day-night average noise level at three feet would be up to 74 dBA DNL. The property lines of the nearest existing residences located east of the project site, opposite Mission View Drive, are approximately 120 feet from the nearest façades of the proposed single-family units along the eastern project site. At this distance, the hourly average noise levels would reach up to 36 dBA L_{eq}, assuming up to three units would operate simultaneously, and the day-night average noise level would be 58 dBA L_{dn}. According to short-term measurement ST-1 (measured approximately 35 feet east of the centerline of Mission View Drive) and the existing noise contours shown in the City's General Plan, the ambient noise levels at these residences would be 64 dBA L_{eq}. Therefore, the proposed project would not exceed ambient noise levels at the residences to the east of the site.

All other surrounding land uses would be 150 feet or more from the nearest proposed residential building façades on the project site. Therefore, mechanical equipment noise generated from the site would be below 36 dBA L_{eq} on an hourly basis and would be below 58 dBA L_{dn} on a 24-hour

basis at these uses. The project (under Options 1 and 2) would not result in a substantial permanent noise level increase; therefore, the project (under either project option) would not generate a substantial permanent increase in ambient noise levels (due to mechanical equipment) in the vicinity of the site in excess of the City's noise standards. **(Less than Significant Impact)**

Impact NOI-2:	The project would not result in generation of excessive groundborne vibration or groundborne noise levels. **(Less than Significant Impact)**

The construction of the project (under Option 1 and 2) may generate vibration when heavy equipment or impact tools are used. Construction activities would generally include site preparation work, foundation work, and new building framing and finishing. Pile driving, which can cause excessive vibration, is not proposed as a foundation construction technique.

The California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards in order to reduce the potential for cosmetic damage to structures. Cosmetic damage includes cracked plaster, the opening of old cracks, and the loosening of paint or the dislodging of loose objects. A vibration limit of 0.3 in/sec PPV has been used for buildings that are found to be structurally sound but where structural damage is a major concern. Groundborne vibration levels exceeding 0.3 in/sec PPV at nearby buildings would have the potential to result in a significant vibration impact because such levels would be capable of cosmetically damaging adjacent buildings.

Construction vibration levels would vary depending on soil conditions, construction methods, and equipment. Table 4.13-6 presents typical vibration levels from construction equipment at 25 feet and 60 feet, which represents the distance of the nearest residential structure to the property line of the project site.

Table 4.13-6: Vibration Levels for Construction Equipment at Various Distances

Equipment		**PPV at 25 ft. (in/sec)**	**PPV at 60 ft. (in/sec)**
Clam shovel drop		0.202	0.077
Hydromill (slurry wall)	in soil	0.008	0.003
	in rock	0.017	0.006
Vibratory Roller		0.210	0.080
Hoe Ram		0.089	0.034
Large bulldozer		0.089	0.034
Caisson drilling		0.089	0.034
Loaded trucks		0.076	0.029
Jackhammer		0.035	0.013
Small bulldozer		0.003	0.001

Table 4.13-6: Vibration Levels for Construction Equipment at Various Distances		
Equipment	**PPV at 25 ft. (in/sec)**	**PPV at 60 ft. (in/sec)**
Source: Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, Office of Planning and Environment, U.S. Department of Transportation, September 2018, as modified by Illingworth & Rodkin, Inc., September 2019.		

The nearest buildings surrounding the site range from 120 to 150 feet from the nearest boundaries of the project site. At these distances, construction vibration levels would be at or below 0.073 in/sec PPV for all potential equipment used at the site. Since the 0.3 in/sec PPV threshold would not be exceeded during project construction activities at nearby buildings, the project (under Options 1 and 2) would not result in generation of excessive groundborne vibration. **(Less than Significant Impact)**

Impact NOI-3:	The project would not be located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. The project would not expose people residing or working in the project area to excessive noise levels. **(Less than Significant Impact)**

The San Martin Airport is located approximately five miles south of the project site. The site is located outside of the airport's planning boundary and 60 dBA CNEL noise contour. The project (under Options 1 and 2) would not be located in the vicinity of a private airstrip or public airport. As a result, the project (under Options 1 and 2) would not expose people residing or working in the project area to excessive noise levels (from aircraft noise). **(Less than Significant Impact)**

4.13.2.2 *Cumulative Impacts*

Impact NOI-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant noise impact. **(Less than Significant Cumulative Impact)**

Cumulative noise impacts would include either cumulative traffic noise increases under future conditions or temporary construction noise from cumulative construction projects.

Construction

The geographic area for cumulative construction noise impact would be noise-sensitive receptors within 1,000 feet of the site. The pending Redwood Tech at 101 project, to be located immediately west of DePaul Drive (within 1,000 feet of the site), could be constructed simultaneously with the proposed project, and result in a temporary construction noise increase. While the Redwood Tech project was exempt from CEQA and does not require mitigation measures, the project's Conditions of Approval include the implementation of a dust, noise, vibration and materials management plan, which would reduce potential construction noise impacts. Additionally, the Redwood Tech project

would comply with noise-related General Plan policies. Therefore, the noise-sensitive receptors surrounding the project site would not be subject to cumulative construction noise impacts.

Operation

A significant cumulative traffic noise increase would occur if two criteria are met: 1) if the cumulative traffic noise level increase was three dBA L_{dn} or greater for future levels exceeding 60 dBA L_{dn} or was 5 dBA L_{dn} or greater for future levels at or below 60 dBA L_{dn}; and 2) if the project would make a "cumulatively considerable" contribution to the overall traffic noise increase. A "cumulatively considerable" contribution would be defined as an increase of 1 dBA L_{dn} or more attributable solely to the proposed project.

The TIA prepared for the proposed project (which is equally applicable to Options 1 and 2 because the differing stormwater approaches have no bearing on trip generation) included traffic scenarios for cumulative 2035 (no project) and cumulative 2035 plus project conditions. Cumulative traffic noise level increases were calculated by comparing the traffic volumes of both cumulative scenarios to existing traffic volumes.

A three dBA L_{dn} or more noise level increase was calculated for both cumulative scenarios (with and without the proposed project) along the following roadway segments: Mission View Drive, south of Cochrane Road; Mission View Drive, north and south of Avenida De Los Padres; Mission View Drive, north of Half Road; Half Road, west of Mission View Drive; Condit Road, north of Main Avenue; and Diana Avenue, west of Condit Road. Since a three dBA L_{dn} or more increase was calculated for both cumulative scenarios, the project's contribution to the overall noise level increase would be less than 1 dBA L_{dn} (since the increase in noise from cumulative traffic plus project when compared to cumulative no project conditions is negligible, i.e. the contribution of project traffic to cumulative roadway noise is imperceptible). All other roadway segments would result in a noise level increase of two dBA L_{dn} or less. The project (under Options 1 and 2), therefore, would not result in a cumulatively considerable contribution to a significant cumulative traffic noise impact. **(Less than Significant Cumulative Impact)**

4.13.3 Non-CEQA Effects

Pursuant to *California Building Industry Association v. Bay Area Air Quality Management District,* 62 Cal. 4th 369 *(BIA v. BAAQMD)*, effects of the environment on the project are not considered CEQA impacts. The following discussion is included for informational purposes only because the City of Morgan Hill has policies that address existing noise conditions affecting a proposed project. Policy SSI-8.1 and Table SSI-1 of the City's General Plan states that noise levels at outdoor use areas of residential land uses should be maintained below 60 dBA L_{dn} to be considered normally acceptable; this standard applies to common outdoor use areas but not private decks or balconies. For neighborhood parks and playgrounds, the exterior noise standard is 70 dBA L_{dn}. Interior noise levels should be maintained at 45 dBA L_{dn} for residential interiors.

The future noise environment at the project site would continue to result from traffic along U.S. 101 and the other surrounding local roadways. The noise assessment used a worst-case traffic scenario from the traffic study, based on cumulative traffic volumes in 2035 with project build-out, to calculate the future exterior noise volumes at the project site. The future noise level increase along Cochrane Road would be three dBA L_{dn} above existing conditions and the future noise level increase along Mission View Drive would be one dBA L_{dn} above existing conditions.

Peak hour traffic volumes along U.S. 101 were not included in the traffic study; therefore, U.S. 101 peak hour volumes from Caltrans were used to estimate the noise level increase expected by year 2035, assuming a typical one to two percent increase in traffic volumes each year. The future noise increase along U.S. 101 would reach up to two dBA L_{dn} by the year 2035.

The project's compatibility with noise from increased traffic volumes on surrounding roadways is discussed below. This discussion is applicable to Options 1 and 2.

Future Exterior Noise Environment

The project's exterior noise environment includes common outdoor use areas and private backyards. The proposed project (under Options 1 and 2) would include common open space/recreation areas and playground uses. These include: a basketball court, swimming pool, and activity area just east of the court along the western boundary, two smaller open space areas and a seating area along the northern boundary, an open space in the southeastern corner, and an open space and playground at the center of the site.

The proposed three-story condominiums do not include common outdoor areas or private backyards. Therefore, the outdoor areas near these units are not subject to the City's exterior noise thresholds. The duet units would be located along the interior of the site. The backyards of these units would be surrounded by privacy fences, as well as the surrounding residential structures. With the partial shielding and location of these units, the future exterior noise levels at the center of these backyards would be at or below 60 dBA L_{dn}. The majority of the outdoor use areas at the project site meet the normally acceptable threshold of 60 dBA L_{dn} or below.

The backyards of the single-family detached houses located adjacent to the surrounding roadways would have the most exposure to traffic noise. Due to the orientation of these residences, there would be additional attenuation from the buildings at most of the backyards; however, some backyards would face roadways. With six-foot fences as proposed, the future exterior noise levels at the centers of these backyards would exceed 60 dBA L_{dn}. Unit 41 would experience exterior noise levels of 61 dBA L_{dn} and Units 55 and 56 would experience exterior noise levels of 65 dBA L_{dn}.

The City's General Plan states that noise levels at outdoor land areas of residential land uses should be maintained below 60 dBA L_{dn}. In order for the proposed project to reduce noise levels to be at or below 60 dBA L_{dn}, the project would need to implement an eight-foot-tall privacy fence for the backyard of Unit 41 and ten-foot tall privacy fences for the backyards of Units 55 and 56. However, pursuant to the City's Municipal Code, the City allows a maximum of six feet for fences located

outside the front setback, with an additional one foot of fence height for decorative purposes (e.g. lattice work). The City's General Plan Policy SSI-8.1 states that where the City determines that providing a L_{dn} of 60 dBA or lower cannot be achieved after the application of reasonable and feasible mitigation, a L_{dn} of 65 dBA may be permitted. Therefore, with the inclusion of the proposed six-foot fences, exterior noise levels (up to 65 dBA) at the three-story condominium and single-family outdoor areas would be consistent with Policy SSI-8.1

The duet units would be located along the interior of the site. The backyards of these units would be surrounded by privacy fences, as well as the surrounding residential structures. With the partial shielding and location of these units, the future exterior noise levels at the center of these backyards would be at or below 60 dBA L_{dn}.

Future Interior Noise Environment

Standard residential construction provides approximately 15 dBA of exterior-to-interior noise reduction, assuming the windows are partially open for ventilation. Standard construction with the windows closed provides approximately 20 to 25 dBA of noise reduction in interior spaces. Where exterior noise levels range from 60 to 65 dBA L_{dn}, the inclusion of adequate forced-air mechanical ventilation is often the method selected to reduce interior noise levels to acceptable levels by closing the windows to control noise. Where noise levels exceed 65 dBA L_{dn}, forced-air mechanical ventilation systems and sound-rated construction methods are normally required. Such methods or materials may include a combination of smaller window and door sizes as a percentage of the total building façade facing the noise source, sound-rated windows and doors, sound-rated exterior wall assemblies, and mechanical ventilation so windows may be kept closed at the occupant's discretion.

The condominium buildings G through W are located along the western boundary of the project site, with western façades ranging from 75 to 100 feet from the centerline of DePaul Drive. At these distances, rooms facing DePaul Drive and U.S. 101 would be exposed to future exterior noise levels ranging from 63 to 72 dBA L_{dn}.

Exterior noise levels at the proposed residential building facades would range from 60 to 72 dBA L_{dn}. Assuming a 15 dBA exterior-to-interior noise reduction, future interior noise levels would be up to 57 dBA L_{dn} along DePaul Drive, up to 54 dBA L_{dn} along Half Road, and up to 55 dBA L_{dn} along Mission View Drive. These interior noise levels would exceed the 45 dBA L_{dn} threshold and would require noise insulation features. To reduce interior noise levels to the 45 dBA L_{dn} threshold or below, the project applicant shall implement the following Conditions of Approval.

Conditions of Approval

The following noise insulation features shall be incorporated into the proposed project (under Options 1 and 2) to reduce interior noise levels to 45 dBA L_{dn} or less:

- The project applicant shall install windows and doors, with a minimum STC rating of 31, that incorporate adequate forced-air mechanical ventilation in residential units nearest to DePaul Drive along the western boundary of the project site (single-family residential units

55 and 56 and condominium units within 150 feet of the centerline of DePaul Drive). For the condominium units beyond 150 feet, the minimum STC rating for windows and doors would be 28.

- The project applicant shall install windows and doors, with minimum STC ratings of 30, that incorporate suitable forced-air mechanical ventilation at first row of residential units located along the southern boundary of the project site, adjacent to Half Road (Units 41, 44, 45, 48, 49, 52, and 53). The second row of residences (units 42, 43, 46, 47, 50, 51, and 54) would require the incorporation of suitable forced-air mechanical ventilation with standard construction materials to meet the City's interior noise threshold.

- The project applicant shall install windows and doors with minimum STC ratings of 30, that incorporate suitable forced-air mechanical ventilation, at the first row of residential units located along the eastern boundary of the project site, adjacent to Mission View Drive (Units 1, 4, 5, 8, 9, 12, 13, 16, 17, 20, 21, 24, 25, 28, 29, 32, 33, 36, 37, and 40) and the second row residential Unit 39. Windows and doors with minimum STC ratings of 28 that incorporate suitable forced-air mechanical ventilation shall be installed at the second row of residences (units 2, 3, 6, 7, 10, 11, 14, 15, 18, 19, 22, 23, 26, 27, 30, 31, 34, 35, and 38).

- The project applicant shall install windows and doors, with minimum STC ratings of 28, that incorporate suitable forced-air mechanical ventilation at Building F, along the northern boundary. Buildings A and E along the northern boundary would satisfy the interior noise threshold with the incorporation of suitable forced-air mechanical ventilation and standard construction materials.

- A suitable forced-air mechanical ventilation shall be installed at residences located on the interior of the site, as determined by the local building official.

4.14 POPULATION AND HOUSING

As shown in Table 2.2-1, NOP comments on the subject of population and housing were received from the Mariani Family Properties (1615 Half Road). These comments requested information regarding how the proposed project would satisfy the Association of Bay Area Governments (ABAG)-adopted Regional Housing Needs Allocation (RHNA) for Morgan Hill. The project includes below market rate units and is consistent with the General Plan and Housing Element, which is focused on satisfying the City's RHNA target. The responses under checklist questions 1 and 2 below discuss the proposed project's consistency with the General Plan's planned population growth.

4.14.1 Environmental Setting

4.14.1.1 *Regulatory Framework*

State

Housing-Element Law

State requirements mandating that housing be included as an element of each jurisdiction's general plan is known as housing-element law. The Regional Housing Need Allocation (RHNA) is the state-mandated process to identify the total number of housing units (by affordability level) that each jurisdiction must accommodate in its housing element. California housing-element law requires cities to: 1) zone adequate lands to accommodate its RHNA; 2) produce an inventory of sites that can accommodate its share of the RHNA; 3) identify governmental and non-governmental constraints to residential development; 4) develop strategies and a work plan to mitigate or eliminate those constraints; and 5) adopt a housing element and update it on a regular basis.[83] The City of Morgan Hill Housing Element and related land use policies were last updated February 2015.

Regional and Local

Plan Bay Area 2040

Plan Bay Area 2040 is a long-range transportation, land-use, and housing plan intended support a growing economy, provide more housing and transportation choices, and reduce transportation-related pollution and GHG emissions in the Bay Area. Plan Bay Area 2040 promotes compact, mixed-use residential and commercial neighborhoods near transit, particularly within identified Priority Development Areas (PDAs).[84]

ABAG allocates regional housing needs to each city and county within the nine-county San Francisco Bay Area, based on statewide goals. ABAG also develops forecasts for population, households, and economic activity in the Bay Area. ABAG, MTC, and local jurisdiction planning staff created the

[83] California Department of Housing and Community Development. "Regional Housing Needs Allocation and Housing Elements" Accessed November 5, 2020. http://hcd.ca.gov/community-development/housing-element/index.shtml.
[84] Association of Bay Area Governments and Metropolitan Transportation Commission. "Project Mapper." http://projectmapper.planbayarea.org/. Accessed November 5, 2020.

Regional Forecast of Jobs, Population, and Housing, which is an integrated land use and transportation plan through the year 2040 (upon which Plan Bay Area 2040 is based).

Morgan Hill 2035 General Plan

The following policies to reduce the effects of population and housing are applicable to the proposed project:

Policy CNF-3.4: **Population Limit**. Plan for a January 1, 2035 population of 58,200 residents.

Policy CNF-11.10: **Open Space**. Require new subdivisions to feature integrated common open spaces, parks, and community facilities that serve as social and design focal points. Open spaces should be a close walking distance from all residents and should be large enough to be useful for residents.

4.14.1.2 *Existing Conditions*

The population of Morgan Hill was estimated to be approximately 46,454 in January of 2020 and the average persons per household was an estimated 3.14.[85, 86] The City grew in population by 1.5 percent from January 2019 to January 2020. Based on the City's General Plan projections, the City's total population was projected to grow to approximately 46,100 by 2030.[87] The City had a growth measure which paced development and limited residential allotments to 215 per year. In light of the passage of SB 330, which suspends this growth measure for five years effective January 1, 2020, the City's population is now expected to grow at a faster rate as a function of new housing construction. The project site contains one vacant single-family house north of Half Road.

4.14.2 Impact Discussion

For the purpose of determining the significance of the project's impact on population and housing, would the project:

1) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
2) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

[85] California Department of Finance. *E-1: City/County Population Estimates with Annual Percent Change – January 1, 2018, and 2019*. May 2019. Accessed November 5, 2020. http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/.
[86] California Department of Finance. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2020 with 2010 Census Benchmark. Table 2: E-5 City/County Population and Housing Estimates, 1/1/2020.* May 2020. Accessed November 5, 2020. http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/.
[87] City of Morgan Hill. *Morgan Hill General Plan: City of Morgan Hill Housing Element*. Adopted February 2015.

The proposed differences in storm drainage, size and depth of the underground retention facilities, and construction equipment usage when comparing Project Options 1 and 2 would not affect the conclusions for population and housing impacts. The number of residences proposed (269) and the housing mix are the same for both project options. Both project options would result in less than significant population and housing impacts, as discussed below.

4.14.2.1 *Project Impacts*

Impact POP-1:	The project would not induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). **(Less than Significant Impact)**

The project proposes to develop the site with 269 residential units including 149 condominiums, 64 duet units, and 56 single-family detached units on a 33-acre site (under Options 1 and 2). Assuming 3.14 persons per household, development of the project would generate approximately 845 new residents in the City of Morgan Hill. The project includes the extension of DePaul Drive by approximately 2,280 feet. This roadway extension was accounted for in the General Plan and would not induce unplanned population growth by serving new areas where growth is restricted due to poor access.

The project (under both options) would result in residential growth in the area compared to existing conditions. However, the project is consistent with the site's General Plan designation of Residential Attached Low-Density, which allows housing at a density of six to 16 dwelling units per acre (168 to 448 dwelling units on 33 acres).[88] The project (under both options) would not induce substantial additional population growth beyond what was evaluated in the General Plan EIR. Thus, the project (under Options 1 and 2) is accounted for in the City's General Plan and projected growth and would not result in substantial unplanned population growth. **(Less than Significant Impact)**

Impact POP-2:	The project would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. **(No Impact)**

The existing single-family house on-site is vacant. The project site does not include residents or occupied housing units and, therefore, the project (under Options 1 and 2) would not displace existing people or housing, necessitating the construction of replacement housing elsewhere. **(No Impact)**

[88] The additional five acres of the site would be used for the construction of the DePaul extension.

4.14.2.2 *Cumulative Impacts*

Impact POP-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant population and housing impact. **(Less than Significant Cumulative Impact)**

The geographic area for cumulative population and housing impacts is the City of Morgan Hill. The existing structures on-site are vacant; the project would increase the number of residential units by 269 and, therefore, would not contribute to the displacement of people or housing in the City. The project (under Options 1 and 2) is consistent with the planned housing and growth assumptions established in the General Plan. Consistent with the conclusions of the General Plan EIR, cumulative projects in the City consistent with General Plan, would not result s substantial unplanned population growth or housing impacts. **(Less than Significant Cumulative Impact)**

4.15 PUBLIC SERVICES

4.15.1 Environmental Setting

4.15.1.1 *Regulatory Framework*

State

Government Code Section 66477

The Quimby Act (included within Government Code Section 66477) requires local governments to set aside parkland and open space for recreational purposes. It provides provisions for the dedication of parkland and/or payment of fees in lieu of parkland dedication to help mitigate the impacts from new residential developments. The Quimby Act authorizes local governments to establish ordinances requiring developers of new residential subdivisions to dedicate parks, pay a fee in lieu of parkland dedication, or perform a combination of the two.

Government Code Section 65995 through 65998

California Government Code Section 65996 specifies that an acceptable method of offsetting a project's effect on the adequacy of school facilities is the payment of a school impact fee prior to the issuance of a building permit. Government Code Sections 65995 through 65998 set forth provisions for the payment of school impact fees by new development by "mitigating impacts on school facilities that occur (as a result of the planning, use, or development of real property" (Section 65996[a]). The legislation states that the payment of school impact fees "are hereby deemed to provide full and complete school facilities mitigation" under CEQA (Section 65996[b]).

Developers are required to pay a school impact fee to the school district to offset the increased demands on school facilities caused by the proposed residential development project. The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code.

Regional and Local

Countywide Trails Master Plan

The Santa Clara County Trails Master Plan Update is a regional trails plan approved by the Santa Clara County Board of Supervisors. It provides a framework for implementing the County's vision of providing a contiguous trail network that connects cities to one another, cities to the county's regional open space resources, County parks to other County parks, and the northern and southern urbanized regions of the County. The plan identifies regional trail routes, sub-regional trail routes, connector trail routes, and historic trails.

Morgan Hill 2035 General Plan

The following policies to reduce the effects of public services are applicable to the proposed project:

Policy HC-3.3: **Park Land Fees**. Continue to require park land dedication or in-lieu fees from all new development to meet the recreation and open space needs of the residents of Morgan Hill.

Policy HC-3.20: **Safety**. Incorporate fire and police services into the design review process for new parks, recreation facilities, and trails.

Policy HC-3.29: **Development Requirements**. Continue to require park acquisition and development fees and/or land dedication to support the acquisition and development of parks, trails and other recreation facilities.

Policy SSI-11.2: **Prevention through Design**. Promote police and fire security considerations in all structures by ensuring that crime and fire prevention concepts are considered in development and design.

Policy SSI-12.4: **Maintenance of Emergency Access Routes**. Require that emergency access routes be kept free of traffic impediments.

4.15.1.2 *Existing Conditions*

Fire Protection

The City of Morgan Hill contracts with the California Department of Forestry and Fire Protection (CalFire) for fire and emergency medical services. The City is served by three stations at the following locations: 1) El Toro Fire Station, located at 18300 Old Monterey Road (approximately 1.1 mile southwest of the project site), 2) Dunne Hill Fire Station, located at 2100 East Dunne Avenue (approximately 2.0 miles southeast of the project site), and 3) 15670 Monterey Street (approximately 2.8 miles south of the project site).

Police Protection

Police service is provided to the project site by the City of Morgan Hill Police Department (MHPD). The MHPD facility is located at 16200 Vineyard Boulevard, approximately 2.3 mile south of the project site. The department employs 42 sworn officers.[89] The Police Department's goal is to respond to Priority One calls within five minutes and Priority Two calls within eight minutes.[90]

[89] City of Morgan Hill. "Fiscal Years 2020-2022: Adopted Operating and CIP Budget." Accessed October 18, 2021. https://user-ddhj25y.cld.bz/FY-2021-2122-ADOPTED-OPERATING-AND-FY-2021-2526-CIP-BUDGETS

[90] Morgan Hill Police Department. *2019 Annual Report: January 2019 – December 2019.* http://www.morgan-hill.ca.gov/DocumentCenter/View/36821/2019-MHPD-Annual-Report-Webpub?bidId=.

Priority One calls are reports of a crime in progress or where an injury has occurred, and Priority Two calls are reports of felonies and other major calls.

Schools

The project site is located within the Morgan Hill Unified School District (MHUSD). The MHUSD has eight elementary schools, two middle schools, two comprehensive high schools, one continuation high school, and a community adult school, as well as a home schooling program. The project site is located within the enrollment areas of Nordstrom Elementary School (1.5 miles southeast), Martin Murphy Middle School (8.5 miles north), and Live Oak High School (0.6 mile southeast).[91] For the 2019/2020 school year, approximately 647 students attended Nordstrom Elementary School, 770 students attended Martin Murphy Middle School, and 1,175 students attended Live Oak High School.[92] The three schools have an enrollment capacity of 691, 807, and 1,515 students, respectively.[93]

Parks

The City owns 70 acres of developed park land (including the Civic Center, assessment district parks and city owned trails) and 59 acres of recreation facilities. Included within this inventory, the City maintains two community parks, five neighborhood parks, two neighborhood/school parks, and 15 mini-parks, in addition to its public trail system and open space. In addition to publicly-owned park land, there is also a significant amount of recreational land and open space in the City that is privately owned and maintained.

The City also owns and operates special use facilities for recreational purposes. These facilities include the Morgan Hill Aquatics Center, Community and Cultural Center, the Centennial Recreation Center, the 38 acre Outdoor Sports Center, and Skateboard/BMX park. Many sports leagues and teams use Morgan Hill School District facilities after school hours and on weekends. These facilities include 12 baseball/softball fields, two football fields, two tracks, and four swimming pools.

The General Plan includes policies that support the City's park land and recreational goal to provide useful, accessible, and high-quality parks, recreation, and trail facilities. To achieve this goal, the City has adopted General Plan Policies and a park land dedication/park land in-lieu fee ordinance (Municipal Code Chapter 17.28) that requires park land dedication or in-lieu fees for residential developments.

In accordance with General Plan Policies HC-3.3 and HC-3.29, park land dedication or in-lieu fees are required by new developments to meet the recreation and open space needs of residents in

[91] Morgan Hill Unified School District. *Find your school.* Accessed April 15, 2021. https://www.mhusd.org/about/find-your-school.
[92] California Department of Education. *About DataQuest*. Accessed April 17, 2021. https://www.cde.ca.gov/ds/sd/cb/dataquest.asp.
Morgan Hill Unified School District. *Live Oak High School: About.* Accessed April 17, 2021. https://liveoak.mhusd.org/about.
[93] Morgan Hill Unified School District. *Demographic Study 2018/19.* January 2019.

Morgan Hill. The nearest parks and recreational facilities to the site include the Madrone Channel Trail, approximately 0.2 mile west of the site (and 125 feet east of U.S. 101), Coyote Creek Trail (a regional trail, approximately one mile northeast of the site), and Diana Park, located on 555 Diana Avenue, approximately one mile southwest of the site. The Madrone Channel and Coyote Creek Trails are pedestrian and bicycle trails. Diana Park includes open lawn and children's play areas.

Libraries

The Morgan Hill Library is a member of the Santa Clara County Library District. The Santa Clara County Library District (SCCLD) governs and administers seven community libraries, one branch library, two bookmobiles, the Home Service Library, and the 24-7 online library for all library users. The SCCLD serves all unincorporated communities of Santa Clara County, as well as nine Santa Clara County cities, including Campbell, Cupertino, Gilroy, Los Altos, Los Altos Hills, Milpitas, Monte Sereno, Morgan Hill, and Saratoga. As one of the SCCLD's member cities, Morgan Hill has a community library located on 680 West Main Avenue, approximately two miles southwest of the project site.

4.15.2 Impact Discussion

For the purpose of determining the significance of the project's impact on public services, would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

1) Fire protection?
2) Police protection?
3) Schools?
4) Parks?
5) Other public facilities?

The proposed differences in storm drainage management, size and depth of the underground retention facilities, and construction equipment usage, when comparing Project Options 1 and 2, would not affect the conclusions for public services impacts or increase the use of public services. Both project options would result in less than significant population and housing impacts, as discussed below.

4.15.2.1 *Project Impacts*

Impact PS-1:	The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection services. **(Less than Significant Impact)**

The proposed residential development would be constructed in conformance with current building and fire codes, including features that would reduce potential fire hazards. The development would be reviewed by both CalFIRE and the Morgan Hill Police Department to ensure appropriate safety features to reduce fire hazards and criminal activity are included in the project. Given that the proposed project is in proximity to existing development and is consistent with the General Plan's growth projections, the proposed project would not substantially increase the demand for fire protection, or otherwise require construction or expansion of fire facilities beyond what is assumed in the General Plan. Based on the conclusions of the General Plan EIR, MHFD may need to change or increase staffing and/or equipment at existing stations in order to adequately serve and construct a new station to adequately serve development under the General Plan. The project applicant will pay development impact fees to contribute to fire protection services and equipment. Consistent with Policies SSI-11.2 and SSI-12.4, MHFD would review the site design to ensure the project (under Options 1 and 2) provides adequate safety measures. For these reasons, the project would result in a less than significant impact on fire protection services or facilities. **(Less than Significant Impact)**

Impact PS-2:	The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services. **(Less than Significant Impact)**

The project site would be served by MHPD. As discussed in 4.15.1.2, the project site is located less than 2.5 miles from MHPD, which is within the eight minute response time requirement. The site is in proximity to existing development that is currently served by the MHPD. The General Plan EIR concluded the existing police station would serve future development, however new vehicles and safety equipment would be required. The General Plan EIR also concluded that the payment of development impact fees and consistency with General Plan policies would ensure future development under the General Plan would result in a less than significant impact on police facilities. The project applicant will pay development impact fees for police services. Consistent with General Plan Policy SSI-11.2, MHPD would review the site design to ensure the project provides adequate safety measures. For these reasons, the project (under Options 1 and 2) would result in a less than significant impact on police services or facilities. **(Less than Significant Impact)**

Impact PS-3:	The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools. **(Less than Significant Impact)**

The project proposes a maximum of 269 dwelling units (under Options 1 and 2). The MHUSD has estimated elementary, middle, and high school student generation rates for residential units. Below are the estimated student generation rates for the project's assigned schools in the MHUSD.

Table 4.15-1: Student Generation Rates and Capacity

Schools	Student Generation Rate	Number of Students Generated	Current Enrollment	Enrollment Capacity
Nordstrom Elementary School	0.212	57	647	691
Martin Murphy Middle School	0.101	27	770	807
Live Oak High School	0.152	41	1,175	1,515

Using the MHUSD's student generation rates per unit for housing, the addition of 269 dwelling units would generate approximately 125 students.[94] The project (under Options 1 and 2) would not result in an exceedance of enrollment capacity at Martin Murphy Middle School or Live Oak High School. The General Plan EIR projected that buildout of the General Plan would cause schools in the MHUSD to exceed enrollment capacity project Although the project generated students would cause Nordstrom Elementary School to exceed enrollment capacity by approximately 13 students, the project is consistent with the General Plan and would not exceed enrollment projections discussed in the General Plan EIR. As required by state law (Government Code Section 65996) and the City's municipal code Chapter 18.144), the project proponent shall pay the appropriate school impact fees to offset the increased demands on school facilities caused by the project. Based on the conclusions of the General Plan EIR, the payment of impact fees to provide funding for new school facilities would fully mitigate the impacts of new development on schools. Therefore, consistent with the conclusions in the General Plan EIR, the project (under Options 1 and 2) would not result in substantial adverse impact on school facilities. **(Less Than Significant Impact)**

[94] Morgan Hill Unified School District. *Demographic Study 2018-2019*. January 2019. The estimated student generation rate of 0.465 for new residences within the Morgan Hill Unified School District.

Impact PS-4:	The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for parks. **(Less than Significant Impact)**

The City of Morgan Hill has adopted a parkland dedication/park land in-lieu fee ordinance (Municipal Code Chapter 17.28) that requires parkland dedication or in-lieu fees for residential developments. The proposed project (under Options 1 and 2) includes a maximum of 269 residential units resulting in approximately 845 new residents, assuming 3.14 persons per household, and would increase use of nearby parks, creating the demand for 2.5 acres of parkland (three acres of parkland per 1,000 residents). The project (under both project options) proposes 5.3 acres of open space, including on-site recreational areas such as a clubhouse, pool, children's play area, basketball court, fitness court, and barbeque/picnic areas. The project would comply with the parkland dedication/park land in-lieu fee ordinance, which would offset significant impacts to the City's park facilities. In addition, the proposed residents' use of the on-site recreational facilities would reduce the demand on existing park facilities. For these reasons, the project (under Options 1 and 2) would have a less than significant impact on park and recreational facilities. **(Less Than Significant Impact)**

Impact PS-5:	The project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for other public facilities. **(Less than Significant Impact)**

The proposed project would develop up to 269 residential units resulting in approximately 845 new residents, assuming 3.14 persons per household (under Options 1 and 2). [95] The General Plan EIR determined that new growth under the General Plan would occur incrementally over the next 20 years and the planned improvements to the Morgan Hill Library would accommodate that growth. In addition, the City has set aside funds to expand the Morgan Hill Library. For these reasons, the proposed project (under Options 1 and 2) would not have a significant impact on library resources. **(Less than Significant Impact)**

[95] California Department of Finance. *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2011-2020 with 2010 Census Benchmark. Table 2: E-5 City/County Population and Housing Estimates, 1/1/2020.* May 2020. Accessed November 9, 2020. http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/.

4.15.2.2 *Cumulative Impacts*

Impact PS-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant public services impact. **(Less than Significant Cumulative Impact)**

Fire and Police Protection Services

The geographic area for cumulative fire protection services is the City boundaries. The project would, therefore, result in an incremental demand for fire protection and police services. The projects would be built to applicable fire code standards. The City would review plans and conduct construction inspections to ensure that new development complies with existing building and fire code requirements and public safety requirements for all of the cumulative projects. The cumulative projects would pay development impact fees and comply with General Plan policies pertaining to public safety. For these reasons, the combined effects of police and fire service demands by the cumulative projects (including the proposed project) would result in a less than significant cumulative impact on police and fire services and facilities. **(Less than Significant Cumulative Impact)**

Schools

The geographic area for cumulative impacts to schools is the MHUSD's boundaries since the project is located within the MHUSD school district. The cumulative projects within this district include residential development projects that would generate new students. The General Plan EIR contained a cumulative analysis which projected that buildout of the General Plan would cause schools in the MHUSD to exceed enrollment capacity project, creating the need for new or expanded school facilities. The proposed project (under Options 1 and 2) is implementing planned housing per the General Plan; therefore, the project (under both project options) itself would not result in significant impacts to schools.

As required by state law (Government Code Section 65995), development projects shall pay the appropriate school impact fees to impacted school districts in order to offset the increased demands on school facilities caused by the development. The cumulative projects (including the proposed project), in conformance with state law, would not result in significant cumulative impacts to schools. **(Less than Significant Cumulative Impact)**

Parks

The geographic area for cumulative park impacts is the City boundaries. The buildout of the General Plan and cumulative projects (including the proposed project) would incrementally increase the demand for park facilities but would also create new public open space. Any impacts to parklands and open spaces would be mitigated through in-lieu fees required by state law (Government Code Section 66477). For these reasons, the cumulative projects (including the proposed project) would not result in significant cumulative impacts to parks. **(Less than Significant Cumulative Impact)**

Libraries

The geographic area for cumulative library impacts is the City boundaries. The cumulative projects (including the proposed project) would contribute to the Citywide demand for library services; however, the General Plan EIR concluded that development allowed under the General Plan would be adequately served by existing and planned library facilities. In the event new or expanded library facilities are required, construction of those facilities would be subject to site-specific CEQA environmental review. It is assumed that implementation of General Plan policies would reduce the physical impacts from development of library facilities to a less than-significant level. For these reasons, the cumulative projects (including the proposed project [under Options 1 and 2]) would not result in a significant cumulative impact to library facilities. **(Less than Significant Cumulative Impact)**

4.16 RECREATION

As shown in Table 2.2-1, NOP comments on the subject of recreation were received from the County of Santa Clara Parks and Recreation Department. These comments addressed the project's potential impacts on the Madrone Channel Trail. Impacts to recreational facilities are discussed under checklist question 1 below.

4.16.1 Environmental Setting

4.16.1.1 *Regulatory Framework*

State

Government Code Section 66477

The Quimby Act (included within Government Code Section 66477) requires local governments to set aside parkland and open space for recreational purposes. It provides provisions for the dedication of parkland and/or payment of fees in lieu of parkland dedication to help mitigate the impacts from new residential developments. The Quimby Act authorizes local governments to establish ordinances requiring developers of new residential subdivisions to dedicate parks, pay a fee in lieu of parkland dedication, or perform a combination of the two.

Local

Morgan Hill 2035 General Plan

The following policies to reduce the effects of recreation are applicable to the proposed project:

Policy HC-3.3: **Park Land Fees**. Continue to require park land dedication or in-lieu fees from all new development to meet the recreation and open space needs of the residents of Morgan Hill.

Policy HC-3.29: **Development Requirements**. Continue to require park acquisition and development fees and/or land dedication to support the acquisition and development of parks, trails and other recreation facilities.

Morgan Hill Municipal Code

Chapter 17.28 (Dedications and Reservations) includes different dedication requirements for the City in Article I (Park Land Dedication). The Park Land Dedication regulations are applied to all development except commercial or industrial subdivisions, condominium projects, or stock cooperatives which consist of the subdivision of airspace in an existing apartment building, which is more than five years old when no new dwelling units are added. The amount of dedicated land is determined by multiplying the average number of persons per unit and the park acreage standard of three acres of parkland for every 1,000 residents as allowed by the Quimby Act. The in-lieu fee

would be determined based upon the fair market value of the land which would otherwise be required to be dedicated.

4.16.1.2 *Existing Conditions*

The City owns 70 acres of developed park land (including the Civic Center, assessment district parks and city owned trails) and 59 acres of recreation facilities. Included within this inventory, the City maintains two community parks, five neighborhood parks, two neighborhood/school parks, and 15 mini-parks, in addition to its public trail system and open space. In addition to publicly-owned park land, there is also a significant amount of recreational land and open space in the City that is privately owned and maintained.

The City also owns and operates special use facilities for recreational purposes. These facilities include the Morgan Hill Aquatics Center, Community and Cultural Center, the Centennial Recreation Center, the 38-acre Outdoor Sports Center, and Skateboard/BMX park. Many sports leagues and teams use Morgan Hill School District facilities after school hours and on weekends. These facilities include 12 baseball/softball fields, two football fields, two tracks, and four swimming pools.

The nearest parks and recreational facilities to the site include the Madrone Channel Trail, approximately 0.2 mile west of the site (and 125 feet east of U.S. 101), Coyote Creek Trail (a regional trail), approximately one mile northeast of the site, and Diana Park, located on 555 Diana Avenue, approximately one mile southwest of the site. The Madrone Channel and Coyote Creek Trails are pedestrian and bicycle trails. Diana Park includes open lawn and children's play areas.

4.16.2 Impact Discussion

For the purpose of determining the significance of the project's impact on recreation:

1) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
2) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

The proposed differences in storm drainage management, size and depth of the underground retention facilities, and construction equipment usage, when comparing Project Options 1 and 2, would not affect the conclusions for recreation impacts or increase the use of recreational facilities. Both project options would result in less than significant recreational impacts, as discussed below.

4.16.2.1 *Project Impacts*

Impact REC-1:	The project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. **(Less than Significant Impact)**

The proposed project would include up to 269 residential units, resulting in approximately 845 new residents, assuming 3.14 persons per household (under Options 1 and 2). As discussed in Section 4.15 Public Services, the proposed residential development would increase the use of nearby parks and recreational facilities, resulting in a demand of 2.5 acres of parkland, based on the City standard of three acres per 1,000 residents. The project would provide on-site recreational facilities such as a such as a clubhouse, pool, children's play area, basketball court, fitness court, and barbeque/picnic areas (under Options 1 and 2). Future residents' use of the on-site recreational facilities would reduce the demand for existing park and recreational facilities. In addition, the project would comply with the parkland dedication/park land in-lieu fee ordinance, which would offset significant impacts to the City's park facilities. For these reasons, the project would not substantially increase the use of existing park and recreational facilities, such as the nearby Madrone Channel trail, which would result in physical deterioration of these facilities. **(Less than Significant Impact)**

Impact REC-2:	The project would not include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. **(Less than Significant Impact)**

As discussed in response to Impact REC-1 above the project would include the construction of on-site recreational facilities. The impacts (e.g., construction related water quality impacts, trees/nesting birds, construction noise, hazards and hazardous materials, and hydrology and water quality) from construction of these facilities would be reduced to less than significant with the implementation of standard conditions and mitigation measures described throughout the EIR. Therefore, construction of on-site recreational facilities would not result in an adverse physical effect on the environment. **(Less than Significant Impact)**

4.16.2.2 *Cumulative Impacts*

Impact REC-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant recreation impact. **(Less than Significant Cumulative Impact)**

The geographic area for cumulative recreation impacts is the City's boundaries. Cumulative projects generating new residents must comply with the City's requirements for parkland dedication, provisions of public space, and/or payment of in-lieu fees to minimize impacts of new residents on existing park and recreation facilities. Cumulative projects which include construction or expansion of recreational facilities would be required to implement standard conditions and mitigation

measures to reduce impacts on the environment from the construction of these facilities to less than significant. For these reasons, the cumulative projects would not result in a significant cumulative recreation impact. **(Less than Significant Cumulative Impact)**

4.17 TRANSPORTATION

The following discussion is based in part on a Traffic Impact Analysis prepared by Hexagon Traffic Consultants, Inc. on December 23, 2020. A copy of this report is attached as Appendix G of this DEIR.

As shown in Table 2.2-1, NOP comments on the subject of transportation were received from the County of Santa Clara Roads and Airports Department (County Roads), the Mariani Family Properties (1615 Half Road), and the Santa Clara Valley Transportation Authority (VTA). County Roads' comments addressed the need for the traffic analysis to evaluate the same intersections that were evaluated in the Morgan Hill Technology Center project EIR, requested the site alleyway is reserved for use by emergency vehicles, and noted that an all-way stop sign installation at Half Road and Mission View is underway by the County. Mariani Family Properties requested that the EIR include a discussion of planned bicycle, pedestrian, and public transit/bus service.

The VTA comments noted that VTA's Congestion Management Program (CMP) requires a Transportation Impact Analysis (TIA) for any project expected to generate more than 100 new or net trips. The VTA comments also noted that the TIA's analysis of pedestrian and bicycle modes should consider the completeness of the pedestrian and bicycle network on roadways and intersections adjacent to and nearby the project site. Furthermore, VTA recommended installation of a new southbound bus stop on Mission View Drive, as well as installation of street lighting and landscaping. These comments are addressed under checklist questions 1 through 4 below.

4.17.1 Environmental Setting

4.17.1.1 *Regulatory Framework*

State

Regional Transportation Plan

MTC is the transportation planning, coordinating, and financing agency for the nine-county San Francisco Bay Area, including Santa Clara County. MTC is charged with regularly updating the Regional Transportation Plan, a comprehensive blueprint for the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities in the region. MTC and ABAG adopted Plan Bay Area 2040 in July 2017, which includes a Regional Transportation Plan to guide regional transportation investment for revenues from federal, state, regional and local sources through 2040.

Senate Bill 743

SB 743 establishes criteria for determining the significance of transportation impacts using a vehicle miles traveled (VMT) metric intended to promote the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses. Specifically, SB 743 requires analysis of VMT in determining the significance of transportation impacts. Local jurisdictions were

required by Governor's Office of Planning and Research (OPR) to implement a VMT policy by July 1, 2020.

SB 743 did not authorize OPR to set specific VMT impact thresholds, but it did direct OPR to develop guidelines for jurisdictions to utilize. CEQA Guidelines Section 15064.3(b)(1) describes factors that might indicate whether a development project's VMT may be significant.

Regional

Congestion Management Program

VTA oversees the Congestion Management Program (CMP), which is aimed at reducing regional traffic congestion. The relevant state legislation requires that urbanized counties in California prepare a CMP in order to obtain each county's share of gas tax revenues. State legislation requires that each CMP define traffic LOS standards, transit service standards, a trip reduction and transportation demand management plan, a land use impact analysis program, and a capital improvement element. VTA has review responsibility for proposed development projects that are expected to affect CMP-designated intersections.

Local

City of Morgan Hill 2035 General Plan

The following transportation policies are applicable to the proposed project:

Policy TR-3.2: **Safe and Complete Improvements**. Avoid creating incomplete public improvements that create public safety hazards.

Policy TR-3.4: **Level of Service Standards**. As the Level of Service (LOS) policy and design criteria for roadway improvements, use a Tiered LOS Standard as follows:

- LOS F in the Downtown at Main/Monterey, along Monterey Road between Main and Fifth Street, and along Depot Street at First through Fifth Streets. This LOS standard in the Downtown recognizes the unique nature of and goals for Downtown Morgan Hill as the transit hub of the City and as a center for shopping, business, entertainment, civic and cultural events, and higher-density, mixed-use living opportunities. This standard does not preclude the City, developers, and property owners from voluntarily implementing improvements and employing operational strategies to improve level of service, especially at the Main/Monterey intersection, if and when land uses redevelop.

- LOS D for intersections and segments elsewhere; except:

    - Allow LOS E for identified freeway ramps/zones, road segments and intersections that (1) provide a transition to and are located on the

periphery of downtown; (2) are freeway zone intersections; and/or (3) where achieving LOS D could result in interim intersection improvements which would be "over-built" once the City's circulation network has been completed, and/or would involve unacceptable impacts on existing buildings or existing or planned transportation facilities, including roads, sidewalks, bicycle and transit facilities; and/or would involve extraordinary costs to acquire land and existing buildings, and build the improvement in relation to benefits achieved; and/or the facility would be widened beyond requirements to serve local traffic, in that the facility accommodates a significant component of peak-hour sub-regional and regional through-traffic.

- In order to reduce the incentive for regional travel to be drawn off the freeway and onto local neighborhood streets, protect neighborhoods, avoid overbuilding intersections, and to create an incentive for using alternate modes of travel, LOS E during peak hours of travel is acceptable for the following identified freeway ramps, road segments, and intersections:

    - Main Avenue and Del Monte Avenue
    - Main Avenue and Depot Street
    - Dunne Avenue and Del Monte Avenue
    - Dunne Avenue and Monterey Avenue
    - Dunne Avenue and Church Street; also, until closed: Dunne Avenue and Depot Street
    - Cochrane Road and Monterey Road
    - Tennant Avenue and Monterey Road
    - Tennant Avenue and Butterfield Boulevard
    - Cochrane Road Freeway Zone: from Madrone Parkway/Cochrane Plaza to Cochrane/DePaul Drive
    - Dunne Avenue Freeway Zone: from Walnut Grove/East Dunne to Condit/East Dunne
    - Tennant Avenue Freeway Zone: from Butterfield/Tennant to Condit/Tennant Freeway Ramps

  Projects shall pay the City's standard traffic impact fees imposed on new developments in accordance with the adopted impact fee schedule.

Policy TR-9.10: **Sidewalk Connectivity**. Improve sidewalk connectivity by installing new sidewalks where they do not exist, consistent with the Trails and Natural Resources Master Plan

4.17.1.2 *Existing Conditions*

Roadway Network

Regional Access

U.S. 101 is a north-south freeway extending northward to San Francisco and southward through Gilroy. U.S. 101 is an eight-lane freeway (three mixed-flow lanes and one high-occupancy vehicle (HOV) lane in each direction) north of Cochrane Road. South of Cochrane Road, it is a six-lane freeway with no HOV lanes. Access to and from the project site is provided via its interchanges at Cochrane Road and Dunne Avenue.

Local Access

Cochrane Road is an east-west divided roadway that runs from Monterey Road to Malaguerra Avenue, east of U.S. 101. Currently, Cochrane Road is a four-lane road between Monterey Road and Sutter Boulevard. Between Sutter Boulevard and U.S. 101, Cochrane Road widens to three lanes eastbound and two lanes westbound, then narrows back to four lanes east of U.S. 101, and to two lanes east of Mission View Drive. Access to the project site is provided via its intersections with DePaul Drive and Mission View Drive.

Dunne Avenue extends from the east part of Morgan Hill to the west side of the side and has sidewalks located along both sides of the street. Bicycle lanes are located along both sides of Dunne Avenue between Peak Avenue and Gallop Drive (east of U.S. 101). Access to the project site is provided via its intersection with Condit Road.

DePaul Drive is a north-south undivided roadway that intersects Cochrane Road approximately 700 feet east of the U.S. 101 northbound ramps intersection and runs approximately 1,500 feet north and 1,000 feet south of Cochrane Road. The project proposes to extend DePaul Drive by approximately 2,280 feet south along its frontage to provide direct access to the project site via two full access driveways. As proposed, DePaul Drive would terminate as a cul-de-sac just north of Half Road.

Half Road is an east-west undivided roadway that runs from Condit Road to Peet Road. Half Road runs along the project's southern frontage. However, Half Road would not provide direct access to the project site and would not intersect the proposed extension of DePaul Drive. Access to the project site is provided via its intersection with Mission View Drive.

Mission View Drive is a north-south two-lane undivided roadway that runs from Eagle View Drive to Half Road. Mission View Drive runs along the project's eastern frontage. Access to the project site would be provided via a full access driveway along Mission View Drive.

Main Avenue is a two-lane roadway that runs eastward from its intersection with DeWitt Avenue to Coyote Road at the base of the eastern foothills. The roadway has an overcrossing of U.S. 101,

however no access to U.S. 101 is provided. Access to the project site is provided via its intersections with Condit Road.

Condit Road is a two-lane north-south roadway that extends from Half Road southward to Tennant Avenue. Access to the project site is provided via its transition to Half Road.

Existing Bicycle, Pedestrian and Transit Facilities

Bicycle Facilities

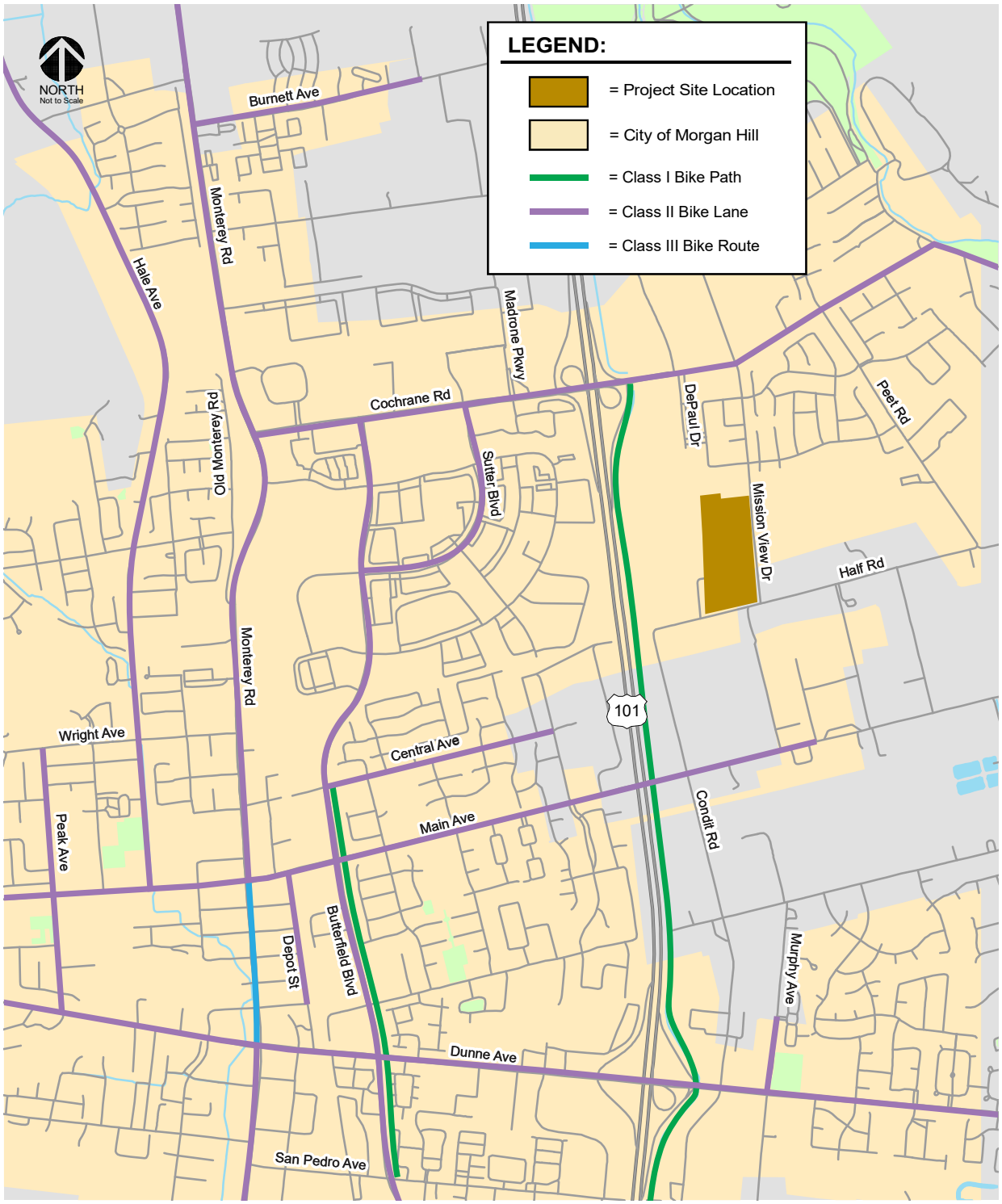
Bicycle facilities in the project area include Class I bikeways, Class II bike lanes, and Class III bike routes (refer to Figure 4.17-1). Class I bikeways are bike paths that are physically separated from motor vehicles and offer two-way bicycle travel on a separate path. Class II bike lanes are lanes on roadways designated for use by bicycles with special lane markings, pavement legends, and signage. Class III bike routes are existing streets (signed shared roadways) that accommodate bicycles but are not separate from the existing travel lanes.

Bicycle lanes are currently provided along the length of Cochrane Road. There are also bicycle lanes along Main Avenue beginning at Live Oak High School and continuing west across U.S. 101 to Peak Avenue. An unpathed bicycle path, the Madrone Channel Trail, runs along the east side of U.S. 101, between Tennant Avenue and Cochrane Road. The remaining bicycle facilities in the area are located west of U.S. 101. Bicycle lanes are currently provided along the following roadways:

- Butterfield Boulevard, along its entire length;
- Sutter Boulevard, from Cochrane Road to Butterfield Boulevard;
- Monterey Road, nearly its entire length within City of Morgan Hill limits, with the exception of the segment that runs through downtown between Dunne Avenue and Main Avenue
- Burnett Avenue, from Monterey Road to Bauman Court (west of U.S. 101)
- Central Avenue, from Butterfield Boulevard to its termination point west of U.S. 101
- Dunne Avenue, from Peak Avenue to east of Hill Road
- Depot Street, along its entire length
- Peak Avenue, between Dunne Avenue and Wright Avenue
- Murphy Avenue, Dunne Avenue and Kelly Park Circle
- Hale Avenue, between Main Avenue and north of City of Morgan Hill

Other bicycle facilities in the project vicinity include the following:

- A bicycle route on Monterey Road, between Dunne Avenue and Main Avenue;
- A paved bicycle path on east side of Butterfield Boulevard, between San Pedro Avenue and Central Avenue;



Source: Hexagon Transportation Consultants, Inc., December 23, 2020.

EXISTING BICYCLE FACILITIES | FIGURE 4.17-1

Pedestrian Facilities

Pedestrian facilities in the study area consist primarily of sidewalks, pedestrian push buttons and signal heads at signalized intersections. The project site is, however, is surrounded by undeveloped properties where continuous sidewalks on streets (such as Half Road, DePaul Drive, and the southern portion of Mission View Drive) are not available. Sidewalks are provided along at least one of the sides of the following roadways in the vicinity of the project site:

Cochrane Road: Sidewalks are provided along the north side of the street between Butterfield Boulevard and White Moon Drive. Along the south side of the street, sidewalks are provided from Monterey Road to east of Mission View Drive with the exception of the segments between Woodview Avenue and Sutter Boulevard, U.S. 101 northbound ramps and DePaul Drive (the north project frontage), and a short segment west of Mission View Drive.

Mission View Drive: Sidewalks are provided along the east side of the street between the northern end of Mission View Drive (at Eagle View Drive) until approximately 950 feet north of its intersection with Half Road. There are no sidewalks along the west side of Mission View Drive, with the exception of curb ramps located at the northwest and southwest corners of the Mission View Drive and Cochrane Road intersection.

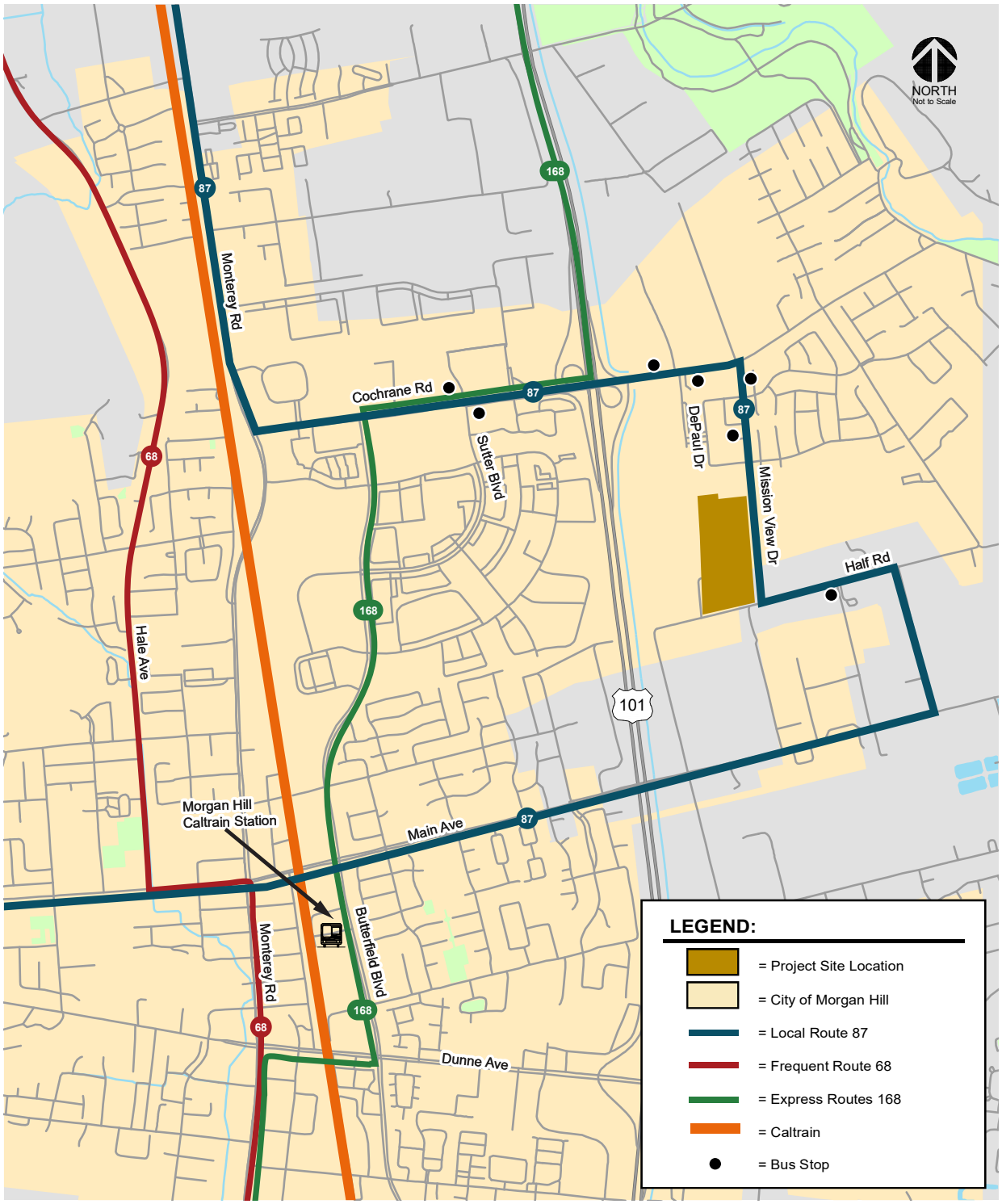
Sidewalks are not located on either side of DePaul Drive south of Cochrane Road. All other streets in the immediate vicinity of the project site fronting the undeveloped areas have no sidewalks.

Transit Facilities

Existing transit service to the project area is provided by VTA and Caltrain. The bus routes and transit stations serving the project site are described below and shown on Figure 4.17-2.

Local Bus Route 87 operates on Cochrane Road, Mission View Drive, and Half Road in the project area. Bus Route 87 runs from Burnett Avenue to the Civic Center (Main and Dewitt) in Morgan Hill with approximately 60-minute headways in the AM and PM commute periods. It operates between 6:30 AM and 5:45 PM. The nearest Route 87 bus stops to the project site are located near the Half Road/Elm Road and Mission View Drive/Avenida De Los Padres intersections.

Express Route 168 operates on Butterfield Boulevard and Cochrane Road on its route between the Gilroy Transit Center and the San José Diridon Transit Center. It operates northbound with 30- to 45-minute headways during the AM commute period only and southbound with 45-minute headways during the PM commute period only. The nearest Route 168 stops to the project site are located at the intersection of Sutter Boulevard and Cochrane Road, approximately 0.75-mile west of the project site.



Source: Hexagon Transportation Consultants, Inc., December 23, 2020.

EXISTING TRANSIT FACILITIES | FIGURE 4.17-2

In addition to the bus routes serving the project site, the Morgan Hill Caltrain station is located along Depot Street, approximately 1.5 miles southwest of the project site. Caltrain provides commuter rail service between San Francisco and Gilroy. At the Morgan Hill station, Caltrain only provides service in the northbound direction during the AM commute period with 30-minute headways and in the southbound direction only during the PM commute period with approximately 90-minute headways.

4.17.1.3 *VMT Methodology*

The VMT impact analysis (in Section 4.17.2) was completed using the Santa Clara Valley Transportation Authority's (VTA) VMT tool. The City of Morgan Hill is currently developing the framework for new transportation policies based on VMT. Since the City has not formally adopted its own VMT policies, this study utilizes VMT analysis methodology and impact thresholds recommended in the Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018.

Based on the OPR's technical advisory, VMT per resident (capita) is the recommended metric to evaluate CEQA-related transportation impacts for residential land uses. As stated in the technical advisory, OPR recommends an impact threshold of 15 percent below the existing VMT levels for residential land uses. OPR allows the existing VMT to be measured as regional or citywide VMT per capita. For the purposes of this project, the impact threshold is 15 percent below the city-wide residential VMT per capita.

4.17.2 Impact Discussion

For the purpose of determining the significance of the project's impact on transportation, would the project:

1) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes, and pedestrian facilities?
2) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?
3) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
4) Result in inadequate emergency access?

The proposed differences in storm drainage management, size and depth of the underground retention facilities, and construction equipment usage, when comparing Project Options 1 and 2, would not affect the conclusions for VMT or operational transportation impacts in that the approach to stormwater management has no bearing on trip generation. Both project options would result in less than significant transportation impacts, as discussed below.

4.17.2.1 *Project Impacts*

Impact TRN-1:	The project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle lanes, and pedestrian facilities. **(Less than Significant Impact)**

The project is consistent with the policies of the City's General Plan, to improve sidewalk connectivity and expand pedestrian opportunities (under Options 1 and 2). The City's Bikeways, Trails, Parks and Recreation Master Plan, adopted in July 2017, establishes goals, policies, and actions to facilitate bicycling and designates bicycle lanes along many City streets. Consistency with these plans, for Options 1 and 2, is described below.

Pedestrian Facilities

The project proposes sidewalks along its entire frontages along Mission View Drive, Half Road, and DePaul Drive and would result in a continuous connection to the existing sidewalks on the east side of Mission View Drive to provide a safe connection between the project site and other surrounding land uses in the area. Controlled crossings at the intersections of Cochrane Road with Mission View Drive and DePaul Drive would provide a connection between the project area and retail uses on the north side of Cochrane Road. The proposed project (under Options 1 and 2) would improve pedestrian safety and circulation throughout the project area. The project would (under both options), therefore, not conflict with a program plan or policy addressing the pedestrian facilities. **(Less than Significant Impact)**

Bicycle Facilities

Based on the TIA, the project could generate up to three new bicycle trips during each of the peak hours. The demand generated by the proposed project could be accommodated by the existing bicycle facilities in the vicinity of the project site. City's Bikeways, Trails, Parks and Recreation Master Plan was adopted in July 2017. Planned multi-use trails would be located along the Madrone Channel trail, Mission View Drive, and East Main Avenue in the project area.

The proposed project would not exceed the capacity of the existing bicycle facilities or preclude the construction of planned improvements. The project (under Options 1 and 2) would not remove any bicycle facilities, nor would it conflict with any adopted plans or policies for new bicycle facilities. **(Less than Significant Impact)**

Transit Facilities

As stated in Section 4.17.1, the project site is served by one bus route, local bus (Local Bus Route 87) and one express route (Express Route 168), which provide connection to the Morgan Hill Caltrain Station. A typical mode split in Morgan Hill would be a three percent transit share. Assuming up to three percent transit mode share for the project equates to no more than six transit riders during the AM peak hour and eight riders during the PM peak hour. The transit ridership

demands of the proposed project would require the expansion of existing transit facilities. Per the VTA's request, the following condition of approval would be implemented by the project.

Condition of Approval TRN-1: The project shall pay a fair share contribution toward the installation of a southbound bus stop, including street lighting, landscaping, and a new passenger pad, after the main entrance on Mission View Drive.

The proposed project (under Options 1 and 2) would not interfere with the construction of planned transit facilities nor would the project exceed the capacity of the existing system. The project (under both options) would not conflict with a program plan or policy addressing transit. **(Less than Significant Impact)**

Impact TRN-2:	The project would conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). **(Significant and Unavoidable Impact with Mitigation Incorporated)**

Based on VTA's VMT Evaluation Tool, the Morgan Hill citywide average VMT per capita is currently 24.64. The impact threshold of 15 percent below the citywide average VMT per capita equates to 20.94 VMT per capita. The project is estimated to generate 27.41 VMT per capita, which would exceed the OPR's impact threshold of 20.94 VMT per capita. Therefore, the project (under Options 1 and 2) would result in a significant VMT impact on the transportation system based on OPR's VMT impact criteria.

The project applicant would need to implement VMT reduction measures to achieve a 24 percent reduction (27.41 to 20.94) in its VMT per capita for the proposed residential project to reduce the project's VMT impact to less than significant (under Options 1 and 2). However, the available feasible mitigation measures are not capable of such reduction. The project (under Options 1 and 2) will implement a mitigation measure to incorporate project design features that reduce the VMT per capita generated by the project. These would apply to single-family detached, single-family attached, and condominium units with a management entity such as a Homeowners Association (HOA).

Mitigation Measure: The following mitigation measures would reduce the VMT per capita generated by the project.

MM TRN-2.1: During project operations, the management entity/Homeowners Association (HOA) shall provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director or Director's designee prior to issuance of occupancy.

The project (under Options 1 and 2) would also incorporate the following design features to reduce project VMT by improving pedestrian connections and providing bicycle facilities:

- The project (under Options 1 and 2) will improve the surrounding pedestrian network by including sidewalks which terminate at the common property line, allowing for connections to the adjacent property in the event there is development in the future. The project proposes continuous sidewalks along the project frontages (under Options 1 and 2). The proposed frontage improvements along Mission View Drive, Half Road, and De Paul Drive include sidewalk improvements.

- The proposed project (under Options 1 and 2) will include 64 bicycle parking spaces distributed through the proposed development.

Although implementation of the above mitigation measure MM TRN-2.1 could reduce the number of trips generated by the project, by approximately 10 trips per day, the project's overall VMT would remain at 27.41 per resident. The project design features would encourage the use of pedestrian and bicycle facilities. However, VMT would continue to be above the 20.94 VMT per capita threshold. The project, therefore, would result in a significant and unavoidable VMT impact (under Options 1 and 2). **(Significant and Unavoidable Impact with Mitigation)**

Impact TRN-3:	The project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). **(Less than Significant Impact)**

The project would include the extension of DePaul Drive to the south with termination at a cul-de-sac just north of Half Road. Access to the project site would be provided via a full access driveway along Mission View Drive and two full access driveways along the DePaul Drive extension. Based on Caltrans requirements, the available sight distance of vehicle drivers exiting the site at the project driveways on DePaul Drive and Mission View Drive would be at least 250 feet for DePaul Drive to 300 feet on Mission View Drive, which reduces the risk of collision at the project driveways.

The proposed project is designed in accordance with the City of Morgan Hill design standards (under Options 1 and 2). The project design does not include sharp curves or dangerous intersections that could result in safety hazards. Nor does the project propose incompatible uses, such as farm equipment. During the architectural and site plan review, the project's design will be reviewed to ensure that all applicable design standards are met. For these reasons, and those discussed above, the project would not substantially increase hazards due to a design feature or incompatible use (under Options 1 and 2). **(Less Than Significant Impact)**

Impact TRN-4:	The project would not result in inadequate emergency access. **(Less than Significant Impact)**

Emergency vehicles would access the project site via the driveway along Mission View Drive and two driveways along the DePaul Drive extension. Internal streets would provide continuous access to each area of residential units. The travel way on the internal streets would be at least 20 feet wide. The 20-foot-wide internal roadways would provide emergency vehicles (e.g., fire trucks) sufficient space to access each of the residential units on-site. Therefore, the project would not result in inadequate emergency access (under Options 1 and 2). **(Less Than Significant Impact)**

4.17.2.2 *Cumulative Impacts*

Impact TRN-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant transportation impact. **(Significant and Unavoidable Cumulative Impact)**

The scale of cumulative analysis for VMT impacts is citywide and based on the planned growth in the General Plan, which includes the proposed residential uses on the project site. The General Plan EIR did not identify the impacts of VMT as it was not considered an impact under CEQA at the of EIR preparation. The General Plan EIR provided information on existing VMT and the VMT per capita with the General Plan build-out for informational purposes. VMT per capita with General Plan build-out will decrease, when compared to 2015 existing conditions, which is primarily attributed to the placement of new housing near jobs and the placement of more jobs near housing.

With the passage of SB 743, the City is now applying numeric thresholds to evaluate the significance of VMT impacts, which as noted above, for residential uses is 15 percent below the existing citywide average, or 20.94 VMT per capita. As discussed under Impact TRN-2, the project site is located in a high VMT area with an existing VMT per capita of 30.46 for residential uses in the area, while citywide VMT per capita is 24.64. As described above, the project (under Options 1 and 2) would generate VMT per capita above the impact threshold of 20.94 VMT per capita, resulting in a significant and unavoidable project-level VMT impact. Since the project-generated VMT per capita is above the citywide threshold, the project would result in a considerable contribution to a significant cumulative citywide VMT impact (under Options 1 and 2). Apart from the specific issue of VMT, the cumulative projects would be designed in accordance with the City's design standards and would not result and would not create dangerous conditions and would not impede emergency access, including access from DePaul Drive to the project site and adjacent Redwood Tech sites. **(Significant and Unavoidable Cumulative Impact)**

4.17.3 Non-CEQA Effects

While the evaluation of project CEQA impacts on the transportation system is based on vehicle miles traveled (VMT), the following discussion is included for informational purposes in accordance with the City's Level of Service General Plan Policy TR-3.4.

4.17.3.1 *Project Trip Generation*

Trip generation estimates are based on trip generation rates from the Institute of Transportation Engineers' (ITE's) *Trip Generation Manual*, Tenth Edition. Although the project would consist of 149 condominium units, 64 duet (single-family attached) units, and 56 detached units, trip generation rates for single-family detached housing (which tend to be higher than attached unit housing) were used to estimate the number of trips that would be generated by all proposed residential units. The trip generating characteristics of the different residential types would be similar due to the limited transit services and employment opportunities within Morgan Hill. Based on the estimated trip rates and the project size, the proposed project would generate 2,539 daily trips, with 199 trips (50 inbound and 149 outbound) occurring during the AM peak hour and 266 trips (168 inbound and 98 outbound) occurring during the PM peak hour (under Options 1 and 2).

The estimates for the proposed project are shown in Table 4.17-1 below (under Options 1 and 2).

Table 4.17-1: Project Trip Generation Estimates

Land Use	Size	Daily		AM Peak Hour			PM Peak Hour		
		Rate	Trips	In	Out	Total	In	Out	Total
Single-Family Detached Housing (ITE LU #210)[1]	269 dwelling units	9.44	2,539	50	149	199	168	98	266

[1]Source: ITE Trip Generation Manual, 10th Edition 2017

4.17.3.2 *Morgan Hill LOS Guidelines and Methodology*

Signalized Intersections

The City of Morgan Hill level of service methodology is TRAFFIX, which is based on the 2000 Highway Capacity Manual (HCM) method for signalized intersections. TRAFFIX evaluates signalized intersections operations based on average delay time for all vehicles at the intersection. Since TRAFFIX is also the CMP-designated intersections level of service methodology, the City of Morgan Hill methodology employs the CMP defaults values for the analysis parameters, which include adjusted saturation flow rates to reflect conditions in Santa Clara County. All intersections within the City of Morgan Hill are required to meet the City's LOS standard of LOS D, with the exception of intersections and freeway zones listed in General Plan Policy TR-3.4.

According to the City of Morgan Hill level of service guidelines, a development would create an adverse effect on traffic conditions at a signalized intersection if for either peak hour:

- The level of service at the intersection degrades from an acceptable level (LOS D or LOS E as identified above) under existing conditions to an unacceptable level (LOS E or F) under project conditions, or

- The level of service at the intersection is an unacceptable level (LOS E or F as identified above) under existing conditions and the addition of project trips causes the average critical delay to increase by four (4) or more seconds and the volume-to-capacity ratio (V/C) to increase by 0.01.

An exception to this rule applies when the addition of project traffic reduces the amount of average delay for critical movements (i.e., the change in average delay for critical movements is negative). In this case, an adverse effect is an increase in the critical V/C value by 0.01 or more.

Unsignalized Intersections

The methodology used to determine the level of service for unsignalized intersections is also TRAFFIX and the 2000 HCM methodology for unsignalized intersection analysis. This method is applicable for both two-way and all-way stop-controlled intersections. For one- and two-way stop-controlled intersections, the delay and corresponding level of service for the stop-controlled minor street approach with the highest delay is reported. For all-way stop-controlled intersections, the reported average delay and the corresponding level of service is the average for all approaches at the intersection. The City uses a minimum acceptable level of service standard of LOS D for unsignalized intersections, in accordance with the Guidelines for Preparation of Transportation Impact Reports.

Congestion Management Program Freeway Segment Standards

The City is required to conform to the requirements of the Valley Transit Authority (VTA), which establishes a uniform program for evaluating the transportation effects of land use decisions on the designated CMP Roadway System. The VTA's Congestion Management Program (CMP). Based on CMP criteria, a project would fail to meet the CMP freeway segment standard if the additional project traffic caused one of the following during either peak hour:

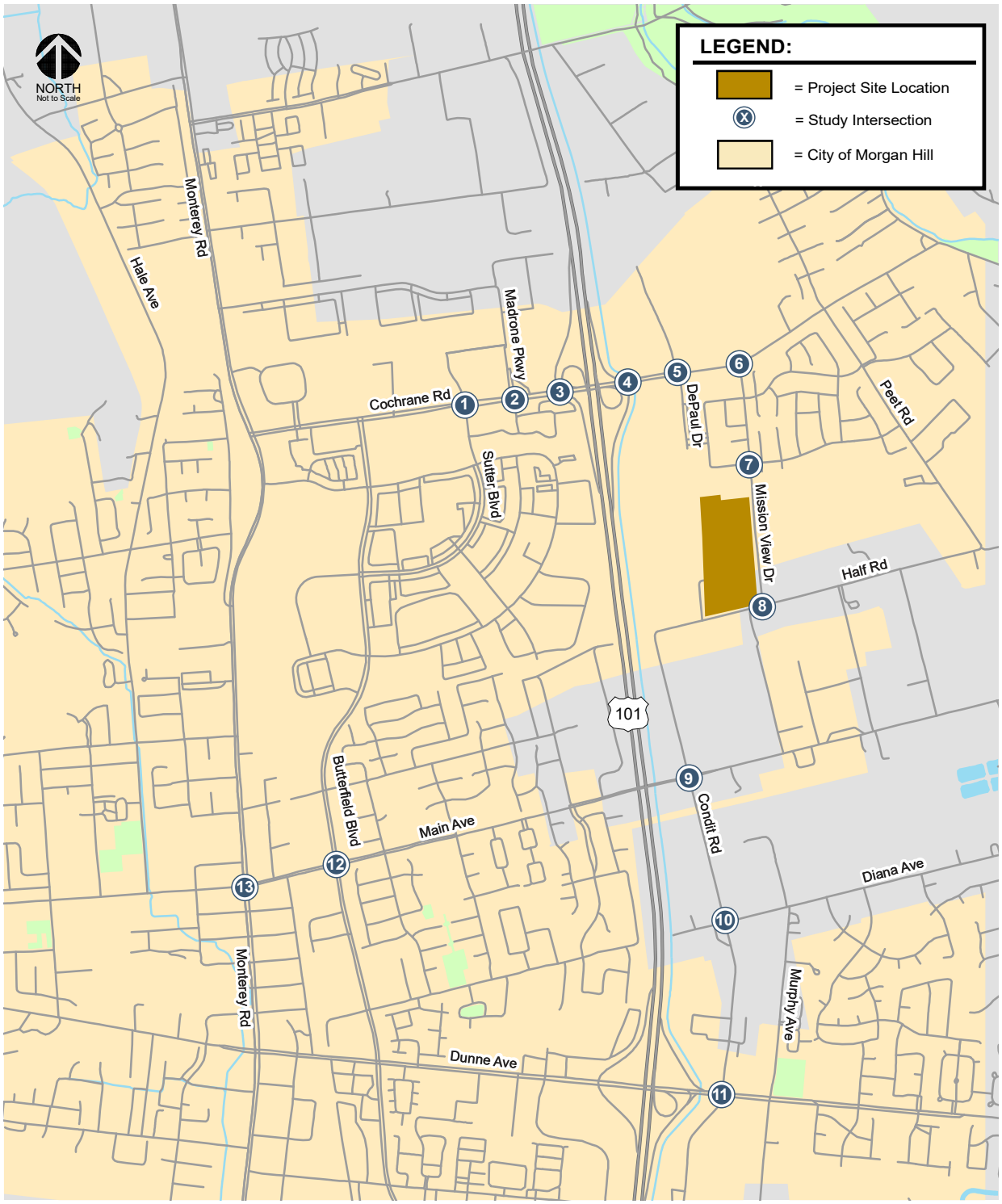
- The level of service on the freeway segment is an unacceptable LOS F under existing conditions, and the number of project trips on that segment constitutes at least one percent of capacity on that segment.

- The level of service on the freeway segment degrades from an acceptable LOS E or better under existing conditions to an unacceptable LOS F under existing plus project conditions

4.17.3.3 *Intersection Level of Service Analysis*

Level of Service Study Intersections

The traffic operations and level of service analysis includes an analysis of AM and PM peak-hour traffic conditions for ten signalized intersections and three unsignalized intersections. The study intersections are identified on Figure 4.17-3 and Table 4.17-2.



Source: Hexagon Transportation Consultants, Inc., December 23, 2020.

STUDY INTERSECTIONS | FIGURE 4.17-3

Traffic conditions at all of the study intersections were analyzed for the weekday AM and PM peak hours. The weekday AM peak hour of traffic is generally between 7:00 AM and 9:00 AM and the weekday PM peak hour is typically between 4:00 PM and 6:00 PM. It is during these periods that the most congested traffic conditions occur on a typical weekday. Traffic conditions were evaluated for the conditions described below:

- **Scenario 1**: *Existing Conditions*. Existing conditions represent existing peak-hour traffic volumes on the existing roadway network. New traffic counts could not be collected due to the current COVID-19 pandemic affecting normal travel traffic patterns. Therefore, traffic counts collected prior to the COVID-19 pandemic in 2018-2019 were used in this analysis, as they are more representative of typical conditions than current traffic volumes.

- **Scenario 2**: *Existing Plus Project Conditions*. Project-generated traffic volumes were added to existing traffic volumes to estimate existing plus project conditions. Existing plus project conditions were evaluated relative to existing conditions to determine the project's adverse effects on the study intersections.

- **Scenario 3**: *Year 2030 Cumulative Conditions*. Year 2030 cumulative conditions represent traffic growth projected to occur in the Year 2030 (without the proposed project) on the existing transportation network. Projected 2030 traffic growth was developed by interpolating the projected Year 2035 traffic growth.

- **Scenario 4**: *Year 2030 Cumulative with Project Conditions*. Project-generated traffic volumes were added to Year 2030 Cumulative without the project to estimate Year 2030 Cumulative with project conditions. Year 2030 Cumulative with project conditions were evaluated relative to Year 2030 Cumulative without project conditions to determine potential cumulative adverse effects on the study intersections.

Existing Plus Project Conditions

The results of the intersection level of service analysis under existing and existing plus project conditions are summarized in Table 4.17-2 (under Options 1 and 2).

Table 4.17-2: Study Intersections Level of Service – Existing Plus Project Conditions								
No.	Intersection	Peak Hour	Existing		Existing Plus Project			
			Average Delay	LOS	Average Delay	LOS	Increase in Critical Delay	Increase in Critical V/C
1	Cochrane Road and Sutter Boulevard	AM	17.2	B	17.2	B	0.0	0.002
		PM	17.9	B	18.0	B	0.0	0.003
2	Cochrane Road and Madrone Parkway/Cochrane Plaza	AM	19.1	B	19.2	B	-3.0	-0.003
		PM	31.4	C	31.4	C	0.0	0.005
3	Cochrane Road and U.S. 101 Southbound Ramps	AM	12.8	B	13.0	B	0.2	0.016
		PM	16.5	B	17.6	B	1.2	0.053
4	Cochrane Road and U.S. 101 Northbound Ramps	AM	8.6	A	8.3	A	0.0	0.043
		PM	11.3	B	11.2	B	0.2	0.037
5	Cochrane Road and De Paul Drive	AM	17.7	B	18.1	B	0.4	0.066
		PM	18.7	B	19.1	B	0.2	0.048
6	Cochrane Road and Mission View Drive	AM	23.0	C	24.8	C	3.1	0.019
		PM	15.7	B	16.3	B	0.9	0.021
7	Mission View Drive and Avenida De Los Padres (unsignalized)	AM	13.5	B	13.9	B	N/A	N/A
		PM	12.5	B	13.0	B	N/A	N/A
8	Mission View Drive and Half Road (unsignalized)	AM	13.6	B	14.0	B	N/A	N/A
		PM	22.6	C	34.0	D	N/A	N/A
9	Main Avenue and Condit Road	AM	27.6	C	28.9	C	1.6	0.032
		PM	26.1	C	27.3	C	1.4	0.031
10	Condit Road and Diana Avenue (unsignalized)	AM	14.7	B	14.9	B	N/A	N/A
		PM	13.6	B	14.0	B	N/A	N/A
11	East Dunne Avenue and Condit Road	AM	42.4	D	43.0	D	0.7	0.010
		PM	28.2	C	28.3	C	0.2	0.015
12	Butterfield Boulevard and Main Avenue	AM	27.6	C	27.9	C	0.1	0.001
		PM	29.8	C	30.3	C	0.8	0.013
13	Monterey Road and Main Avenue	AM	44.2	D	44.5	D	0.4	0.009
		PM	45.1	D	45.5	D	0.6	0.009

The results of the level of service analysis show that, when measured against the City level of service standards, all of the study intersections are projected to operate at acceptable levels of

service, LOS D or better, under existing plus project conditions during each of the peak hours analyzed.

Based on the signal warrant analysis for the three unsignalized intersections (Intersection Numbers 7, 8, and 10 in Table 4.17-2), the Condit Road and Diana Avenue intersection (Intersection No. 10) is projected to have volumes that would warrant signalization. However, the intersection is projected to operate within the applicable level of service standards. Therefore, the project would not have an adverse effect on operations at the intersection. All other unsignalized study intersections are projected to have traffic conditions that fall below the thresholds that warrant signalization.

Freeway Segment Level of Service Analysis

Existing Plus Project Conditions

The effects of the proposed project on freeway segments in the vicinity of the project area following the current methodologies, as outlined in the VTA Transportation Impact Analysis Guidelines, were completed. Traffic volumes on the study freeway segments under existing plus project conditions were estimated by adding project trips to the existing volumes obtained from the 2018 CMP Monitoring and Conformance Report. Based on the results of the freeway segment level of service analysis, 10 directional mixed-flow lanes and one directional HOV lane on the freeway segments analyzed are projected to operate at an unacceptable LOS F during at least one peak hour under existing conditions and would continue to operate at LOS F conditions with the addition of traffic due to proposed project (under Options 1 and 2). All other freeway segments analyzed operate at LOS E or better conditions during the AM and PM peak hours. The affected freeway segments and peak hours are described below:

Mixed-Flow Lanes

- U.S. 101, Northbound between San Martin Avenue and Tennant Avenue (AM peak hour)
- U.S. 101, Northbound between Tennant Avenue and East Dunne Avenue (AM peak hour)
- U.S. 101, Northbound between East Dunne Avenue and Cochrane Road (AM peak hour)
- U.S. 101, Northbound between Cochrane Road and Coyote Creek Drive (AM peak hour)
- U.S. 101, Southbound between SR-85 and Bailey Avenue (PM peak hour)
- U.S. 101, Southbound between Bailey Avenue and Coyote Creek Golf Drive (PM peak hour)
- U.S. 101, Southbound between Coyote Creek Golf Drive and Cochrane Road (PM peak hour)
- U.S. 101, Southbound between Cochrane Road and East Dunne Avenue (PM peak hour)
- U.S. 101, Southbound between East Dunne Avenue and Tennant Avenue (PM peak hour)
- U.S. 101, Southbound between Tennant Avenue and San Martin Avenue (PM peak hour)

HOV Lane

- U.S. 101, Southbound between Coyote Creek Golf Drive and Cochrane Road (PM peak hour)

Improvements to freeway segment operations would require freeway widening to construct additional through lanes, thereby increasing freeway capacity. VTA's Valley Transportation Plan (VTP) 2040 identifies freeway express lane projects along U.S. 101 between Cochrane Road and Whipple Avenue. The planned improvements include conversion of the existing HOV lane to an express lane and the construction of a second express lane in each direction on U.S. 101. These improvements would increase the capacity of the freeway and help to address the deficiency in freeway operations. However, it is not feasible for an individual development project to bear responsibility for implementing such extensive transportation system improvements due to constraints in the acquisition and cost of right-of-way. No comprehensive project to add through lanes has been developed by Caltrans or VTA for individual projects to contribute to. Therefore, the project would not be required to contribute toward improvements of freeway segments (under Options 1 and 2).

Year 2030 Cumulative Plus Project Conditions

Year 2030 Cumulative traffic volumes were developed based on traffic forecasts produced for the City of Morgan Hill 2035 General Plan using the City's TDF model. The Year 2030 cumulative no project traffic volumes were estimated using a growth method that involved adding a proportion (75 percent) of the 2035 projected growth, with removal of the trips associated with the adopted General Plan land uses for the project, to existing traffic counts at each of the study intersections. The results of the intersection level of service and signal warrant analyses under Year 2030 Cumulative without and with project are shown in Table 4.17-3.

Table 4.17-3: Year 2030 Cumulative with Project Conditions										
No.	**LOS Standard**	**Peak Hour**	**Existing**		**Year 2030 Cumulative without Project**		**Year 2030 Cumulative with Project**			
			Average Delay[1]	**LOS**	**Average Delay[1]**	**LOS**	**Average Delay[1]**	**LOS**	**Increase in Critical Delay**	**Increase in Critical V/C**
1	Cochrane Road and Sutter Boulevard	AM	17.2	B	17.8	B	17.8	B	0.1	0.002
		PM	17.9	B	17.9	B	18.0	B	0.0	0.002
2	Cochrane Road and Madrone Parkway/Cochrane Plaza	AM	19.1	B	19.1	B	19.1	B	0.0	0.003
		PM	31.4	C	32.3	C	32.3	C	0.0	0.005
3	Cochrane Road and U.S. 101 Southbound Ramps	AM	12.8	B	14.4	B	14.7	B	0.4	0.016
		PM	16.5	B	20.3	C	22.9	C	3.9	0.053
4	Cochrane Road and U.S. 101 Northbound Ramps	AM	8.6	A	7.8	A	7.7	A	0.1	0.043
		PM	11.3	B	11.7	B	11.9	B	0.5	0.037
5	Cochrane Road and De Paul Drive	AM	17.7	B	25.1	C	25.8	C	0.8	0.066
		PM	18.7	B	22.8	C	25.4	C	5.0	0.080
6	Cochrane Road and Mission View Drive	AM	23.0	C	**146.5**	**F**	**156.7**	**F**	**15.8**	**0.019**
		PM	15.7	B	**60.1**	**E**	**68.2**	**E**	**11.7**	**0.021**
7	Mission View Drive and Avenida De Los Padres (unsignalized)	AM	13.5	B	28.5	D	30.1	D	N/A	N/A
		PM	12.5	B	**38.5**	**E**	**42.1**	**E**	**N/A**	**N/A**

Table 4.17-3: Year 2030 Cumulative with Project Conditions										
No.	**LOS Standard**	**Peak Hour**	**Existing**		**Year 2030 Cumulative without Project**		**Year 2030 Cumulative with Project**			
			Average Delay[1]	**LOS**	**Average Delay[1]**	**LOS**	**Average Delay[1]**	**LOS**	**Increase in Critical Delay**	**Increase in Critical V/C**
8	Mission View Drive and Half Road (unsignalized)	AM	13.6	B	**>250**	**F**	**>250**	**F**	**N/A**	**N/A**
		PM	22.6	C	**>250**	**F**	**>250**	**F**	**N/A**	**N/A**
9	Main Avenue and Condit Road	AM	27.6	C	47.8	D	53.7	D	7.7	0.032
		PM	26.1	C	**80.2**	**F**	**89.6**	**F**	**11.7**	**0.031**
10	Condit Road and Diana Avenue (unsignalized)	AM	14.7	B	**36.3**	**E**	**38.2**	**E**	**N/A**	**N/A**
		PM	13.6	B	26.4	D	27.8	D	N/A	N/A
11	East Dunne Avenue and Condit Road	AM	42.4	D	63.6	E	65.7	E	2.7	0.010
		PM	28.2	C	32.7	C	33.0	C	0.7	0.015
12	Butterfield Boulevard and Main Avenue	AM	27.6	C	30.9	C	31.3	C	0.7	0.008
		PM	29.8	C	36.0	D	36.8	D	1.5	0.013
13	Monterey Road and Main Avenue	AM	44.2	D	47.6	D	48.0	D	0.6	0.009
		PM	45.1	D	49.1	D	49.8	D	0.8	0.009

[1] The reported delay and corresponding level of service for signalized intersections represent the average delay for all approaches at the intersection.

Bold indicates unacceptable level of service or signal warrant met.

Bold and boxed indicate adverse effect on operations.

The results of the level of service analysis show the following five intersections would operate at unacceptable levels of service (LOS E or F) during Year 2030 Cumulative without and with the project (under Options 1 and 2) during at least one peak hour when measured against the City of Morgan Hill's level of service standards of LOS D:

6. Cochrane Road and Mission View Drive (AM and PM peak hours)
7. Mission View Drive and Avenida De Los Padres (unsignalized) (PM peak hour)
8. Mission View Drive and Half Road (unsignalized) (AM and PM peak hours)
9. Main Avenue and Condit Road (PM peak hour)
10. Condit Road and Diana Avenue (unsignalized) (AM peak hour)

All of the remaining study intersections are projected to operate at acceptable levels of service under Year 2030 Cumulative without and with the project.

Based on the signal warrant analyses, the following two intersections are projected to have traffic volumes, under Year 2030 Cumulative without and with project, which would meet thresholds which warrant signalization during at least one peak hour:

8. Mission View Drive and Half Road (unsignalized) (AM and PM peak hours)
10. Condit Road and Diana Avenue (unsignalized) (AM and PM peak hours)

All other unsignalized study intersections are projected to have traffic conditions that fall below the thresholds that warrant signalization. Based on the City's level of service standards, the proposed project would have an adverse effect on intersection operations at the following four study intersections.

6. Mission View Drive and Cochrane Road (AM and PM peak hours)
8. Mission View Drive and Half Road (unsignalized) (AM and PM peak hours)
9. Condit Road and Main Avenue (PM peak hour)
10. Condit Road and Diana Avenue (unsignalized) (AM peak hour)

As a result, the following improvements to the above intersections that would be adversely affected by the project (under Year 2030 Cumulative with the project) would be implemented.

6. Cochrane Road and Mission View Drive

The Cochrane Road and Mission View Drive intersection is projected to operate at an unacceptable LOS F and E during the AM and PM peak hours, respectively, under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project (under Options 1 and 2) would cause the critical delay to increase by 15.8 seconds in the AM and 11.7 seconds in the PM, and the volume-to-capacity ratio (V/C) to increase by 0.019 and 0.021 seconds during both the AM and PM peak hours, respectively. This constitutes an adverse effect on intersection operations based on the City's level of service standards.

- **Condition of Approval**: The project applicant shall pay a fair share contribution toward the installation of a second northbound left-turn lane on Mission View Drive and a cycle length adjustment to improve intersection operations. The addition of the second northbound left-turn lane will require lane striping and signal modification but will fit within the existing curb-to-curb pavement width on Mission View Drive. The cost to install the required traffic signal modification, improvements, and striping required for the addition of the second left-turn lane shall be reimbursed to the developer, by agreement or credits, and shall be issued on a per unit basis through the traffic impact fees to be determined by the Public Services Director or Director's designee.

Implementation of the above Condition of Approval improvement would improve the intersection's level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project conditions. This improvement would occur within the existing right of way and would not result in a significant environmental impact (e.g., removal of a significant number of trees).

8. Mission View Drive and Half Road

The Mission View Drive and Half Road intersection is projected to operate at an unacceptable LOS F during both the AM and PM peak hours under Year 2030 Cumulative without and with project conditions. Additionally, based on the peak hour traffic signal warrant checks, this intersection would have traffic volumes that meet thresholds that warrant signalization during both the AM and PM peak hours under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City's level of service standards.

- **Condition of Approval:** The project applicant shall pay a fair share contribution toward the installation of a signal at the Mission View Drive and Half Road intersection.

Implementation of a traffic signal at this location would improve the level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project. The installation of a signal would not result in significant environmental impacts since the installation would occur within the existing right-of-way.

9. Main Avenue and Condit Road

The Main Avenue and Condit Road intersection is projected to operate at an unacceptable LOS F during the PM peak hour under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project would cause the critical delay to increase by 11.7 seconds and the V/C ratio to increase by 0.031 during the PM peak hour. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

- **Condition of Approval**: The project applicant shall pay a fair share contribution toward the addition of an exclusive southbound right-turn lane on Condit Road. The addition of the right-turn lane will require signal modifications and lane striping on the southbound approach.

Implementation of the above Condition of Approval would improve the intersection's level of service to LOS D during the PM peak hour under Year 2030 Cumulative with project conditions. Since this intersection is under the jurisdiction of Santa Clara County, the improvements will require County approval. Therefore, it is not guaranteed that the above improvement will be implemented. The improvement would occur within the existing right of way and would not result in significant environmental impacts.

10. Condit Road and Diana Avenue

The Condit Road and Diana Avenue intersection is projected to operate at an unacceptable LOS E during the AM peak hour under Year 2030 Cumulative without and with project conditions. Additionally, based on the peak-hour traffic signal warrant checks, this intersection would have traffic volumes that meet thresholds that warrant signalization during the AM peak hour under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City's level of service standards.

- **Condition of Approval:** The project applicant shall pay a fair share contribution toward the installation of a signal at the Condit Road and Diana Avenue intersection.

Implementation of a traffic signal at this location would improve the level of service to LOS B during both the AM peak hour under Year 2030 Cumulative with project. The installation of a signal would not result in significant environmental impacts since the improvement would occur within the existing right-of-way.

4.18 TRIBAL CULTURAL RESOURCES

The following discussion is based, in part, on an Archaeological Resources Assessment Report, prepared by *Basin Research Associates* in June 2019. The Archaeological Resources Assessment Report contains sensitive information and is available for review by qualified persons at Morgan Hill City Hall.

As shown in Table 2.2-1, NOP comments on the subject of tribal cultural resources were received from the Native American Heritage Commission. The comments recommended consultation with California Native American tribes.

4.18.1 Environmental Setting

4.18.1.1 *Regulatory Framework*

State

Assembly Bill 52

AB 52, effective July 2015, established a new category of resources for consideration by public agencies called Tribal Cultural Resources (TCRs). AB 52 requires lead agencies to provide notice of projects to tribes that are traditionally and culturally affiliated with the geographic area if they have requested to be notified. Where a project may have a significant impact on a tribal cultural resource, consultation is required until the parties agree to measures to mitigate or avoid a significant effect on a tribal cultural resource or until it is concluded that mutual agreement cannot be reached.

Under AB 52, TCRs are defined as follows:

- Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are also either:
    - Included or determined to be eligible for inclusion in the California Register of Historic Resources, or
    - Included in a local register of historical resources as defined in Public Resources Code Section 5020.1(k).
- A resource determined by the lead agency to be a TCR.

Local

Morgan Hill 2035 General Plan

The Morgan Hill 2035 General Plan includes goals, policies, and actions to avoid significant impacts due to loss of cultural resources.[96] The following policies related to cultural resources are applicable to the proposed project:

Policy HC-8.3: **Demolition.** Prior to approving demolition or alteration of historically significant buildings, evaluate alternatives, including structural preservation, relocation, or other mitigation, and demonstrate that financing has been secured for replacement use.

Policy HC-8.4: **Tribal Consultation.** Consult with Native American tribes that have ancestral ties to Morgan Hill regarding proposed new development projects and land use policy changes.

Policy HC-8.5: **Mitigation.** Require that if cultural resources, including tribal, archaeological, or paleontological resources, are uncovered during grading or other on-site excavation activities, construction shall stop until appropriate mitigation is implemented.

4.18.1.2 *Existing Conditions*

As discussed in Section 4.5 Cultural Resources, the project site has a low to moderate sensitivity for archaeological resources. No tribes that are culturally affiliated with the area have requested notification of projects in the City of Morgan Hill under AB 52. However, in May 2019, the Native American Heritage Commission (NAHC) was contacted by the City and Basin Resource Associates regarding development at the project site and the adjacent property to the west of DePaul Drive (an 89-acre site). A Sacred Lands File search did not indicate there were Native American resources within or adjacent to the site. Letters/emails soliciting additional information were sent to six Native American individuals/grounds recommended by NAHC. None of the Native American individuals/groups identified tribal cultural resources on or adjacent to the site.

In July 2021, pursuant to AB 52, the Tamien Nation tribe submitted a request to be notified of all projects within the City. In August 2021, the City sent a notification of the proposed project to Tamien Nation. The tribe requested consultation with the City regarding the proposed project in September 2021 and on October 11, 2021, the City consulted with the tribe pursuant to AB 52. The results of the consultation are discussed below under Impact TCR-1.

[96] City of Morgan Hill, California (2016). "Chapter 6, Healthy Community." *City of Morgan Hill General Plan 2035.* Accessed October 27, 2020. https://www.morgan-hill.ca.gov/DocumentCenter/View/22839/MH2035-General-Plan---December-2017?bidId=

4.18.2 Impact Discussion

For the purpose of determining the significance of the project's impact on tribal cultural resources, would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?
2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision I of Public Resources Code Section 5024.1? In applying the criteria set forth in subdivision I(c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The proposed differences in storm drainage, size and depth of the underground retention basins, and construction equipment usage, when comparing Project Options 1 and 2, would not affect the conclusions for tribal cultural resources impacts. Although the construction of the underground retention basins under Option 2 would result in deeper excavation (maximum depth would be nine feet below the ground surface) than Option 1 (four feet below the ground surface), mitigation measures and the conclusions for cultural resources impacts would be the same for Project Options 1 and 2. The project would excavate to a maximum depth of 10 feet to access utilities during construction for both options.

4.18.2.1 *Project Impacts*

Impact TCR-1:	The project would not cause a substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k). **(Less than Significant Impact with Mitigation Incorporated)**

Based on consultation with Native American individuals/groups, including Tamien Nation, regarding development at the site, no known tribal cultural resources are present on-site or adjacent to the site. As a result of Tamien Nation's and the City's consultation, the tribe requested that the City include measures for reducing impacts to archaeological/tribal cultural resources, including human remains, during construction. These measures included requiring a tribal monitor on-site during construction. These measures are presented in Section 4.5.2 Cultural Resources (mitigation measure MM CUL-2.1). For this reason, the project would not cause an adverse change in the significance of tribal cultural resources (under Options 1 and 2). In the event that any tribal cultural resources are unexpectedly unearthed during construction, mitigation measure MM CUL-2.1 (if the resource is human remains) would be implemented. Implementation of the above mitigation

measure would reduce the project's impact to tribal cultural resources to less than significant (under both project options). **(Less than Significant Impact with Mitigation Incorporated)**

Impact TCR-2:	The project would not cause a substantial adverse change in the significance of a tribal cultural resource that is determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. **(Less than Significant Impact with Mitigation Incorporated)**

As discussed in Impact TCR-1, there are no known tribal cultural resources on-site; however, if any subsurface tribal cultural resources are unexpectedly found, the project would implement MM CUL-2.1. Therefore, the project would not cause a substantial adverse change in the significance of a tribal cultural resource (under Options 1 and 2). **(Less than Significant Impact with Mitigation Incorporated)**

4.18.2.2 *Cumulative Impacts*

Impact TCR-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant tribal cultural resources impact. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

The geographic area for cumulative tribal cultural resources impacts is the project site and adjacent parcels. There are no known tribal cultural resources on-site or adjacent to the site. Cumulative impacts to unknown tribal cultural resources could occur as a result of ground-disturbing activities from construction of the proposed project (under Options 1 and 2) and the Redwood Tech industrial project immediately west of the site. With the proposed project's implementation of mitigation measures and Standard Condition CUL-2 listed in Section 3.5 Cultural Resources, and the Redwood Tech project's compliance with required Conditions of Approval, the cumulative projects would result in a less than significant cumulative impact to tribal cultural resources. **(Less than Significant Cumulative Impact with Mitigation Incorporated)**

4.19 UTILITIES AND SERVICE SYSTEMS

The following discussion is based in part on a Water Supply and Demand Evaluation prepared by Todd Groundwater on April 13, 2021. A copy of this report is attached as Appendix H of this DEIR.

4.19.1 Environmental Setting

4.19.1.1 *Regulatory Framework*

State

State Water Code

Pursuant to the State Water Code, water suppliers providing water for municipal purposes to more than 3,000 customers or supplying more than 3,000 acre-feet (approximately 980 million gallons) of water annually must prepare and adopt an urban water management plan (UWMP) and update it every five years. As part of a UWMP, water agencies are required to evaluate and describe their water resource supplies and projected needs over a 20-year planning horizon, water conservation, water service reliability, water recycling, opportunities for water transfers, and contingency plans for drought events. The City of Morgan Hill adopted its most recent UWMP in August 2016.

Assembly Bill 939

The California Integrated Waste Management Act of 1989, or AB 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans, and mandated that local jurisdictions divert at least 50 percent of solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. Projects that would have an adverse effect on waste diversion goals are required to include waste diversion mitigation measures.

Assembly Bill 341

AB 341 sets forth the requirements of the statewide mandatory commercial recycling program. Businesses that generate four or more cubic yards of garbage per week and multi-family dwellings with five or more units in California are required to recycle. AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020.

Senate Bill 1383

SB 1383 establishes targets to achieve a 50 percent reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75 percent reduction by 2025. The bill grants CalRecycle the regulatory authority required to achieve the organic waste disposal reduction targets and establishes an additional target that at least 20 percent of currently disposed edible food is recovered for human consumption by 2025.

California Green Building Standards Code

In January 2010, the State of California adopted the California Green Building Standards Code, establishing mandatory green building standards for all buildings in California. The code covers five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and indoor environmental quality. These standards include the following mandatory set of measures, as well as more rigorous voluntary guidelines, for new construction projects to achieve specific green building performance levels:

Reducing indoor water use by 20 percent;

Reducing wastewater by 20 percent;

Recycling and/or salvaging 50 percent of nonhazardous construction and demolition debris; and

Providing readily accessible areas for recycling by occupants.

Local

City of Morgan Hill 2035 General Plan

The Morgan Hill 2035 General Plan includes goals and policies to avoid significant impacts to utilities and service systems facing the City of Morgan Hill. The following policies to reduce impacts to utilities are applicable to the proposed project:

Policy SSI-14.5: **Water Supply**. Routinely evaluate the impact of new development proposals in Morgan Hill and require appropriate measures (fees, water supply assessments, etc.) to ensure long-term water supplies are available.

Policy SSI-14.8: **Sufficient Supply**. Ensure that new development does not exceed the water supply.

Policy SSI-16.2: **Drainage System Capacity**. Ensure that the level of detention or retention provided on the site of any new development is compatible with the capacity of the regional storm drainage system.

4.19.1.2 *Existing Conditions*

Water Service

The City of Morgan Hill provides potable water service to its residential, commercial, industrial, and institutional customers within the City limits. The City's water system facilities include 17 groundwater wells, 12 potable water storage tanks, 10 booster stations, and over 180 miles of pressured pipes ranging from two to 14 inches in diameter. The City's water distribution system meets the needs of existing customers. In anticipation of future growth, the City has planned and constructed water projects in conjunction with new street construction. The Main Avenue and Madrone Pipeline Restoration project, completed in September 2019, restores existing water delivery infrastructure along Main Avenue, Cochrane Road, and Half Road to full operating capacity.

The City of Morgan Hill relies on groundwater as its sole source of supply. The City relies on water imports from the State Water Project and the federal Central Valley Project for the purpose of groundwater recharge of the sub-basins that supply water to the City (Coyote Valley sub-area of the Santa Clara sub-basin and the Llagas sub-basin). The City's 2016 Urban Water Management Plan (UWMP) identified potential shortages which may occur during prolonged years of drought, however, upon implementation of water shortage contingency actions these shortages in supply can be mitigated in dry-year and multiple dry-year scenarios.[97]

The 33-acre site is mostly undeveloped and consists of grassland and boxed trees. A vacant single-family residence constructed in the 1950s is located on the southwestern section of the site. One or two private wells supply water to the residence and tree nursery. Total current groundwater use on site is approximately 18.54 acre-feet per year (AFY), as shown in Table 4.19-1 below.

Table 4.19-1: Current Groundwater Use On-Site

Water Use Category	Current Water Use (AFY)
Vacant Rural Residence	0.64
Containerized Trees	17.90
Total Current Water Use	**18.54**

Source: Todd Groundwater. *Half Road and Mission View Water Demand Memo*. April 13, 2021.

Wastewater

The City of Morgan Hill sewer collection system consists of approximately 160 miles of four-inch through 30-inch diameter sewers, three miles of force mains, and 14 sewage lift stations. The "backbone" of the system consists of the trunk sewers, generally 12-inches in diameter and larger, that convey the collected wastewater flows south to the South County Regional Wastewater Authority (SCRWA) Wastewater Treatment Plant.[98,99] The treatment plant provides service to the cities of Morgan Hill and Gilroy. The treatment plant has capacity to treat an average dry weather flow (ADWF) of 8.5 million gallons per day (mgd) and is currently permitted by the Central Coast RWQCB to treat up to 8.5 mgd.[100] Currently, Morgan Hill is allocated 42 percent of the treatment plant's 8.5 mgd capacity, amounting to 3.6 mgd. In 2016, the ADFW in the City was 2.8 mgd, leaving approximately 0.8 mgd of allowable growth within the City's General Plan before capacity at the plant is reached.[101] Existing sewer utilities in the project area consist of 10-inch diameter gravity

[97] City of Morgan Hill. *2015 Urban Water Management Plan.* August 2016.
[98] City of Morgan Hill. *Sewer System Master Plan.* October 2017.
[99] City of Morgan Hill. *City Council State Report 2163: Accept Report Regarding Wastewater System Needs and Rate Study Schedule*. May 18, 2019.
[100] Santa Clara Valley Water District. *US Bureau of Reclamation WaterSMART Title XVI Water Reclamation and Reuse Program Funding FY 2017, FOA BOR-DO-17-F002. South Santa Clara County Recycled Water Project (Phases 1B and 2A)*. December 15, 2016. Accessed April 19, 2021. https://www.usbr.gov/watersmart/title/docs/applications/authorized/2017/F002-007santaclara.pdf
[101] City of Morgan Hill. *Sewer System Management Plan.* Page 53. February 2018.

pipes in Cochrane Road and gravity pipes in De Paul Drive and Mission View Drive.[102] No wastewater is currently generated at the site.

The SCRWA estimated in 2017 that the Wastewater Treatment Plant (WWTP) will reach capacity in 2025. The SCRWA is currently undergoing a WWTP Facility Expansion Project that will expand the existing WWTP capacity from 8.5 mgd to 11 mgd.[103] The project is estimated for completion by 2024. Project-level CEQA review for the project was completed by SCRWA in August 2020.

The City of Morgan Hill has recently completed significant capital upgrades to increase the capacity of the existing sewer system and reduce overflows. The City completed construction of the Highland Avenue Sewer Upgrade project to provide additional trunk capacity near the intersection of Harding and Highland Avenues in 2018. The City is facilitating infiltration and inflow reduction projects to reduce the amount of rainwater infiltrating the sewer collection system. In addition, a second trunk sewer line is planned to extend from the Highland/Harding intersection in Morgan Hill to Renz Lane in Gilroy, which would allow for additional wastewater deliveries to the SCRWA Wastewater Treatment Plant. The trunk sewer line is under design review.[104]

Storm Drainage

The City of Morgan Hill is divided into several hydrologically distinct drainage areas. Each drainage area has a system of curb and gutter facilities, inlets, conveyance facilities, pumps, and detention basins to collect and dispose of runoff. The stormwater runoff from these areas is ultimately discharged into creeks that flow through the City and are tributary to either Monterey Bay or San Francisco Bay. The drainage areas include Coyote Creek, Fisher Creek, Tennant Creek, Madrone Channel, Butterfield Channel, West Little Llagas Creek, and Llagas Creek.

The project site is located in the Madrone Channel drainage basin.[105] The Madrone Channel (managed by Valley Water) is located approximately 1,000 feet west of the site. The Madrone Channel carries stormwater runoff from the area and also functions as a groundwater recharge basin. Any water that does not infiltrate locally is conveyed from the site via stormwater pipes in Mission View Drive, De Paul Drive, and Cochrane Road to the Madrone Channel, where it is then transported to detention basins and ultimately, the Pajaro River and Monterey Bay.

Solid Waste

The City is contracted with Waste Solutions Group of San Benito, LLC. Effective March 2022, the City's waste is hauled to Kirby Canyon landfill in San José or the Monterey Peninsula landfill in Marina. There is a negligible amount of solid waste currently generated at the project site.

[102] City of Morgan Hill. *Sewer System Master Plan.* Figure ES.3. October 2017.
[103] City of Gilroy. South County Regional Wastewater Authority (SCRWA). Accessed April 23, 2021. http://www.ci.gilroy.ca.us/561/South-County-Regional-Wastewater-Authori
[104] City of Morgan Hill. City Council Staff Report 2163. February 6, 2019.
[105] City of Morgan Hill. *Storm Drainage Master Plan*. Figure 4.1. September 2018.

Other Utilities

The project site is largely vacant and electricity, natural gas, and/or telecommunication facilities serving the site are limited to the vacant residential building on-site. Refer to Section 4.6 Energy for a discussion of electricity and natural gas use of the proposed project.

4.19.2 Impact Discussion

For the purpose of determining the significance of the project's impact on utilities and service systems, would the project:

1) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?
2) Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?
3) Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
4) Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?
5) Be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste?

The below impact discussion (Impact UTL-1) includes a description of post-construction stormwater management for Project Options 1 and 2. Both options would meet the City's SWMP requirements for stormwater quality, the City's Storm Drainage Master Plan standards, and SWPPP requirements. Therefore, both options would result in a less than significant impact to the City's storm drainage systems, as discussed below. Both project options would result in the same impact (less than significant) to water, sewer, wastewater treatment, and electrical/natural gas/telecommunication systems, as discussed below.

4.19.2.1 *Project Impacts*

Impact UTL-1:	The project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. **(Less than Significant Impact)**

The proposed project (under Options 1 and 2) would install new on-site storm drains, water lines, and sanitary sewer lines that would connect to existing utility lines in the adjacent roadways. The

project would establish new utility connections for electric power, natural gas lines, and telecommunications facilities that would connect to existing utility lines in the project area.

Water Facilities

The proposed project would abandon the existing water well on-site and connect to existing water lines in the surrounding roadways. New domestic water lines and fire service water lines would connect to existing 10-inch water mains on Half Road and to a new eight-inch water main on DePaul Drive. The construction of lateral connections would occur during grading and would result in minimal impacts. As is discussed under Impact UTL-2, the City has sufficient water supply with existing commitments to meet the demands of the proposed project. Therefore, the proposed project would not result in significant environmental impacts due to the construction of additional facilities to meet project demand. **(Less than Significant Impact)**

Sanitary Sewer and Wastewater Treatment

The proposed project would construct new sanitary sewer lines within the internal streets that would connect to a new eight-inch sewer line in DePaul Drive (under Options 1 and 2). The sanitary sewer line would extend from DePaul Drive and continue south to Half Road, then to Condit Road, to the existing sanitary sewer line in East Main Avenue. The design of the utility system serving the project would be reviewed by the Engineering Division to ensure that all sewer lines have adequate capacity to meet the demands of the various project components. The SCWRA Wastewater Treatment Plant would not need to be expanded solely to accommodate the increase in wastewater created by the proposed development (refer to Impact UTL-3). Therefore, the project (under Options 1 and 2) would have a less than significant impact related to the relocation or construction of new wastewater treatment facilities. **(Less than Significant Impact)**

Storm Drainage

As discussed in Section 3.2 Project Description, this EIR evaluates two stormwater management options. Under Option 1, the project would include underground retention facilities designed for a 25-year, 24-hour storm event and bioretention basins that would release excess stormwater runoff to Madrone Channel. Under Option 2, the project would include underground retention facilities designed for a 100-year, 24-hour storm event, which would retain and treat stormwater on-site, with no discharge to Madrone Channel. Storm drain lines would be included on the site's internal streets and would connect to new 15-inch to 18-inch storm drain lines on DePaul Drive and an existing 15-inch storm drain on Mission View Drive.

The project, with either stormwater management option, would be consistent with the City's Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements and Storm Drainage Master Plan. The proposed project would not require expansion of the City's existing storm drainage system. The final drainage system design for the project would be subject to review and approval by the City's Engineering Division, who would confirm that the proposed project would not result in an exceedance of existing capacity. **(Less Than Significant Impact)**

Electric Power, Natural Gas, and Telecommunications

The project would connect to existing electric power, natural gas, and telecommunication lines in the project area (under Options 1 and 2). Gas and electric utilities would be extended along with De Paul Drive in coordination with PG&E. The proposed buildings would connect to existing electrical lines along Half Road. Other utilities such as fiber optic, telephone, and cable would also be extended along Half Road and into the site to service the buildings. The project would not result in a significant environmental effect from the construction or relocation of natural gas, electricity, or telecommunication utilities. **(Less than Significant Impact)**

Impact UTL-2:	The project would not have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years. **(Less than Significant Impact with Mitigation Incorporated)**

Project Water Demand

The WSA memorandum prepared for the project assumed a maximum development of 33 acres and 269 residential units. Water demand factors were based on (1) the City of Morgan Hill Water System Master Plan (WSMP), which accounts for the use of water-conserving fixtures and drought tolerant landscaping in new development, and (2) typical factors based on number of units or building areas. The overall water demand of the project was calculated by averaging the values based on the two sets of demand factors. Table 4.19-2 below shows the estimated water demand of the proposed project.

Table 4.19-2: Project Buildout Water Demands

Development Type	Area[1] (acres)	Land Use	Water Use Demand Factor[2,3]	Water Demand based on WSMP net area[2] (AFY)	Water Demand based on units or building area[3] (AFY)
Single Family Detached	3.88	56 residential units	1,700 gpd/net acre or 0.2 AFY/unit	7.39	11.20
Duet Units	4.55	64 duet units	1,900 gpd/net acre or 0.2 AFY/unit	9.68	12.80
Condominiums	6.49	149 condominiums	2,300 gpd/net acre or 0.18 AFY/unit	16.72	26.82
Recreation Center	1.16	Recreation center with	3 AFY	3.00	3.00

Table 4.19-2: Project Buildout Water Demands					
Development Type	**Area[1] (acres)**	**Land Use**	**Water Use Demand Factor[2,3]**	**Water Demand based on WSMP net area[2] (AFY)**	**Water Demand based on units or building area[3] (AFY)**
		kitchenette, restrooms, and pool			
Irrigation	Included in other categories	Total of 8.16 acres of irrigated area	Estimated Total Water Use	16.21	16.21
Public and Private Right of Ways	11.80	Streets and rights of ways	Included in Irrigation category		
Open Space	5.30	Medians, parks, other landscaping	Included in Irrigation category		
Total	**33.18**	**269 units**		**33.79**	**50.82**
			Average	**42.31**	

[1] Total project area is about 31 acres but the slightly larger total in this table (33.18 acres) is conservative and could include additional public right of way areas.

[2] Gallons per day (gpd) per net acre values are from Water System Master Plan Table 3.4 column entitled: Recommended Factor (Consistent with 2015 UWMP). Used Residential Detached Medium, Residential Attached Low, and Residential Attached Medium factors.

[3] 0.20 AFY/unit for single-family homes and 0.18 AFY/unit values from Paso Robles 2015 UWMP.

[4] Estimated water use for clubhouse with kitchenette, restrooms and pool extrapolated from other similar recreational/spa centers.

[5] Irrigated area and demand is Estimated Total Water Use (ETWU) from City's Water Efficiency Checklist (Dividend Homes, 2020) and from sheet L-12 of The Crosswinds at Morgan Hill Full Submittal Drawings and Tentative Tract Map (June 8, 2020).

As shown in Table 4.19-2, the proposed project would result in a gross water demand of 42.31 acre-feet per year (AFY), or approximately 13.8 million gallons per year (under Options 1 and 2).[106] It is assumed that full buildout of the project would be completed by 2026. When considering the existing water use on-site (18.54 AFY), the project would result in a net increase in groundwater demands of about 23.77 AFY.

Total water use in the City of Morgan Hill is expected to increase to 9,155 AFY in 2025, 9,760 AFY in 2030, and 10,366 AFY in 2035. Estimates of water use increases are based on expected population growth in the City. The population increases and water demand projections of the proposed project were compared to those of the UWMP to determine if the water demand of the project is included

[106] 1 acre-foot = 325,851.43 gallons

in the UWMP planning projections. Assuming an average of 3.14occupants per residential unit, the project would result in 845 new residents. The UWMP expects a population increase of 6,800 persons to occur between 2020 and 2030; therefore, the project's population increase is accounted for in UWMP population projections. The UWMP projects an increase of 1,706 AFY for single-family and multi-family development water demand between 2020 and 2040. The project would use approximately 2.5 percent of the water demand allotted for single-family plus multi-family growth set forth in the UWMP. The project demands are consistent with the UWMP water demand projection increases for residential water use sectors; therefore, the proposed project's water demands were accounted for in the 2015 UWMP projections. As a result, there would be sufficient water supplies available to serve the project (under both project options).

Water Supply Reliability

The WSA compared supply and demand during normal, single-dry, and multiple-dry years for a 20-year projection. On an annual basis, the City has been able to provide sufficient supplies to meet demand during normal, single-dry, and multiple-dry year periods. The proposed project is included within the population and water demand projections included in the UWMP. The proposed residential uses of the project are consistent with allowable density under the current General Plan designation. Therefore, the project is included as part of the expected citywide demand increases through 2040. The UWMP found that the City will continue to adequately meet increased demands within its jurisdiction for normal, single-dry and multiple-dry year scenarios through 2040. Thus, the estimated net increase in demand on the site of 23.77 AFY (or 7,745,488 gallons per year) would be adequately supplied by existing sources.

The City's sole source of water supply, groundwater from the Llagas and Santa Clara subbasins, is a shared resource managed by Valley Water through the Sustainable Groundwater Management Act (SGMA) process. The 2018 Water Year Report for SGMA reporting concluded that Valley Water's comprehensive recharge programs continue to support a balanced long-term water budget for the two subbasins. The ongoing, active management of these Llagas and Santa Clara subbasins will ensure that there is reliable long-term supply of water for the proposed project (under Options 1 and 2). **(Less than Significant Impact)**

Impact UTL-3:	The project would not result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments. **(Less than Significant Impact)**

The proposed project (under Options 1 and 2) would generate approximately 32,106 gallons of wastewater per day (or 0.12 acre-feet per day).[107] As discussed in Section 4.19.1.2 Existing Conditions, the SCRWA Wastewater Treatment Plant, which serves the Cities of Morgan Hill and

[107] 42.31 AFY = 13,786,774 gallons per year/365 days = 37,772 gallons of water per day. 1 AF = 325,851.43 gallons. Based on 85 percent of water demand, wastewater generated by the project would be approximately 32,106 gallons per day.

Gilroy, has approximately 0.8 mgd of remaining capacity allocated for the City of Morgan Hill. The project's wastewater flows alone would not cause the Plant to exceed capacity. The proposed project would not increase demand beyond what is expected in the General Plan and Sanitary Sewer System Master Plan. Therefore, the project would not result in a determination by the SCRWA that it does not have adequate capacity to serve the wastewater treatment demands of the project (under Options 1 and 2). **(Less than Significant Impact)**

Impact UTL-4:	The project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals. **(Less than Significant Impact with)**

The City of Morgan Hill contracts with Waste Solutions Group to provide solid waste disposal and recycling services within the City. Waste Solutions Group will dispose of solid waste from the City at Kirby Canyon landfill or the Monterey Peninsula landfill. The Kirby Canyon landfill has a projected permitted capacity of approximately 36,400,000 cubic yards (9,828,000 tons) and is expected to remain open through 2059.[108,109] The Monterey Peninsula landfill has a projected permitted capacity of approximately 48,560,000 cubic yards (13,111,200 tons) and is expected to remain open through 2106.[110] The project would generate approximately 188 tons of solid waste per year, or 1,030 pounds per day.[111] The proposed project would increase the rate of solid waste generated at the site but would not result in an exceedance of the capacity of local infrastructure.

The proposed project would be consistent with the state's solid waste reduction goal 75 percent by 2025 (under Options 1 and 2). The proposed project uses would be required to direct and recycle waste consistent with federal, state, and local requirements. Thus, the project would not impair the attainment of solid waste reduction goals. **(Less than Significant Impact)**

Impact UTL-5:	The project would not be noncompliant with federal, state, or local management and reduction statutes and regulations related to solid waste. **(No Impact)**

As discussed under Impact UTL-4, the project (under Options 1 and 2) would comply with local, state, and federal regulations related to solid waste; therefore, the project (under both project options) would not conflict with regulations related to solid waste. **(No Impact)**

[108] CalRecycle. *SWIS Facility Detail: Kirby Canyon Landfill (43-AN-0008)*. Accessed August 26, 2022. https://www2.calrecycle.ca.gov/SolidWaste/Site/Summary/3393.
[109] 1 cubic yard = 0.27 tons.
[110] CalRecycle. *SWIS Facility Detail: Monterey Peninsula Landfill (27-AA-0010).* Accessed August 29, 2022. https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/2642?siteID=1976.
[111] Illingworth & Rodkin, Inc. *The Crosswinds at Morgan Hill Air Quality & Greenhouse Gas Assessment.* CalEEMod Results. May 12, 2022. 171 metric tons per year * 1.102 tons per metric ton = 188 tons per year. 1 ton is 2,000 pounds. 188 tons per year = 376,000 pounds per year / 365 days/year = 1,030 pounds per day.

4.19.2.2 *Cumulative Impacts*

Impact UTL-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant utilities and service systems impact. **(Less than Significant Cumulative Impact)**

The individual impacts of the project on utilities and service systems have all been evaluated with respect to the cumulative conditions of the City's water, wastewater, stormwater, and solid waste infrastructure upon General Plan buildout. It was determined that the proposed project (under Options 1 and 2), in combination with expected development in the City, would not result in significant impacts to utilities. As discussed in Section 4.19.1.2 Existing Conditions, the SCRWA is undergoing a WWTP Facility Expansion Project that will expand the existing WWTP capacity from 8.5 mgd to 11 mgd to provide wastewater services to accommodate the planned growth identified in the City of Morgan Hill's and the City of Gilroy's General Plans. The project is expected to be completed in 2024 (under Options 1 and 2). Environmental effects of the plant expansion were evaluated by SCRWA in an Initial Study/Mitigated Negative Declaration in August 2020.

Cumulative projects in the City will be evaluated at a project-level to ensure compliance with level of service standards for the utilities discussed above; necessary improvements to utility service systems will be made to ensure that the City's overall system is not impacted by the combined effects of growth. For these reasons, the proposed project would not result in a cumulatively considerable contribution to a significant utilities and service systems impact. **(Less than Significant Cumulative Impact)**

4.20 WILDFIRE

4.20.1 Environmental Setting

4.20.1.1 *Existing Conditions*

The project site is located in a rural and suburban area of Morgan Hill and is designated as a low fire hazard severity zone in a local responsibility area.[112]

4.20.2 Impact Discussion

For the purpose of determining the significance of the project's impact on wildfire, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

1) Substantially impair an adopted emergency response plan or emergency evacuation plan?
2) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
3) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
4) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The proposed differences in storm drainage, size and depth of the underground retention facilities, and construction equipment usage when comparing Project Options 1 and 2 would not affect the conclusions for wildfire impacts, as discussed below. The project (under Options 1 and 2) would not be near or in a state responsibility areas or lands classified as very high fire hazard severity zones.

4.20.2.1 *Project Impacts*

The project site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones; therefore, the project (under Options 1 and 2) would not result in wildfire impacts. **(No Impact)**

4.20.2.2 *Cumulative Impacts*

The geographic areas for cumulative wildfire are areas within or adjacent to a wildfire hazard zone. The project site is not located in or near state responsibility areas or lands classified as very high fire hazard severity zones. Since the project (under Options 1 and 2) would have no impact related to wildfire hazards, the project cannot contribute to cumulative wildfire impacts. Therefore, the

[112] California Public Utilities Commission. "CPUC Fire Threat Map". Accessed April 5, 2021. http://cpuc_firemap2.sig-gis.com/.

project would not result in a cumulative wildfire impact under both project options. **(No Cumulative Impact)**

SECTION 5.0 GROWTH-INDUCING IMPACTS

Impact GRO-1:	The project would not foster or stimulate significant economic or population growth in the surrounding environment. **(Less than Significant Impact)**

The California Environmental Quality Act (CEQA) Guidelines require that an Environmental Impact Report (EIR) identify the likelihood that a proposed project could "foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment (Section 15126.2[d]). This section of the Draft EIR is intended to evaluate the impacts of such growth in the surrounding environment. Examples of projects likely to have significant growth-inducing impacts include removing obstacles to population growth, for example by extending or expanding infrastructure beyond what is needed to serve the project. Other examples of growth inducement include increases in population that may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects.

The proposed project (under Options 1 and 2) proposes development on underutilized parcels of land. The project site is designated as Residential Attached Low in the Morgan Hill 2030 General Plan and is zoned as Residential Attached Low Density.

As discussed under Section 4.14 Population and Housing, the project would not induce substantial growth in the City, as it is consistent with the residential density envisioned for the site in the General Plan. The project (under Options 1 and 2) would be compatible with neighboring land uses and would not pressure adjacent properties to redevelop with new or different land uses in a manner inconsistent with the General Plan. For these reasons, the project would not focuser or stimulate substantial economic or population growth in the surrounding environment (under Options 1 and 2).

SECTION 6.0 SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL CHANGES

This section was prepared pursuant to CEQA Guidelines Section 15126.2(c), which requires a discussion of the significant irreversible changes that would result from the implementation of a proposed project (under Options 1 and 2). Significant irreversible changes include the use of nonrenewable resources, the commitment of future generations to similar use, irreversible damage resulting from environmental accidents associated with the project, and irretrievable commitments of resources.

6.1 USE OF NONRENEWABLE RESOURCES

The demolition of the existing structures on the project site and construction of the proposed residential project would require the use and consumption of nonrenewable resources. Nonrenewable resources include fossil fuels and metals that cannot be regenerated over time.

As discussed in Section 4.6 Energy, energy would be consumed during both the construction and operational phases of the project. The demolition and construction phase would require energy for the manufacture and transportation of building materials, preparation of the site (e.g., demolition of the existing buildings and grading), and the actual construction of the buildings. The operation of the proposed uses would consume energy (in the form of electricity and natural gas) for building heating and cooling, lighting, water heating, and the operation of appliances and electronic equipment. Operational energy would also be consumed during each vehicle trip associated with the project (under Options 1 and 2).

6.2 CHANGE IN LAND USE

The development on the site would serve several purposes, including utilization of underutilized land to provide housing in the area, as well as efficient use of existing roadways and infrastructure within the City limits. Although the project would commit future generations to more development on this site, the project would benefit the City and the region by providing residential development with proximity to regional transportation systems (under Options 1 and 2).

6.3 IRREVERSIBLE DAMAGE FROM ENVIRONMENTAL ACCIDENTS

Implementation of the project would result in the development of a potentially usable agricultural property. Irreversible environmental changes associated with the modification of the project site also include the installation of utility and roadway infrastructure. The mitigation measures outlined in this Draft EIR would reduce all such potential irreversible or nearly irreversible effects to less than significant levels. Impacts that cannot be mitigated to less than significant levels are discussed in Section 7.0 Significant and Unavoidable Impacts.

SECTION 7.0 SIGNIFICANT AND UNAVOIDABLE IMPACTS

The project would result in the significant unavoidable impacts discussed below (under Options 1 and 2). All other impacts of the proposed project would be mitigated to a less than significant level with incorporation of applicable project-level mitigation measures identified in this EIR.

Impact AG-1:	The project would convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. **(Significant and Unavoidable Impact with Mitigation Incorporated)**

The City of Morgan Hill adopted its Agricultural Lands Preservation Program (Preservation Program) in November 2014 to preserve potential agricultural land subject to development. Lands classified as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, or Grazing Land under the California Department of Conservation Farmland Mapping Program are covered under the Preservation Program. As mentioned, the project site is designated as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. The project proposes to develop the site with residential uses. Conversion of the above-mentioned farmland types to residential uses would constitute a significant impact to agricultural resources, for which no feasible mitigation exists to replace the lost resources.

Please refer to Section 4.1 Agriculture and Forestry Resources for the analysis and mitigation measures.

Impact TRN-2:	The project would conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b). **(Significant and Unavoidable Impact with Mitigation Incorporated)**

As stated in Section 4.17 Transportation, the Morgan Hill citywide average VMT per capita is currently 24.64. The impact threshold of 15 percent below the citywide average VMT per capita equates to 20.94 VMT per capita. The project is estimated to generate 27.41 VMT per capita, which would exceed the impact threshold of 20.94 VMT per capita. The project would implement mitigation measures/TDM measures such as carshare and school pool programs to reduce VMT. Implementation of the above mitigation measures would reduce the project's VMT per capita to 24.37. The reduced VMT per capita, however, would still be greater than the impact threshold of 20.94 VMT per capita, and no additional feasible measures are available, therefore project VMT would remain significant and unavoidable.

Please refer to Section 4.17 Transportation for the analysis and mitigation measures.

SECTION 8.0 ALTERNATIVES

8.1 INTRODUCTION

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) identify and evaluate alternatives to a project as it is proposed. Two key provisions from the CEQA Guidelines pertaining to the discussion of alternatives are provided below:

> **Section 15126.6(a).** Consideration and Discussion of Alternatives to the Proposed Project. An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason.
>
> **Section 15126.6(b).** Purpose. Because an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1), the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if those alternatives would impede to some degree the attainment of the project objectives, or be more costly.

Other elements of the Guidelines discuss that alternatives should include enough information to allow a meaningful evaluation and comparison with the proposed project. The CEQA Guidelines state that if an alternative would cause one or more additional impacts, compared to the proposed project, the discussion should identify the additional impact, but in less detail than the significant effects of the proposed project. The CEQA Guidelines emphasize a commonsense approach – the alternatives should be reasonable, "foster informed decision making and public participation," and focus on alternatives that avoid or substantially lessen the significant impacts. The range of alternatives necessary to permit a reasoned choice.

The three critical factors to consider in selecting and evaluating alternatives are, therefore: 1) the significant impacts from the proposed project which could be reduced or avoided by an alternative, 2) the project's objectives, and 3) the feasibility of the alternatives available. Each of these factors is discussed below.

8.2 SIGNIFICANT IMPACTS OF THE PROJECT

As mentioned above, the CEQA Guidelines advise that the alternatives analysis in an EIR should be limited to alternatives that would avoid or substantially lessen any of the significant effects of the project and would achieve most of the project objectives. As discussed previously in this EIR, the Project would result in a significant, unavoidable impact to agricultural resources as a result of conversion of Prime Farmland, as well as significant, unavoidable VMT impacts from project residents' daily travel.

Alternatives may also be considered if they would further reduce impacts that are already less-than-significant as a result of the project's proposed mitigation. Impacts that would be significant but would be reduced by mitigation include impacts to biological resources, cultural resources, greenhouse gas emissions, and hazardous materials. The alternatives discussion does not focus on project impacts that are less than significant.

8.3 PROJECT OBJECTIVES

While CEQA does not require that alternatives meet all of the project objectives, their ability to meet most of the objectives is considered relevant to their consideration.

As identified in Section 3.3, the applicant's objectives for the project are as follows:

- Provide market-rate and below-market rate housing, as envisioned in the City of Morgan Hill General Plan.
- Create a visually appealing pedestrian corridor along the Mission View Drive and Half Road frontages.
- Implement improvements to provide private vehicular and pedestrian circulation.
- Increase passive and active open space throughout the project site.

8.4 FEASIBILITY OF ALTERNATIVES

CEQA, the CEQA Guidelines, and the case law on the subject have found that feasibility can be based on a wide range of factors and influences. The CEQA Guidelines advise that such factors can include (but are not necessarily limited to) the suitability of an alternative site, economic viability, availability of infrastructure, consistency with a general plan or with other plans or regulatory limitations, jurisdictional boundaries, and whether the project proponent can "reasonably acquire, control or otherwise have access to the alternative site (Section 15126.6[f][1])."

8.5 SELECTION OF ALTERNATIVES

8.5.1 Alternatives Considered but Rejected

8.5.1.1 *Location Alternative*

The CEQA Guidelines encourage consideration of an alternative site when significant effects of the project might be avoided or substantially lessened (Section 15126.6(f)(2)(A)). Only locations that

would avoid or substantially lessen any of the significant impacts of the project and meet most of the project objectives need be considered for inclusion in the EIR. However, there is no requirement that an EIR must include evaluation of a location alternative, "An EIR shall describe a reasonable range of alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project,…" (Section 15126.6(a)).

The project proposes a development of approximately 33 acres and, accordingly, an alternative site would need to be at least of comparable size, within an area of Morgan Hill close to the U.S. 101 and have adequate transit access, roadway access, and utility capacity to serve the development proposed (under Options 1 and 2). To avoid the project's impacts, the alternative site would have to not contain irreplaceable agricultural resources and be located in a low VMT area where project VMT would be at or below the impact threshold of 20.94 VMT per capita.

In order to identify an alternative site that might be reasonably considered to "feasibly accomplish most of the basic purposes" of the project, and would also reduce significant impacts, it was assumed that such a site would ideally have the following characteristics:

- Approximately 33 acres in size;
- Located near transit and a mix of land uses that would encourage use of non-automobile modes of travel;
- Served by available infrastructure;
- Available for development;

Any project of this size and intensity within Morgan Hill would be expected to have similar operational impacts as well as impacts associated with project construction. An alternative site near high quality transit (e.g., Morgan Hill Caltrain Station) would reduce VMT. However, no similarly sized parcels are available that would accommodate the size of the project near transit. Since no suitable alternative site was found that could meet the basic objectives of the project, where significant impacts would be reduced, a feasible location alternative was not identified, and it is not evaluated further.

8.5.2 Analyzed Alternatives

In addition to a "No Project" alternative, the CEQA Guidelines advise that the range of alternatives discussed in the EIR should be limited to those that "would avoid or substantially lessen any of the significant effects of the project" (Section 15126.6[f]). The discussion below addresses alternatives which could reduce project impacts and are feasible from a physical land use and infrastructure perspective. This Draft EIR does not evaluate the financial or economic feasibility of the alternatives presented.

The following evaluation of possible alternatives to the project as it is proposed includes:

- No Project Alternative as required by CEQA (Section 15126.6[e]),
- No Project – Existing General Plan/Zoning Development Alternative
- Reduced Footprint: Agricultural Preservation Alternative

The components of these alternatives are described below, followed by a discussion of their impacts and how they would differ from those of the proposed project.

8.6 PROJECT ALTERNATIVES

The following alternatives analysis applies to both Project Options 1 and 2.

8.6.1 No Project Alternative

The CEQA Guidelines specifically require consideration of a "No Project" alternative. The purpose of including the No Project Alternative is to allow decision makers to compare the impacts of approving the project with the impacts of not approving the project. The CEQA Guidelines specifically advise that the No Project Alternative is "what would reasonably be expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services." The CEQA Guidelines emphasize that an EIR should take a practical approach, and not "…create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment" (Section 15126.6[e][3][B]).

Currently, the project site is mostly undeveloped and consists of grassland, fallowed agricultural fields, and boxed trees. A vacant single-family residence is located on the southwestern section of the site. Under the No Project Alternative, the project site could remain as is or it is reasonable to conclude that if the current project is not implemented, another development application would at some point be filed with the City proposing to develop the site with housing consistent with the site's General Plan designation and zoning. For these reasons, there are two possible No Project alternatives: 1) a No Project/No Development Alternative and 2) a No Project/Existing Plan Development Alternative.

8.6.1.1 *No Project/No Development Alternative*

Comparison of Environmental Impacts for the No Project Alternative

The No Project Alternative would maintain existing site conditions, and return the site to active agricultural uses, and thereby avoid all of the project's environmental impacts, including the significant unavoidable impacts related to agriculture (conversion of Prime Farmland) and residential VMT. Project impacts that would be less than significant with mitigation measures, including biological resources, cultural resources, hazardous materials, greenhouse gas emissions, and hazardous materials impacts, would also be avoided under the No Project Alternative.

Relationship to Project Objectives for the No Project Alternative

The No Project Alternative would not meet any of the project's objectives. The No Project Alternative would not construct a residential development that provides market-rate and below market-rate housing consistent with the General Plan. Additionally, this alternative would not meet the applicant's objectives of implementing improvements for vehicular and pedestrian circulation, nor would it increase passive and open recreational park space.

Conclusion

The No Project Alternative is an environmentally superior alternative to the proposed project. Because the No Project Alternative would not result in any new development on the site, this alternative would avoid all environmental impacts of the project. This alternative would not, however, meet any of the applicant's project objectives and it would not implement the site's General Plan land use designation.

8.6.1.2 *No Project - Existing General Plan/Zoning Development Alternative*

The General Plan EIR assumes that the project site will be developed in conformance with the existing General Plan designation of Residential Attached Low (six to 16 du/ac). The maximum development allowed at the residential site, based on the maximum General Plan land use designation density of 16 du/ac, is 448 dwelling units (16 du/ac x 28 acres of residential area).[113] Year 2035 General Plan traffic forecasts include land use growth and transportation improvements associated with the buildout of the City's General Plan. The 2035 General Plan forecasts assumed trips associated with 345 residential units (approximately 75 percent of the allowed 448 dwelling units allowed per the adopted General Plan land use for the project site) (based on the City's Travel Demand Forecasting [TDF] Model). The project proposes to construct a total of 269 residential units (149 condominiums, 64 duet units, and 56 single-family attached units) consistent with the site's existing General Plan Land Use Designation and zoning district of Residential Attached Low Density (under Options 1 and 2).

Table 8.6-1 provides a trip generation comparison with the residential development assumed using General Plan 2035 Transportation Demand Forecasting (TDF) model and the proposed project.

[113] The proposed residential area is approximately 28 acres. The five acres is designated for the construction of DePaul Drive.

Table 8.6-1: Project Trip Generation Estimates									
Land Use	**Size**	**Daily**		**AM Peak Hour**			**PM Peak Hour**		
		Rate	**Trips**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
General Plan 2035 Land Use									
Single-Family Detached Housing (ITE LU #210)[1]	345 dwelling units	9.44	3,257	64	191	**255**	215	127	**342**
Proposed Land Use									
Single-Family Detached Housing (ITE LU #210)[1]	269 dwelling units	9.44	2,539	50	149	**199**	168	98	**266**
Difference in Trips (General Plan Allowable Land Uses - Proposed Project)	--	--	*718*	*14*	*42*	***56***	*47*	*29*	***76***
[1] Source: ITE Trip Generation Manual, 10th Edition 2017									

Comparison of Environmental Impacts

Assuming the site is developed according to the existing General Plan land use designations, the No Project/Existing General Plan/Zoning Alternative would result in 3,257 daily trips with 255 trips during the AM peak hour and 342 during the PM peak hour.

When compared to the proposed project, the No Project/Existing Plan Alternative would result in 718 more daily trips, 56 more AM peak hour trips, and 76 more PM peak hour trips. Since the Existing General Plan/Zoning alternative would result in more daily trips than the proposed project, this alternative would result in higher mobile operational criteria pollutant and GHG emissions. Given the increase vehicle traffic, the No Project/Existing Plan alternative would slightly increase roadway traffic noise. This alternative would also increase the number of residents by approximately 236 compared to the proposed project. As a result, this alternative has greater impacts on water, sanitary sewer, and solid waste facilities. The No Project/Existing General Plan/Zoning Alternative would result in the same VMT as the proposed project because the project area is already at the VMT threshold defined by the VTA VMT tool. The density threshold is built into the VMT methodology and tool, and varies based on surrounding land uses. The maximum density for the project area is approximately 250 units. Thus, VMT is reduced when increasing the number of units up to 250 units, and there is no further reduction when exceeding the 250-unit threshold.[114] As with the proposed project, the alternative's VMT per capita would still be above the citywide threshold. Therefore, this alternative would also have a significant and unavoidable VMT impact.

[114] Personal Communications. Del Rio, Robert, Hexagon Transportation Consultants. RE: Crosswinds Project Traffic Questions. August 23, 2022.

Similar to the proposed project (Options 1 and 2), the No Project/Existing General Plan/Zoning Alternative would still likely entail development activity across the majority of the project site and result in similar site disturbance. Therefore, the No Project/Existing Plan Alternative will have impacts similar to the proposed project related to aesthetics, farmland conversion, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, and tribal cultural resources.

Relationship to Project Objectives

The No Project - Existing General Plan/Zoning Alternative could achieve all of the project objectives including providing market-rate and below-market rate housing, implementing improvements to provide private vehicular and pedestrian circulation, and increase passive and active open space throughout the project site.

Conclusion

The No Project - Existing Plan Alternative would meet the project's objectives, but would not be environmentally superior, and would increase the severity of most operational impacts.

8.6.2 Reduced Footprint: Agricultural Preservation Alternative

As described in this EIR, the proposed project would result in significant and unavoidable impacts to agricultural resources and transportation (VMT), and significant but mitigable impacts from operational greenhouse gas emissions, biological resources during construction, hazardous materials, and construction noise. The purpose of the Reduced Footprint Agricultural Preservation alternative is to reduce the identified impacts to agricultural resources.

The site consists of approximately 16 acres of Prime Farmland (western portion of the site) and 17 acres of Grazing Land (eastern portion of the site). Reducing the footprint of the site so that the residential development is only on the eastern portion of the site (Grazing Land) and retaining the western 16 acres of Prime Farmland for agriculture would avoid the significant impact to Prime Farmland. This alternative would not require the extension of DePaul Drive since residents would access the site on Mission View Drive (adjacent to the eastern portion of the site), although DePaul Drive may still be extended in connection with the Redwood Tech industrial project to the west. The project's footprint would be reduced by approximately 50 percent and the number of residences would be reduced to approximately 135 units. This alternative would avoid significant impacts to Prime Farmland.

Comparison of Impacts

The project would result in a significant and unavoidable impact to agricultural resources as it results in the loss of 16 acres of Prime Farmland. The Reduced Footprint Agricultural Preservation Alternative would not include development on Prime Farmland and, therefore, would avoid the significant impact to agricultural resources. This alternative would require a reduction of 50 percent

of the project units to maintain the same mix of unit types, site layout, and project amenities as the proposed project, but on half the site acreage. To maintain the full unit count on half the site acreage would require a substantially denser residential unit type and site layout.

As described in Section 4.17, Transportation, the proposed project would result in a significant and unavoidable VMT impact with and without mitigation (27.41 VMT per capita without mitigation and 24.37 VMT per capita with mitigation). Given the significant and unavoidable VMT impact is based on the location of the site (e.g., lack of jobs and transit in the City), this alternative would also result in a significant unavoidable VMT impact, as the units developed on the portion of the site mapped as less important Grazing Land would still have high VMT per capita due to the site location.

The project's GHG emissions for 2030 were calculated on a per capita basis and compared to an efficiency metric of 2.8 MT CO_2e/service population. With the implementation of mitigation measures included in Section 4.8, Greenhouse Gas Emissions, the project's operational GHG emissions would be less significant. Reducing the project footprint and number of units by half would not affect the per capita GHG emissions, which would continue to require mitigation to be reduced below the applicable threshold.

Given the alternative would reduce the number of residents by half, the water and wastewater, and solid waste demands would be lower than the proposed project's demands. This alternative would result in less operational criteria pollutant emissions due to less trips generated from the site. Given the smaller project may result in a shorter construction period, construction noise impacts to nearby residents would be reduced, however, the construction noise mitigation measures would still be required. The alternative would have impacts similar to the proposed project related to aesthetics, construction air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, construction noise, tribal cultural resources given 16 acres would still be subject to development.

Conclusion

The Reduced Footprint Agricultural Preservation Alternative would avoid the significant and unavoidable impact to agricultural resources but would not avoid the significant and unavoidable VMT impact. This alternative could meet most of the project objectives, however, by only achieving half of the proposed housing units, this alternative would not achieve the project objective of providing market-rate and below-market rate (BMR) housing, as envisioned in the City of Morgan Hill General Plan, to the same degree as the project.

8.6.3 Environmentally Superior Alternative

The CEQA Guidelines state that an EIR shall identify an environmentally superior alternative. Based on the above discussion, the environmentally superior alternative to the proposed project is the No Project-No Development Alternative because all of the project's significant environmental impacts would be avoided by leaving the site in its current condition. However, Section 15126(e)(2) states that "if the environmentally superior alternative is the No Project Alternative, the EIR shall also

identify an environmentally superior alternative among the other alternatives." Among the alternatives that assume some development on the site, the environmentally superior alternative is the Reduced Footprint: Agricultural Preservation alternative which would avoid significant agricultural impacts since development would not occur on the portion of the site mapped as Prime Farmland.

Table 8.6-2 summarizes the level of impact for the proposed project and each project alternative.

Table 8.6-2: Comparison of Impacts from Alternatives to Proposed Project (Options 1 and 2)

Significant Impacts of the Proposed Project	Level of Impact		
	No Project – No Development	**No Project - Existing General Plan/Zoning Alternative**	**Reduced Footprint Agricultural Preservation Alternative**
Agricultural Resources	Avoided	Same	Avoided
Biological Resources	Avoided	Same	Same
Cultural Resources	Avoided	Same	Same
Greenhouse Gas Emissions	Avoided	Greater	Same
Hazards/Hazardous Materials	Avoided	Same	Same
Noise	Avoided	Greater	Similar
Tribal Cultural Resources	Same	Same	Same
Transportation Traffic	Avoided	Same	Same
Meets Project Objectives	No	Mostly	Partially
Environmentally Superior Alternative	Yes	No	Yes

Similar: Similar to the proposed project.

Less: Substantial impact reduction compared to the proposed project, but not to a less than significant level.

Greater: Substantially greater impact than proposed project.

As shown in Table 8.6-2, the environmentally superior alternative that would at least partially meet the project objectives is the Reduced Footprint Agricultural Preservation alternative. The feasibility of this alternative will be determined by the City Council in deciding whether to approve the proposed project (under Options 1 and 2).

SECTION 9.0 REFERENCES

The analysis in this Environmental Impact Report is based on the professional judgement and expertise of the environmental specialists preparing this document, based upon review of the site, surrounding conditions, site plans, and the following references:

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SECTION 10.0 LEAD AGENCY AND CONSULTANTS

10.1 LEAD AGENCY

City of Morgan Hill
Development Services Department, Planning Division
Gina Paolini, Principal Planner

10.2 CONSULTANTS

David J. Powers & Associates, Inc.
Environmental Consultants and Planners
Akoni Danielsen, President and Principal Project Manager
Amber Sharpe, Project Manager
Maria Kisyova, Assistant Project Manager
Ryan Osako, Graphic Artist

Hexagon Transportation Consultants
Robert Del Rio, Vice President and Principal Associate

Illingworth & Rodkin, Inc.
Acoustical and Air Quality Consultants
Michael Thill, Principal
James Reyff, Principal
Casey Divine, Staff Consultant
Steve Deines, Staff Consultant

Todd Groundwater
Kate White, Senior Civil Engineer

SECTION 11.0 ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACM	Asbestos containing material
ADT	Average Daily Traffic
AFY	Acre-feet per year
AIA	Airport Influence Area
ALUC	Airport Land Use Commission
APN	Assessor's Parcel Number
AST	Aboveground storage tank
ATCM	Air toxic control measure
BAAQMD	Bay Area Air Quality Management District
BMP	Best management practice
BTU	British thermal unit
CalARP	California Accidental Release Prevention
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CALGreen	California Green Building Standards Code
Cal/OSHA	California Department of Industrial Relations, Division of Occupational Safety and Health
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Clean Air Plan
CARB	California Air Resources Board
CBC	California Building Standards Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFC	Chlorofluorocarbon
CFR	Code of Federal Regulations

Cfs	Cubic feet per second
CGS	California Geological Survey
CH_4	Methane
CIWMB	California Integrated Waste Management Board
CLUP	Comprehensive Land Use Plan
CMP	Congestion Management Program
CNEL	Community Noise Equivalent Level
CO	Carbon monoxide
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources
CUPA	Certified Unified Program Agency
dB	Decibel
dBA	A-weighted decibel
DEIR	Draft Environmental Impact Report
DNL	Day-Night Level
DPM	Diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
ESL	Environmental Screening Level
EV	Electric vehicle
EVA	Emergency vehicle access
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FAR	Floor area ratio
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zones

FIRM	Flood Insurance Rate Map
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transit Administration
GHG	Greenhouse gas
GHGRS	Greenhouse Gas Reduction Strategy
gpd	Gallons per day
GWh	Gigawatt hour
GWP	Global Warming Potential
Habitat Plan	Santa Clara Valley Habitat Plan/Natural Community Conservation Plan
HFC	Hydrofluorocarbon
HI	Hazard Index
kW	Kilowatt
kWh	Kilowatt-hour
L_{eq}	Continuous noise level
LID	Low Impact Development
L_{max}	Maximum noise level
mgd	Million gallons per day
MND	Mitigated Negative Declaration
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NO_2	Nitrogen dioxide
NOD	Notice of Determination
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	Nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
O_3	Ozone
OCP	Organochlorine pesticide
OPR	Governor's Office of Planning and Research
PCB	Polychlorinated biphenyl

PFC	Perfluorocarbon
PG&E	Pacific Gas and Electric Company
PM	Particulate matter
$PM_{2.5}$	Fine particulate matter
PM_{10}	Coarse particulate matter
ppm	Parts per million
PPV	Peak Particle Velocity
RHNA	Regional Housing Need Allocation
ROG	Reactive organic gas
RPS	Renewable Portfolio Standards
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCRWA	South County Regional Wastewater Authority
SF_6	Sulfur hexafluoride
SFHA	Special Flood Hazard Area
SHMA	Seismic Hazards Mapping Act
SMARA	Surface Mining and Reclamation Act
SMGB	State Mining and Geology Board
SMP	Site Management Plan
SO_x	Sulfur oxide
SR	State Route
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminant
TCR	Tribal Cultural Resource
TDF	Transportation Demand Forecasting
$\mu g/m^3$	Micrograms per cubic meter
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
UST	Underground storage tank
Valley Water	Santa Clara Valley Water District

VEC	Vapor Encroachment Condition
VMT	Vehicle miles traveled
VOC	Volatile organic compound
WSA	Water Supply Assessment
WWTP	Wastewater Treatment Plant

Appendix A

NOP and NOP Comments

NOTICE OF PREPARATION

Date **January 29, 2021**

To: Responsible Agencies, Trustee Agencies, and Other Interested Parties

Subject: **Notice of Preparation for a Draft Environmental Impact Report for the Proposed Crosswinds Mission View Drive Residential Project EIR**

The City of Morgan Hill (City), acting as Lead Agency, will prepare a Draft Environmental Impact Report (DEIR) for the **Crosswinds Mission View Drive Residential Project** (project) as identified above and described in the attached materials.

The City is interested in the views of your agency as to the appropriate scope and content of the Draft EIR, as well as any recommended mitigation measures related to responsible and trustee agencies' statutory responsibilities. Please note responsible and trustee agencies will need to use the EIR prepared by the City when considering permits or other approvals required for the project.

The City will consider all comments received in response to the Notice of Preparation (NOP) during the drafting of the EIR. The project location, summary description and list of potential environmental effects are attached and may be viewed on-line at: **http://www.morgan-hill.ca.gov/2088/Half-Dividend-Crosswinds-Residential-Dev**

Pursuant to the time limits mandated by State law, responses to this Notice of Preparation must be sent to the City at the earliest possible date, but not later than forty-five (45) days after receipt of this notice. Please send written comments to the address below by March 17, 2021.

Morgan Hill Development Services
Attention: Gina Paolini, Principal Planner
17575 Peak Avenue, Morgan Hill, California 95037

(408) 310-4676 | Gina.Paolini@MorganHill.CA.gov

Gina Paolini

Gina Paolini, Principal Planner

January 22, 2021

Date

Notice of Preparation for an Environmental Impact Report
for the Proposed Crosswinds Mission View Drive Project

Date of Distribution: January 29, 2021

A. INTRODUCTION

The purpose of an Environmental Impact Report is to inform decision-makers and the general public of the environmental impacts of a proposed project that an agency (in this case, the City of Morgan Hill) may implement or approve. The EIR process is intended to: (1) provide information sufficient to evaluate a project and its potential for significant impacts on the environment; (2) examine methods (e.g., project-specific mitigations, uniformly applied development regulations) for avoiding or reducing significant impacts; and (3) consider alternatives to the proposed project.

In accordance with CEQA, the Draft EIR will include the following:

- A summary of the project, its potential significant environmental impacts, and mitigations required to avoid or reduce those significant impacts;
- A project description;
- A description of the existing environmental setting, potential environmental impacts, and mitigations for the project;
- Alternatives to the proposed project; and
- Other environmental consequences of the project, including
    - (1) growth-inducing effects
    - (2) significant unavoidable impacts
    - (3) irreversible environmental changes
    - (4) cumulative impacts, and
    - (5) effects found not to be significant.

B. PROJECT LOCATION

The approximately 31-acre project site is located at the intersection of Half Road and Mission View Drive in the City of Morgan Hill. The site is bounded by Half Road to the south and Mission View Road to the east. The project is located on four parcels (APNs 728-30-001, 728-30-002, 728-30-003, and 728-30-004). The project site is mostly undeveloped and consists of grassland and boxed nursery trees. A vacant single-family residence constructed in the 1950s is located on the southwestern section of the site. Regional, vicinity, and aerial maps of the project site are shown in Figures 1, 2, and 3, respectively. A tentative site plan is shown in Figure 4.

The adjacent parcels (APNs 728-30-006, 728-30-008, and 728-30-009) to the west are undeveloped, consisting of mostly grasses and trees. South of the project site, across Half Road, is a vacant field with grasses and residences. East of the project site, across Mission View Drive, is a field with orchards and associated structures, and single-family residences. North of the project site, is an adjacent vacant parcel of land, followed by a health center and associated parking.

C. PROJECT DESCRIPTION

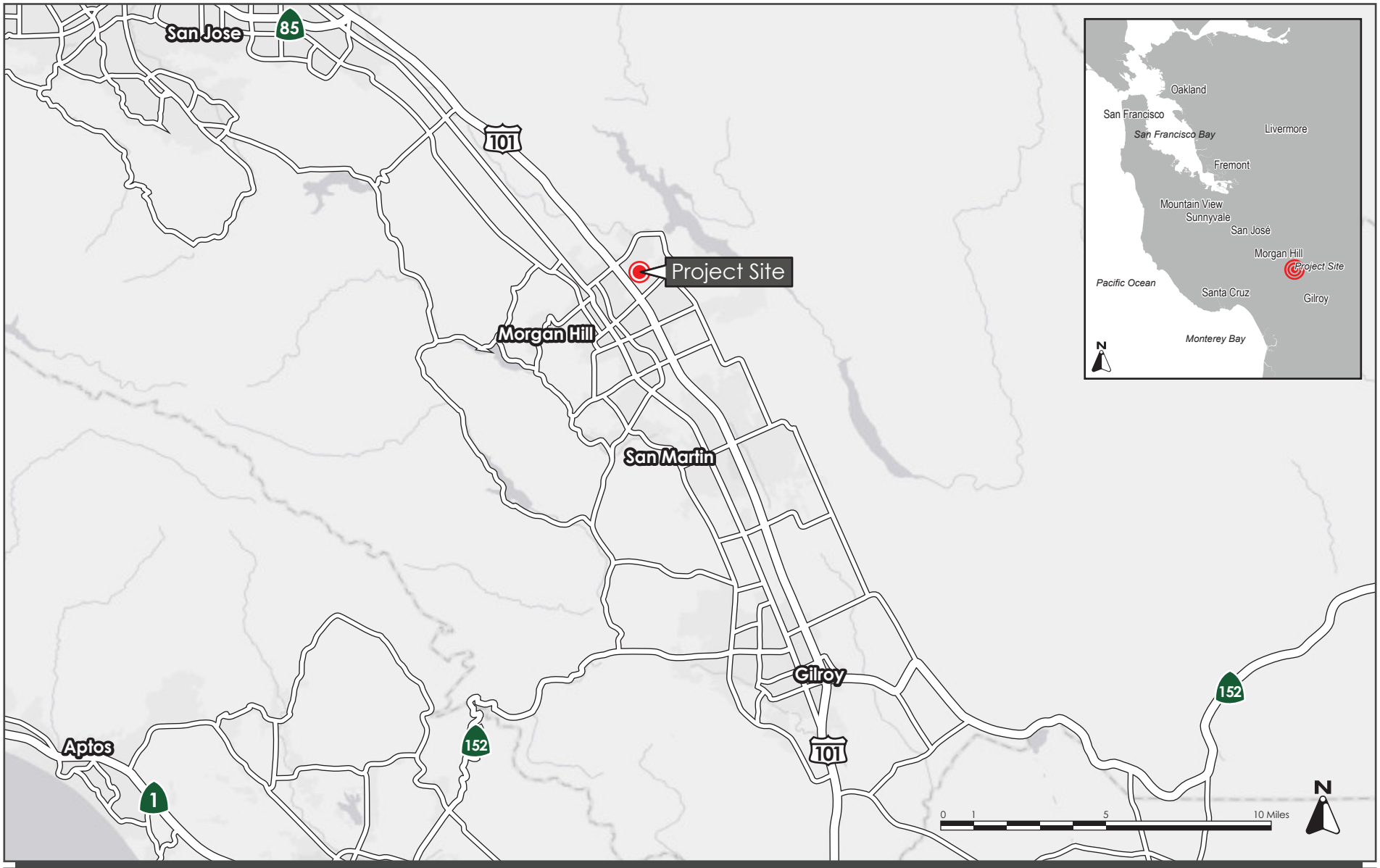
The project proposes to construct a total of 269 new one- to two-story residential units, including 56 one- to two-story single-family, 64 duets, and 149 three-story condominium units. The project would include approximately 40 below-market-rate (BMR) units. The project proposes recreational areas

including a clubhouse, pool, children's play area, and barbeque/picnic areas. The project would also include landscaping, including trees and lawn areas.

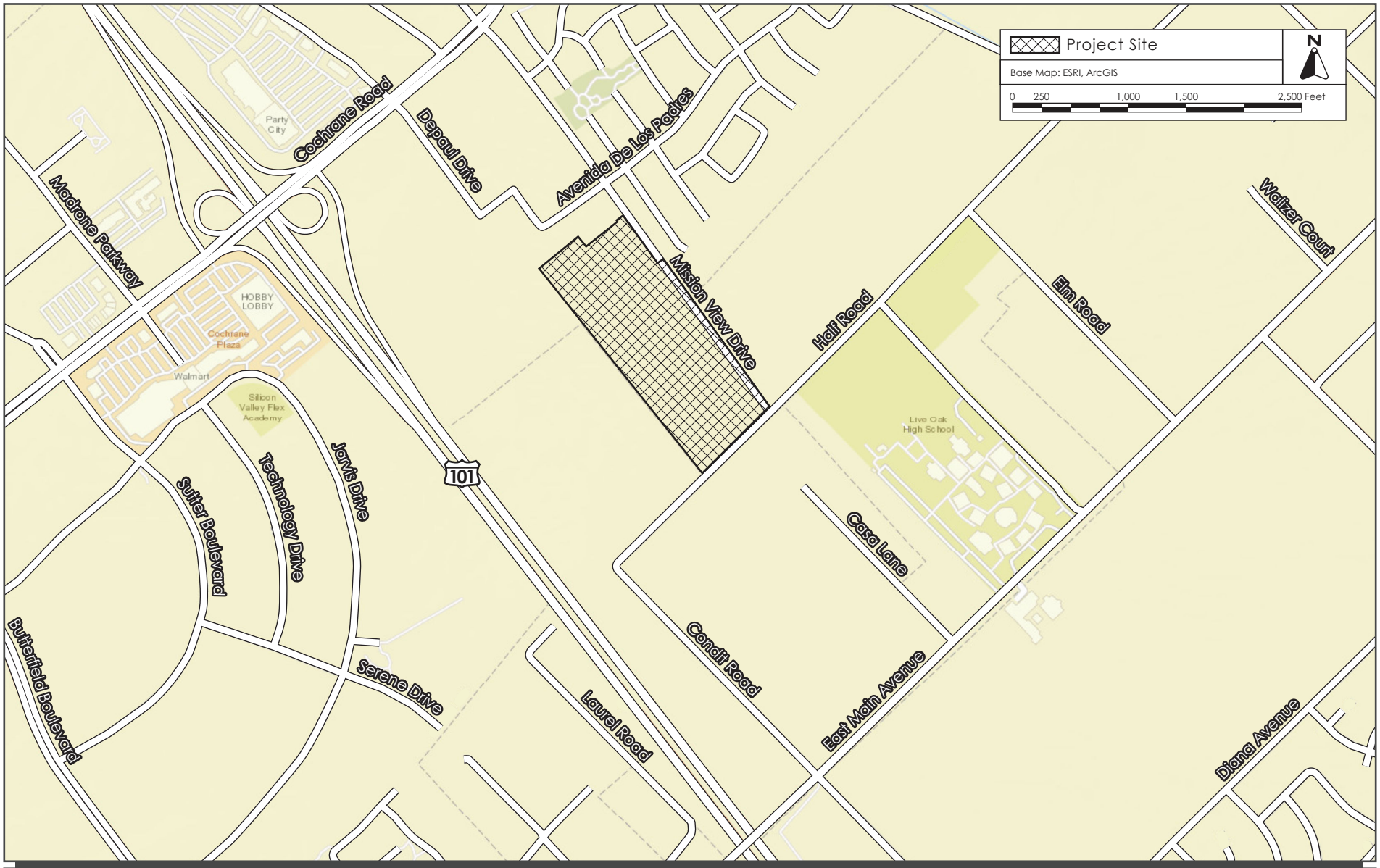
The project site would be accessed via three vehicular connections: two site entries from DePaul Drive and one entry from Mission View Drive. The project would also include emergency vehicle access to Half Road and DePaul Drive. The site will include private internal streets that would provide access to residences and on-street parking. Each unit would include a two-car garage on the ground floor. On-street parking and uncovered parking stalls would be available to guests.

Required Project Approvals

1. Vesting Tentative Map
2. Architectural Design Review
3. Issuance of Demolition, Grading, Building, and Occupancy Permits
4. Tree Removal Permits

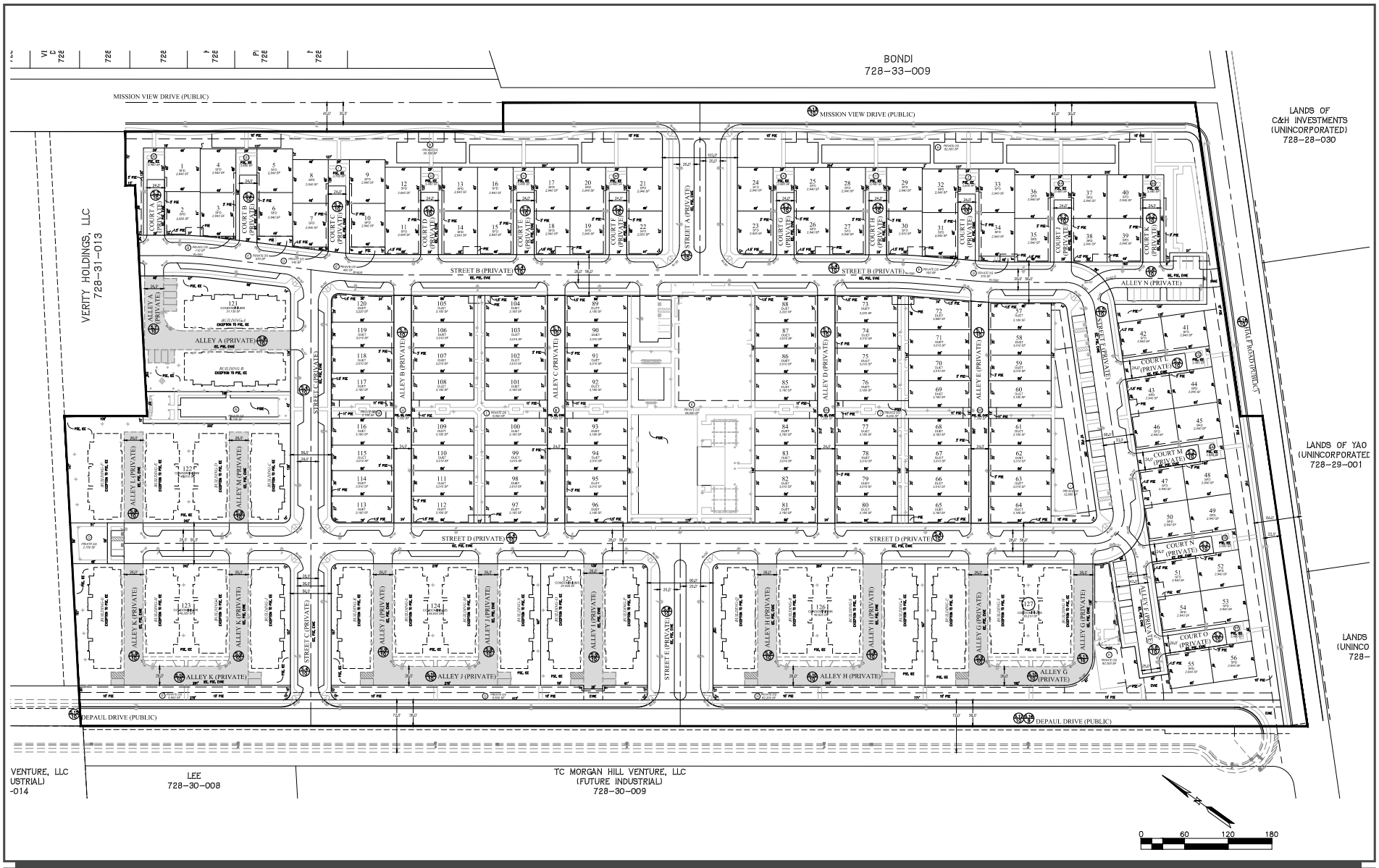


REGIONAL MAP | FIGURE 1



VICINITY MAP | FIGURE 2

AERIAL PHOTOGRAPH AND SURROUNDING LAND USES | FIGURE 3



TENTATIVE SITE PLAN | FIGURE 4

D. POTENTIAL IMPACTS OF THE PROJECT

The EIR will identify the significant environmental effects anticipated to result from development and operation of the project as proposed. The EIR will include the following specific environmental categories as related to the proposed project. Below are key resource topics that will be analyzed in the EIR:

- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Land Use and Planning
- Noise and Vibration
- Transportation
- Utilities and Service Systems

Agricultural Resources
Portions of the project site have historically been used for agricultural purposes, including an orchard that is no longer actively cultivated. According to the Santa Clara County Important Farmland 2016 Map, the majority of the site is designated as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland. In November 2014, the City adopted its Agricultural Lands Preservation Program (Preservation Program), which intends to preserve open space agricultural activity within the Morgan Hill Sphere of Influence. The EIR will discuss the project's compliance with the City's General Plan and the Preservation Program's mitigation measures as detailed in the Agricultural Mitigation Ordinance.

Air Quality
The EIR will describe the existing air quality conditions in the Bay Area and will evaluate the proposed project's construction and operational impacts to local and regional air quality in accordance with the 2017 Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines and thresholds.

Biological Resources
Habitats in the project area are low in species diversity and include predominately urban adapted birds and animals. The EIR will address the loss of trees within, and adjacent to, the construction zones. In addition, the EIR will identify and discuss the project's biological impacts during construction and operation and the project's consistency with the Santa Clara Valley Habitat Plan.

Cultural Resources
The EIR will identify and discuss potential subsurface archaeological resource impacts from project construction. The project site contains a vacant single-family residential building that was constructed in the 1950s. The EIR will address the building's historic potential and any known existing cultural resources on and adjacent to the site. The EIR will also evaluate the potential for the site to contain tribal cultural resources in accordance with AB52.

Energy
Implementation of the proposed project would result in an increased demand for energy on-site. The EIR will discuss the increase in energy usage on-site and energy efficiency measures proposed by the project.

Greenhouse Gas (GHG) Emissions
The EIR will address the project's contribution to regional and global greenhouse gas (GHG) emissions based on BAAQMD thresholds and consistency with policies adopted by the City of Morgan Hill for reducing GHG emissions. The daily GHG emissions resulting from the project will be estimated using the California Emissions Estimator Model. Proposed design measures to reduce energy consumption, which in turn would reduce GHG emissions, will be discussed.

Hazards and Hazardous Materials
The EIR will address existing hazards or hazardous material conditions on and in the vicinity of the site and will address the potential for hazardous materials impacts to result from implementation of the proposed project.

Land Use and Planning
The project site is located in a rural/suburban area of Morgan Hill and is surrounded by agricultural land, residences, and a school. The EIR will describe the existing land uses adjacent to the site. Land use impacts that would occur as a result of the proposed project will be analyzed, including the consistency of the project with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect.

Noise and Vibration
Noise levels in the project area are primarily influenced by vehicular noise on surrounding roadways, including US 101. The EIR will discuss noise and vibration that would result from the construction and operation of the proposed project (including noise from project generated traffic) and its impact on nearby sensitive receptors. Noise levels will be evaluated for consistency with applicable noise standards and guidelines. Additionally, the EIR will evaluate the effects of vibration during project construction on adjacent buildings.

Transportation
The EIR will examine the transportation impacts from the project by completing a vehicle-miles traveled (VMT) analysis. The EIR will also include a level of service (LOS) analysis. The project's effects on LOS will be evaluated based on consistency with the City's LOS policy and will not be used as a metric to determine CEQA impacts. Any environmental impacts (e.g., such as removal of trees) resulting from recommended roadway improvements will be evaluated. Project-generated impacts or operational issues associated with vehicular access or on-site circulation would be addressed.

Utilities and Service Systems
Implementation of the proposed project could result in an increased demand on utilities and service systems compared to existing conditions. The EIR will examine the impacts of the project on utilities and service systems, including the sanitary sewer and storm drainage systems, water supply, and solid waste management.

Other Resource Topics

The EIR will analyze impacts related to other resource topics including aesthetics, geology and soils, hydrology and water quality, mineral resources, population and housing, public services, recreation, and wildfire.

Cumulative Impacts
In conformance with CEQA Guidelines Section 15130, the EIR will include a discussion of cumulative impacts from the project in combination with other past, pending and reasonably probable future

development in the area, based on projections for development according to General Plan buildout. The EIR will analyze and describe any significant cumulative impacts to which the project may contribute.

Significant Unavoidable Impacts
The EIR will identify those significant impacts that cannot be avoided if the project is implemented as proposed.

Alternatives
The EIR will evaluate possible alternatives to the proposed project based on the results of the environmental analysis. The alternatives discussion will focus on those alternatives that could feasibly accomplish most of the basic purposes of the project and could avoid or substantially lessen one or more of the significant environment effects (CEQA Guidelines Section 15126.6). Alternatives to the proposed project would include a "No Project" alternative. Other alternatives that may be discussed include "Reduced Development (i.e., smaller project size)," a "Design" Alternative and "Location" alternatives. Alternatives will be chosen based on their ability to avoid or lessen one or more significant impacts while still meeting most of the basic objectives of the proposed project.

Other Required Sections
In conformance with the CEQA Guidelines, the EIR will also contain the following sections: 1) Growth Inducing Impacts; 2) Significant Irreversible Environmental Changes; 3) EIR References and Organizations & Persons Consulted; and 4) EIR Authors.

The following pages contain comments received on the NOP.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT

ALAMEDA COUNTY
John J. Bauters
(Secretary)
Pauline Russo Cutter
David Haubert
Nate Miley

CONTRA COSTA COUNTY
John Gioia
David Hudson
Karen Mitchoff
(Vice Chair)
Mark Ross

MARIN COUNTY
Katie Rice

NAPA COUNTY
Brad Wagenknecht

SAN FRANCISCO COUNTY
Myrna Melgar
Shamann Walton
Tyrone Jue
(SF Mayor's Appointee)

SAN MATEO COUNTY
David J. Canepa
Carole Groom
Davina Hurt

SANTA CLARA COUNTY
Margaret Abe-Koga
Cindy Chavez
(Chair)
Rich Constantine
Rob Rennie

SOLANO COUNTY
Erin Hannigan
Lori Wilson

SONOMA COUNTY
Teresa Barrett
Lynda Hopkins

Jack P. Broadbent
EXECUTIVE OFFICER/APCO

Connect with the
Bay Area Air District:

March 16, 2021

Gina Paolini, Principal Planner
Morgan Hill Development Services
City of Morgan Hill
17575 Peak Ave
Morgan Hill, CA 95037

RE: Crosswinds Mission View Drive Residential Project – Notice of Preparation of a Draft Environmental Impact Report

Dear Ms. Paolini,

Bay Area Air Quality Management District (District) staff has reviewed the Notice of Preparation (NOP) for the Draft Environmental Impact Report (DEIR) for Crosswinds Mission View Drive Residential Project (Project). The Project would include development of 269 new residential units, comprised of 56 single-family, 64 duets, and 149 condominium units. There would be a total of 40 below-market-rate (BMR) units. Each unit would include a two-car garage on the ground floor. The Project site would be located near Highway 101 on the west side along Mission View Drive between Half Road and Cochrane Road.

Air District staff recommends the DEIR include the following information and analyses:

- **The DEIR should estimate and evaluate the potential health risk to existing and future sensitive populations within and near the Project area from toxic air contaminants (TACs) and fine particulate matter ($PM_{2.5}$) as a result of the Project's construction and operations.** Air District staff recommends that the DEIR evaluate potential cumulative health risk impacts of TACs and $PM_{2.5}$ emissions on sensitive receptors within and near the Project area.

- **The GHG impact analysis should include an evaluation of the Project's consistency with the most recent draft of the AB 32 Scoping Plan by the California Air Resources Board and with the State's 2030 and 2050 climate goals.** The Air District's current recommended GHG thresholds in our CEQA Guidelines are based on the State's 2020 GHG targets which are now superseded by the 2030 GHG targets established in SB 32. The DEIR should demonstrate how the Project will be consistent with the Scoping Plan.

- **The DEIR should evaluate all feasible mitigation measures, both onsite and offsite, for air quality and GHG impacts.** The DEIR should prioritize onsite mitigation measures, followed by offsite mitigation measures, within the Project area. Examples of potential emission reduction measures that should be evaluated and considered include, but are not limited to:

    - Prohibiting or minimizing the use of diesel fuel, consistent with the Air District's Diesel Free By '33 initiative (http://dieselfree33.baaqmd.gov/) and signed by Steve Tate, former Mayor for City of Morgan Hill;
    - Implementing green infrastructure and fossil fuel alternatives in the development and operation of the Project, such as renewable diesel, electric heat pump water heaters, and solar PV back-up generators with battery storage capacity;
    - Installing all-electric appliances to eliminate the use of natural gas, a high global warming potential greenhouse gas that also produces oxides of nitrogen and other pollutants when combusted;
    - Requiring construction vehicles to operate with the highest tier engines commercially available;
    - Providing funding for zero-emission transportation projects, including a neighborhood electric vehicle program, community shuttle/van services and car sharing, and enhancement of active transportation initiatives, among others;
    - Providing funding for expanding and improving bicycle and pedestrian infrastructure (e.g., protected bike lanes to the nearest Caltrain station) and projects that improve pedestrian access to transit, employment, and major activity centers; and
    - Implementing a zero-waste program consistent with SB 1383 organic waste disposal reduction targets including the recovery of post-consumer food materials for uses such as composting.

- **The DEIR should evaluate the Project's consistency with the Air District's 2017 Clean Air Plan (2017 CAP).** The DEIR should discuss 2017 CAP measures relevant to the Project and show the Project's consistency with the measures. The 2017 CAP can be found on the Air District's website: http://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans.

- **The DEIR should evaluate the Project's consistency with the City of Morgan Hill Climate Action Plan.** The DEIR should analyze the Project's consistency with the City of Morgan Hill's most recently adopted Climate Action Plan and ensure all measures in the Climate Action plan that are applicable to the Project are incorporated into the Project's design.

- **The Air District's CEQA website contains several tools and resources to assist lead agencies in analyzing air quality and GHG impacts.** These tools include guidance on quantifying local emissions and exposure impacts. The tools can be found on the Air District's website: http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools. If the Project requires a site-specific analysis, please contact Air District staff to obtain more recent data.

- **Certain aspects of the Project may require a permit from the Air District (for example, back-up diesel generators).** Please contact Barry Young, Senior Advanced Projects Advisor, at (415) 749-4721 or byoung@baaqmd.gov to discuss permit requirements. Any applicable permit requirements should be discussed in the DEIR.

We encourage the City to contact Air District staff with any questions and/or to request assistance during the environmental review process. If you have any questions regarding these comments, please contact Areana Flores, Environmental Planner, at (415) 749-4616, or aflores@baaqmd.gov.

Sincerely,

Greg Nudd
Deputy Air Pollution Control Officer

cc: BAAQMD Chair Cindy Chavez
BAAQMD Director Margaret Abe-Koga
BAAQMD Director Rich Constantine
BAAQMD Director Rob Rennie

County of Santa Clara

Parks and Recreation Department

298 Garden Hill Drive
Los Gatos, California 95032-7669
(408) 355-2200 FAX (408) 355-2290
Reservations (408) 355-2201
www.parkhere.org

March 17, 2021

City of Morgan Hill
Development Services
Attn: Gina Paolini
17575 Peak Avenue
Morgan Hill, CA 95037

SUBJECT: Notice of Preparation of an Environmental Impact Report (EIR) for the Crosswinds Mission View Drive Residential Project

Dear Gina Paolini,

The County of Santa Clara Parks and Recreation Department (County Parks Department) is submitting the following comments on the Notice of Preparation of an Environmental Impact Report for the Crosswinds Mission View Drive Residential Project (Residential Project).

The County Parks Department's review is primarily focused on potential impacts related to the *Santa Clara County Countywide Trails Master Plan Update* (*Countywide Trails Plan*), an element of the County General Plan (adopted by the Board of Supervisors on November 14, 1995), relative to countywide trail routes, public access and regional parks. There are two *Countywide Trails Plan* trail routes in the vicinity of the Residential Project which share the same route:

> *Juan Bautista de Anza National Historic Trail* (R1-A)- hiking, equestrian and off-road bicycle route, located along the Madrone Channel levee
>
> *Coyote Creek- Llagas Sub-regional Trail* (S5)- hiking, equestrian and off-road bicycle route, located along the Madrone Channel levee

It is noted that the Residential Project was originally featured as a varied portion of the "Morgan Hill Technology Park and Mixed-Use Residential Project" (Mixed-Use Project). The County Parks Department submitted a comment letter in April 2019 regarding the Mixed-Use Project and the fact that the parcels under review were directly adjacent to the completed trail segments noted above (currently referred to as the Madrone Channel Trail). The County Parks Department is aware that the application for the Mixed-Use Project was withdrawn on September 18, 2020, and this new Residential Project is now focused solely on a proposed residential development a few parcels farther away from the existing Madrone Channel Trail.

Board of Supervisors: Mike Wasserman, Cindy Chavez, Otto Lee, Susan Ellenberg, S.Joseph Simitian

County Executive: Jeffrey V. Smith

The County Parks Department supports the collaborative efforts between various City of Morgan Hill departments and other local agencies in regard to this Residential Project and future site improvements. The location of the proposed development is not adjacent to the existing Madrone Channel Trail. If the Residential Project is determined to have any direct or indirect impacts to the Madrone Channel Trail or other recreational uses, those impacts must be analyzed in the EIR.

Thank you for the opportunity for County Parks Department to provide comments on the Notice of Preparation of an Environmental Impact Report for the Crosswinds Mission View Drive Residential Project. If you have any questions, please email me at kelly.gibson@prk.sccgov.org

Sincerely,

Kelly Gibson

Kelly Gibson
Assistant Planner

SANTA CLARA COUNTY PARKS

Board of Supervisors: Mike Wasserman, Cindy Chavez, Otto Lee, Susan Ellenberg, S.Joseph Simitian

County Executive: Jeffrey V. Smith

County of Santa Clara

Roads and Airports Department
Planning, Land Development and Survey

101 Skyport Drive
San Jose, CA 95110-1302
(408) 573-2460 FAX 441-0276

March 15, 2021

Gina Paolini
Principal Planner II
17575 Peak Avenue, Morgan Hill, CA 95037
Gina.Paolini@MorganHill.CA.gov

SUBJECT: Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for Crosswinds Mission View Drive Residential Project

The County of Santa Clara Roads and Airports Department (The County) appreciates the opportunity to review the Notice of Preparation (NOP)of an Environmental Impact Report (EIR) for Crosswinds Mission View Drive Residential Project, and is submitting the following comments:

- This is the proposed residential as part of the Morgan Hill Technology and Mixed-Use Residential Project. We provided comments for the Technology Center EIR in June 2020, however the project was withdrawn by the applicant on September 18,2020 according to the project website https://www.morgan-hill.ca.gov/1765/Morgan-Hill-Technology-Park-EIR For this Residential project, we would like to see traffic analysis at the same study intersections as the Technology Center project analysis. In addition, the TIA should incorporate comments the County already submitted for the Technology Center project that are still valid for this project as well. (Please see attached letter that was sent as part of the Technology Center Project for your review.)
- All-way stop signs installation at Half Rd and Mission View Dr is underway by County. (Installation in-process, not shown on plans)
- Ensure project site alleyway has no public vehicle access to Half Rd. Only for Emergency use.

If you have any questions or concerns about these comments, please contact me at 408-573-2462 or ben.aghegnehu@rda.sccgov.org

Thank you.

Board of Supervisors: Mike Wasserman, Otto Lee, Susan Ellenberg, S. Joseph Simitian, Cindy Chavez
County Executive: Jeffrey V. Smith

MARIANI FAMILY PROPERTIES

1615 Half Road
Morgan Hill, CA 95037
510-339-6367 (Jacoby Phone)

Morgan Hill Development Services
Attention: Gina Paolini, Principal Planner
17575 Peak Avenue, Morgan Hill, California 95037
(408) 310-4676 | Gina.Paolini@MorganHill.CA.gov

Re: Crosswinds Notice of Preparation: SCH Number 2021010358

March 17, 2021

Dear Ms Paolini:

We are the property owners of the parcels immediate east, across Mission View Drive, of the proposed Crosswinds project by Dividend Homes. We appreciate the opportunity to submit this letter as part of the Notice of Preparation of a Draft Environmental Impact Report (DEIR) required under the California Environmental Quality Act (CEQA). We are the longest, continuous property owners in the area and as such have of keen understanding of the past and current laws governing the property in our immediate neighborhood.

It is our understanding that Notices of Preparations are done to ensure that the contents of Environmental Impact Reports enable a more informed public to comment on the proposed project. We are aware also that the information provided in an EIR can be used in subsequent environmental reviews on projects proposed for the nearby area. As such, it is important that all information, including that concerning neighboring properties, be as complete and accurate as possible. Any errors or omissions can create problems if the EIR information is used or relied upon in subsequent environmental studies.

The Mariani family has reviewed the documents that were provided to the public by the City of Morgan Hill to solicit comments on the Crosswinds project. In reviewing that information we believe that there are some design elements of the Crosswind's project that, while perhaps beneficial to the project applicant, can mislead the public regarding concerns and legal rights of adjacent property owners including the Mariani family. Furthermore, the Marianis believe there are some public improvements not included in the project diagrams that should be included noted – such as pedestrian sidewalks and public utility lines under or along Mission View Drive and intersection improvements at Half Road and Mission View Drive.

Although we will conclude with topic items per the normal EIR impact categories, there are four general areas of overlapping information that need to be provided in the EIR specific to the Crosswinds project and its relationship to the Mariani property.

1) The EIR should clarify that the Morgan Hill 2035 General Plan (adopted 2016) designated the Mariani property for Residential Detached Medium.
2) California housing law SB 330 (Housing Crisis Act of 2019) defines a broad list of changes and definitions aimed at addressing the problems caused by the statewide housing shortage. Within SB330 is a specific component that addresses the use of property that has both prime agriculture soils and is over 50% surrounded by urban uses and has public utilities in or proposed on the adjoining public streets. Housing is to be enabled under such circumstances by SB 330, Section 3 (d) (4).
3) The Mariani property and Crosswind's project are bordered on their south boundary by a former Spanish Rancho line. Such a Rancho boundary line (Rancho De Laguna Seca), created in 1834, causes a series of complex title matters that require special treatment when locating public improvements at the intersection of Half Road and Mission View Drive. The situation is further complicated by City of Morgan Hill and Santa Clara County boundaries and need resolving as part of the Crosswinds project.
4) On January 21, 2021, the Association of Bay Area Governments (ABAG), in their required reporting to the California Department of Housing and Community Development, (HCD), concluded that in the next State-mandated Regional Housing Needs Allocation (RHNA 2023-2031) more housing is needed in unincorporated Santa Clara County locations. When the Crosswind's project is completed, the Mariani property will be 100% surrounded by urban uses and be a likely candidate for inclusion for annexation to meet the Morgan Hill/Santa Clara County RHNA figures. Such a circumstance raises a question on why the Crosswinds project included a 100-foot agriculture setback on its west side of Mission View Drive.

Crosswinds Project NOP/DEIR concerns

1. **Land Use** – what are the Morgan Hill General Plan 2035 Land Use categories on the properties that surround the proposed Crosswinds project? How is the Crosswinds project site plan consistent with the adjacent General Plan land uses?
2. **Housing** - how does the number and type of proposed housing units in the Crosswinds project help satisfy the current and proposed ABAG-adopted. January 21, 2021 RHNA housing allocation for Morgan Hill and the Santa Clara County combined total. What are the cumulative implications or impacts of the ABAG adopted January 21, 2021 Santa Clara County RHNA for properties surrounding the Crosswinds project.
3. **Green House Gases** – both the Crosswinds project and the neighboring properties, which have a Morgan Hill General Plan Residential Use, are within a short commuting distance of Morgan Hill job centers – business parks, shopping centers, hospital' school. What is the implication and impact of such locational circumstances to state and regional law and policy concerning the need to reduce greenhouse gas emissions by shortening/lessening car commutes.
4. **Transportation and Public Services** discussion is needed on Morgan Hill transportation services and plans for the streets bordering the Crosswinds and neighboring properties. That discussion should include officially adopted Capital Improvement Plans and Street and Utility Plans (sewer/water/storm) for Mission View Drive and Half Road, among other streets. The discussion should also include planned bicycle; pedestrian, and public transit/bus service on such streets. In particular, the EIR should discuss the impact of the

connections provided by the bus line on Mission View Drive and Half Road to citywide job and education centers and how the project's site design and location accounts for the bus line.

Thank you for considering the inclusion of these items in the upcoming Crosswind's DEIR.

Sincerely

Survivor's Trust created under the
Mariani Family 1999 Trust dated April 13, 1999

By _____
Mitchell L. Mariani, Trustee

Andrew Mariani 2008 Revocable Trust dated
September 22, 2008

By _____
Andrew Mariani, Trustee

Sylvia H. Cook, Trustee, Bondi Family Trust dated October 29, 1993

By _____
Sylvia H. Cook, Trustee

_____
Gordon D. Jacoby, Consultant to
Mariani Family Properties

STATE OF CALIFORNIA Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
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Chumash

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Chumash

COMMISSIONER
[Vacant]

COMMISSIONER
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EXECUTIVE SECRETARY
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Pomo

NAHC HEADQUARTERS
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California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

February 1, 2021

Gina Paolini
City of Morgan Hill
17575 Peak Avenue
Morgan Hill, CA 95037

Re: 2021010358, Crosswinds Residential Project, Santa Clara County

Dear Ms. Paolini:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

- **a.** A brief description of the project.
- **b.** The lead agency contact information.
- **c.** Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).
- **d.** A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

- **a.** For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

- **a.** Alternatives to the project.
- **b.** Recommended mitigation measures.
- **c.** Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

- **a.** Type of environmental review necessary.
- **b.** Significance of the tribal cultural resources.
- **c.** Significance of the project's impacts on tribal cultural resources.
- **d.** If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

- **a.** Whether the proposed project has a significant impact on an identified tribal cultural resource.
- **b.** Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or

b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

a. Avoidance and preservation of the resources in place, including, but not limited to:

i. Planning and construction to avoid the resources and protect the cultural and natural context.

ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:

i. Protecting the cultural character and integrity of the resource.

ii. Protecting the traditional use of the resource.

iii. Protecting the confidentiality of the resource.

c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.

d. Protecting the resource. (Pub. Resource Code §21084.3 (b)).

e. Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).

f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.

b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.

c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

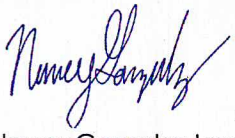
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Nancy.Gonzalez-Lopez@nahc.ca.gov.

Sincerely,



Nancy Gonzalez-Lopez
Cultural Resources Analyst

cc: State Clearinghouse

Santa Clara Valley Transportation Authority

March 17, 2020

City of Morgan Hill
Development Services
17575 Peak Avenue, Morgan Hill, CA 95037

Attn: Gina Paolini
Via Email: gin.paolini@morganhill.ca.gov

Subject: Notice of Preparation (NOP) for a Draft Environmental Impact Report for Crosswinds Mission View Drive Residential Project

Dear Gina:

Thank you for the opportunity to review the NOP for the Crosswinds Mission View Drive Residential Project. VTA has provided earlier comments on this project site regarding adding a bus stop to support this new community. VTA has the following comments on the NOP.

Transportation Impact Analysis

VTA's Congestion Management Program (CMP) requires a Transportation Impact Analysis (TIA) for any project expected to generate 100 or more net new peak-hour trips. For any questions about the *TIA Guidelines*, please contact Brent Pearse of the VTA Planning Division at 408-546-7985 or Brent.Pearse@vta.org.

Pedestrian and Bicycle Accommodations

VTA requests that the TIA analysis of Pedestrian and Bicycle modes consider the completeness of the pedestrian and bicycle network on roadways and intersections adjacent to and nearby the project site. The analysis of pedestrian accommodations in the TIA Report should discuss – and the site plan should clearly indicate moving forward – sidewalks/pedestrian paths within the site and connectivity between the new building(s), bus stops, nearby destinations such as Live Oak High School and the De Paul Health Center, and existing sidewalks; refer to Sections 6.4, 9.3, and 9.4 of the *VTA Transportation Impact Analysis Guidelines (TIA Guidelines)* for more information.

Bus Stop Improvements

VTA Route 87 serves the frontage of the project on Mission View Drive. The stop spacing in-between the two nearest stops of the development is 3,400 feet and does not have close enough pedestrian facilities nearby to access the nearest stops. A new southbound bus stop should be installed after the main entrance on Mission View Drive. A bus stop in the northbound direction is also recommended on the condition that there will be a signalized crosswalk for the new development. The preferred location for the new bus stop is past the main entrance on Mission View Drive. VTA would like to determine the location when off-site plans are drafted (see attachment). VTA also recommends to:

- Install street lighting at the bus stop
- Place trees and landscaping outside of the bus stop area

- Install a new passenger pad 8'x40' minimum per VTA Standards

VTA would like the opportunity to review updated site plans to ensure the placement of driveways, landscaping, and any other features do not conflict with bus operations. VTA's Transit Passenger Environment Plan provides design guidelines for bus stops. This document can be downloaded at http://www.vta.org/tpep. VTA has a Bus Stop Placement, Closures, and Relocations Policy. Prior to any construction or bus stop impact, please contact bus.stop@vta.org.

Thank you for the opportunity to review this project. If you have any questions, please contact me at (408) 550-4559.

Sincerely,

Brent Pearse
Transportation Planner

MH1907

Appendix B

Air Quality and GHG Analysis

THE CROSSWINDS AT MORGAN HILL AIR QUALITY & GREENHOUSE GAS ASSESSMENT

Morgan Hill, California

April 6, 2021
Revised May 12, 2022

Prepared for:

Amber Sharpe
Project Manager
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200
San José, CA 95126

Prepared by:

Casey Divine
James A. Reyff

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
429 East Cotati Avenue
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(707) 794-0400

I&R Project#: 20-161

Introduction

The purpose of this report is to address air quality, community health risk, and greenhouse gas (GHG) impacts associated with The Crosswinds at Morgan Hill residential project located at the northwest corner of the Half Road and Mission View Drive intersection in Morgan Hill, California. The air quality impacts and GHG emissions would be associated with the demolition of the existing land uses at the site, construction of new building and infrastructure, and operation of the project. Air pollutant and GHG emissions associated with the construction and operation of the project were predicted using appropriate computer models. In addition, the potential project health risk impact (includes construction and operation) and the impacts of existing toxic air contaminant (TAC) sources affecting the nearby and proposed sensitive receptors were evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The approximately 31-acre project site consists of the Assessor's Parcel Numbers 728-30-001, 728-30-002, 728-30-002, and 728-30-004. The project site is mostly undeveloped with only a vacant single-family residence located in the southwestern section of the site. The project proposes demolish the existing uses and construct a total of 269 new residential units: 56 single-family, 64 duets, and 149 condominiums. There would be a total of 40 below-market-rate (BMR) units. The project would provide 606 parking spaces, including 538 covered spaces and 68 uncovered spaces. The project site would be accessed via three vehicular connections: two site entries from DePaul Drive and one entry from Mission View Drive. DePaul Drive is proposed to be extended approximately 2,000 feet south along the project site's eastern frontage to provide direct access to the project site.

Setting

The project is located in Santa Clara County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants of Concern

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduce lung function, and increase coughing and chest discomfort.

[1] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015.[2] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

Regulatory Agencies

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the Federal standards.

In the past decade the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel

[2] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

engines are a significant source of nitrogen oxides, or NO_X, and particulate matter (PM_{10} and $PM_{2.5}$) and because the EPA has identified diesel particulate matter as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce PM and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[3]

In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The new standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500 parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from about 3,000 ppmw to 15 ppmw). The low sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel (ULSD) is currently required for use by all vehicles in the U.S.

All of the above Federal diesel engine and diesel fuel requirements have been adopted by California, in some cases with modifications making the requirements more stringent or the implementation dates sooner.

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles[4]. In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the Federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

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[3] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.

[4] California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.

CARB has also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NO_X exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent Federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NO_X.

Bay Area Air Quality Management District (BAAQMD)

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County and southern Sonoma County.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

BAAQMD's Community Air Risk Evaluation (CARE) program addresses communities with higher air pollution levels. The program identifies areas where vulnerable populations are exposed to higher levels, applies the scientific methods and strategies to reduce air pollution health impacts in these areas and engages the community and other agencies to develop additional actions to reduce impacts. BAAQMD has developed maps that show areas with elevated pollution levels and identified impacted areas. Morgan Hill does not fall under any of these impacted areas.

The BAAQMD *California Environmental Quality Act (CEQA) Air Quality Guidelines*[5] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions. *Attachment 1* includes detailed community risk modeling methodology.

[5] Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines*. May. (Updated May 2017)

Morgan Hill 2035General Plan

Adopted July 27, 2016, the *Morgan Hill 2035 General Plan* includes goals, policies, and actions to improve air quality issues facing the City of Morgan Hill.[6] The following goals, policies, and actions are applicable to the proposed project:

Goal NRE-10: Reduced air pollution emissions.

Policy NRE-10.1 **Regional and Subregional Cooperation**. Cooperate with regional agencies in developing and implementing air quality management plans. Support subregional coordination with other cities, counties, and agencies in the Santa Clara Valley and adjacent areas to address land use, jobs/housing balance, and transportation planning issues as a means of improving air quality.

Policy NRE-10.2 **State and Federal Regulation**. Encourage effective regulation of mobile and stationary sources of air pollution and support State and federal regulations to improve automobile emission controls.

Policy NRE-10.3 **Automobile Emissions**. Encourage the use of and infrastructure for alternative fuel, hybrid, and electric vehicles. Encourage new and existing public and private development to include electric vehicle charging stations.

Policy NRE-10.4 **Reduced Automobile Use**. To reduce air pollution the frequency and length of automobile trips and the amount of traffic congestion by controlling sprawl, promoting infill development, and encouraging mixed uses and higher density development near transit. Support the expansion and improvement of alternative modes of transportation. Encourage development project designs that protect and improve air quality and minimize direct and indirect air pollutant emissions by including components that reduce vehicle trips.

Goal NRE-11: Minimized exposure of people to toxic air contaminants such as ozone, carbon monoxide, lead, and particulate matter.

Policy NRE-11.1 **TACs and Proposed Sensitive Use**s. Require modeling for sensitive land uses, such as residential development, proposed near sources of pollution such as freeways and industrial uses. Require new residential development and projects categorized as sensitive receptors to incorporate effective mitigation measures into project designs or be located adequate distances from sources of toxic air contaminants (TACs) to avoid significant risk to health and safety.

[6] City of Morgan Hill, California (2016). "Chapter 8 Natural Resources and Environment". *City of Morgan Hill General Plan 2035.* https://www.morgan-hill.ca.gov/DocumentCenter/View/22839/MH2035-General-Plan---December-2017?bidId=

Policy NRE-11.2 **TACs and Existing Sensitive Uses**. Encourage the installation of appropriate air filtration mechanisms at existing schools, residences, and other sensitive receptors adversely affected by existing or proposed pollution sources.

Policy NRE-11.3 **Health Risk Assessments.** For proposed development that emits toxic air contaminants, require project proponents to prepare health risk assessments in accordance with Bay Area Air Quality Management District procedures as part of environmental review and implement effective mitigation measures to reduce potential health risks to less-than-significant levels. Alternatively, require these projects to be located an adequate distance from residences and other sensitive receptors to avoid health risks. Consult with the Bay Area Air Quality Management District to identify stationary and mobile toxic air contaminant sources and determine the need for and requirements of a health risk assessment for proposed developments

Policy NRE-11.4 **Truck Routes**. For development projects generating significant heavy-duty truck traffic, designate truck routes that minimize exposure of sensitive receptors to toxic air contaminants and particulate matter.

Policy NRE-11.5 **Truck Idling**. For development projects generating significant truck traffic, require signage to remind drivers that the State truck idling law limits truck idling to five (5) minutes.

Policy NRE-11.6 **Vegetation Buffers**. Encourage the use of pollution-absorbing trees and vegetation in buffer areas between substantial sources of toxic air contaminants and sensitive receptors.

Goal NRE-12: Minimized air pollutant emissions from demolition and construction activities

Policy NRE-12.1: **Best Practices.** Requirement that development projects implement best management practices to reduce air pollutant emissions associated with construction and operation of the project.

Policy NRE-12.2 **Conditions of Approvals.** Include dust, particulate matter, and construction equipment exhaust control measures as conditions of approval for subdivision maps, site development and planned development permits, grading permits, and demolition permits. At a minimum, conditions shall conform to construction mitigation measures recommended in the current Bay Area Air Quality Management District CEQA Guidelines.

Policy NRE-12.3 **Control Measures.** Require construction and demolition projects that have the potential to disturb asbestos (from soil or building material) to comply with all the requirements of the California Air Resource Board's air toxics

control measures (ATCMs) for Construction, Grading, Quarrying, and Surface Mining Operations.

Policy NRE-12.4 **Grading**. Require subdivision designs and site planning to minimize grading and use landform grading in hillside areas.

- Action NRE-12.A Standard Measures for Demolition and Grading. Adopt and periodically update dust, particulate matter, and exhaust control standard measures for demolition, grading, and construction activities to include on project plans mitigation measures as conditions of approval based Bay Area Air Quality Management District CEQA Guidelines. Include measures to prevent silt loading on roadways that generates particulate matter air pollution by prohibiting unpaved or unprotected access to public roadways from construction sites.
- Action NRE-12.B Grading Ordinance. Revise the grading ordinance and condition grading permits to require that graded areas be stabilized from the completion of grading to commencement and construction.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, infants and children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children.

The closest sensitive receptors to the project site are the residents in the single-family homes to the south and east of the site opposite the roadways. There are other single-family residences to the north, east, and south of the site at further distances. The De Paul Health Center is located to the north of the site. In addition, there are children (13 years and older) at the Live Oak High School to the southeast of the site. This project would also introduce new sensitive receptors (residents).

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the District's 2011 *CEQA Air Quality Guidelines*. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated the *CEQA Air Quality Guidelines* in 2017 to include the latest significance thresholds that were used in this analysis are summarized in Table 1.

Table 1. BAAQMD Air Quality and GHG Significance Thresholds

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)**	
Excess Cancer Risk	>10.0 per one million	>100 per one million	
Hazard Index	>1.0	>10.0	
Incremental annual $PM_{2.5}$	>0.3 µg/m^3	>0.8 µg/m^3	
Greenhouse Gas Emissions			
Land Use Projects – direct and indirect emissions	Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons annually or 4.6 metric tons per capita (for 2020) *		

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases.

*BAAQMD does not have a recommended post-2020 GHG threshold.

AIR QUALITY IMPACTS AND MITIGATION MEASURES

Impact AIR-1: Conflict with or obstruct implementation of the applicable air quality plan?

BAAQMD is the regional agency responsible for overseeing compliance with State and Federal laws, regulations, and programs within the San Francisco Bay Area Air Basin (SFBAAB). BAAQMD, with assistance from the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), prepares and implements specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan*.[7] The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality and GHG impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which, in turn, affects region-wide emissions of air pollutants and GHGs.

The 2017 Clean Air Plan, adopted by BAAQMD in April 2017, includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. Plans must show consistency with the control measures listed within the Clean Air Plan. At the project-level, there are no consistency measures or thresholds. The proposed project would not conflict with the latest Clean Air planning efforts since 1) project would have emissions below the BAAQMD thresholds (see Impact below) and 2) the project would be considered urban infill.

Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The Bay Area is considered a non-attainment area for ground-level O_3 and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both State and Federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for O_3, $PM_{2.5}$ and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for O_3 precursor pollutants (ROG and NOx), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

Construction Period Emissions

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from on-site construction activity, construction vehicle trips, and evaporative emissions. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The CARB EMission FACtors 2017 (EMFAC2017) model was used to predict emissions from construction traffic, which includes worker travel, vendor trucks, and haul trucks.[8]

[7] Bay Area Air Quality Management District (BAAQMD), 2017. *Final 2017 Clean Air Plan.*
[8] See CARB's EMFAC2017 Web Database at https://www.arb.ca.gov/emfac/2017/

The CalEEMod model output along with construction inputs are included in *Attachment 2* and EMFAC2017 vehicle emissions modeling outputs are included in *Attachment 3*.

CalEEMod Inputs

Land Use Inputs

The proposed residential project would be constructed in five phases. Separate CalEEMod runs were conducted for each phase as each phase would construct new buildings and roadways over several years. The land uses for each construction phase were entered into CalEEMod as described in Table 2.

Table 1. Summary of Project Land Use Inputs

Project Land Uses	Size	Units	Square Feet (sf)	Acreage
Whole Site Preparation/Grading Phase, 2022				
Single Family Housing	269	Dwelling Units	512,363	30.5
Phase 1, 2022-2023				
Single Family Housing	54	Dwelling Units	39,600	12.2
Condo/Townhouse	40	Dwelling Units	40,000	
Recreational Swimming Pool	3	1,000-sf	3,000	
Other Asphalt Surface	1.2	Acre	52,272	
DePaul Extension Phase, 2023				
Other Asphalt Surface	1.4	Acre	60,984	1.4
Phase 2, 2023-2024				
Single Family Housing	66	Dwelling Units	118,800	12.9
Condo/Townhouse	45	Dwelling Units	45,000	
Other Asphalt Surface	1.3	Acre	56,628	
Phase 3, 2025				
Condo/Townhouse	64	Dwelling Units	64,000	2.9
Other Asphalt Surface	0.5	Acre	21,780	

Construction Inputs

The project's construction analysis was originally assessed under Option 1 where the stormwater drainage would be directed to the Madrone Channel. An alternative construction method (Option 2), which includes on-site underground water tanks for stormwater drainage, may potentially be used for this project. This work would be completed by hand, as they are modular systems, during the grading/excavation phase this phase would include one additional excavator. With this approach for Option 2, the number of workdays would increase by 16 days but would not alter the overall timeframe.

CalEEMod computes annual emissions for construction that are based on the project type, size and acreage. The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The construction build-out scenario, including equipment list and schedule, were based on construction information provided by the project applicant for both options.

The CalEEMod construction equipment worksheet provided by the applicant included the schedule for each phase for both scenarios (included in *Attachment 2*). Within each phase, the quantity of equipment to be used along with the average hours per day and total number of workdays was provided. Since different equipment would have different estimates of the working days per phase, the hours per day for each phase was computed by dividing the total number of hours that the equipment would be used by the total number of days in that phase. The construction schedule for both options assumed that the earliest possible start date would be May 2022 and the project would be built out over a period of approximately 3 years and 5 months, or 724 construction workdays. The first year of full operation was assumed to be 2026.

Construction Truck Traffic Emissions

The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2014 motor vehicle emission factor model. This model has been superseded by the EMFAC2017 model; however, CalEEMod has not been updated to include EMFAC2017. Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on the estimate of demolition material to be exported, soil material imported and/or exported to the site, and the estimate of cement and asphalt truck trips. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. The total trips for those were computed by multiplying the daily trip rate by the number of days in that phase. For both construction scenarios, the haul trips for demolition were estimated from the provided demolition volumes by assuming each truck could carry 10 tons per load. The number of concrete and asphalt total round haul trips for both options were provided for the project and converted to total one-way trips, assuming two trips per round-trip delivery.

The construction traffic information was combined with EMFAC2017 motor vehicle emissions factors. EMFAC2017 provides aggregate emission rates in grams per mile for each vehicle type. The vehicle mix for this study was based on CalEEMod default assumptions, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trips, including cement trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips, and 20 miles for hauling (demolition material export and soil import/export). Since CalEEMod does not address cement or asphalt trucks, these were treated as vendor travel distances. Each trip was assumed to include an idle time of 5 minutes. Emissions associated with vehicle starts were also included. On-road emission rates in Santa Clara County for the year 2022 were used. Table 3 provides the traffic inputs that were combined with the EMFAC2017 emission factors to compute vehicle emissions.

Table 3. Construction Traffic Data Used for EMFAC2017 Model Runs

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Total Worker Trips[1]	Total Vendor Trips[1]	Total Haul Trips[2]	
Vehicle mix[1]	72% LDA 6% LDT1 22% LDT2	38% MHDT 62% HHDT	100% HDDT	
Trip Length (miles)	10.8	7.3	20.0 (Demo/Soil) 7.3 (Cement/Asphalt)	CalEEMod default distance with 5-min truck idle time.
Whole Site Preparation/Grading Phase, 2022 (*Option 2*)				
Demolition	12	-	9	1,900-sf building demolition. CalEEMod default worker trips.
Site Preparation	40 (*50*)	-	-	CalEEMod default worker trips.
Grading	250 (*324*)	-	250	Estimated 1,000-cy export and 1,000-cy import. CalEEMod default worker trips.
Phase 1, 2022-2023				
Trenching	280	-	-	CalEEMod default worker trips.
Building Construction	12,425	2,800	290	145 cement roundtrips. CalEEMod default worker and vendor trips.
Architectural Coating	224	-	-	CalEEMod default worker trips.
Paving	250	-	112	562-cy asphalt. CalEEMod default worker trips.
DePaul Extension Phase, 2023				
Grading	150	-	-	CalEEMod default worker trips.
Trenching	280	-	-	CalEEMod default worker trips.
Paving	250	-	140	612-cy asphalt. CalEEMod default worker trips.
Phase 2, 2023-2024				
Trenching	280	-	-	CalEEMod default worker trips.
Building Construction	14,000	3,675	356	178 cement roundtrips. CalEEMod default worker and vendor trips.
Architectural Coating	256	-	-	CalEEMod default worker trips.
Paving	250	-	140	700-cy asphalt. CalEEMod default worker trips.
Phase 3, 2025				
Trenching	200	-	-	CalEEMod default worker trips.
Building Construction	6,000	1,575	160	80 cement roundtrips. CalEEMod default worker and vendor trips.
Architectural Coating	192	-	-	CalEEMod default worker trips.
Paving	250	-	72	300-cy asphalt. CalEEMod default worker trips.

Notes: [1] Based on 2022 EMFAC2017 light-duty vehicle fleet mix for Santa Clara County.
[2] Includes demolition and grading trips estimated by CalEEMod based on amount of material to be removed.

Summary of Computed Construction Period Emissions

Average daily emissions for both construction options were annualized for each year of construction by dividing the annual construction emissions by the number of active workdays during that year. Table 4 shows average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project for both options. As indicated in Table 4, predicted construction period emissions would not exceed the BAAQMD significance thresholds for both options.

Table 4. Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Per Year (Tons)				
2022 (Whole Site Prep/Grading Phase and Phase 1) (*Option 2*)	1.05 (*1.06*)	0.67 (*0.70*)	0.03 (*0.04*)	0.03 (*0.03*)
2023 (Phase 1, DePaul Extension Phase, and Phase 2)	0.03	0.29	0.02	0.02
2024 (Phases 2)	1.20	0.27	0.02	0.01
2025 (Phase 3)	0.49	0.27	0.01	0.01
Annualized Daily Construction Emissions (pounds/day)				
2022 (154 construction workdays) (*Option 2*)	13.68 (*13.74*)	8.64 (*9.10*)	0.44 (*0.47*)	0.42 (*0.44*)
2023 (220 construction workdays)	0.30	2.60	0.18	0.17
2024 (210 construction workdays)	11.39	2.53	0.15	0.14
2025 (140 construction workdays)	6.95	3.85	0.21	0.21
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices*.

Mitigation Measure AQ-1: **Include measures to control dust and exhaust during construction.**

During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. Additional measures are identified to reduce construction equipment exhaust emissions. The contractor shall implement the following best management practices that are required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Effectiveness of Mitigation Measure AQ-1

The measures above are consistent with BAAQMD-recommended basic control measures for reducing fugitive particulate matter that are contained in the BAAQMD CEQA Air Quality Guidelines.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by future residents. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to estimate emissions from operation of the proposed project assuming full build-out.

CalEEMod Inputs

Land Uses

Due to the project's phased construction, a separate CalEEMod run was conducted in order to calculate the operational emission of the project. The proposed operational project land uses were input into CalEEMod as follows:

- 269 dwelling units and 512,363-sf entered as "Single Family Housing" on 30.5 acres,
- 3,000-sf entered as "Recreational Swimming Pool" and
- 3 acres entered as "Other Asphalt Surfaces".

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest year of full operation would be 2026 if construction begins in 2022. Emissions associated with build-out later than 2026 would be lower.

Trip Generation Rates and VMT

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the project-specific daily trip generation rate provided by the traffic consultant was entered into the model.[9] The weekday trip generation rates were adjusted using the traffic daily rates. The Saturday and Sunday trip rates were adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate with the project-specific daily weekday trip rate. The default trip lengths and trip types specified by CalEEMod were used.

The CalEEMod overall trip length with Passby and Diverted trips was computed at 6.33 miles for this project. The Traffic Report vehicle miles travelled (VMT) analysis reports that without any mitigation applied, the project would generate 27.41 miles per capita per day. The California Department of Finance Population and Housing Estimate reports 3.11-persons per household for 2019.[10] This equates to 837 residents that would result in a weekday VMT estimate of 22,942 miles per day. The VMT per trip was computed at 9.04 miles. This trip rate was used in CalEEMod with Passby and diverted trip effects set to 0.

EMFAC2017 Adjustment

The vehicle emission factors and fleet mix used in CalEEMod are based on EMission FACtors from 2014 (EMFAC2014), which is an older CARB emission inventory for on road and off road mobile sources. Since the release of CalEEMod Version 2016.3.2, new emission factors have been produced by CARB. EMFAC2017 became available for use in March 2018 and approved by the EPA in August 2019. It includes the latest data on California's car and truck fleets and travel activity. Additionally, CARB has recently released EMFAC off-model adjustment factors to

[9] Correspondence with Maria Kisyova, Assistant Project Manager, David J. Powers & Associates, Inc., November 10, 2020, *Hexagon - The Crosswinds Trip Gen and Volumes 11-10-20*.
[10] State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2010-2019*. Sacramento, California. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/.

account for the Safer Affordable Efficient (SAFE) Vehicle Rule Part one.[11,12] The SAFE vehicle Rule Part One revoked California's authority to set its own GHG emission standards and set zero emission vehicle mandates in California. As a result of this ruling, mobile criteria pollutant and GHG emissions would increase. Therefore, the CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2017, which were adjusted with the CARB EMFAC off-model adjustment factors. More details about the updates in emissions calculation methodologies and data are available in the EMFAC2017 Technical Support Document.[13]

Electricity

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on Pacific Gas and Electric's (PG&E) 2008 emissions rate. However, PG&E published in 2019 emissions rates for 2010 through 2017, which showed the emission rate for delivered electricity had been reduced to 210 pounds CO2 per megawatt of electricity delivered in the year 2017.[14] However, this project would use electricity supplied by Silicon Valley Clean Energy (SVCE)

SVCE purchases carbon-free electricity and partners with PG&E to deliver this electricity over existing power lines that they maintain. SVCE provides 100-percent carbon-free energy. However, customers have the option to opt out of the program and purchase electricity from PG&E, which is not carbon free, as described above. This analysis assumes a 10-percent non-participation rate with SVCE. Therefore, an electricity emission rate of 21 pounds per of CO_2 per megawatt of electricity delivered was used for this analysis.

Natural Gas

Ordinance No. 2306 add Chapter 15.63 to the Morgan Hill Municipal Code: Prohibition of Natural Gas Infrastructure in New Buildings. Under this newly adopted code, natural gas infrastructure would be prohibited in newly constructed buildings; however, there is an exception where an applicant can establish that it is not feasible. For this analysis, only newly constructed residences were assumed to be all electric with no gas usage.

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[11] California Air Resource Board, 2019. *EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One*. November. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf

[12] California Air Resource Board, 2020. *EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO_20 Emissions to Accounts for the SAFE Vehicles Rule Part One and the Final SAFE Rule*. June. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf?utm_medium=email&utm_source=govdelivery

[13] See CARB 2018: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac

[14] PG&E, 2019. *Corporate Responsibility and Sustainability Report*. Web: http://www.pgecorp.com/corp_responsibility/reports/2019/assets/PGE_CRSR_2019.pdf

Other Inputs

Default model assumptions for emissions associated with solid waste generation use were applied to the project. Water/wastewater use were changed to 100% aerobic conditions to represent wastewater treatment plant conditions. All hearths were assumed to be powered by natural gas per BAAQMD Regulation 6, Rule 3, which requires that new building construction not install a wood-burning device (effective as of November 1, 2016).

Existing Uses

The existing land uses on the project site include a vacant single-family residence. This use produces little to no operational and traffic emissions which would not considerably offset emissions from the proposed project. Therefore, the emissions from the existing uses were not considered, nor used to offset proposed project conditions.

Summary of Computed Operational Period Emissions

Annual emissions were predicted using CalEEMod and daily emissions were estimating assuming 365 days of operation. Table 5 shows average daily emissions of ROG, NO_X, total PM_{10}, and total $PM_{2.5}$ during operation of the project. The operational period emissions would not exceed the BAAQMD significance thresholds.

Table 5. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2026 Project Operational Emissions (*tons/year*)	3.35 tons	1.68 tons	3.12 tons	0.86 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Thresholds?	No	No	No	No
2026 Project Operational Emissions (*lbs./day*)[1]	18.36 lbs.	9.21 lbs.	17.10 lbs.	4.71 lbs.
BAAQMD Thresholds (lbs./day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased community risk can occur either by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity or by significantly exacerbating existing cumulative TAC impacts. This project would introduce new sources of TACs during construction (i.e., on-site construction and truck hauling emissions) and operation (i.e., mobile sources and stationary sources).

Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project would not include the installation of an emergency generator powered by a diesel engine, which would produce TAC and air pollutant emissions. The project would generate some traffic, consisting of light-duty vehicles. However, the number of daily trips

generated by the project are low (i.e., 2,539 daily trips)[15] and emissions from automobile traffic generated by the project would be spread out over a broad geographical area and not localized. Project traffic was not considered a source of substantial TACs or $PM_{2.5}$ that could lead to health impacts.

Project impacts to existing sensitive receptors were addressed for temporary construction activities and long-term operational conditions. There are also several sources of existing TACs and localized air pollutants in the vicinity of the project. The impact of the existing sources of TAC was also assessed in terms of the cumulative risk that includes the project contribution, as well as the risk on the new sensitive receptors introduced by the project.

Community Risk Methodology for Construction and Operation

Community risk impacts were addressed by predicting increased cancer risk, the increase in annual $PM_{2.5}$ concentrations and computing the Hazard Index (HI) for non-cancer health risks. The risk impacts from the project are the combination of risks from construction and operation sources. These sources include on-site construction activity, construction truck hauling, and increased traffic from the project. To evaluate the increased cancer risks from the project, a 30-year exposure period was used, per BAAQMD guidance,[16] with the sensitive receptors being exposed to both project construction and operation emissions during this timeframe.

The project increased cancer risk is computed by summing the project construction cancer risk and operation cancer risk contributions. Unlike, the increased maximum cancer risk, the annual $PM_{2.5}$ concentration and HI values are not additive but based on the annual maximum values for the entirety of the project. The project maximally exposed individual (MEI) is identified as the sensitive receptor that is most impacted by the project's construction and operation.

The methodology for computing community risks impacts is contained in *Attachment 1*. This involved the calculation of TAC and $PM_{2.5}$ emissions, dispersion modeling of these emissions, and computations of cancer risk and non-cancer health effects.

Modeled Sensitive Receptors

Receptors for this assessment included locations where sensitive populations would be present for extended periods of time (i.e., chronic exposures). This includes the existing residences to the south, east, and north of the site, the patients at the De Pal Health Center to the north, and the students at the high school to the southeast of the project site, as shown in Figure 1. Residential receptors and receptors at the health center were assumed to include all receptor groups (i.e., infants, children, and adults) with almost continuous exposure to project emissions. Community risks were also computed for children at the Live Oak High School (13 years and older).

[15] Correspondence with Maria Kisyova, Assistant Project Manager, David J. Powers & Associates, Inc., November 10, 2020, *Hexagon - The Crosswinds Trip Gen and Volumes 11-10-20*.
[16] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines.* December 2016.

Community Health Risk from Project Construction

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issue associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[17] This assessment included dispersion modeling to predict the offsite and onsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction Emissions

The CalEEMod model and EMFAC2017 calculations provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total PM_{10} exhaust emissions from all construction stages for both options reported in Table 6. The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod and EMFAC2017 for the overall construction period for both options and are included as part of the Total $PM_{2.5}$ emissions reported in Table 6.

Table 6. Localized Project Construction Emissions of DPM and Fugitive $PM_{2.5}$

Description	DPM	$PM_{2.5}$
Whole Site Prep/Grading Phase (2022) (*Option 2*)	0.0096 tons (19 pounds) *0.0122 tons (24 pounds)*	0.0040 tons (8 pounds) *0.0039 tons (8 pounds*)
Phase 1 (2022-2023)	0.0273 tons (55 pounds)	0.0074 tons (15 pounds)
DePaul Extension Phase (2023)	0.0022 tons (4 pounds)	0.0007 tons (1 pounds)
Phase 2 (2023-2024)	0.0279 tons (56 pounds)	0.0097 tons (19 pounds)
Phase 3 (2025)	0.0147 tons (29 pounds)	0.0046 tons (9 pounds)

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ concentrations at sensitive receptors (residences, daycare, and high school) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[18] Emission

[17] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.
[18] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions.

Construction Sources

To represent the construction equipment exhaust emissions, an area source emission release height of 20 feet (6 meters) was used for the area sources.[19] The release height incorporates both the physical release height from the construction equipment (i.e., the height of the exhaust pipe) and plume rise after it leaves the exhaust pipe. Plume rise is due to both the high temperature of the exhaust and the high velocity of the exhaust gas. It should be noted that when modeling an area source, plume rise is not calculated by the AERMOD dispersion model as it would do for a point source (exhaust stack). Therefore, the release height from an area source used to represent emissions from sources with plume rise, such as construction equipment, should be based on the height the exhaust plume is expected to achieve, not just the height of the top of the exhaust pipe.

For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 7 feet (2 meters) was used for the area source. Fugitive dust emissions at construction sites come from a variety of sources, including truck and equipment travel, grading activities, truck loading (with loaders) and unloading (rear or bottom dumping), loaders and excavators moving and transferring soil and other materials, etc. All of these activities result in fugitive dust emissions at various heights at the point(s) of generation. Once generated, the dust plume will tend to rise as it moves downwind across the site and exit the site at a higher elevation than when it was generated. For all these reasons, a 7-foot release height was used as the average release height across the construction site. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources.

AERMOD Inputs and Meteorological Data

The modeling used a five-year data set (2013-2017) of hourly meteorological data from the San Martin Airport that was prepared for use with the AERMOD model by BAAQMD. Construction emissions were modeled as occurring daily between 7:00 a.m. to 4:00 p.m., when the majority of construction activity would occur. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2022-2025 period were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptors.

Receptor heights of 5 feet (1.5 meters) were used to represent the breathing height on the first floors of nearby single-family residences and the health center.[20] Receptor heights of 5 feet (1.5 meter) were also used to represent the breathing height of the older children at the high school.

[19] California Air Resource Board, 2007. *Proposed Regulation for In-Use Off-Road Diesel Vehicles, Appendix D: Health Risk Methodology*. April. Web: https://ww3.arb.ca.gov/regact/2007/ordiesl07/ordiesl07.htm

[20] Bay Area Air Quality Management District, 2012, Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0. May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

Summary of Construction Community Risk Impacts

The increased cancer risk calculations were based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations, as described in *Attachment 1*. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. The range of infant through adult exposures were assumed to occur at all residences and child exposure was assumed to occur at the high school during the entire construction period. Infant exposure at residences was used as a worst-case assumption, while child and adult exposures would be less.

The maximum modeled annual $PM_{2.5}$ concentration was calculated based on combined exhaust and fugitive concentrations. The maximum computed HI values was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation reference exposure level of 5 $\mu g/m^3$.

The maximum modeled annual DPM and $PM_{2.5}$ concentrations for both construction options, which include both the DPM and fugitive $PM_{2.5}$ concentrations, were identified at nearby sensitive receptors to find the MEI. Results of this assessment indicated that the MEI most affected by construction for both options was located on the first floor (5 feet above ground) of a single-family residence to the south of the project site opposite Half Road. The location of the MEI and nearby sensitive receptors are shown in Figure 1.

In addition, the maximum cancer risks, $PM_{2.5}$ concentrations, and HI at the Live Oak High School are all below the BAAQMD single-source thresholds. Table 7 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and health hazard indexes for project related construction activities for both options. *Attachment 4* to this report includes the emission calculations used for the construction modeling and the cancer risk calculations for both options.

Community Risks from Project Operation – Generator and Traffic

Operation of the project would have long-term emissions from mobile sources (i.e., traffic). Stationary equipment that could emit substantial TACs (e.g., emergency generators) are not planned for this project. Per BAAQMD recommended risks and methodology, a road with less than 10,000 total vehicles per day is considered a low-impact source of TACs.[21] This project would generate 2,539 daily trips dispersed on the roadway systems with a majority of the trips being from light-duty vehicles (i.e., passenger automobiles), which is a fraction of 10,000 daily vehicles. Therefore, emissions from project traffic are considered negligible and not included within this analysis.

Summary of Project-Related Community Risks at the Off-site Project MEI

For this project, the sensitive receptor identified in Figure 1 as the construction MEI is also the project MEI. At this location, the MEI would be exposed to four years of construction cancer risks. The annual $PM_{2.5}$ concentration and HI values are based on an annual maximum risk for the entirety of the project. As shown in Table 7, the unmitigated maximum cancer risks, $PM_{2.5}$

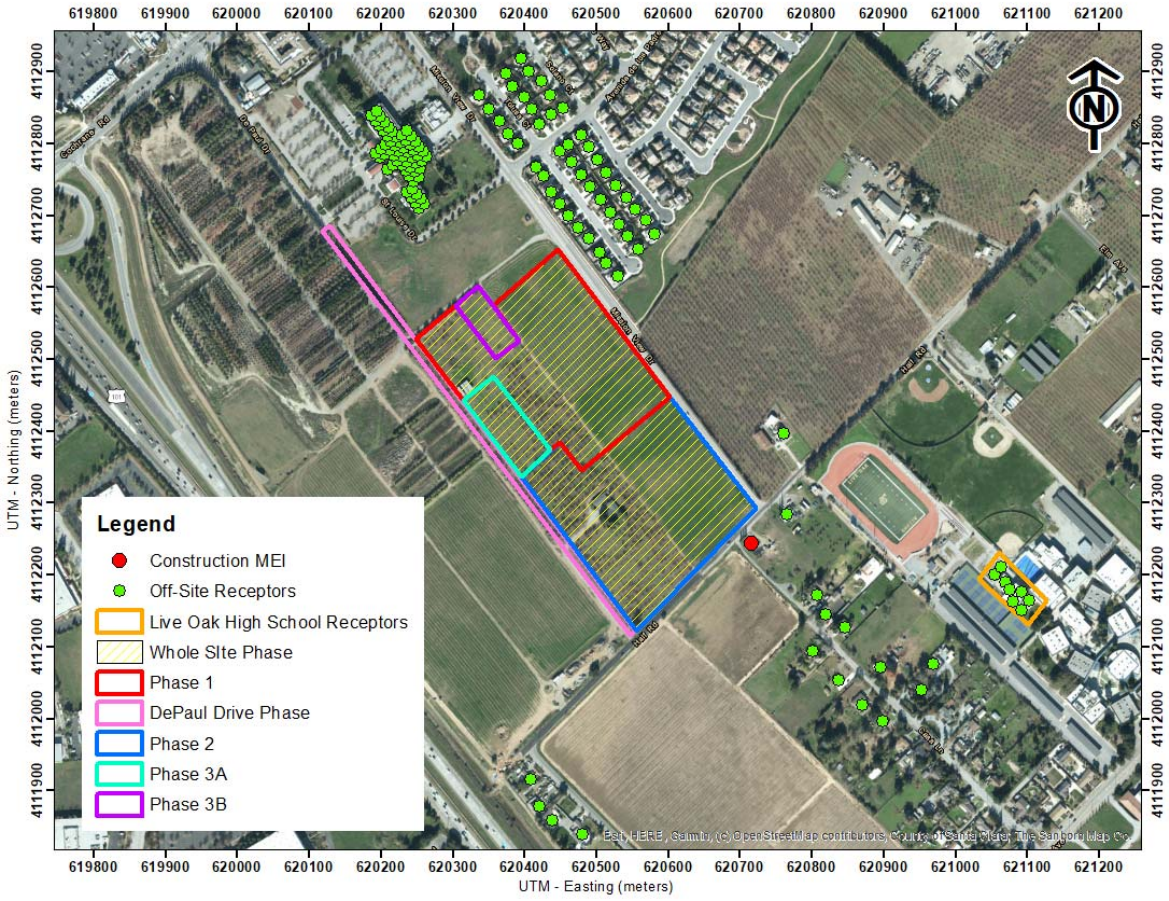
[21] Bay Area Air Quality Management District, 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

concentration, and HI from construction activities at the MEI location would not exceed the BAAQMD single-source significance thresholds.

Table 7. Construction and Operation Risk Impacts at the Off-Site Receptors

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction (*Option 2 – Unmitigated*)	Unmitigated	3.6 (infant) *(3.8 (infant))*	0.02 *(0.02)*	<0.01 *(<0.01)*
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*
Live Oak High School Student Receptors				
Project Construction (*Option 2 – Unmitigated*)	Unmitigated	0.1 (child) *(0.1 (child))*	<0.01 *(<0.01)*	<0.01 *(<0.01)*
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceeds Threshold?	Unmitigated	*No*	*No*	*No*

Figure 1. Project Construction Site, Locations of Off-Site Sensitive Receptors and Maximum TAC Impact Locations (MEI)

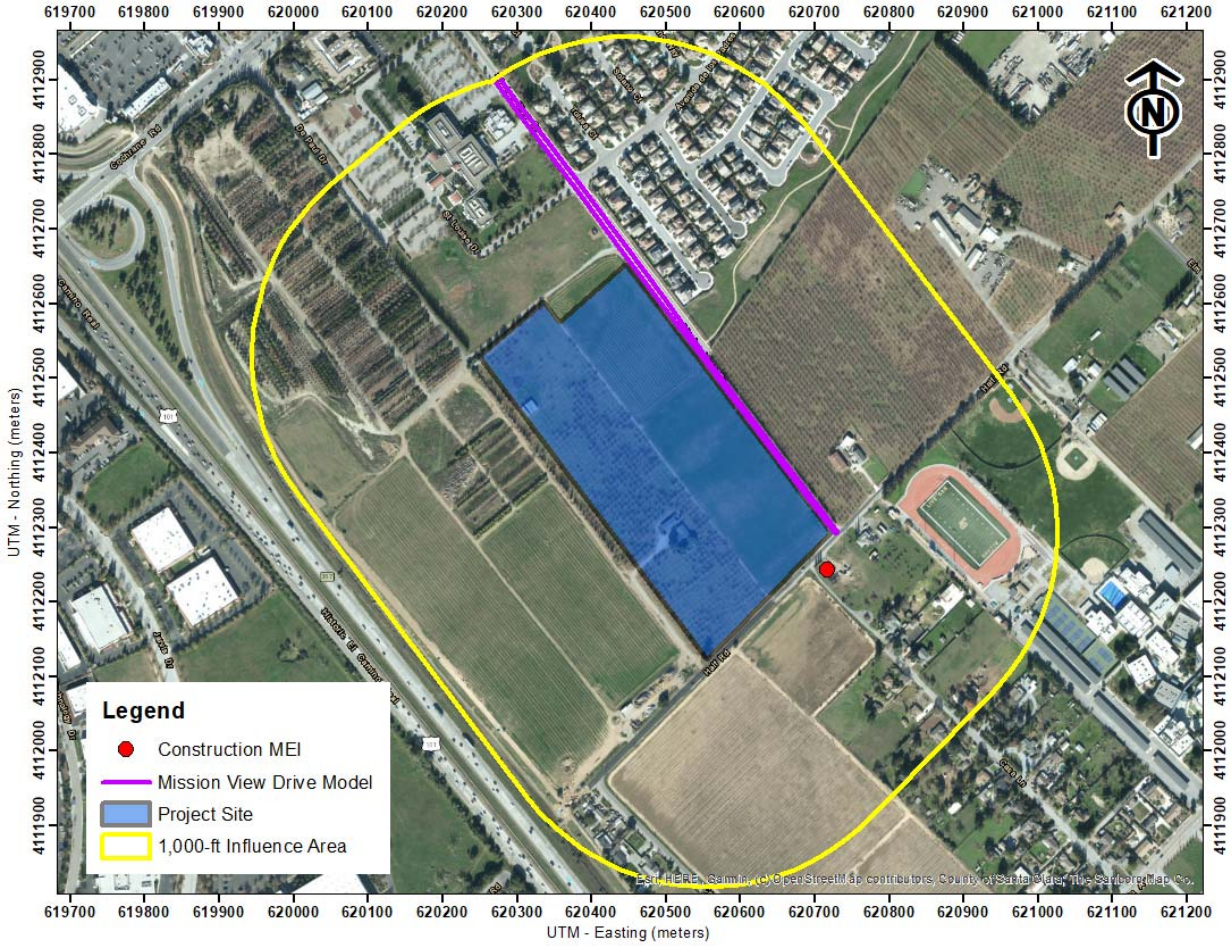


Combined Impact of All TAC Sources on the Off-Site Construction MEIs

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of the project site (i.e., influence area). These sources include rail lines, freeways or highways, busy surface streets, and stationary sources identified by BAAQMD.

A review of the project area indicates that traffic on Mission View Drive has an average daily traffic (ADT) of over 10,000 vehicles. All other roadways within the area are assumed to have an ADT that is less than 10,000 vehicles. No stationary sources were identified within the 1,000-foot influence area using the BAAQMD's stationary source geographic information systems (GIS) map tool.[22] Figure 2 shows the sources affecting the project site and MEI. Community risk impacts from these sources upon the MEI are reported in Table 8. Details of the modeling and community risk calculations are included in *Attachment 5*.

Figure 2. Project Site, MEI, and Nearby TAC and $PM_{2.5}$ Sources



[22] BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65

Local Roadways – Mission View Drive

A refined analysis of potential health impacts from vehicle traffic on Mission View Drive was conducted. The refined analysis involved predicting emissions for the traffic volume and mix of vehicle types on the roadway near the project site and using an atmospheric dispersion model to predict exposure to TACs. The associated cancer risks are then computed based on the modeled exposures. *Attachment 1* includes a description of how community risk impacts, including cancer risk are computed.

Emission Rates

This analysis involved the development of DPM, organic TACs, and $PM_{2.5}$ emissions for traffic on both roadways using the Caltrans version of the EMFAC2017 emissions model, known as CT-EMFAC2017. CT-EMFAC2017 provides emission factors for mobile source criteria pollutants and TACs, including DPM. Emission processes modeled include running exhaust for DPM, $PM_{2.5}$ and total organic compounds (e.g., TOG), running evaporative losses for TOG, and tire and brake wear and fugitive road dust for $PM_{2.5}$. All $PM_{2.5}$ emissions from all vehicles were used, rather than just the $PM_{2.5}$ fraction from diesel powered vehicles, because all vehicle types (i.e., gasoline and diesel powered) produce $PM_{2.5}$. Additionally, $PM_{2.5}$ emissions from vehicle tire and brake wear and from re-entrained roadway dust were included in these emissions. DPM emissions are projected to decrease in the future and are reflected in the CT-EMFAC2017 emissions data. Inputs to the model include region (i.e., Santa Clara County), type of road(i.e., major/collector), truck percentage for non-state highways in Santa Clara County (3.51 percent),[23] traffic mix assigned by CT-EMFAC2017 for the county, year of analysis (2022 – construction start year), and season (annual).

The average daily traffic (ADT) for Mission View Drive were based on AM and PM peak-hour cumulative plus project traffic volumes for the nearby roadways provided by the project's traffic consultant.[24] The calculated ADT on Mission View Drive was 14,020 vehicles. Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,[25] which were then applied to the ADT volumes to obtain estimated hourly traffic volumes and emissions for the roadway. An average travel speed of 40 miles per hour (mph) on Mission View Drive was used for all hours of the day based on posted speed limit signs on the roadway.

In order to estimate TAC and $PM_{2.5}$ emissions over the 30-year exposure period used for calculating the increased cancer risks for sensitive receptors at the MEI and project site, the CT-EMFAC2017 model was used to develop vehicle emission factors for the year 2022 (project construction year). Year 2022 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated.

[23] Bay Area Air Quality Management District, 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

[24] Correspondence with Maria Kisyova, Assistant Project Manager, David J. Powers & Associates, Inc., November 10, 2020, *Hexagon - The Crosswinds Trip Gen and Volumes 11-10-20*.

[25] The Burden output from EMFAC2007, a previous version of CARB's EMFAC model, was used for this since the current web-based version of EMFAC2014 does not include Burden type output with hour by hour traffic volume information.

Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the EPA AERMOD air quality dispersion model, which is recommended by the BAAQMD for this type of analysis.[26] TAC and $PM_{2.5}$ emissions from traffic on Mission View Drive within 1,000 feet of the project site were evaluated. Vehicle traffic on the roadway was modeled using a series of adjacent volume sources along a line (line volume sources); with line segments used for the northbound and southbound travel directions on Mission View Drive. The same meteorological data and off-site sensitive receptors used in the previous dispersion modeling were used in the roadway modeling. Other inputs to the model included road geometry and elevations, hourly traffic emissions, and receptor locations. Annual TAC and $PM_{2.5}$ concentrations for 2022 from traffic on Mission View Drive were calculated using the model. Concentrations were calculated at the project MEI with receptor heights of 5 feet (1.5 meters) to represent the breathing heights of residents in the single-family home.

Figure 2 shows the roadway segments modeled and residential receptor locations used in the modeling. Table 8 lists the risks and hazards from the roadway. The emission rates and roadway calculations used in the analysis are shown in *Attachment 5*.

Summary of Cumulative Risks at Off-Site Project MEI

Table 8 reports both the project and cumulative community risk impacts at the sensitive receptors most affected by construction (i.e., the MEI). Without mitigation, the project's community risk from project construction activities would not exceed the single-source maximum increased cancer risk, $PM_{2.5}$ concentration, or HI thresholds. In addition, the combined unmitigated cancer risk, $PM_{2.5}$ concentration, and HI values would not exceed their respective cumulative thresholds.

Table 8. Cumulative Community Risk Impacts from Combined TAC Sources at MEIs

Source		Cancer Risk* (per million)	Annual $PM_{2.5}$* ($\mu g/m^3$)	Hazard Index
Project Impacts				
Project Construction	Unmitigated	3.6 (infant)	0.02	<0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*
Cumulative Sources				
Mission View Drive, ADT 14,020		1.5 (infant)	0.09	<0.01
Combined Sources	*Unmitigated*	5.1 (infant)	0.11	<0.02
BAAQMD Cumulative Source Threshold		***>100***	***>0.8***	***>10.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*

[26] BAAQMD. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May 2012

Non-CEQA: On-Site Community Risk Assessment for TAC Sources - New Project Residences

In addition to evaluating health impact from project construction, a health risk assessment was completed to assess the impact that existing TAC sources would have on the new proposed sensitive receptors (residents) that the project would introduce. The same TAC sources identified above were used in this health risk assessment.[27]

Local Roadways – Mission View Drive

The roadway analysis for the project residents was conducted in the same manner as described above for the off-site MEI. The project set of receptors were placed around the boundary of the project residential area and were spaced every 39 feet (12 meters). Roadway impacts were modeled at receptor heights of 5 feet (1.5 meters) representing sensitive receptors on the first floor on the future single-family homes and condo/townhomes. The portions of Mission View Drive included in the modeling are shown in Figure 3 along with the project site and receptor locations where impacts were modeled.

Maximum increased cancer risks were calculated for the residents at the project site using the maximum modeled TAC concentrations. A 30-year exposure period was used in calculating cancer risks assuming the residents would include third trimester pregnancy and infants/children and were assumed to be in the new housing area for 24 hours per day for 350 days per year. The highest impacts from Mission View Drive occurred at the first-floor receptor in a home along the eastern boundary of the project site closest to the roadway. Cancer risks associated with Mission View Drive are greatest closest to Mission View Drive and decrease with distance from the road. The roadway community risk impacts at the project site are shown in Table 9. Details of the emission calculations, dispersion modeling, and cancer risk calculations are contained in *Attachment 5.*

Cumulative Community Health Risk at Project Site

Community risk impacts from the combined sources upon the project site are reported in Table 9. The TAC sources are compared against the BAAQMD single-source threshold and then combined and compared against the BAAQMD cumulative-source threshold. As shown, the cancer risks and HIs from the nearby sources do not exceed their single-source or cumulative-source thresholds. However, annual $PM_{2.5}$ concentrations are estimated to exceed the single-source threshold, but not the cumulative-source threshold, due to emissions from Mission View Drive.

[27] We note that to the extent this analysis considers *existing* air quality issues in relation to the impact on *future residents* of the Project, it does so for informational purposes only pursuant to the judicial decisions in *CBIA v. BAAQMD* (2015) 62 Cal.4th 369, 386 and *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473, which confirm that the impacts of the environment on a project are excluded from CEQA unless the project itself "exacerbates" such impacts.

Figure 3. Project Site, On-Site Residential Receptors, Roadway Segments Evaluated, and Locations of Maximum Roadway TAC Impacts

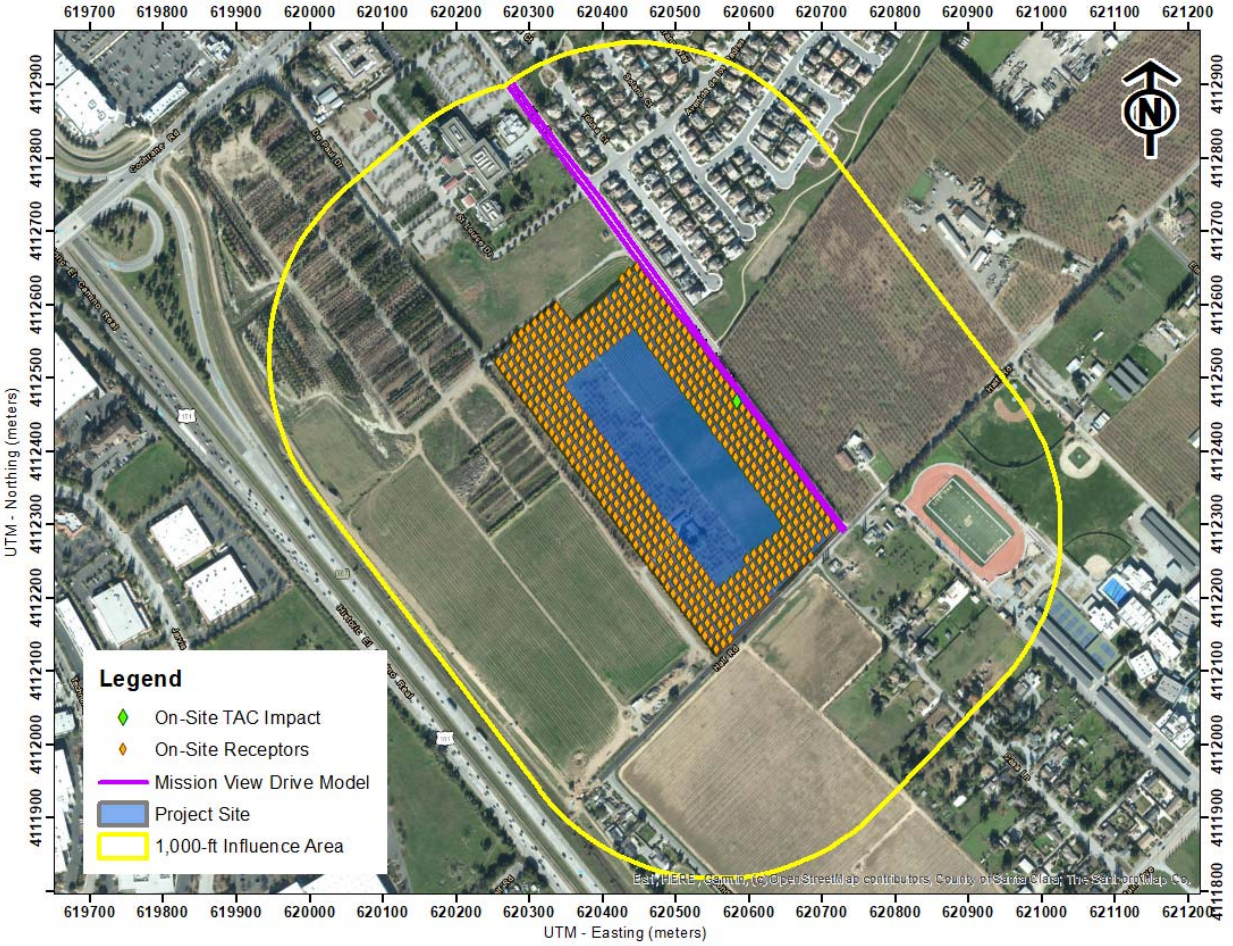


Table 9. Impacts from Combined Sources to Project Site Receptors

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Mission View Drive, ADT 14,020	8.5 (infant)	**0.55**	<0.01
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	*No*	***Yes***	*No*
Cumulative Total	8.5	0.55	<0.01
BAAQMD Cumulative Source Threshold	***>100***	***>0.8***	***>10.0***
Exceed Threshold?	*No*	*No*	*No*

Recommended Design Features to Reduce Project Receptor Exposure

Filtration in ventilation systems at the project site would be recommended to reduce the level of harmful pollutants to below the significant thresholds. The significant exposure for new project receptors is judged by two effects: (1) increased cancer risk, and (2) annual $PM_{2.5}$ concentration. Exposure to annual $PM_{2.5}$ concentrations from Mission View Drive traffic is above its respective threshold. Cancer risk is mostly the result of exposure to diesel particulate matter, although, gasoline vehicle exhaust contributes to this effect. Annual $PM_{2.5}$ concentrations are based on the exposure to $PM_{2.5}$ resulting from emissions attributable to truck and auto exhaust, the wearing of brakes and tires and re-entrainment of roadway dust from vehicles traveling over pavement. The modeled $PM_{2.5}$ exposure to future residents drives the mitigation plan. Reducing particulate matter exposure would reduce both annual $PM_{2.5}$ exposures and cancer risk.

The project shall include the following measures to minimize long-term increased cancer risk and annual $PM_{2.5}$ exposure for new project occupants:

1. Install air filtration in project residential dwelling units (buildings) within 75 feet of Mission View Drive travel lanes. Air filtration devices shall be rated MERV13 or higher. To ensure adequate health protection to sensitive receptors (i.e., residents), this ventilation system, whether mechanical or passive, shall filter all fresh air that would be circulated into the dwelling units.

2. The ventilation system shall be designed to keep the building at positive pressure when doors and windows are closed to reduce the intrusion of unfiltered outside air into the building

3. As part of implementing this measure, an ongoing maintenance plan for the buildings' heating, ventilation, and air conditioning (HVAC) air filtration system shall be required.

4. Ensure that the use agreement and other property documents: (1) require cleaning, maintenance, and monitoring of the affected buildings for air flow leaks, (2) include assurance that new owners or tenants are provided information on the ventilation system, and (3) include provisions that fees associated with owning or leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed.

Effectiveness of Recommended Design Features

A properly installed and operated ventilation system with MERV13 would achieve an 80-percent reduction.[28] The overall effectiveness calculations take into account the amount of time spent outdoors and away from home. Assuming that the filtration system is 80-percent effective and the

[28] Bay Area Air Quality Management District (2016). Appendix B: Best Practices to Reduce Exposure to Local Air Pollution, *Planning Healthy Places A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning* (p. 38). http://www.baaqmd.gov/~/media/files/planning-and-research/planning-healthy-places/php_may20_2016-pdf.pdf?la=en

individual is being exposed to 21 hours of indoor filtered air and three hours of outdoor unfiltered air, then the overall effectiveness of a MERV13 filtration system would be about 70-percent for $PM_{2.5}$ exposure. This would reduce the maximum annual $PM_{2.5}$ concentration from Mission View Drive to 0.16 $\mu g/m^3$. With this recommended design feature, impacts from Mission View Drive would be below their respective single-source thresholds.

Impact AIR-4: Create objectionable odors affecting a substantial number of people?

The project would generate localized emissions of diesel exhaust during construction equipment operation and truck activity. These emissions may be noticeable from time to time by adjacent receptors. However, they would be localized and are not likely to adversely affect people off-site by resulting in confirmed odor complaints. The project would not include any sources of significant odors that would cause complaints from surrounding uses.

Greenhouse Gas Emissions

Setting

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO_2, CH_4, and N_2O are byproducts of fossil fuel combustion.
- N_2O is associated with agricultural operations such as fertilization of crops.
- CH_4 is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO_2 being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO_2 equivalents (CO_2e).

An expanding body of scientific research supports the theory that global climate change is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

Recent Regulatory Actions for California GHG Emissions

Executive Order S-3-05 – California GHG Reduction Targets

Executive Order (EO) S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows: (1) reduce California's GHG emissions to 2000 levels by 2010, (2) reduce California's GHG emissions to 1990 levels by 2020, and (3) reduce California's GHG emissions by 80 percent below 1990 levels by 2050.

Assembly Bill 32 (AB 32), California Global Warming Solutions Act (2006)

AB 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons (MMT) of CO_2e as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, in light of the economic downturn, to 545 MMT of CO_2e. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 MMT of CO_2e. Thus, an estimated reduction of 80 MMT of CO_2e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

Executive Order B-30-15 & Senate Bill 32 GHG Reduction Targets – 2030 GHG Reduction Target

In April 2015, Governor Brown signed Executive Order which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed SB 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*. While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

SB 32 was passed in 2016, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. CARB is currently working on a second update to the Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The proposed Scoping Plan Update was published on January 20, 2017 as directed by SB 32 companion legislation AB 197. The mid-term 2030 target is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in Executive Order S-3-05. The Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and obtain the statewide goals.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term goal). Key features of this plan are:

- Cap and Trade program places a firm limit on 80 percent of the State's emissions;
- Achieving a 50-percent Renewable Portfolio Standard by 2030 (currently at about 29 percent statewide);
- Increase energy efficiency in existing buildings;
- Develop fuels with an 18-percent reduction in carbon intensity;
- Develop more high-density, transit-oriented housing;
- Develop walkable and bikeable communities;
- Increase the number of electric vehicles on the road and reduce oil demand in half;
- Increase zero-emissions transit so that 100 percent of new buses are zero emissions;
- Reduce freight-related emissions by transitioning to zero emissions where feasible and near-zero emissions with renewable fuels everywhere else; and
- Reduce "super pollutants" by reducing methane and HFCs by 40 percent.

In the updated Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO_2e per capita (statewide) by 2030 and no more than 2 metric tons CO_2e per capita by 2050. The statewide per capita targets account for all emissions sectors, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term State emissions reduction goal of 80 percent below 1990 levels by 2050.

Executive Order B-55-18 – Carbon Neutrality

In 2018, a new statewide goal was established to achieve carbon neutrality as soon as possible, but no later than 2045, and to maintain net negative emissions thereafter. CARB and other relevant state agencies are tasked with establishing sequestration targets and create policies/programs that would meet this goal.

Senate Bill 375, California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG

reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

SB 350 Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Senate Bill 100 – Current Renewable Portfolio Standards

In September 2018, SB 100 was signed by Governor Brown to revise California's RPS program goals, furthering California's focus on using renewable energy and carbon-free power sources for its energy needs. The bill would require all California utilities to supply a specific percentage of their retail sales from renewable resources by certain target years. By December 31, 2024, 44 percent of the retails sales would need to be from renewable energy sources, by December 31, 2026 the target would be 40 percent, by December 31, 2017 the target would be 52 percent, and by December 31, 2030 the target would be 60 percent. By December 31, 2045, all California utilities would be required to supply retail electricity that is 100 percent carbon-free and sourced from eligible renewable energy resource to all California end-use customers.

California Building Standards Code – Title 24 Part 11 & Part 6

The California Green Building Standards Code (CALGreen Code) is part of the California Building Standards Code under Title 24, Part 11.[29] The CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2019 California Building Standard Code) was effective as of January 1, 2020.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the California Energy Commission (CEC). This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process. The current energy efficiency standards (2019 Energy Code) replaced the 2016 Energy Code as of January 1,2020. Under the 2019 standards, single-family homes are predicted to be 53 percent more efficient than homes built under the 2016 standard due more stringent energy-efficiency standards and mandatory installation of solar photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lightening upgrades.[30]

[29] See: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen#:~:text=CALGreen%20is%20the%20first%2Din,to%201990%20levels%20by%202020.
[30] See: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

Federal and Statewide GHG Emissions

The U.S. EPA reported that in 2018, total gross nationwide GHG emissions were 6,676.6 million metric tons (MMT) carbon dioxide equivalent (CO_2e).[31] These emissions were lower than peak levels of 7,416 MMT that were emitted in 2007. CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2017 emissions.[32] In 2017, GHG emissions from statewide emitting activities were 424 MMT. The 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMT below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 MT per person to 10.7 MT per person in 2017. The most recent Bay Area emission inventory was computed for the year 2011.[33] The Bay Area GHG emission were 87 MMT. As a point of comparison, statewide emissions were about 444 MMT in 2011

Morgan Hill 2035 General Plan

The Climate Change section of the Natural Resources and Environment chapter of the Morgan Hill 2035 General Plan contains goals, policies and implementing actions that pertain to GHG emissions. Applicable General Plan policies are listed below:

Goal NRE-15 An adaptive and resilient community that responds to climate change.

Policy NRE-15.1 **Greenhouse Gas Emission Reduction Targets**. Maintain a greenhouse gas reduction trajectory that is consistent with the greenhouse gas reduction targets of Executive Orders B-30-15 (40 percent below 1990 levels by 2030) and S-03-05 (80 percent below 1990 levels by 2050) to ensure the City is consistent with statewide efforts to reduce greenhouse gas emissions.

Policy NRE-15.2 **Linking Land Use and Transportation**. Encourage land use and transportation patterns that reduce dependence on automobiles.

Policy NRE-15.3 **Climate Action Plan**. Utilize policies in this General Plan denoted with the green leaf symbol as the City's greenhouse gas emissions reduction strategy.

Policy NRE-15.4 **Sustainable Land Use**. Promote land use patterns that reduce the number and length of motor vehicle trips.

Policy NRE-15.5 **Jobs Housing Balance**. To the extent feasible, encourage a balance and match between jobs and housing.

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[31] United States Environmental Protection Agency, 2020. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018*. April. Web: https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf.

[32] CARB. 2019. *2019 Edition, California Greenhouse Gas Emission Inventory: 2000 – 2017*. Web: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf.

[33] BAAQMD. 2015. *Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011*. January. Web: http://www.baaqmd.gov/~/media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf.

Policy NRE-15.6 **Residential Near Transit**. Encourage higher density residential and mixed-use development adjacent to commercial centers and transit corridors – the land along or within walking distance of a street served by transit.

Policy NRE-15.7 **Mix of Uses in Employment Centers**. Encourage employment areas to include a mix of support services to minimize the number of employee trips.

Policy NRE-15.8 **Walkable City**. Encourage retail and office areas to be located within walking and biking distance of existing and proposed residential developments.

Policy NRE-15.9 **Urban Forest**. Support development and maintenance of a healthy, vibrant urban forest through outreach, incentives, and strategic leadership.

Policy NRE-15.10 **VMT Reduction**. Continue to work with the Santa Clara Valley Transportation Authority on regional transportation solutions that will reduce vehicle miles traveled and greenhouse gas emissions.

Policy NRE-15.11 **Green Building**. Promote green building practices in new development.

The General Plan's Energy Efficiency section contains policies that indirectly reduce GHG emissions:

Goal NRE-16 Conservation of energy resources.

Policy NRE-16.1 **Energy Standards for New Development**. New development, including public buildings, should be designed to exceed State standards for the use of energy.

Policy NRE-16.2 **Energy Conservation**. Promote energy conservation techniques and energy efficiency in building design, orientation, and construction.

Policy NRE-16.3 **Energy Use Data and Analysis**. Provide information to increase building owner, tenant, and operator knowledge about how, when, and where building energy is used.

Policy NRE-16.5 **Energy Efficiency**. Encourage development project designs that protect and improve air quality and minimize direct and indirect air pollutant emissions by including components that promote energy efficiency.

Policy NRE-16.6 **Landscaping for Energy Conservation**. Encourage landscaping plans for new development to address the planting of trees and shrubs that will provide shade to reduce the need for cooling systems and allow for winter daylighting.

Policy NRE-16.7 **Renewable Energy**. Encourage new and existing development to incorporate renewable energy generating features, like solar panels and solar hot water heaters.

Policy NRE-16.8 **Residential Development Code**. Emphasize energy conservation building techniques for new residential construction through the implementation of Chapter 18.78 of the Municipal Code.

Policy NRE-16.9 **Subdivision Design**. In compliance with Section 66473.1 of the State Subdivision Map Act, promote subdivision design that provides for passive solar heating and natural cooling through the Development Review Committee subdivision review procedures.

However, the City does not have a CAP, a CAP Compliance Checklist, or a specific metric ton GHG threshold for project-level construction or operation. Therefore, the BAAQMD's CEQA Air Quality Guideline's thresholds are used.

BAAQMD GHG Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines do not use quantified thresholds for projects that are in a jurisdiction with a qualified GHG reductions plan (i.e., a Climate Action Plan). The plan has to address emissions associated with the period that the project would operate (e.g., beyond year 2020). For quantified emissions, the guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate.

Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.8 MT CO_2e/year/service population and a bright-line threshold of 660 MT CO_2e/year based on the GHG reduction goals of EO B-30-15. The service population metric of 2.8 is calculated for 2030 based on the 1990 inventory and the projected 2030 statewide population and employment levels.[34] The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_2e/year threshold. Evidence published by the State indicates the AB 32 goal of reducing statewide GHG emissions to 1990 levels was met prior to 2020. Current State plans are to further reduce emissions to 40% below 1990 levels by 2030. Assuming statewide emissions are at 1990 levels or lower in 2020, it would be logical to reduce the BAAQMD-recommended threshold for meeting the AB 32 threshold by 40% to develop a threshold for 2030.

Impact GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with

[34] Bay Area Air Quality Management District, 2016. *CLE International 12th Annual Super-Conference CEQA Guidelines, Case Law and Policy Update*. December.

vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above within the operational period emissions. CalEEMod output is included in *Attachment 2*.

Service Population Emissions

The project service population efficiency rate is based on the number of future residents. For this project, the number of future residents was estimated by multiplying the total number of units (i.e., 269 units) by the persons per household rate for the City of Morgan Hill found in the California Department of Finance Population and Housing Estimate report.[35] Using the 3.11-person per household 2019 rate, the number of future residents was estimated to be 837 residents. This total service population was used to calculate the per capita emissions.

Construction Emissions

GHG emissions associated with construction were computed to be 451 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully developed site under the proposed project. As shown in Table 10, the annual emissions resulting from operation of the new dwelling units of the proposed project are predicted to be 2,784 MT of CO_2e in 2026 and 2,549 MT of CO_2e in 2030. The service population emission for the year 2026 and 2030 are predicted to be 3.33 and 3.05 MT/CO_2e/year/service population, respectively.

To be considered an exceedance, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold in the future year of 2030. The project would exceed the annual emissions bright-line threshold of 660 MT CO_2e/year in 2030

[35] State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2010-2019*. Sacramento, California. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/.

and would exceed the per service population threshold of 2.8 MT of CO_2e/year/service population in 2030. Therefore, the project would be in exceedance for GHG emissions.

Table 10. Annual Project GHG Emissions (CO_2e) in Metric Tons and Per Capita

Source Category	Proposed Project in 2026	Proposed Project in 2030
Area	3	3
Energy Consumption	23	23
Mobile	2,577	2,341
Solid Waste Generation	171	171
Water Usage	10	10
Total (MT CO_{2e}/year)	**2,784**	**2,549**
Significance Threshold	***660 MT CO2e/year***	***660 MT CO_2e/year***
Service Population Emissions (MT CO_{2e}/year/service population)	3.33	3.05
Significance Threshold	***3.52 in 2026***	***2.8 in 2030***
Exceeds both thresholds?	*No*	*Yes*
Emissions over threshold(MT CO_{2e}/year)		206 MT

Measures to Consider to Reduce GHG Emissions

Develop a GHG reduction plan to reduce GHG emissions in the build-out year by 206 MT/year. These reductions shall be kept in place by the project until the City adopts it's GHG reduction plan that contains goals and associated strategy to decrease emissions in a manner consistent with meeting the State's interim 2030 GHG emissions reduction target of 40 percent below 1990 levels. The following GHG reduction measure should be considered to further reduce GHG emissions from operation of the project and the service population efficiency metric such that the metric would be below the significance threshold. Elements of this recommendation may include, but would not be limited to, the following:

1. Implementation of a transportation demand management (TDM) program to reduce mobile GHG emissions;

2. Installation of solar power systems or other renewable electric generating systems that provide electricity to power on-site equipment and possibly provide excess electric power;

3. Provide infrastructure for electric vehicle charging in residential units (i.e., provide 220 VAC power);

4. Increase water conservation above State average conditions for residential uses by installing low flow water utilities and irrigation; and

5. Purchase verifiable carbon emission offsets.

Impact GHG-2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The proposed project would not conflict or otherwise interfere with the statewide GHG reduction measures identified in CARB's Scoping Plan nor would the project conflict with SB 100 goals. For example, proposed buildings would be constructed in conformance with CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures, water-efficient irrigation systems, and compliance with current energy efficacy standards.

Supporting Documentation

Attachment 1 is the methodology used to compute community risk impacts, including the methods to compute lifetime cancer risk from exposure to project emissions.

Attachment 2 includes the CalEEMod output for project construction and operational criteria air pollutant and GHG emissions. The operational outputs for 2030 uses are also included in this attachment. Also included are any modeling assumptions.

Attachment 3 includes the EMFAC2017 emissions modeling. The input files for these calculations are voluminous and are available upon request in digital format.

Attachment 4 is the construction health risk assessment. AERMOD dispersion modeling files for these assessments, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 5 includes the cumulative community risk calculations, modeling results, and health risk calculations from sources affecting the construction MEI and on-site sensitive receptors.

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[36] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.[37] This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[38] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs is calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency and duration of exposure. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day) or liters per kilogram of body weight per 8-hour period for the case of worker or school child exposures. As recommended by the BAAQMD for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, BAAQMD recommends using the 95th percentile 8-hour breathing rates. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of

[36] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.
[37] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[38] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, a 25-year exposure period is recommended by the BAAQMD. For school children a 9-year exposure period is recommended by the BAAQMD.

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. Use of the FAH factors is allowed by the BAAQMD if there are no schools in the project vicinity have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

Functionally, cancer risk is calculated using the following parameters and formulas:

Cancer Risk (per million) = $CPF \times Inhalation\ Dose \times ASF \times ED/AT \times FAH \times 10^6$

Where:

CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = $C_{air} \times DBR^* \times A \times (EF/365) \times 10^{-6}$

Where:

C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
8HrBR = 8-hour breathing rate (L/kg body weight-8 hours)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

* An 8-hour breathing rate (8HrBR) is used for worker and school child exposures.

The health risk parameters used in this evaluation are summarized as follows:

Parameter	*Exposure Type* →	Infant		Child	Adult
	Age Range →	3rd Trimester	0<2	2 < 16	16 - 30
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day) 80th Percentile Rate		273	758	572	261
Daily Breathing Rate (L/kg-day) 95th Percentile Rate		361	1,090	745	335
8-hour Breathing Rate (L/kg-8 hours) 95th Percentile Rate		-	1,200	520	240
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14*
Exposure Frequency (days/year)		350	350	350	350*
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home (FAH)		0.85-1.0	0.85-1.0	0.72-1.0	0.73*

Non-Cancer Hazards

Non-cancer health risk is usually determined by comparing the predicted level of exposure to a chemical to the level of exposure that is not expected to cause any adverse effects (reference exposure level), even to the most susceptible people. Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu g/m^3$).

Annual $PM_{2.5}$ Concentrations

While not a TAC, fine particulate matter ($PM_{2.5}$) has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under the California Environmental Quality Act (CEQA). The thresholds of significance for $PM_{2.5}$ (project level and cumulative) are in terms of an increase in the annual average concentration. When considering $PM_{2.5}$ impacts, the contribution from all sources of $PM_{2.5}$ emissions should be included. For projects with potential impacts from nearby local roadways, the $PM_{2.5}$ impacts should include those from vehicle exhaust emissions, $PM_{2.5}$ generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads.

Attachment 2: CalEEMod Modeling Inputs and Outputs

Air Quality/Noise Construction Information Data Request

Project Name: Crosswinds Half Road and Mission View

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size 269 Dwelling Units 30.5 total project acres disturbed

512,363 s.f. residential

0 s.f. retail

0 s.f. office/commercial

0 s.f. other, specify:

0 s.f. parking garage NA spaces

s.f. parking lot 809 spaces

Construction Hours am to pm

Pile Driving? Y/N? N

Project include OPERATIONAL GENERATOR OR FIRE PUMP on-site? N

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower:

Fuel Type:

Location in project (Plans Desired if Available):

DO NOT MULTIPLY EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
Entire Site	**Demolition**	**Start Date:**	**5/13/2022**	**Total phase:**	**4**			Overall Import/Export Volumes
		End Date:	**5/17/2022**					
0	Concrete/Industrial Saws	81	0.73	0	0	0.00	0	**Demolition Volume**
1	Excavators	158	0.38	8	4	8.00	32	Square footage of buildings to be demolished
0	Rubber-Tired Dozers	247	0.4	0	0	0.00	0	(or total tons to be hauled)
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	1,900 square feet or
								2 Hauling volume (tons)
Entire Site	**Site Preparation**	**Start Date:**	**5/18/2022**	**Total phase:**	**5**			
		End Date:	**5/23/2022**					
1	Graders	187	0.41	8	4	6.40	32	
0	Rubber Tired Dozers	247	0.4	0	0	0.00	0	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
3	Scrapers	361	0.48	8	4	6.40	96	
Entire Site	**Grading / Excavation**	**Start Date:**	**5/24/2022**	**Total phase:**	**15**			
		End Date:	**6/8/2022**					**Soil Hauling Volume**
0	Excavators	158	0.38	0	0	0.00	0	Export volume = 0 cubic yards
1	Graders	187	0.41	8	13	6.93	104	Import volume = 0 cubic yards
0	Rubber Tired Dozers	247	0.4	0	0	0.00	0	
3	Scrapers	361	0.48	8	8	4.27	192	
1	Tractors/Loaders/Backhoes	97	0.37	8	9	4.80	72	
1	Compactor	171	0.42	8	9	4.80	72	
Phase 1	**Trenching - Underground**	**Start Date:**	**6/13/2022**	**Total phase:**	**35**			
		End Date:	**7/18/2022**					
1	Tractor/Loader/Backhoe	97	0.37	8	35	8.00	280	
1.5	Excavators	158	0.38	8	35	8.00	420	
	Other Equipment?							
Phase 2	**Trenching - Underground**	**Start Date:**	**10/14/2023**	**Total phase:**	**35**			
		End Date:	**11/18/2023**					
1	Tractor/Loader/Backhoe	97	0.37	8	35	8.00	280	
1.5	Excavators	158	0.38	8	35	8.00	420	
	Other Equipment?							
Phase 3	**Trenching - Underground**	**Start Date:**	**4/13/2025**	**Total phase:**	**25**			
		End Date:	**5/8/2025**					
1	Tractor/Loader/Backhoe	97	0.37	4	10	1.14	40	
1.5	Excavators	158	0.38	4	10	1.14	60	**Cement Trucks 403 Total Round-Trips**
	Other Equipment?							**Phase 1: Aprx.145**
								Phase 2: Aprx. 178
Phase 1	**Building - Exterior**	**Start Date:**	**7/13/2022**	**Total phase:**	**175**			**Phase 3: Aprx. 80**
		End Date:	**5/8/2023**					
0	Cranes	231	0.29			0.00	0	Electric? (Y/N) N Otherwise assumed diesel
1	Forklifts	89	0.2	6	144	4.94	864	Liquid Propane (LPG)? (Y/N) N Otherwise Assumed diesel
0	Generator Sets	84	0.74			0.00	0	Or temporary line power? (Y/N) Y
1	Tractors/Loaders/Backhoes	97	0.37	6	24	0.82	144	
0	Welders	46	0.45			0.00	0	
	Other Equipment?					0.00		
Phase 2	**Building - Exterior**	**Start Date:**	**12/18/2023**	**Total phase:**	**175**			
		End Date:	**10/13/2024**					
0	Cranes	231	0.29			0.00	0	
1	Forklifts	89	0.2	6	144	4.94	864	
0	Generator Sets	84	0.74			0.00	0	
1	Tractors/Loaders/Backhoes	97	0.37	6	24	0.82	144	
0	Welders	46	0.45			0.00	0	
	Other Equipment?					0.00		
Phase 3	**Building - Exterior**	**Start Date:**	**6/7/2025**	**Total phase:**	**75**			
		End Date:	**1/8/2026**					
0	Cranes	231	0.29			0.00	0	
1	Forklifts	89	0.2	6	72	2.47	432	
0	Generator Sets	84	0.74			0.00	0	
1	Tractors/Loaders/Backhoes	97	0.37	6	12	0.41	72	
0	Welders	46	0.45			0.00	0	
	Other Equipment?					0.00		
Phase 1	**Building - Interior**	**Start Date:**	**10/11/2022**	**Total phase:**	**40**			
		End Date:	**10/6/2023**					
5	Air Compressors	78	0.48	4	40	4.00	800	
0	Aerial Lift	62	0.31			0.00	0	
	Other Equipment?							
1	Paving Equipment	132	0.36	8	12	2.00	96	
1	Rollers	80	0.38	8	12	2.00	96	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
1	Graders	187	0.41	8	14	2.33	112	
Phase 2	**Building - Interior**	**Start Date:**	**3/17/2024**	**Total phase:**	**40**			
		End Date:	**3/12/2025**					
5	Air Compressors	78	0.48	4	40	4.00	800	
0	Aerial Lift	62	0.31			0.00	0	
	Other Equipment?							
1	Paving Equipment	132	0.36	8	12	2.00	96	
1	Rollers	80	0.38	8	12	2.00	96	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
1	Graders	187	0.41	8	14	2.33	112	
Phase 3	**Building - Interior**	**Start Date:**	**9/5/2025**	**Total phase:**	**40**			
		End Date:	**6/7/2026**					
5	Air Compressors	78	0.48	4	40	4.00	800	
0	Aerial Lift	62	0.31			0.00	0	
	Other Equipment?							
1	Paving Equipment	132	0.36	8	6	1.00	48	
1	Rollers	80	0.38	8	6	1.00	48	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
1	Graders	187	0.41	8	7	1.17	56	
Phase 1	**Paving**	**Start Date:**	**10/11/2022**	**Total phase:**	**16**			
		Start Date:	**11/1/2022**					
2	Cement and Mortar Mixers	9	0.56	8	4	0.67	64	
1	Pavers	130	0.42	8	2	0.33	16	**Asphalt: 562 cubic yards**
1	Paving Equipment	132	0.36	8	2	0.33	16	
1	Rollers	80	0.38	8	2	0.33	16	
2	Tractors/Loaders/Backhoes	97	0.37	8	4	0.67	64	
1	Graders	187	.	8	2	0.33	16	
Phase 2	**Paving**	**Start Date:**	**3/17/2024**	**Total phase:**	**16**			
		Start Date:	**4/7/2024**					
2	Cement and Mortar Mixers	9	0.56	8	4	0.67	64	
1	Pavers	130	0.42	8	2	0.33	16	**Asphalt: 700 cubic yards**
1	Paving Equipment	132	0.36	8	2	0.33	16	
1	Rollers	80	0.38	8	2	0.33	16	
2	Tractors/Loaders/Backhoes	97	0.37	8	4	0.67	64	
1	Graders	187	.	8	2	0.33	16	
Phase 3	**Paving**	**Start Date:**	**9/5/2025**	**Total phase:**	**12**			
		Start Date:	**9/19/2025**					
2	Cement and Mortar Mixers	9	0.56	8	3	0.50	48	
1	Pavers	130	0.42	8	1.5	0.25	12	**Asphalt: 300 cubic yards**
1	Paving Equipment	132	0.36	8	1.5	0.25	12	
1	Rollers	80	0.38	8	1.5	0.25	12	
2	Tractors/Loaders/Backhoes	97	0.37	8	3	0.50	48	
1	Graders	187	.	8	1.5	0.25	12	
De Paul	**Grading / Excavation**	**Start Date:**	**10/4/2023**	**Total phase:**	**15**			
		End Date:	**10/19/2023**					**Soil Hauling Volume**
0	Excavators	158	0.38	0	0	0.00	0	Export volume = 0 cubic yards
1	Graders	187	0.41	8	1	0.53	8	Import volume = 0 cubic yards
0	Rubber Tired Dozers	247	0.4	0	0	0.00	0	
1	Scrapers	361	0.48	8	1.5	0.80	12	
1	Tractors/Loaders/Backhoes	97	0.37	8	1.5	0.80	12	
1	Compactor	171	0.42	8	1.5	0.80	12	
De Paul	**Trenching - Underground**	**Start Date:**	**10/24/2023**	**Total phase:**	**35**			
		End Date:	**11/28/2023**					
1	Tractor/Loader/Backhoe	97	0.37	8	2	0.46	16	
1.5	Excavators	158	0.38	8	2	0.46	24	
De Paul	**Paving**	**Start Date:**	**12/19/2023**	**Total phase:**	**16**			
		Start Date:	**1/4/2024**					
2	Cement and Mortar Mixers	9	0.56	8	4	0.67	64	
1	Pavers	130	0.42	8	2	0.33	16	**Asphalt: 612 cubic yards**
1	Paving Equipment	132	0.36	8	2	0.33	16	
1	Rollers	80	0.38	8	2	0.33	16	
2	Tractors/Loaders/Backhoes	97	0.37	8	4	0.67	64	
1	Graders	187	.	8	2	0.33	16	
	Additional Phases	**Start Date:**	**All Phases**	**Total phase:**				
		Start Date:	**Accounted for Above**					

Equipment types listed in "Equipment Types" worksheet tab.

Equipment listed in this sheet is to provide an example of inputs

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

Table 1: Construction Phasing			
Construction	Number of Units	Construction Duration	Acreage
All Phases	N/A	1 month – May 2022 May 2022 (demolition and site preparation - entire site) May 2022 to June 2022 (grading/excavation of proposed residential area)	
Phase 1	40 condominium units (Buildings A and B, G - J) 32 single-family attached units (Building units 89 - 120) 22 single-family detached units (Building units 1-22) Clubhouse/pool area	16 months: June 2022 – October 2023 June 2022 – July 2022 (Trenching) July 2022 to May 2023 (Exterior building construction) October 2022 to November 2022 (Paving) October 2022 to October 2023 (Interior Building Construction)	12.2 Acres +/-
Phase 2	34 single-family detached units (Building units 23 through 56) 32 single-family detached units (Building units 57-88) 45 condominium units (Buildings Q through W)	17 months: October 2023 – March 2025 October 2023 – November 2023 (Trenching) December 2023 to October 2024 (Exterior building construction) March 2024 to April 2024 (paving) March 2024 to March 2025 (interior building construction)	12.88 Acres +/-
De Paul Extension	DePaul Drive Extension	3 months: October 2023 – January 2024 October 2023 to November 2023 (Grading / Excavation & Trenching) December 2023 to January 2024 (Paving)	1.36 Acres +/- in Crosswinds property (3.74 +/- Acres for Full Extension)
Phase 3	64 condominium units Buildings C through F and K through P	14 months: April 2025 – June 2026 April 2025 – May 2025 (Trenching) June 2025 to January 2026 (Exterior building construction) September 2025 to September 2025 (Paving) September 2025 to June 2026 (Interior Building Construction)	2.85 +/- Acres

The Crosswinds Trip Generation Estimates

Proposed Land Use	Size		Daily		AM Peak Hour						PM Peak Hour					
						Split		Trip				Split		Trip		
			Rate	Trip	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
Single-Family Detached Housing (ITE LU # 210)[1]	269	Dwelling Units	9.44	2,539	0.74	25%	75%	50	149	199	0.99	63%	37%	168	98	266

Notes:
[1]ITE Trip Generation Manual, 10th Edition 2017

thresholds recommended in the Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018.

Per OPR's technical advisory, VMT per resident (capita) is the recommended metric to evaluate CEQA-related transportation impacts for residential land uses. As stated in the technical advisory, OPR recommends an impact threshold of 15% below the existing VMT levels for residential land uses. OPR allows the existing VMT to be measured as regional or citywide VMT per capita. Therefore, 15% below the city-wide residential VMT per capita is established as the impact threshold for the residential uses of the project.

The VTA's VMT Evaluation Tool indicates that the citywide average VMT per capita is currently 24.64. Therefore, the OPR recommends an impact threshold of 15% below the citywide average VMT per capita equates to 20.94 VMT per capita.

VMT Evaluation

The results of the VMT analysis using the VTA's VMT Evaluation Tool indicate that the existing VMT for residential uses in the project vicinity is 30.46 VMT per capita.

The results also indicate that the project is projected to generate VMT per capita (27.41), which would exceed the OPR's recommended impact threshold of 20.94 VMT per capita. Therefore, the project would result in an impact on the transportation system based on OPR's VMT impact criteria.

The VTA VMT Evaluation Tool output sheets are shown in Figure 5 and also included in Appendix A.

VMT Impacts and Mitigation

Using OPR's impact thresholds, the project would need to implement VMT reduction measures to achieve a 24% reduction (27.41 to 20.94) in its VMT per capita for the proposed residential uses to reduce its impact to less than significant levels. However, per the VMT tool, the maximum reduction possible is 24.37. Further reductions in VMT are not likely feasible for residential projects due to the limited alternative modes of transportation and supporting employment land uses within the City.

The project's VMT per capita could be reduced to 24.37 with the implementation of the following Travel Demand Management (TDM) strategies, however, the reduced VMT per capita would still be greater than the OPR's recommended impact threshold of 20.94 VMT per capita.

- TP01 – School Pool Programs: Organize a program that matches families in carpools for school pick-up and drop-off of all households from the project. Organizing a school pool program helps match parents who transport students to schools without a busing program, including private schools, charter schools, and neighborhood schools where students cannot walk or bike. The school pool program would be open to all families in the development. School pools reduce the total number of vehicle trips traveling to and from schools, thereby reducing VMT. **and**
- TP03 – Car Share Programs: Provide subsidies and promotions, as well as dedicated parking spaces, for car-sharing services such as GetAround for 100% of residents from the project. Supporting a car-sharing program allows for people to have on-demand access to a shared fleet of vehicles on an as-needed basis. Car sharing helps support the use of walking, biking, carpooling, and transit by providing other means for business/day trips or a guaranteed ride home option, allowing for overall reductions in auto use, which results in reduced VMT. **and**

Figure 5
VMT Analysis

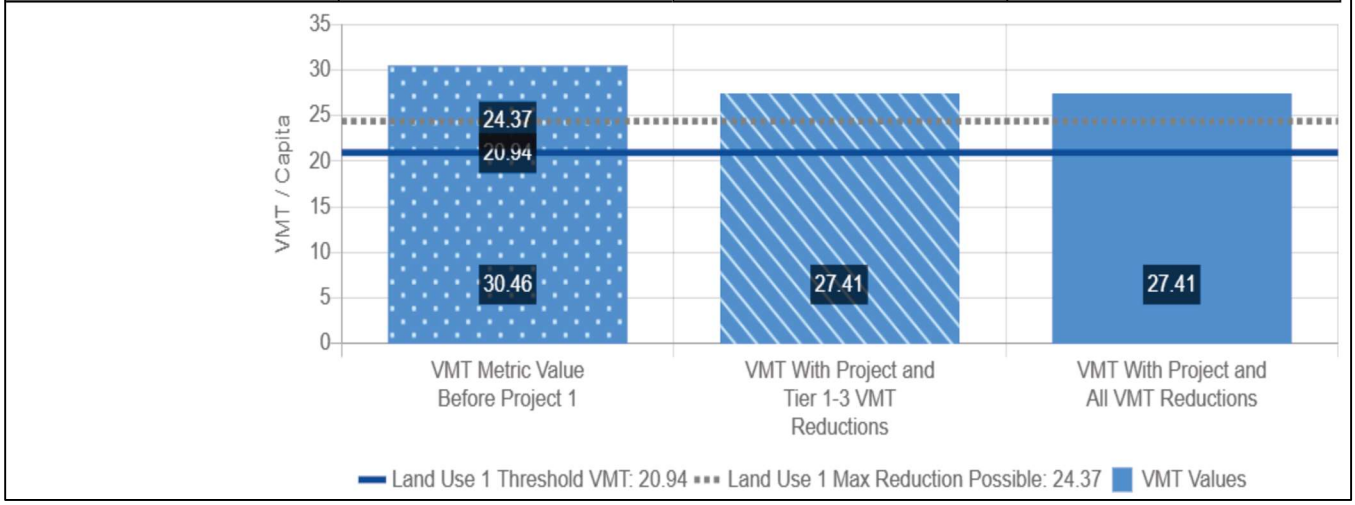
Santa Clara Countywide VMT Evaluation Tool Report

Valley Transportation Authority
Page 2

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Without Project:	Home-based VMT per Capita
VMT Baseline Description 1:	City Average
VMT Baseline Value 1:	24.64
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	30.46	27.41	27.41
Low VMT Screening Analysis	No (Fail)	No (Fail)	No (Fail)



- TP07 – Subsidized of Discounted Transit Programs: Provide fully (100%) subsidized transit passes for all project residents. Providing subsidies for transit use encourages people to use transit rather than driving, thereby reducing VMT. **and**
- TP14 – Transit Service Expansion: Project subsidizes transit service through fees and contributions to the transit provider, thereby improving transit service to the project, resulting in increased use of transit and reduced VMT. VTA Local Route 87 is currently serving the project site, and its service frequency should be increased by 100%. **and**
- TP18 – Voluntary Travel Behavior Change Programs: Provide a program that targets individual attitudes towards travel and providing tools for individuals to analyze and alter their travel behavior with 100% expected resident participation. These programs include mass communication campaigns and travel feedback programs, such as travel diaries or feedback on

calories burned from activities and travel. This strategy encourages the use of shared ride modes, transit, walking, and biking, thereby reducing VMT.

OPR's recommended 15% below existing VMT impact threshold encourages developments in transit-rich, highly mixed-use areas to implement design features and trip reduction measures to take advantage of existing multi-model infrastructure and land use mixes in reducing trip making and/or trip lengths. However, many communities such as Morgan Hill have very limited multi-modal transportation infrastructure and lack a mix of complementary land uses. The lack of employment in these communities along with minimal transit options results in a greater number and longer commute trips. Therefore, it is highly unlikely that developments like the proposed project in these cities can achieve OPR's recommended 15% reduction in VMT. Therefore, absent of the City adopting its own City-specific VMT policies and impact thresholds, the proposed project's VMT impact must be deemed significant and unavoidable.

Vehcile Trip Length Calcualtions

Hexagon Report

Total Trips Generated	2,539	For 269 dwelling units
VMT per capita	27.41	Project unmitigated VMT/capita
Service Population	837	Based on 3.11 persons per household
Total VMT	22,942	
Miles Per Trip:	9.04	

CalEEMod Default Trip Information

Annual VMT	5,833,860	Trip Generation		**Computed** Annual Trips	921,886
Weekday VMT	16,067	Weekday Trip Gen.	2,539	Weekday	661,954
Saturday VMT	16,871	Saturday Trip Gen.	2,666	Saturday	139,013
Sunday VMT	14,675	Sunday Trip Gen.	2,319	Sunday	120,919
VMT/Trip	6.33				

Computed CalEEMod VMT Rate with Hexagon VMT

Hexagon Rate (weekday)	27.41	Project unmitigated VMT/capita
CalEEMod Rate	19.20	CalEEMod unmitigated VMT/capita
Correction Factor	0.70	
CalEEMod Trip Length:	9.04	

	Uncontrolled Half Rd Construction Criteria Air Pollutants							
	Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	PM2.5 Fugitive	**CO2e**	
Phase	Year	Tons					MT	
	Construction Equipment - CalEEMod							
Grading	2022	0.02	0.26	0.01	0.0080	0.0036	42	
Phase 1	2022	1.02	0.29	0.02	0.0146	0.0000	52	
	2023	0.00	0.02	0.00	0.0011	0.0000	3	
De Paul Extention	2023	0.00	0.03	0.00	0.0012	0.0002	6	
Phase 2	2023	0.01	0.09	0.00	0.0038	0.0000	22	
	2024	1.19	0.20	0.01	0.0092	0.0000	37	
Phase 3	2025	0.48	0.17	0.01	0.0074	0.0000	42	
	EMFAC							
Grading	2022	0.00	0.02	0.00	0.0009	0.0004	9	
Phase 1	2022	0.01	0.09	0.01	0.0086	0.0062	59	
	2023	0.00	0.04	0.00	0.0032	0.0023	22	
De Paul Extention	2023	0.00	0.01	0.00	0.0008	0.0005	7	
Phase 2	2023	0.01	0.10	0.01	0.0085	0.0059	60	
	2024	0.01	0.07	0.01	0.0055	0.0039	39	
Phase 3	2025	0.01	0.10	0.01	0.0070	0.0046	52	
	Total Construction Emissions by Year							
	2022	1.05	0.67	0.03	0.0321	0.0102	162	
	2023	0.03	0.29	0.02	0.0187	0.0089	119	
	2024	1.20	0.27	0.02	0.0148	0.0039	76	
	2025	0.49	0.27	0.01	0.0144	0.0046	94	
		Total Construction Emissions						
	Tons	2.8	1.5	0.1	0.1		451	
	Pounds/Workdays	*Average Daily Emissions*					Workdays	
	2022	13.68	8.64	0.44	0.42			154
	2023	0.30	2.60	0.18	0.17			220
	2024	11.39	2.53	0.15	0.14			210
	2025	6.95	3.85	0.21	0.21			140
								724

	Half Rd Operational Criteria Air Pollutants						
	Unmitigated	ROG	NOX	Total PM10	Total PM2.5		
	Year	Tons Per Year					
	Total	3.35	1.68	3.12	0.86		
		Existing Use Emissions					
	Total						
		Net Annual Operational Emissions					
	Tons/year	3.35	1.68	3.12	0.86		
		Average Daily Emissions					
	Pounds Per Day	18.36	9.21	17.10	4.71		

Category	**Half Rd CO2e**			
	2026 Project	Existing	2030 Project	Existing
Area	3		3	
Energy	23		23	
Mobile	2,577		2341	
Waste	171		171	
Water	10		10	
TOTAL	2,784	0	2,549	0
Net GHG Emissions		2,784		2549
Service Population	837			
Per Capita Emissions		3.33		3.05
Threshold		3.52		2.80
Emission Over Threshold		0.00		206
	269 units			
CA DOF 2020 =	3.11 pphh			

	Uncontrolled Half Rd Construction HRA Pollutants						
	Unmitigated			PM10 Exhaust	Mitigated	PM2.5 Fugitive	**Mitigated**
Phase	Year	Tons					
	Construction Equipment - CalEEMod						
Grading	2022			0.0087	0.0007	0.0036	0.0021
Phase 1	2022			0.0154	0.0009	0.0000	0.0000
	2023			0.0012	0.0001	0.0000	0.0000
De Paul Extention	2023			0.0014	0.0001	0.0002	0.0001
Phase 2	2023			0.0042	0.0004	0.0000	0.0000
	2024			0.0097	0.0007	0.0000	0.0000
Phase 3	2025			0.0077	0.0007	0.0000	0.0000
	EMFAC						
Grading	2022			0.0009	0.0009	0.0004	0.0004
Phase 1	2022			0.0086	0.0086	0.0062	0.0062
	2023			0.0032	0.0032	0.0023	0.0023
De Paul Extention	2023			0.0008	0.0008	0.0005	0.0005
Phase 2	2023			0.0085	0.0085	0.0059	0.0059
	2024			0.0055	0.0055	0.0039	0.0039
Phase 3	2025			0.0070	0.0070	0.0046	0.0046
	Total Construction Emissions by Year						
	2022			0.03	0.0111	0.0102	0.0087
	2023			0.02	0.0131	0.0089	0.0088
	2024			0.02	0.0062	0.0039	0.0039
	2025			0.01	0.0077	0.0046	0.0046

Air Quality/Noise Construction Information Data Request

Project Name: Crosswinds Half Road and Mission View Option 2

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size
269 Dwelling Units
30.5 total project acres disturbed
512,363 s.f. residential
0 s.f. retail
0 s.f. office/commercial
0 s.f. other, specify:
0 s.f. parking garage
NA spaces
s.f. parking lot
809 spaces

Construction Hours am to pm

Pile Driving? Y/N? N

Project include OPERATIONAL GENERATOR OR FIRE PUMP on-site? N

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower:

Fuel Type:

Location in project (Plans Desired if Available):

DO NOT MULTIPLY EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
Entire Site	**Demolition**	**Start Date:**	**5/13/2022**	**Total phase:**	**4**			**Overall Import/Export Volumes**
		End Date:	**5/17/2022**					
0	Concrete/Industrial Saws	81	0.73	0	0	0.00	0	**Demolition Volume**
1	Excavators	158	0.38	8	4	8.00	32	Square footage of buildings to be demolished
0	Rubber-Tired Dozers	247	0.4	0	0	0.00	0	(or total tons to be hauled)
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	1,000 square feet or
								? Hauling volume (tons
Entire Site	**Site Preparation**	**Start Date:**	**5/18/2022**	**Total phase:**	**5**			
		End Date:	**5/23/2022**					
1	Graders	187	0.41	8	4	6.40	32	
0	Rubber Tired Dozers	247	0.4	0	0	0.00	0	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
3	Scrapers	361	0.48	8	4	6.40	96	
Entire Site	**Grading / Excavation**	**Start Date:**	**5/24/2022**	**Total phase:**	**18**			
		End Date:	**6/11/2022**					**Soil Hauling Volume**
1	Excavators	158	0.38	8	7	3.11	56	Export volume = 0 cubic yards
1	Graders	187	0.41	8	18	8.00	144	Import volume =0 cubic yards
0	Rubber Tired Dozers	247	0.4	0	0	0.00	0	
3	Scrapers	361	0.48	8	10	4.44	240	
1	Tractors/Loaders/Backhoes	97	0.37	8	11	4.89	88	
1	Compactor	171	0.42	8	9	4.00	72	
Phase 1	**Trenching - Underground**	**Start Date:**	**6/16/2022**	**Total phase:**	**35**			
		End Date:	**7/21/2022**					
1	Tractor/Loader/Backhoe	97	0.37	8	35	8.00	280	
1.5	Excavators	158	0.38	8	35	8.00	420	
	Other Equipment?							
Phase 2	**Trenching - Underground**	**Start Date:**	**10/14/2023**	**Total phase:**	**35**			
		End Date:	**11/19/2023**					
1	Tractor/Loader/Backhoe	97	0.37	8	35	8.00	280	
1.5	Excavators	158	0.38	8	35	8.00	420	
	Other Equipment?							
Phase 3	**Trenching - Underground**	**Start Date:**	**4/13/2025**	**Total phase:**	**25**			
		End Date:	**5/8/2025**					
1	Tractor/Loader/Backhoe	97	0.37	4	10	1.14	40	
1.5	Excavators	158	0.38	4	10	1.14	60	**Cement Trucks 403 Total Round-Trips**
	Other Equipment?							**Phase 1: Aprx. 145**
Phase 1	**Building - Exterior**	**Start Date:**	**7/16/2022**	**Total phase:**	**178**			**Phase 2: Aprx. 178**
		End Date:	**5/12/2023**					**Phase 3: Aprx. 80**
0	Cranes	231	0.29			0.00	0	Electric? (Y/N) N Otherwise assumed diesel
1	Forklifts	89	0.2	6	144	4.94	864	Liquid Propane (LPG)? (Y/N) N Otherwise Assumed diesel
0	Generator Sets	84	0.74			0.00	0	Or temporary line power? (Y/N) Y
1	Tractors/Loaders/Backhoes	97	0.37	6	24	0.82	144	
0	Welders	46	0.45			0.00	0	
	Other Equipment?					0.00		
Phase 2	**Building - Exterior**	**Start Date:**	**12/18/2023**	**Total phase:**	**178**			
		End Date:	**10/13/2024**					
0	Cranes	231	0.29			0.00	0	
1	Forklifts	89	0.2	6	144	4.94	864	
0	Generator Sets	84	0.74			0.00	0	
1	Tractors/Loaders/Backhoes	97	0.37	6	24	0.82	144	
0	Welders	46	0.45			0.00	0	
	Other Equipment?					0.00		
Phase 3	**Building - Exterior**	**Start Date:**	**6/7/2025**	**Total phase:**	**78**			
		End Date:	**1/8/2026**					
0	Cranes	231	0.29			0.00	0	
1	Forklifts	89	0.2	6	72	2.47	432	
0	Generator Sets	84	0.74			0.00	0	
1	Tractors/Loaders/Backhoes	97	0.37	6	12	0.41	72	
0	Welders	46	0.45			0.00	0	
	Other Equipment?					0.00		
Phase 1	**Building - Interior**	**Start Date:**	**10/14/2022**	**Total phase:**	**40**			
		End Date:	**10/9/2023**					
5	Air Compressors	78	0.48	4	40	4.00	800	
0	Aerial Lift	62	0.31			0.00	0	
	Other Equipment?							
1	Paving Equipment	132	0.36	8	12	2.00	96	
1	Rollers	80	0.38	8	12	2.00	96	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
1	Graders	187	0.41	8	14	2.33	112	
Phase 2	**Building - Interior**	**Start Date:**	**3/17/2024**	**Total phase:**	**40**			
		End Date:	**3/12/2025**					
5	Air Compressors	78	0.48	4	40	4.00	800	
0	Aerial Lift	62	0.31			0.00	0	
	Other Equipment?							
1	Paving Equipment	132	0.36	8	12	2.00	96	
1	Rollers	80	0.38	8	12	2.00	96	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
1	Graders	187	0.41	8	14	2.33	112	
Phase 3	**Building - Interior**	**Start Date:**	**9/5/2025**	**Total phase:**	**40**			
		End Date:	**6/7/2026**					
5	Air Compressors	78	0.48	4	40	4.00	800	
0	Aerial Lift	62	0.31			0.00	0	
	Other Equipment?							
1	Paving Equipment	132	0.36	8	8	1.00	48	
1	Rollers	80	0.38	8	6	1.00	48	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
1	Graders	187	0.41	8	7	1.17	56	
Phase 1	**Paving**	**Start Date:**	**10/14/2022**	**Total phase:**	**10**			
		Start Date:	**11/4/2022**					
2	Cement and Mortar Mixers	9	0.56	8	4	0.67	64	
1	Pavers	130	0.42	8	2	0.33	16	**Asphalt: 562 cubic yards**
1	Paving Equipment	132	0.36	8	2	0.33	16	
1	Rollers	80	0.38	8	2	0.33	16	
2	Tractors/Loaders/Backhoes	97	0.37	8	4	0.67	64	
1	Graders	187	.	8	2	0.33	16	
Phase 2	**Paving**	**Start Date:**	**3/17/2024**	**Total phase:**	**10**			
		Start Date:	**4/7/2024**					
2	Cement and Mortar Mixers	9	0.56	8	4	0.67	64	
1	Pavers	130	0.42	8	2	0.33	16	**Asphalt: 700 cubic yards**
1	Paving Equipment	132	0.36	8	2	0.33	16	
1	Rollers	80	0.38	8	2	0.33	16	
2	Tractors/Loaders/Backhoes	97	0.37	8	4	0.67	64	
1	Graders	187	.	8	2	0.33	16	
Phase 3	**Paving**	**Start Date:**	**9/5/2025**	**Total phase:**	**12**			
		Start Date:	**9/19/2025**					
2	Cement and Mortar Mixers	9	0.56	8	3	0.50	48	
1	Pavers	130	0.42	8	1.5	0.25	12	**Asphalt: 300 cubic yards**
1	Paving Equipment	132	0.36	8	1.5	0.25	12	
1	Rollers	80	0.38	8	1.5	0.25	12	
2	Tractors/Loaders/Backhoes	97	0.37	8	3	0.50	48	
1	Graders	187	.	8	1.5	0.25	12	
De Paul	**Grading / Excavation**	**Start Date:**	**10/4/2023**	**Total phase:**	**18**			
		End Date:	**10/19/2023**					**Soil Hauling Volume**
0	Excavators	158	0.38	0	0	0.00	0	Export volume = 0 cubic yards
1	Graders	187	0.41	8	1	0.44	8	Import volume =0 cubic yards
0	Rubber Tired Dozers	247	0.4	0	0	0.00	0	
1	Scrapers	361	0.48	8	1.5	0.67	12	
1	Tractors/Loaders/Backhoes	97	0.37	8	1.5	0.67	12	
1	Compactor	171	0.42	8	1.5	0.67	12	
De Paul	**Trenching - Underground**	**Start Date:**	**10/24/2023**	**Total phase:**	**35**			
		End Date:	**11/28/2023**					
1	Tractor/Loader/Backhoe	97	0.37	8	2	0.46	16	
1.5	Excavators	158	0.38	8	2	0.46	24	
De Paul	**Paving**	**Start Date:**	**12/19/2023**	**Total phase:**	**10**			
		Start Date:	**1/4/2024**					
2	Cement and Mortar Mixers	9	0.56	8	4	0.67	64	
1	Pavers	130	0.42	8	2	0.33	16	**Asphalt: 612 cubic yards**
1	Paving Equipment	132	0.36	8	2	0.33	16	
1	Rollers	80	0.38	8	2	0.33	16	
2	Tractors/Loaders/Backhoes	97	0.37	8	4	0.67	64	
1	Graders	187	.	8	2	0.33	16	
	Additional Phases	**Start Date:**	**All Phases Accounted for Above**	**Total phase:**				
		Start Date:						

Equipment types listed in "Equipment Types" worksheet tab.

Equipment listed in this sheet is to provide an example of inputs
It is assumed that water trucks would be used during grading
Add or subtract phases and equipment, as appropriate
Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

	Option 2 Uncontrolled Half Rd Construction Criteria Air Pollutants							
	Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	PM2.5 Fugitive	**CO2e**	
Phase	Year	Tons					MT	
	Construction Equipment - CalEEMod							
Grading	2022	0.03	0.29	0.01	0.0103	0.0035	42	
Phase 1	2022	1.02	0.29	0.02	0.0146	0.0000	52	
	2023	0.00	0.02	0.00	0.0011	0.0000	3	
De Paul Extention	2023	0.00	0.03	0.00	0.0012	0.0002	6	
Phase 2	2023	0.01	0.09	0.00	0.0038	0.0000	22	
	2024	1.19	0.20	0.01	0.0092	0.0000	37	
Phase 3	2025	0.48	0.17	0.01	0.0074	0.0000	42	
	EMFAC							
Grading	2022	0.00	0.02	0.00	0.0005	0.0005	9	
Phase 1	2022	0.01	0.09	0.01	0.0086	0.0062	59	
	2023	0.00	0.04	0.00	0.0032	0.0023	22	
De Paul Extention	2023	0.00	0.01	0.00	0.0008	0.0005	7	
Phase 2	2023	0.01	0.10	0.01	0.0085	0.0059	60	
	2024	0.01	0.07	0.01	0.0055	0.0039	39	
Phase 3	2025	0.01	0.10	0.01	0.0070	0.0046	52	
	Total Construction Emissions by Year							
	2022	1.06	0.70	0.04	0.0340	0.0101	162	
	2023	0.03	0.29	0.02	0.0187	0.0089	119	
	2024	1.20	0.27	0.02	0.0148	0.0039	76	
	2025	0.49	0.27	0.01	0.0144	0.0046	94	
		Total Construction Emissions						
	Tons	2.8	1.5	0.1	0.1		451	
	Pounds/Workdays	*Average Daily Emissions*					Workdays	
	2022	13.74	9.10	0.47	0.44			154
	2023	0.30	2.60	0.18	0.17			220
	2024	11.39	2.53	0.15	0.14			210
	2025	6.95	3.85	0.21	0.21			140
								724

	Option 2 Uncontrolled Half Rd Construction Criteria Air Pollutants							
	Unmitigated			PM10 Exhaust	Mitigated	PM2.5 Fugitive	**Mitigated**	
Phase	Year	Tons						
	Construction Equipment - CalEEMod							
Grading	2022			0.0112	0.0008	0.0035	0.0016	
Phase 1	2022			0.0154	0.0009	0.0000	0.0000	
	2023			0.0012	0.0001	0.0000	0.0000	
De Paul Extention	2023			0.0014	0.0001	0.0002	0.0001	
Phase 2	2023			0.0042	0.0004	0.0000	0.0000	
	2024			0.0097	0.0007	0.0000	0.0000	
Phase 3	2025			0.0077	0.0007	0.0000	0.0000	
	EMFAC							
Grading	2022			0.0010	0.0010	0.0005	0.0005	
Phase 1	2022			0.0086	0.0086	0.0062	0.0062	
	2023			0.0032	0.0032	0.0023	0.0023	
De Paul Extention	2023			0.0008	0.0008	0.0005	0.0005	
Phase 2	2023			0.0085	0.0085	0.0059	0.0059	
	2024			0.0055	0.0055	0.0039	0.0039	
Phase 3	2025			0.0070	0.0070	0.0046	0.0046	
	Total Construction Emissions by Year							
	2022			0.04	0.0113	0.0101	0.0082	
	2023			0.02	0.0131	0.0089	0.0088	
	2024			0.02	0.0062	0.0039	0.0039	
	2025			0.01	0.0077	0.0046	0.0046	

Half Road Construction - Demo & Grading

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	269.00	Dwelling Unit	30.50	512,363.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE w/som PG&E (10%)

Land Use - Whole site grading

Construction Phase - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Grading - Used 1,000cy for misc import/export

Demolition - Based on provided construction information

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Trips and VMT - computed in EMFAC2017 using Demo 3/0/9 SitePrep 8/0/0 Grading 15/0/250

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	30.00	4.00
tblConstructionPhase	NumDays	45.00	15.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	PhaseEndDate	6/10/2022	5/18/2022
tblConstructionPhase	PhaseEndDate	9/9/2022	6/13/2022
tblConstructionPhase	PhaseEndDate	7/8/2022	5/24/2022
tblConstructionPhase	PhaseStartDate	5/1/2022	5/13/2022
tblConstructionPhase	PhaseStartDate	7/9/2022	5/24/2022
tblConstructionPhase	PhaseStartDate	6/11/2022	5/18/2022
tblGrading	MaterialExported	0.00	1,000.00
tblGrading	MaterialImported	0.00	1,000.00
tblLandUse	LandUseSquareFeet	484,200.00	512,363.00
tblLandUse	LotAcreage	87.34	30.50
tblLandUse	Population	769.00	0.00
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.43	0.43

tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	UsageHours	8.00	6.93
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	4.27
tblProjectCharacteristics	CO2IntensityFactor	641.35	21

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0214	0.2581	0.1541	4.7000e-004	0.0282	8.7100e-003	0.0369	3.6300e-003	8.0200e-003	0.0117	0.0000	42.0434	42.0434	0.0107	0.0000	42.3098
Maximum	**0.0214**	**0.2581**	**0.1541**	**4.7000e-004**	**0.0282**	**8.7100e-003**	**0.0369**	**3.6300e-003**	**8.0200e-003**	**0.0117**	**0.0000**	**42.0434**	**42.0434**	**0.0107**	**0.0000**	**42.3098**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	7.2800e-003	0.1311	0.2068	4.7000e-004	0.0145	6.9000e-004	0.0152	2.1300e-003	6.8000e-004	2.8100e-003	0.0000	42.0434	42.0434	0.0107	0.0000	42.3097
Maximum	**7.2800e-003**	**0.1311**	**0.2068**	**4.7000e-004**	**0.0145**	**6.9000e-004**	**0.0152**	**2.1300e-003**	**6.8000e-004**	**2.8100e-003**	**0.0000**	**42.0434**	**42.0434**	**0.0107**	**0.0000**	**42.3097**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**65.92**	**49.22**	**-34.18**	**0.00**	**48.56**	**92.08**	**58.83**	**41.32**	**91.52**	**75.88**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2022	7-31-2022	0.2792	0.1382
		Highest	0.2792	0.1382

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/13/2022	5/18/2022	5	4	
2	Site Preparation	Site Preparation	5/18/2022	5/24/2022	5	5	
3	Grading	Grading	5/24/2022	6/13/2022	5	15	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 35.02

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	6.40	187	0.41
Demolition	Excavators	1	8.00	158	0.38
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Excavators	0	8.00	158	0.38
Site Preparation	Scrapers	2	6.40	367	0.48
Grading	Crawler Tractors	1	4.80	212	0.43
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Graders	1	6.93	187	0.41
Grading	Tractors/Loaders/Backhoes	1	4.80	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	3	4.27	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	1	3.00	0.00	9.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	250.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.4000e-004	0.0000	9.4000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0000e-004	3.5500e-003	6.5100e-003	1.0000e-005		1.7000e-004	1.7000e-004		1.6000e-004	1.6000e-004	0.0000	0.9072	0.9072	2.9000e-004	0.0000	0.9146
Total	**4.0000e-004**	**3.5500e-003**	**6.5100e-003**	**1.0000e-005**	**9.4000e-004**	**1.7000e-004**	**1.1100e-003**	**1.4000e-004**	**1.6000e-004**	**3.0000e-004**	**0.0000**	**0.9072**	**0.9072**	**2.9000e-004**	**0.0000**	**0.9146**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.1100e-003	2.6000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3343	0.3343	2.0000e-005	0.0000	0.3347
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0380	0.0380	0.0000	0.0000	0.0380
Total	**5.0000e-005**	**1.1200e-003**	**3.9000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.3723**	**0.3723**	**2.0000e-005**	**0.0000**	**0.3727**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.2000e-004	0.0000	4.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3000e-004	4.5500e-003	7.8400e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.9072	0.9072	2.9000e-004	0.0000	0.9146
Total	**1.3000e-004**	**4.5500e-003**	**7.8400e-003**	**1.0000e-005**	**4.2000e-004**	**2.0000e-005**	**4.4000e-004**	**6.0000e-005**	**2.0000e-005**	**8.0000e-005**	**0.0000**	**0.9072**	**0.9072**	**2.9000e-004**	**0.0000**	**0.9146**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.1100e-003	2.6000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3343	0.3343	2.0000e-005	0.0000	0.3347
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0380	0.0380	0.0000	0.0000	0.0380
Total	**5.0000e-005**	**1.1200e-003**	**3.9000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.3723**	**0.3723**	**2.0000e-005**	**0.0000**	**0.3727**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	4.1200e-003	0.0464	0.0291	7.0000e-005		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	6.5218	6.5218	2.1100e-003	0.0000	6.5746
Total	**4.1200e-003**	**0.0464**	**0.0291**	**7.0000e-005**	**5.3000e-003**	**1.7400e-003**	**7.0400e-003**	**5.7000e-004**	**1.6000e-003**	**2.1700e-003**	**0.0000**	**6.5218**	**6.5218**	**2.1100e-003**	**0.0000**	**6.5746**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.2000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1265	0.1265	0.0000	0.0000	0.1266
Total	**6.0000e-005**	**4.0000e-005**	**4.2000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1265**	**0.1265**	**0.0000**	**0.0000**	**0.1266**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2100e-003	0.0196	0.0395	7.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	6.5218	6.5218	2.1100e-003	0.0000	6.5745
Total	**1.2100e-003**	**0.0196**	**0.0395**	**7.0000e-005**	**2.3900e-003**	**1.2000e-004**	**2.5100e-003**	**2.6000e-004**	**1.2000e-004**	**3.8000e-004**	**0.0000**	**6.5218**	**6.5218**	**2.1100e-003**	**0.0000**	**6.5745**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.2000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1265	0.1265	0.0000	0.0000	0.1266
Total	**6.0000e-005**	**4.0000e-005**	**4.2000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1265**	**0.1265**	**0.0000**	**0.0000**	**0.1266**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0187	0.0000	0.0187	2.0200e-003	0.0000	2.0200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0155	0.1761	0.1082	2.7000e-004		6.7000e-003	6.7000e-003		6.1700e-003	6.1700e-003	0.0000	24.1178	24.1178	7.8000e-003	0.0000	24.3128
Total	**0.0155**	**0.1761**	**0.1082**	**2.7000e-004**	**0.0187**	**6.7000e-003**	**0.0254**	**2.0200e-003**	**6.1700e-003**	**8.1900e-003**	**0.0000**	**24.1178**	**24.1178**	**7.8000e-003**	**0.0000**	**24.3128**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	9.2000e-004	0.0307	7.1600e-003	1.0000e-004	2.1200e-003	9.0000e-005	2.2100e-003	5.8000e-004	9.0000e-005	6.7000e-004	0.0000	9.2860	9.2860	4.2000e-004	0.0000	9.2965
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.2000e-004	2.3700e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.4000e-004	0.0000	0.7118	0.7118	2.0000e-005	0.0000	0.7122
Total	**1.2400e-003**	**0.0309**	**9.5300e-003**	**1.1000e-004**	**3.0100e-003**	**1.0000e-004**	**3.1100e-003**	**8.2000e-004**	**1.0000e-004**	**9.1000e-004**	**0.0000**	**9.9978**	**9.9978**	**4.4000e-004**	**0.0000**	**10.0086**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.4100e-003	0.0000	8.4100e-003	9.1000e-004	0.0000	9.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5800e-003	0.0749	0.1492	2.7000e-004		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	24.1178	24.1178	7.8000e-003	0.0000	24.3128
Total	**4.5800e-003**	**0.0749**	**0.1492**	**2.7000e-004**	**8.4100e-003**	**4.5000e-004**	**8.8600e-003**	**9.1000e-004**	**4.5000e-004**	**1.3600e-003**	**0.0000**	**24.1178**	**24.1178**	**7.8000e-003**	**0.0000**	**24.3128**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.2000e-004	0.0307	7.1600e-003	1.0000e-004	2.1200e-003	9.0000e-005	2.2100e-003	5.8000e-004	9.0000e-005	6.7000e-004	0.0000	9.2860	9.2860	4.2000e-004	0.0000	9.2965
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	3.2000e-004	2.2000e-004	2.3700e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.4000e-004	0.0000	0.7118	0.7118	2.0000e-005	0.0000	0.7122
Total	**1.2400e-003**	**0.0309**	**9.5300e-003**	**1.1000e-004**	**3.0100e-003**	**1.0000e-004**	**3.1100e-003**	**8.2000e-004**	**1.0000e-004**	**9.1000e-004**	**0.0000**	**9.9978**	**9.9978**	**4.4000e-004**	**0.0000**	**10.0086**

Half Rd Constr Phase 1

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	1.20	Acre	0.00	52,272.00	0
Recreational Swimming Pool	3.00	1000sqft	0.00	3,000.00	0
Condo/Townhouse	40.00	Dwelling Unit	12.20	40,000.00	114
Single Family Housing	54.00	Dwelling Unit	0.00	97,200.00	154

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	5			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCVE w/some PG&E

Land Use - Added recreational pool area. Assume 10% of 12.2 acres paved

Construction Phase - Based on provided construction information

Off-road Equipment - construction plans

Off-road Equipment - construction plans

Off-road Equipment - construction plans

Off-road Equipment - construction plans

Trips and VMT - added cement and asphalt trips (see EMFAC2017)

Demolition -

Grading -

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	300.00	175.00
tblConstructionPhase	NumDays	20.00	16.00
tblConstructionPhase	NumDays	10.00	35.00
tblLandUse	LotAcreage	1.20	0.00
tblLandUse	LotAcreage	0.07	0.00

tblLandUse	LotAcreage	2.50	12.20
tblLandUse	LotAcreage	17.53	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.90
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	21
tblTripsAndVMT	VendorTripNumber	19.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	71.00	0.00
tblTripsAndVMT	WorkerTripNumber	14.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	1.0192	0.2902	0.3675	5.9000e-004	0.0000	0.0154	0.0154	0.0000	0.0146	0.0146	0.0000	51.6038	51.6038	0.0123	0.0000	51.9107
2023	2.1200e-003	0.0203	0.0255	3.0000e-005	0.0000	1.1900e-003	1.1900e-003	0.0000	1.1000e-003	1.1000e-003	0.0000	3.0277	3.0277	9.8000e-004	0.0000	3.0522
Maximum	**1.0192**	**0.2902**	**0.3675**	**5.9000e-004**	**0.0000**	**0.0154**	**0.0154**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**51.6038**	**51.6038**	**0.0123**	**0.0000**	**51.9107**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.9958	0.2360	0.4101	5.9000e-004	0.0000	9.4000e-004	9.4000e-004	0.0000	9.4000e-004	9.4000e-004	0.0000	51.6038	51.6038	0.0123	0.0000	51.9106
2023	7.8000e-004	0.0151	0.0261	3.0000e-005	0.0000	6.0000e-005	6.0000e-005	0.0000	6.0000e-005	6.0000e-005	0.0000	3.0277	3.0277	9.8000e-004	0.0000	3.0522
Maximum	**0.9958**	**0.2360**	**0.4101**	**5.9000e-004**	**0.0000**	**9.4000e-004**	**9.4000e-004**	**0.0000**	**9.4000e-004**	**9.4000e-004**	**0.0000**	**51.6038**	**51.6038**	**0.0123**	**0.0000**	**51.9106**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.42**	**19.11**	**-11.01**	**0.00**	**0.00**	**93.95**	**93.95**	**0.00**	**93.61**	**93.61**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-13-2022	9-12-2022	0.1183	0.1160
2	9-13-2022	12-12-2022	1.1757	1.1042
3	12-13-2022	3-12-2023	0.0328	0.0225
4	3-13-2023	6-12-2023	0.0006	0.0004

		Highest	1.1757	1.1042

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Site Preparation	6/13/2022	7/29/2022	5	35	
2	Building Construction	Building Construction	7/13/2022	3/14/2023	5	175	
3	Building Interior	Architectural Coating	10/11/2022	12/5/2022	5	40	
4	Paving	Paving	11/28/2022	12/19/2022	5	16	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 277,830; Residential Outdoor: 92,610; Non-Residential Indoor: 2,550; Non-Residential Outdoor: 850; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Excavators	2	8.00	158	0.38
Trenching	Rubber Tired Dozers	0	8.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	1	4.90	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	1.00	9	0.56
Paving	Graders	1	1.00	187	0.41
Paving	Pavers	1	1.00	130	0.42
Paving	Paving Equipment	1	1.00	132	0.36

Paving	Rollers	1	1.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Building Interior	Air Compressors	5	4.00	78	0.48
Building Interior	Graders	1	2.30	187	0.41
Building Interior	Paving Equipment	1	1.00	132	0.36
Building Interior	Rollers	1	1.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Interior	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Trenching - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9700e-003	0.0915	0.1531	2.4000e-004		4.5800e-003	4.5800e-003		4.2200e-003	4.2200e-003	0.0000	20.6586	20.6586	6.6800e-003	0.0000	20.8256

Total	**9.9700e-003**	**0.0915**	**0.1531**	**2.4000e-004**	**0.0000**	**4.5800e-003**	**4.5800e-003**	**0.0000**	**4.2200e-003**	**4.2200e-003**	**0.0000**	**20.6586**	**20.6586**	**6.6800e-003**	**0.0000**	**20.8256**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4400e-003	0.1034	0.1781	2.4000e-004		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	20.6586	20.6586	6.6800e-003	0.0000	20.8256
Total	**3.4400e-003**	**0.1034**	**0.1781**	**2.4000e-004**	**0.0000**	**3.9000e-004**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**3.9000e-004**	**0.0000**	**20.6586**	**20.6586**	**6.6800e-003**	**0.0000**	**20.8256**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5500e-003	0.0526	0.0607	8.0000e-005		3.3300e-003	3.3300e-003		3.0600e-003	3.0600e-003	0.0000	7.1594	7.1594	2.3200e-003	0.0000	7.2173
Total	**5.5500e-003**	**0.0526**	**0.0607**	**8.0000e-005**		**3.3300e-003**	**3.3300e-003**		**3.0600e-003**	**3.0600e-003**	**0.0000**	**7.1594**	**7.1594**	**2.3200e-003**	**0.0000**	**7.2173**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8400e-003	0.0357	0.0618	8.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	7.1594	7.1594	2.3200e-003	0.0000	7.2173
Total	**1.8400e-003**	**0.0357**	**0.0618**	**8.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**7.1594**	**7.1594**	**2.3200e-003**	**0.0000**	**7.2173**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.1200e-003	0.0203	0.0255	3.0000e-005		1.1900e-003	1.1900e-003		1.1000e-003	1.1000e-003	0.0000	3.0277	3.0277	9.8000e-004	0.0000	3.0522
Total	**2.1200e-003**	**0.0203**	**0.0255**	**3.0000e-005**		**1.1900e-003**	**1.1900e-003**		**1.1000e-003**	**1.1000e-003**	**0.0000**	**3.0277**	**3.0277**	**9.8000e-004**	**0.0000**	**3.0522**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.8000e-004	0.0151	0.0261	3.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.0277	3.0277	9.8000e-004	0.0000	3.0522
Total	**7.8000e-004**	**0.0151**	**0.0261**	**3.0000e-005**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**3.0277**	**3.0277**	**9.8000e-004**	**0.0000**	**3.0522**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Interior - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Archit. Coating	0.9856					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1328	0.1418	2.5000e-004		6.8700e-003	6.8700e-003		6.7600e-003	6.7600e-003	0.0000	21.8377	21.8377	2.6700e-003	0.0000	21.9044
Total	**1.0025**	**0.1328**	**0.1418**	**2.5000e-004**		**6.8700e-003**	**6.8700e-003**		**6.7600e-003**	**6.7600e-003**	**0.0000**	**21.8377**	**21.8377**	**2.6700e-003**	**0.0000**	**21.9044**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9856					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5300e-003	0.0881	0.1551	2.5000e-004		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	21.8377	21.8377	2.6700e-003	0.0000	21.9044
Total	**0.9901**	**0.0881**	**0.1551**	**2.5000e-004**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**21.8377**	**21.8377**	**2.6700e-003**	**0.0000**	**21.9044**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2500e-003	0.0132	0.0119	2.0000e-005		5.7000e-004	5.7000e-004		5.3000e-004	5.3000e-004	0.0000	1.9481	1.9481	6.1000e-004	0.0000	1.9633
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2500e-003**	**0.0132**	**0.0119**	**2.0000e-005**		**5.7000e-004**	**5.7000e-004**		**5.3000e-004**	**5.3000e-004**	**0.0000**	**1.9481**	**1.9481**	**6.1000e-004**	**0.0000**	**1.9633**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.6000e-004	8.8600e-003	0.0151	2.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	1.9481	1.9481	6.1000e-004	0.0000	1.9633
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.6000e-004**	**8.8600e-003**	**0.0151**	**2.0000e-005**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**1.9481**	**1.9481**	**6.1000e-004**	**0.0000**	**1.9633**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Half Rd Constr. - De Paul Extension

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	1.40	Acre	1.40	60,984.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE with some PG&E

Land Use - Roadway Construction

Construction Phase - Based on provided schedule - all fit into 2023 (60 days)

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Grading -

Trips and VMT - 612 cy asphalt and equipment. Modeled using EMFAC2017

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	4.00	15.00
tblConstructionPhase	NumDays	10.00	16.00
tblConstructionPhase	PhaseEndDate	10/9/2023	12/12/2023
tblConstructionPhase	PhaseEndDate	10/9/2023	10/24/2023
tblConstructionPhase	PhaseEndDate	10/23/2023	12/22/2023
tblConstructionPhase	PhaseStartDate	10/10/2023	10/25/2023
tblConstructionPhase	PhaseStartDate	10/10/2023	12/19/2023
tblOffRoadEquipment	LoadFactor	0.48	0.48

tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	21
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Year	tons/yr										MT/yr					
2023	3.6100e-003	0.0320	0.0343	7.0000e-005	1.9900e-003	1.3500e-003	3.3400e-003	2.1000e-004	1.2400e-003	1.4600e-003	0.0000	5.8494	5.8494	1.8900e-003	0.0000	5.8966
Maximum	**3.6100e-003**	**0.0320**	**0.0343**	**7.0000e-005**	**1.9900e-003**	**1.3500e-003**	**3.3400e-003**	**2.1000e-004**	**1.2400e-003**	**1.4600e-003**	**0.0000**	**5.8494**	**5.8494**	**1.8900e-003**	**0.0000**	**5.8966**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	1.5100e-003	0.0240	0.0436	7.0000e-005	8.9000e-004	1.1000e-004	1.0000e-003	1.0000e-004	1.1000e-004	2.1000e-004	0.0000	5.8494	5.8494	1.8900e-003	0.0000	5.8966
Maximum	**1.5100e-003**	**0.0240**	**0.0436**	**7.0000e-005**	**8.9000e-004**	**1.1000e-004**	**1.0000e-003**	**1.0000e-004**	**1.1000e-004**	**2.1000e-004**	**0.0000**	**5.8494**	**5.8494**	**1.8900e-003**	**0.0000**	**5.8966**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**58.17**	**25.01**	**-27.10**	**0.00**	**55.28**	**91.85**	**70.06**	**52.38**	**91.13**	**85.62**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	10/4/2023	10/24/2023	5	15	
2	Trenching	Trenching	10/25/2023	12/12/2023	5	35	

3	Paving	Paving	12/19/2023	12/22/2023	5	16	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.75

Acres of Paving: 1.4

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	1	1.00	187	0.41
Paving	Cement and Mortar Mixers	2	1.00	9	0.56
Grading	Rubber Tired Dozers	0	6.00	247	0.40
Trenching	Generator Sets	0	8.00	84	0.74
Trenching	Cranes	0	6.00	231	0.29
Trenching	Forklifts	0	6.00	89	0.20
Grading	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Paving	Pavers	1	1.00	130	0.42
Paving	Rollers	1	1.00	80	0.38
Grading	Scrapers	1	1.00	367	0.48
	Rubber Tired Dozers	1	6.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Grading	Crawler Tractors	1	1.00	212	0.43
	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	2	1.00	97	0.37
Trenching	Excavators	2	1.00	158	0.38
	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	1.00	132	0.36
Paving	Graders	1	1.00	187	0.41
Trenching	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9900e-003	0.0000	1.9900e-003	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6600e-003	0.0184	0.0116	3.0000e-005		7.0000e-004	7.0000e-004		6.5000e-004	6.5000e-004	0.0000	2.7012	2.7012	8.7000e-004	0.0000	2.7230
Total	**1.6600e-003**	**0.0184**	**0.0116**	**3.0000e-005**	**1.9900e-003**	**7.0000e-004**	**2.6900e-003**	**2.1000e-004**	**6.5000e-004**	**8.6000e-004**	**0.0000**	**2.7012**	**2.7012**	**8.7000e-004**	**0.0000**	**2.7230**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.9000e-004	0.0000	8.9000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2000e-004	8.6200e-003	0.0170	3.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	2.7012	2.7012	8.7000e-004	0.0000	2.7230
Total	**5.2000e-004**	**8.6200e-003**	**0.0170**	**3.0000e-005**	**8.9000e-004**	**5.0000e-005**	**9.4000e-004**	**1.0000e-004**	**5.0000e-005**	**1.5000e-004**	**0.0000**	**2.7012**	**2.7012**	**8.7000e-004**	**0.0000**	**2.7230**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Trenching - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1600e-003	0.0102	0.0192	3.0000e-005		5.0000e-004	5.0000e-004		4.6000e-004	4.6000e-004	0.0000	2.5933	2.5933	8.4000e-004	0.0000	2.6143
Total	**1.1600e-003**	**0.0102**	**0.0192**	**3.0000e-005**		**5.0000e-004**	**5.0000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**2.5933**	**2.5933**	**8.4000e-004**	**0.0000**	**2.6143**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3000e-004	0.0130	0.0224	3.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	2.5933	2.5933	8.4000e-004	0.0000	2.6142
Total	**4.3000e-004**	**0.0130**	**0.0224**	**3.0000e-005**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**2.5933**	**2.5933**	**8.4000e-004**	**0.0000**	**2.6142**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	3.3000e-004	3.3900e-003	3.5100e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.5549	0.5549	1.7000e-004	0.0000	0.5593
Paving	4.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9000e-004**	**3.3900e-003**	**3.5100e-003**	**1.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.5549**	**0.5549**	**1.7000e-004**	**0.0000**	**0.5593**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0000e-004	2.3700e-003	4.2100e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.5549	0.5549	1.7000e-004	0.0000	0.5593
Paving	4.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**5.6000e-004**	**2.3700e-003**	**4.2100e-003**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.5549**	**0.5549**	**1.7000e-004**	**0.0000**	**0.5593**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Half Rd Constr. Phase 2 - Santa Clara County, Annual

Half Rd Constr. Phase 2

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	66.00	Dwelling Unit	12.88	118,800.00	189
Condo/Townhouse	45.00	Dwelling Unit	0.00	45,000.00	129
Other Asphalt Surfaces	1.30	Acre	0.00	56,628.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE with some PG&E

Land Use - Assume roughly 10% of site is asphalt

Construction Phase - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Trips and VMT - Concrete = 178 roundtrips, asphalt 700cy Modeled in EMFAC w/CalEEMod trips

Construction Off-road Equipment Mitigation - Tier4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	300.00	175.00
tblConstructionPhase	NumDays	20.00	16.00
tblConstructionPhase	PhaseEndDate	4/25/2025	5/10/2024
tblConstructionPhase	PhaseEndDate	2/28/2025	8/16/2024
tblConstructionPhase	PhaseEndDate	3/28/2025	4/8/2024
tblConstructionPhase	PhaseStartDate	3/29/2025	3/17/2024
tblConstructionPhase	PhaseStartDate	1/6/2024	12/18/2023
tblConstructionPhase	PhaseStartDate	3/1/2025	3/17/2024

tblLandUse	LotAcreage	21.43	12.88
tblLandUse	LotAcreage	2.81	0.00
tblLandUse	LotAcreage	1.30	0.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00

tblProjectCharacteristics	CO2IntensityFactor	641.35	21
tblTripsAndVMT	VendorTripNumber	21.00	0.00
tblTripsAndVMT	WorkerTripNumber	16.00	0.00
tblTripsAndVMT	WorkerTripNumber	80.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	9.6900e-003	0.0852	0.1585	2.4000e-004	0.0000	4.2200e-003	4.2200e-003	0.0000	3.8800e-003	3.8800e-003	0.0000	21.3175	21.3175	6.8900e-003	0.0000	21.4898
2024	1.1887	0.2005	0.2510	4.2000e-004	0.0000	9.6800e-003	9.6800e-003	0.0000	9.2300e-003	9.2300e-003	0.0000	36.2867	36.2867	7.1700e-003	0.0000	36.4659
Maximum	**1.1887**	**0.2005**	**0.2510**	**4.2000e-004**	**0.0000**	**9.6800e-003**	**9.6800e-003**	**0.0000**	**9.2300e-003**	**9.2300e-003**	**0.0000**	**36.2867**	**36.2867**	**7.1700e-003**	**0.0000**	**36.4659**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	3.6000e-003	0.1066	0.1837	2.4000e-004	0.0000	4.0000e-004	4.0000e-004	0.0000	4.0000e-004	4.0000e-004	0.0000	21.3175	21.3175	6.8900e-003	0.0000	21.4898
2024	1.1729	0.1573	0.2754	4.2000e-004	0.0000	6.5000e-004	6.5000e-004	0.0000	6.5000e-004	6.5000e-004	0.0000	36.2867	36.2867	7.1700e-003	0.0000	36.4659

Maximum	**1.1729**	**0.1573**	**0.2754**	**4.2000e-004**	**0.0000**	**6.5000e-004**	**6.5000e-004**	**0.0000**	**6.5000e-004**	**6.5000e-004**	**0.0000**	**36.2867**	**36.2867**	**7.1700e-003**	**0.0000**	**36.4659**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.83**	**7.63**	**-12.13**	**0.00**	**0.00**	**92.45**	**92.45**	**0.00**	**91.99**	**91.99**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**10-14-2023**	**1-13-2024**	0.0986	0.1131
2	**1-14-2024**	**4-13-2024**	0.6948	0.6653
3	**4-14-2024**	**7-13-2024**	0.6573	0.6317
4	**7-14-2024**	**9-30-2024**	0.0098	0.0075
		Highest	0.6948	0.6653

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	12/18/2023	8/16/2024	5	175	
2	Paving	Paving	3/17/2024	4/8/2024	5	16	
3	Building Interior	Architectural Coating	3/17/2024	5/10/2024	5	40	
4	Utilities	Trenching	10/14/2023	12/1/2023	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 331,695; Residential Outdoor: 110,565; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Interior	Air Compressors	5	4.00	78	0.48
Utilities	Excavators	2	8.00	158	0.38

Utilities	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Interior	Paving Equipment	1	2.00	132	0.36
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	1	5.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Paving	Pavers	1	1.00	130	0.42
Paving	Rollers	1	1.00	80	0.38
Building Interior	Rollers	1	2.00	80	0.38
Building Interior	Graders	1	3.00	187	0.41
Building Construction	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Paving	Cement and Mortar Mixers	2	1.00	9	0.56
Paving	Tractors/Loaders/Backhoes	2	1.00	97	0.37
Paving	Paving Equipment	1	1.00	132	0.36
Paving	Graders	1	1.00	187	0.41
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Interior	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2000e-004	3.9600e-003	4.9700e-003	1.0000e-005		2.3000e-004	2.3000e-004		2.1000e-004	2.1000e-004	0.0000	0.5907	0.5907	1.9000e-004	0.0000	0.5954
Total	**4.2000e-004**	**3.9600e-003**	**4.9700e-003**	**1.0000e-005**		**2.3000e-004**	**2.3000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**0.5907**	**0.5907**	**1.9000e-004**	**0.0000**	**0.5954**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	1.5000e-004	2.9500e-003	5.0900e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.5907	0.5907	1.9000e-004	0.0000	0.5954
Total	**1.5000e-004**	**2.9500e-003**	**5.0900e-003**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.5907**	**0.5907**	**1.9000e-004**	**0.0000**	**0.5954**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3400e-003	0.0605	0.0818	1.1000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	9.7475	9.7475	3.1500e-003	0.0000	9.8263
Total	**6.3400e-003**	**0.0605**	**0.0818**	**1.1000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**9.7475**	**9.7475**	**3.1500e-003**	**0.0000**	**9.8263**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5000e-003	0.0486	0.0841	1.1000e-004		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	9.7475	9.7475	3.1500e-003	0.0000	9.8263
Total	**2.5000e-003**	**0.0486**	**0.0841**	**1.1000e-004**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**9.7475**	**9.7475**	**3.1500e-003**	**0.0000**	**9.8263**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2500e-003	0.0125	0.0140	3.0000e-005		5.3000e-004	5.3000e-004		4.9000e-004	4.9000e-004	0.0000	2.2175	2.2175	7.0000e-004	0.0000	2.2349
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2500e-003**	**0.0125**	**0.0140**	**3.0000e-005**		**5.3000e-004**	**5.3000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**2.2175**	**2.2175**	**7.0000e-004**	**0.0000**	**2.2349**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.3000e-004	0.0102	0.0174	3.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	2.2175	2.2175	7.0000e-004	0.0000	2.2349
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.3000e-004**	**0.0102**	**0.0174**	**3.0000e-005**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**2.2175**	**2.2175**	**7.0000e-004**	**0.0000**	**2.2349**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Interior - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1649					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0163	0.1275	0.1552	2.8000e-004		5.8400e-003	5.8400e-003		5.6900e-003	5.6900e-003	0.0000	24.3217	24.3217	3.3200e-003	0.0000	24.4047
Total	**1.1811**	**0.1275**	**0.1552**	**2.8000e-004**		**5.8400e-003**	**5.8400e-003**		**5.6900e-003**	**5.6900e-003**	**0.0000**	**24.3217**	**24.3217**	**3.3200e-003**	**0.0000**	**24.4047**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1649					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9900e-003	0.0985	0.1740	2.8000e-004		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	24.3217	24.3217	3.3200e-003	0.0000	24.4046
Total	**1.1699**	**0.0985**	**0.1740**	**2.8000e-004**		**4.0000e-004**	**4.0000e-004**		**4.0000e-004**	**4.0000e-004**	**0.0000**	**24.3217**	**24.3217**	**3.3200e-003**	**0.0000**	**24.4046**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Utilities - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	9.2700e-003	0.0812	0.1535	2.4000e-004		3.9900e-003	3.9900e-003		3.6700e-003	3.6700e-003	0.0000	20.7268	20.7268	6.7000e-003	0.0000	20.8944
Total	**9.2700e-003**	**0.0812**	**0.1535**	**2.4000e-004**		**3.9900e-003**	**3.9900e-003**		**3.6700e-003**	**3.6700e-003**	**0.0000**	**20.7268**	**20.7268**	**6.7000e-003**	**0.0000**	**20.8944**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.4500e-003	0.1037	0.1786	2.4000e-004		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	20.7268	20.7268	6.7000e-003	0.0000	20.8944
Total	**3.4500e-003**	**0.1037**	**0.1786**	**2.4000e-004**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**20.7268**	**20.7268**	**6.7000e-003**	**0.0000**	**20.8944**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Half Rd Constr. Phase 3 - Santa Clara County, Annual

Half Rd Constr. Phase 3

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.50	Acre	0.00	21,780.00	0
Condo/Townhouse	64.00	Dwelling Unit	2.85	64,000.00	183

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE with some PG&E

Land Use - Assume roughly 10-20% of site is asphalt

Construction Phase - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Trips and VMT - Concrete = 80 roundtrips, asphalt 300cy Modeled in EMFAC w/CalEEMod trips

Construction Off-road Equipment Mitigation - Tier4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	220.00	75.00
tblConstructionPhase	NumDays	10.00	12.00
tblLandUse	LotAcreage	0.50	0.00
tblLandUse	LotAcreage	4.00	2.85
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	7.00	3.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	21
tblTripsAndVMT	VendorTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	55.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	11.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.4773	0.1738	0.2858	4.7000e-004	0.0000	7.7100e-003	7.7100e-003	0.0000	7.3700e-003	7.3700e-003	0.0000	41.0081	41.0081	8.6700e-003	0.0000	41.2248

Maximum	**0.4773**	**0.1738**	**0.2858**	**4.7000e-004**	**0.0000**	**7.7100e-003**	**7.7100e-003**	**0.0000**	**7.3700e-003**	**7.3700e-003**	**0.0000**	**41.0081**	**41.0081**	**8.6700e-003**	**0.0000**	**41.2248**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.4631	0.1835	0.3196	4.7000e-004	0.0000	7.1000e-004	7.1000e-004	0.0000	7.1000e-004	7.1000e-004	0.0000	41.0080	41.0080	8.6700e-003	0.0000	41.2248
Maximum	**0.4631**	**0.1835**	**0.3196**	**4.7000e-004**	**0.0000**	**7.1000e-004**	**7.1000e-004**	**0.0000**	**7.1000e-004**	**7.1000e-004**	**0.0000**	**41.0080**	**41.0080**	**8.6700e-003**	**0.0000**	**41.2248**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.97**	**-5.59**	**-11.84**	**0.00**	**0.00**	**90.79**	**90.79**	**0.00**	**90.37**	**90.37**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**4-13-2025**	**7-12-2025**	0.0583	0.0798
2	**7-13-2025**	**9-30-2025**	0.2870	0.2725
		Highest	0.2870	0.2725

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Utilities	Trenching	4/13/2025	5/16/2025	5	25	
2	Building Construction	Building Construction	6/7/2025	9/19/2025	5	75	
3	Paving	Paving	9/5/2025	9/22/2025	5	12	

4	Building Interior	Architectural Coating	9/5/2025	10/30/2025	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 129,600; Residential Outdoor: 43,200; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	0	8.00	231	0.29
Building Construction	Forklifts	1	3.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	1.00	9	0.56
Paving	Graders	1	1.00	187	0.41
Paving	Pavers	1	1.00	130	0.42
Paving	Paving Equipment	1	1.00	132	0.36
Paving	Rollers	1	1.00	80	0.38
Paving	Tractors/Loaders/Backhoes	2	1.00	97	0.37
Building Interior	Air Compressors	5	4.00	78	0.48
Building Interior	Graders	1	2.00	187	0.41
Building Interior	Paving Equipment	1	1.00	132	0.36
Building Interior	Rollers	1	1.00	80	0.38
Utilities	Excavators	2	8.00	158	0.38
Utilities	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class

Building Construction	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Interior	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Utilities - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.8300e-003	0.0472	0.1094	1.7000e-004		2.1700e-003	2.1700e-003		2.0000e-003	2.0000e-003	0.0000	14.7727	14.7727	4.7800e-003	0.0000	14.8922
Total	**5.8300e-003**	**0.0472**	**0.1094**	**1.7000e-004**		**2.1700e-003**	**2.1700e-003**		**2.0000e-003**	**2.0000e-003**	**0.0000**	**14.7727**	**14.7727**	**4.7800e-003**	**0.0000**	**14.8922**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.4600e-003	0.0739	0.1272	1.7000e-004		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	14.7727	14.7727	4.7800e-003	0.0000	14.8922
Total	**2.4600e-003**	**0.0739**	**0.1272**	**1.7000e-004**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**14.7727**	**14.7727**	**4.7800e-003**	**0.0000**	**14.8922**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8400e-003	0.0178	0.0264	4.0000e-005		8.7000e-004	8.7000e-004		8.0000e-004	8.0000e-004	0.0000	3.1729	3.1729	1.0300e-003	0.0000	3.1986
Total	**1.8400e-003**	**0.0178**	**0.0264**	**4.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.0000e-004**	**8.0000e-004**	**0.0000**	**3.1729**	**3.1729**	**1.0300e-003**	**0.0000**	**3.1986**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.1000e-004	0.0158	0.0273	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.1729	3.1729	1.0300e-003	0.0000	3.1986
Total	**8.1000e-004**	**0.0158**	**0.0273**	**4.0000e-005**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**3.1729**	**3.1729**	**1.0300e-003**	**0.0000**	**3.1986**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.6000e-004	8.3700e-003	0.0105	2.0000e-005		3.4000e-004	3.4000e-004		3.2000e-004	3.2000e-004	0.0000	1.6661	1.6661	5.2000e-004	0.0000	1.6792

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.6000e-004**	**8.3700e-003**	**0.0105**	**2.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**1.6661**	**1.6661**	**5.2000e-004**	**0.0000**	**1.6792**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.1000e-004	7.1000e-003	0.0126	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.6661	1.6661	5.2000e-004	0.0000	1.6792
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.1000e-004**	**7.1000e-003**	**0.0126**	**2.0000e-005**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**1.6661**	**1.6661**	**5.2000e-004**	**0.0000**	**1.6792**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Interior - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4551					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0137	0.1004	0.1396	2.5000e-004		4.3300e-003	4.3300e-003		4.2600e-003	4.2600e-003	0.0000	21.3963	21.3963	2.3400e-003	0.0000	21.4549
Total	**0.4687**	**0.1004**	**0.1396**	**2.5000e-004**		**4.3300e-003**	**4.3300e-003**		**4.2600e-003**	**4.2600e-003**	**0.0000**	**21.3963**	**21.3963**	**2.3400e-003**	**0.0000**	**21.4549**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4551					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4500e-003	0.0868	0.1525	2.5000e-004		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	21.3962	21.3962	2.3400e-003	0.0000	21.4548
Total	**0.4595**	**0.0868**	**0.1525**	**2.5000e-004**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**21.3962**	**21.3962**	**2.3400e-003**	**0.0000**	**21.4548**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Half Rd - Operational - Santa Clara County, Annual

Half Rd - Operational

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.00	Acre	0.00	130,680.00	0
Recreational Swimming Pool	3.00	1000sqft	0.00	3,000.00	0
Single Family Housing	269.00	Dwelling Unit	30.50	512,363.00	769

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE with some PG&E

Land Use - Added club House. Assume about 10% asphalt surfaces

Construction Phase - Operational run

Off-road Equipment - Operational run

Trips and VMT - Operational run

Vehicle Trips - Crosswinds Trip Rate with VMT rate

Woodstoves - No Hearth

Water And Wastewater - Wastewater Treatment

Water Mitigation -

Energy Use - Reach code = no natural gas

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblEnergyUse	NT24NG	3,155.00	0.00
tblEnergyUse	T24NG	25,910.09	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	67.25	0.00
tblFireplaces	NumberWood	115.67	0.00
tblFleetMix	HHD	0.02	0.02
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.0300e-003	5.4009e-003
tblFleetMix	MCY	5.2040e-003	4.9788e-003
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MH	6.8100e-004	7.4215e-004
tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	2.1950e-003	1.5279e-003
tblFleetMix	SBUS	6.3800e-004	9.1499e-004
tblFleetMix	UBUS	1.5020e-003	1.2248e-003
tblLandUse	LandUseSquareFeet	484,200.00	512,363.00
tblLandUse	LotAcreage	3.00	0.00
tblLandUse	LotAcreage	0.07	0.00
tblLandUse	LotAcreage	87.34	30.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	21

tblVehicleEF	HHD	0.31	0.02
tblVehicleEF	HHD	0.06	0.05
tblVehicleEF	HHD	0.07	4.4196e-007
tblVehicleEF	HHD	1.52	6.31
tblVehicleEF	HHD	0.93	0.41
tblVehicleEF	HHD	3.74	5.9100e-003
tblVehicleEF	HHD	4,207.12	1,010.86
tblVehicleEF	HHD	1,529.11	1,358.12
tblVehicleEF	HHD	11.80	0.05
tblVehicleEF	HHD	13.04	5.31
tblVehicleEF	HHD	1.80	2.65
tblVehicleEF	HHD	19.31	2.32
tblVehicleEF	HHD	5.9270e-003	2.4220e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	6.0050e-003	0.02
tblVehicleEF	HHD	1.1600e-004	6.0767e-007
tblVehicleEF	HHD	5.6710e-003	2.3172e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8440e-003	8.8913e-003
tblVehicleEF	HHD	5.7450e-003	0.02
tblVehicleEF	HHD	1.0700e-004	5.5873e-007
tblVehicleEF	HHD	9.5000e-005	1.7395e-006
tblVehicleEF	HHD	4.6590e-003	7.8713e-005
tblVehicleEF	HHD	0.39	0.43
tblVehicleEF	HHD	6.0000e-005	9.8718e-007
tblVehicleEF	HHD	0.09	0.03
tblVehicleEF	HHD	4.0300e-004	3.9667e-004
tblVehicleEF	HHD	0.08	2.3101e-006
tblVehicleEF	HHD	0.04	9.4046e-003

tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.7900e-004	4.7299e-007
tblVehicleEF	HHD	9.5000e-005	1.7395e-006
tblVehicleEF	HHD	4.6590e-003	7.8713e-005
tblVehicleEF	HHD	0.46	0.49
tblVehicleEF	HHD	6.0000e-005	9.8718e-007
tblVehicleEF	HHD	0.15	0.08
tblVehicleEF	HHD	4.0300e-004	3.9667e-004
tblVehicleEF	HHD	0.09	2.5293e-006
tblVehicleEF	LDA	2.5670e-003	1.3656e-003
tblVehicleEF	LDA	3.2680e-003	0.04
tblVehicleEF	LDA	0.41	0.47
tblVehicleEF	LDA	0.84	1.94
tblVehicleEF	LDA	206.01	220.20
tblVehicleEF	LDA	48.83	46.75
tblVehicleEF	LDA	0.03	0.02
tblVehicleEF	LDA	0.04	0.15
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	1.5230e-003	1.1907e-003
tblVehicleEF	LDA	2.1880e-003	1.5672e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	1.4020e-003	1.0962e-003
tblVehicleEF	LDA	2.0120e-003	1.4410e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.07	0.08
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	6.4390e-003	4.9190e-003
tblVehicleEF	LDA	0.03	0.19

tblVehicleEF	LDA	0.04	0.16
tblVehicleEF	LDA	2.0620e-003	9.2798e-005
tblVehicleEF	LDA	5.0200e-004	0.00
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.07	0.08
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	9.3640e-003	7.1492e-003
tblVehicleEF	LDA	0.03	0.19
tblVehicleEF	LDA	0.05	0.18
tblVehicleEF	LDT1	5.5980e-003	2.7305e-003
tblVehicleEF	LDT1	7.5190e-003	0.05
tblVehicleEF	LDT1	0.76	0.71
tblVehicleEF	LDT1	1.67	2.09
tblVehicleEF	LDT1	262.03	264.87
tblVehicleEF	LDT1	61.70	56.84
tblVehicleEF	LDT1	0.07	0.05
tblVehicleEF	LDT1	0.09	0.19
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	1.9540e-003	1.4441e-003
tblVehicleEF	LDT1	2.6790e-003	1.8819e-003
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	1.7980e-003	1.3285e-003
tblVehicleEF	LDT1	2.4630e-003	1.7304e-003
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.16	0.12
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.01	0.01
tblVehicleEF	LDT1	0.13	0.47

tblVehicleEF	LDT1	0.10	0.22
tblVehicleEF	LDT1	2.6280e-003	2.6149e-003
tblVehicleEF	LDT1	6.4500e-004	0.00
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.16	0.12
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.13	0.47
tblVehicleEF	LDT1	0.11	0.24
tblVehicleEF	LDT2	3.9270e-003	2.4213e-003
tblVehicleEF	LDT2	4.6800e-003	0.05
tblVehicleEF	LDT2	0.58	0.66
tblVehicleEF	LDT2	1.13	2.54
tblVehicleEF	LDT2	296.40	280.92
tblVehicleEF	LDT2	69.39	60.84
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.08	0.21
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.6390e-003	1.2677e-003
tblVehicleEF	LDT2	2.3480e-003	1.6141e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.5070e-003	1.1670e-003
tblVehicleEF	LDT2	2.1590e-003	1.4841e-003
tblVehicleEF	LDT2	0.03	0.06
tblVehicleEF	LDT2	0.09	0.11
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	9.7420e-003	9.5471e-003
tblVehicleEF	LDT2	0.06	0.39

tblVehicleEF	LDT2	0.06	0.24
tblVehicleEF	LDT2	2.9680e-003	0.01
tblVehicleEF	LDT2	7.1300e-004	8.7599e-005
tblVehicleEF	LDT2	0.03	0.06
tblVehicleEF	LDT2	0.09	0.11
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.39
tblVehicleEF	LDT2	0.07	0.27
tblVehicleEF	LHD1	4.6790e-003	4.6672e-003
tblVehicleEF	LHD1	0.01	6.7655e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.14	0.18
tblVehicleEF	LHD1	0.81	0.61
tblVehicleEF	LHD1	2.14	0.99
tblVehicleEF	LHD1	8.97	8.66
tblVehicleEF	LHD1	665.14	749.59
tblVehicleEF	LHD1	29.84	11.02
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.82	0.50
tblVehicleEF	LHD1	0.85	0.27
tblVehicleEF	LHD1	8.4500e-004	8.7170e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	9.8314e-003
tblVehicleEF	LHD1	0.01	8.5973e-003
tblVehicleEF	LHD1	8.1100e-004	2.3163e-004
tblVehicleEF	LHD1	8.0900e-004	8.3399e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.5630e-003	2.4578e-003
tblVehicleEF	LHD1	0.01	8.1792e-003

tblVehicleEF	LHD1	7.4600e-004	2.1298e-004
tblVehicleEF	LHD1	2.3230e-003	1.7167e-003
tblVehicleEF	LHD1	0.09	0.06
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.2230e-003	9.0428e-004
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.30	0.46
tblVehicleEF	LHD1	0.21	0.06
tblVehicleEF	LHD1	9.0000e-005	8.3993e-005
tblVehicleEF	LHD1	6.5140e-003	7.3147e-003
tblVehicleEF	LHD1	3.3800e-004	1.0905e-004
tblVehicleEF	LHD1	2.3230e-003	1.7167e-003
tblVehicleEF	LHD1	0.09	0.06
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.2230e-003	9.0428e-004
tblVehicleEF	LHD1	0.13	0.10
tblVehicleEF	LHD1	0.30	0.46
tblVehicleEF	LHD1	0.23	0.07
tblVehicleEF	LHD2	2.9160e-003	2.8272e-003
tblVehicleEF	LHD2	6.1790e-003	6.0419e-003
tblVehicleEF	LHD2	4.7100e-003	6.5336e-003
tblVehicleEF	LHD2	0.12	0.14
tblVehicleEF	LHD2	0.49	0.54
tblVehicleEF	LHD2	0.99	0.55
tblVehicleEF	LHD2	13.82	13.60
tblVehicleEF	LHD2	689.53	727.00
tblVehicleEF	LHD2	22.84	7.15
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.42	0.60
tblVehicleEF	LHD2	0.35	0.15

tblVehicleEF	LHD2	1.1530e-003	1.4658e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8100e-004	1.1718e-004
tblVehicleEF	LHD2	1.1040e-003	1.4024e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.7010e-003	2.7003e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5100e-004	1.0775e-004
tblVehicleEF	LHD2	6.3900e-004	8.4288e-004
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.6200e-004	4.5659e-004
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	0.05	0.20
tblVehicleEF	LHD2	0.06	0.03
tblVehicleEF	LHD2	1.3500e-004	1.2990e-004
tblVehicleEF	LHD2	6.7010e-003	7.0164e-003
tblVehicleEF	LHD2	2.4600e-004	7.0732e-005
tblVehicleEF	LHD2	6.3900e-004	8.4288e-004
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.6200e-004	4.5659e-004
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	0.05	0.20
tblVehicleEF	LHD2	0.07	0.04
tblVehicleEF	MCY	0.45	0.32
tblVehicleEF	MCY	0.16	0.25
tblVehicleEF	MCY	18.05	18.17

tblVehicleEF	MCY	10.25	9.11
tblVehicleEF	MCY	170.65	209.94
tblVehicleEF	MCY	44.05	60.17
tblVehicleEF	MCY	1.14	1.14
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	2.0890e-003	2.0606e-003
tblVehicleEF	MCY	3.4880e-003	2.9293e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	1.9500e-003	1.9235e-003
tblVehicleEF	MCY	3.2730e-003	2.7475e-003
tblVehicleEF	MCY	0.89	1.80
tblVehicleEF	MCY	0.66	0.66
tblVehicleEF	MCY	0.48	0.96
tblVehicleEF	MCY	2.16	2.16
tblVehicleEF	MCY	0.54	1.75
tblVehicleEF	MCY	2.16	1.91
tblVehicleEF	MCY	2.0660e-003	2.0775e-003
tblVehicleEF	MCY	6.7200e-004	5.9540e-004
tblVehicleEF	MCY	0.89	1.80
tblVehicleEF	MCY	0.66	0.66
tblVehicleEF	MCY	0.48	0.96
tblVehicleEF	MCY	2.69	2.70
tblVehicleEF	MCY	0.54	1.75
tblVehicleEF	MCY	2.35	2.08
tblVehicleEF	MDV	7.0480e-003	2.6580e-003
tblVehicleEF	MDV	0.01	0.06
tblVehicleEF	MDV	0.85	0.68

tblVehicleEF	MDV	2.04	2.69
tblVehicleEF	MDV	400.76	339.08
tblVehicleEF	MDV	92.41	72.17
tblVehicleEF	MDV	0.10	0.05
tblVehicleEF	MDV	0.17	0.24
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.7210e-003	1.3173e-003
tblVehicleEF	MDV	2.4070e-003	1.6618e-003
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.5860e-003	1.2148e-003
tblVehicleEF	MDV	2.2130e-003	1.5279e-003
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.15	0.12
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	0.10	0.40
tblVehicleEF	MDV	0.15	0.28
tblVehicleEF	MDV	4.0100e-003	3.3511e-003
tblVehicleEF	MDV	9.5900e-004	7.1421e-004
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.15	0.12
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.10	0.40
tblVehicleEF	MDV	0.16	0.31
tblVehicleEF	MH	0.02	7.6665e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.24	0.68

tblVehicleEF	MH	4.69	1.87
tblVehicleEF	MH	1,198.30	1,445.75
tblVehicleEF	MH	57.81	17.15
tblVehicleEF	MH	1.06	1.21
tblVehicleEF	MH	0.72	0.24
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.0090e-003	2.4040e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2210e-003	3.2869e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	9.2700e-004	2.2104e-004
tblVehicleEF	MH	0.64	0.52
tblVehicleEF	MH	0.05	0.04
tblVehicleEF	MH	0.23	0.19
tblVehicleEF	MH	0.07	0.05
tblVehicleEF	MH	0.02	1.01
tblVehicleEF	MH	0.27	0.08
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.6000e-004	1.6975e-004
tblVehicleEF	MH	0.64	0.52
tblVehicleEF	MH	0.05	0.04
tblVehicleEF	MH	0.23	0.19
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	1.01
tblVehicleEF	MH	0.30	0.09
tblVehicleEF	MHD	0.02	3.6597e-003
tblVehicleEF	MHD	3.4340e-003	1.3684e-003
tblVehicleEF	MHD	0.04	8.6826e-003

tblVehicleEF	MHD	0.37	0.40
tblVehicleEF	MHD	0.29	0.19
tblVehicleEF	MHD	4.65	0.97
tblVehicleEF	MHD	133.69	69.63
tblVehicleEF	MHD	1,178.99	1,051.19
tblVehicleEF	MHD	59.87	8.85
tblVehicleEF	MHD	0.35	0.38
tblVehicleEF	MHD	1.08	1.45
tblVehicleEF	MHD	10.16	1.70
tblVehicleEF	MHD	8.3000e-005	2.7717e-004
tblVehicleEF	MHD	0.13	0.13
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	3.0880e-003	7.0645e-003
tblVehicleEF	MHD	8.3800e-004	1.1167e-004
tblVehicleEF	MHD	8.0000e-005	2.6518e-004
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	2.9480e-003	6.7521e-003
tblVehicleEF	MHD	7.7100e-004	1.0268e-004
tblVehicleEF	MHD	7.3900e-004	3.3434e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	4.0900e-004	1.8037e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.28	0.04
tblVehicleEF	MHD	1.2880e-003	6.6060e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.8000e-004	8.7599e-005
tblVehicleEF	MHD	7.3900e-004	3.3434e-004

tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	4.0900e-004	1.8037e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.31	0.05
tblVehicleEF	OBUS	0.01	7.0724e-003
tblVehicleEF	OBUS	5.0380e-003	2.9936e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.24	0.61
tblVehicleEF	OBUS	0.37	0.35
tblVehicleEF	OBUS	4.49	1.73
tblVehicleEF	OBUS	104.04	95.34
tblVehicleEF	OBUS	1,285.07	1,283.24
tblVehicleEF	OBUS	65.96	14.49
tblVehicleEF	OBUS	0.22	0.40
tblVehicleEF	OBUS	0.92	1.45
tblVehicleEF	OBUS	2.69	1.11
tblVehicleEF	OBUS	2.0000e-005	1.3134e-004
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	2.8820e-003	7.5496e-003
tblVehicleEF	OBUS	8.7800e-004	1.4869e-004
tblVehicleEF	OBUS	2.0000e-005	1.2566e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	2.7360e-003	7.2095e-003
tblVehicleEF	OBUS	8.0800e-004	1.3672e-004
tblVehicleEF	OBUS	1.1600e-003	1.0723e-003
tblVehicleEF	OBUS	0.01	0.02

tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.1900e-004	4.8324e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.28	0.08
tblVehicleEF	OBUS	1.0040e-003	9.0545e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.3800e-004	1.4342e-004
tblVehicleEF	OBUS	1.1600e-003	1.0723e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	5.1900e-004	4.8324e-004
tblVehicleEF	OBUS	0.05	0.03
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.31	0.09
tblVehicleEF	SBUS	0.81	0.06
tblVehicleEF	SBUS	0.01	5.4707e-003
tblVehicleEF	SBUS	0.07	5.3640e-003
tblVehicleEF	SBUS	8.46	2.48
tblVehicleEF	SBUS	0.78	0.45
tblVehicleEF	SBUS	8.66	0.76
tblVehicleEF	SBUS	1,071.32	344.98
tblVehicleEF	SBUS	1,032.09	1,025.26
tblVehicleEF	SBUS	58.82	4.41
tblVehicleEF	SBUS	6.58	3.24
tblVehicleEF	SBUS	2.75	4.17
tblVehicleEF	SBUS	11.46	0.95
tblVehicleEF	SBUS	5.0460e-003	3.0574e-003
tblVehicleEF	SBUS	0.74	0.74
tblVehicleEF	SBUS	0.01	0.01

tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	9.7600e-004	5.4262e-005
tblVehicleEF	SBUS	4.8280e-003	2.9252e-003
tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.6090e-003	2.7030e-003
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	8.9800e-004	4.9892e-005
tblVehicleEF	SBUS	3.3660e-003	6.4114e-004
tblVehicleEF	SBUS	0.03	6.2048e-003
tblVehicleEF	SBUS	1.00	0.27
tblVehicleEF	SBUS	1.5600e-003	2.9202e-004
tblVehicleEF	SBUS	0.09	0.08
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.44	0.03
tblVehicleEF	SBUS	0.01	3.2858e-003
tblVehicleEF	SBUS	9.9690e-003	9.7972e-003
tblVehicleEF	SBUS	7.3700e-004	4.3684e-005
tblVehicleEF	SBUS	3.3660e-003	6.4114e-004
tblVehicleEF	SBUS	0.03	6.2048e-003
tblVehicleEF	SBUS	1.45	0.39
tblVehicleEF	SBUS	1.5600e-003	2.9202e-004
tblVehicleEF	SBUS	0.11	0.09
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.48	0.03
tblVehicleEF	UBUS	0.23	1.74
tblVehicleEF	UBUS	0.04	1.7571e-003
tblVehicleEF	UBUS	3.77	13.20
tblVehicleEF	UBUS	7.31	0.14
tblVehicleEF	UBUS	2,007.57	1,654.13
tblVehicleEF	UBUS	114.33	1.40

tblVehicleEF	UBUS	7.17	0.71
tblVehicleEF	UBUS	13.83	0.01
tblVehicleEF	UBUS	0.57	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.15	5.1699e-003
tblVehicleEF	UBUS	1.2080e-003	1.5176e-005
tblVehicleEF	UBUS	0.24	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3315e-003
tblVehicleEF	UBUS	0.15	4.9447e-003
tblVehicleEF	UBUS	1.1100e-003	1.3953e-005
tblVehicleEF	UBUS	2.0830e-003	2.7092e-005
tblVehicleEF	UBUS	0.03	2.5832e-004
tblVehicleEF	UBUS	1.1550e-003	1.3037e-005
tblVehicleEF	UBUS	0.36	0.03
tblVehicleEF	UBUS	7.3900e-003	1.4524e-003
tblVehicleEF	UBUS	0.58	7.3619e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.2750e-003	1.3812e-005
tblVehicleEF	UBUS	2.0830e-003	2.7092e-005
tblVehicleEF	UBUS	0.03	2.5832e-004
tblVehicleEF	UBUS	1.1550e-003	1.3037e-005
tblVehicleEF	UBUS	0.62	1.78
tblVehicleEF	UBUS	7.3900e-003	1.4524e-003
tblVehicleEF	UBUS	0.64	8.0603e-003
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	5.70	9.04
tblVehicleTrips	HS_TL	4.80	9.04
tblVehicleTrips	HW_TL	10.80	9.04
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00

tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	33.82	0.00
tblVehicleTrips	WD_TR	9.52	9.44
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5125	0.0230	1.9955	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1200e-003	0.0000	3.3409
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
Mobile	0.8400	1.6527	8.1255	0.0275	3.0891	0.0211	3.1102	0.8265	0.0198	0.8463	0.0000	2,574.1903	2,574.1903	0.0953	0.0000	2,576.5721
Waste						0.0000	0.0000		0.0000	0.0000	69.0332	0.0000	69.0332	4.0797	0.0000	171.0268

Water						0.0000	0.0000		0.0000	0.0000	6.2637	1.2845	7.5482	0.0233	0.0140	12.3000
Total	**3.3525**	**1.6757**	**10.1210**	**0.0276**	**3.0891**	**0.0322**	**3.1213**	**0.8265**	**0.0309**	**0.8573**	**75.2968**	**2,599.4684**	**2,674.7652**	**4.2301**	**0.0199**	**2,786.4513**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5125	0.0230	1.9955	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1200e-003	0.0000	3.3409
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
Mobile	0.8400	1.6527	8.1255	0.0275	3.0891	0.0211	3.1102	0.8265	0.0198	0.8463	0.0000	2,574.1903	2,574.1903	0.0953	0.0000	2,576.5721
Waste						0.0000	0.0000		0.0000	0.0000	69.0332	0.0000	69.0332	4.0797	0.0000	171.0268
Water						0.0000	0.0000		0.0000	0.0000	5.0109	1.0793	6.0902	0.0187	0.0112	9.8979
Total	**3.3525**	**1.6757**	**10.1210**	**0.0276**	**3.0891**	**0.0322**	**3.1213**	**0.8265**	**0.0309**	**0.8573**	**74.0441**	**2,599.2632**	**2,673.3073**	**4.2255**	**0.0171**	**2,784.0492**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.66**	**0.01**	**0.05**	**0.11**	**13.96**	**0.09**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8400	1.6527	8.1255	0.0275	3.0891	0.0211	3.1102	0.8265	0.0198	0.8463	0.0000	2,574.1903	2,574.1903	0.0953	0.0000	2,576.5721
Unmitigated	0.8400	1.6527	8.1255	0.0275	3.0891	0.0211	3.1102	0.8265	0.0198	0.8463	0.0000	2,574.1903	2,574.1903	0.0953	0.0000	2,576.5721

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Single Family Housing	2,539.36	2,665.79	2318.78	8,311,658	8,311,658
Total	2,539.36	2,665.79	2,318.78	8,311,658	8,311,658

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Single Family Housing	9.04	9.04	9.04	31.00	15.00	54.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.618126	0.034987	0.181060	0.102744	0.012808	0.005030	0.012887	0.022139	0.002195	0.001502	0.005204	0.000638	0.000681
Recreational Swimming Pool	0.618126	0.034987	0.181060	0.102744	0.012808	0.005030	0.012887	0.022139	0.002195	0.001502	0.005204	0.000638	0.000681
Single Family Housing	0.593877	0.053382	0.174267	0.106373	0.020945	0.005401	0.013559	0.022807	0.001528	0.001225	0.004979	0.000915	0.000742

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.17636e+006	20.7308	0.0286	5.9200e-003	23.2116
Total		**20.7308**	**0.0286**	**5.9200e-003**	**23.2116**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.17636e+006	20.7308	0.0286	5.9200e-003	23.2116
Total		**20.7308**	**0.0286**	**5.9200e-003**	**23.2116**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.5125	0.0230	1.9955	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1200e-003	0.0000	3.3409
Unmitigated	2.5125	0.0230	1.9955	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1200e-003	0.0000	3.3409

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0798					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0599	0.0230	1.9955	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1200e-003	0.0000	3.3409
Total	**2.5125**	**0.0230**	**1.9955**	**1.1000e-004**		**0.0111**	**0.0111**		**0.0111**	**0.0111**	**0.0000**	**3.2628**	**3.2628**	**3.1200e-003**	**0.0000**	**3.3409**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0798					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0599	0.0230	1.9955	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1200e-003	0.0000	3.3409
Total	**2.5125**	**0.0230**	**1.9955**	**1.1000e-004**		**0.0111**	**0.0111**		**0.0111**	**0.0111**	**0.0000**	**3.2628**	**3.2628**	**3.1200e-003**	**0.0000**	**3.3409**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.0902	0.0187	0.0112	9.8979
Unmitigated	7.5482	0.0233	0.0140	12.3000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.177429 / 0.108747	0.0756	2.3000e-004	1.4000e-004	0.1232
Single Family Housing	17.5264 / 11.0493	7.4726	0.0231	0.0139	12.1769
Total		**7.5482**	**0.0233**	**0.0140**	**12.3000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.141944 / 0.102113	0.0609	1.9000e-004	1.1000e-004	0.0991
Single Family Housing	14.0211 / 10.3753	6.0293	0.0186	0.0111	9.7988
Total		**6.0902**	**0.0187**	**0.0112**	**9.8979**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	69.0332	4.0797	0.0000	171.0268
Unmitigated	69.0332	4.0797	0.0000	171.0268

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	17.1	3.4712	0.2051	0.0000	8.5996
Single Family Housing	322.98	65.5620	3.8746	0.0000	162.4271
Total		**69.0332**	**4.0797**	**0.0000**	**171.0268**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	17.1	3.4712	0.2051	0.0000	8.5996
Single Family Housing	322.98	65.5620	3.8746	0.0000	162.4271
Total		**69.0332**	**4.0797**	**0.0000**	**171.0268**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Half Rd - Operational - Santa Clara County, Annual

Half Rd - Operational

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.00	Acre	0.00	130,680.00	0
Recreational Swimming Pool	3.00	1000sqft	0.00	3,000.00	0
Single Family Housing	269.00	Dwelling Unit	30.50	512,363.00	769

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE with some PG&E

Land Use - Added club House. Assume about 10% asphalt surfaces

Construction Phase - Operational run

Off-road Equipment - Operational run

Trips and VMT - Operational run

Vehicle Trips - Crosswinds Trip Rate. Traffic VMT all Primary trips

Woodstoves - No Hearth

Water And Wastewater - Wastewater Treatment

Water Mitigation -

Energy Use - Reach Code - no natural gas

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblEnergyUse	NT24NG	3,155.00	0.00
tblEnergyUse	T24NG	25,910.09	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	67.25	0.00
tblFireplaces	NumberWood	115.67	0.00
tblFleetMix	HHD	0.02	0.02
tblFleetMix	LDA	0.62	0.60
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.0600e-003	5.5563e-003
tblFleetMix	MCY	5.1220e-003	4.7803e-003
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MH	6.5100e-004	7.2763e-004
tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	2.2210e-003	1.4429e-003
tblFleetMix	SBUS	6.4600e-004	9.0041e-004
tblFleetMix	UBUS	1.4700e-003	1.1782e-003
tblLandUse	LandUseSquareFeet	484,200.00	512,363.00
tblLandUse	LotAcreage	3.00	0.00
tblLandUse	LotAcreage	0.07	0.00
tblLandUse	LotAcreage	87.34	30.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	21

tblVehicleEF	HHD	0.27	0.02
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tblVehicleEF	HHD	8.8550e-003	8.9053e-003
tblVehicleEF	HHD	5.4140e-003	0.02
tblVehicleEF	HHD	1.2400e-004	5.3337e-007
tblVehicleEF	HHD	1.0100e-004	1.3299e-006
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tblVehicleEF	HHD	4.1900e-004	2.8448e-004
tblVehicleEF	HHD	0.07	2.2699e-006
tblVehicleEF	HHD	0.04	8.6527e-003

tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.8800e-004	5.1111e-007
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tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.02
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tblVehicleEF	LDT2	0.05	0.17
tblVehicleEF	LDT2	0.04	0.04
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tblVehicleEF	LDT2	0.07	0.09
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tblVehicleEF	LDT2	7.4390e-003	6.5534e-003
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tblVehicleEF	LDT2	0.04	0.18
tblVehicleEF	LDT2	2.6450e-003	9.4796e-003
tblVehicleEF	LDT2	6.2800e-004	8.4616e-005
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.07	0.09
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tblVehicleEF	LHD1	0.53	0.30
tblVehicleEF	LHD1	0.67	0.23
tblVehicleEF	LHD1	7.8900e-004	9.1482e-004
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tblVehicleEF	LHD1	0.01	9.9012e-003
tblVehicleEF	LHD1	0.01	7.0191e-003
tblVehicleEF	LHD1	6.6500e-004	2.1020e-004
tblVehicleEF	LHD1	7.5500e-004	8.7524e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.6030e-003	2.4753e-003
tblVehicleEF	LHD1	9.7020e-003	6.6712e-003

tblVehicleEF	LHD1	6.1100e-004	1.9327e-004
tblVehicleEF	LHD1	1.8620e-003	1.4028e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	1.0210e-003	7.7246e-004
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.26	0.43
tblVehicleEF	LHD1	0.15	0.04
tblVehicleEF	LHD1	8.9000e-005	7.9916e-005
tblVehicleEF	LHD1	6.2670e-003	6.8120e-003
tblVehicleEF	LHD1	3.0000e-004	9.9885e-005
tblVehicleEF	LHD1	1.8620e-003	1.4028e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.0210e-003	7.7246e-004
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.26	0.43
tblVehicleEF	LHD1	0.16	0.05
tblVehicleEF	LHD2	2.5430e-003	2.5046e-003
tblVehicleEF	LHD2	5.3180e-003	5.3393e-003
tblVehicleEF	LHD2	3.2330e-003	4.8112e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.45	0.49
tblVehicleEF	LHD2	0.88	0.48
tblVehicleEF	LHD2	13.62	13.00
tblVehicleEF	LHD2	675.95	679.81
tblVehicleEF	LHD2	21.83	6.44
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.22	0.38
tblVehicleEF	LHD2	0.26	0.12

tblVehicleEF	LHD2	1.0460e-003	1.5018e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.3120e-003	0.01
tblVehicleEF	LHD2	3.7400e-004	1.0610e-004
tblVehicleEF	LHD2	1.0000e-003	1.4368e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.7080e-003	2.7109e-003
tblVehicleEF	LHD2	8.8860e-003	0.01
tblVehicleEF	LHD2	3.4400e-004	9.7559e-005
tblVehicleEF	LHD2	5.1500e-004	6.4205e-004
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.0800e-004	3.7383e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	1.3300e-004	1.2413e-004
tblVehicleEF	LHD2	6.5670e-003	6.5573e-003
tblVehicleEF	LHD2	2.3300e-004	6.3710e-005
tblVehicleEF	LHD2	5.1500e-004	6.4205e-004
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.0800e-004	3.7383e-004
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.05	0.02
tblVehicleEF	MCY	0.46	0.32
tblVehicleEF	MCY	0.16	0.25
tblVehicleEF	MCY	17.52	17.61

tblVehicleEF	MCY	10.34	9.20
tblVehicleEF	MCY	171.38	209.76
tblVehicleEF	MCY	42.85	59.23
tblVehicleEF	MCY	1.14	1.14
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	2.1570e-003	2.1383e-003
tblVehicleEF	MCY	3.3210e-003	2.8616e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	2.0120e-003	1.9944e-003
tblVehicleEF	MCY	3.1070e-003	2.6764e-003
tblVehicleEF	MCY	0.88	1.79
tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.12	2.13
tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.11	1.88
tblVehicleEF	MCY	2.0640e-003	2.0757e-003
tblVehicleEF	MCY	6.5900e-004	5.8609e-004
tblVehicleEF	MCY	0.88	1.79
tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.66	2.67
tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.30	2.04
tblVehicleEF	MDV	5.1180e-003	1.7719e-003
tblVehicleEF	MDV	7.2260e-003	0.04
tblVehicleEF	MDV	0.68	0.55

tblVehicleEF	MDV	1.51	2.32
tblVehicleEF	MDV	358.67	301.13
tblVehicleEF	MDV	82.28	63.46
tblVehicleEF	MDV	0.07	0.04
tblVehicleEF	MDV	0.11	0.18
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.3880e-003	1.0344e-003
tblVehicleEF	MDV	2.0820e-003	1.3439e-003
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.2780e-003	9.5360e-004
tblVehicleEF	MDV	1.9150e-003	1.2356e-003
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.01	6.8870e-003
tblVehicleEF	MDV	0.09	0.34
tblVehicleEF	MDV	0.10	0.20
tblVehicleEF	MDV	3.5870e-003	2.9757e-003
tblVehicleEF	MDV	8.4800e-004	6.2800e-004
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.02	9.9832e-003
tblVehicleEF	MDV	0.09	0.34
tblVehicleEF	MDV	0.11	0.22
tblVehicleEF	MH	8.2310e-003	5.0270e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.45	0.31

tblVehicleEF	MH	3.72	1.64
tblVehicleEF	MH	1,184.19	1,350.27
tblVehicleEF	MH	56.79	15.54
tblVehicleEF	MH	0.84	1.06
tblVehicleEF	MH	0.62	0.24
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.8300e-004	2.1213e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2210e-003	3.2971e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.1200e-004	1.9505e-004
tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	0.01	0.54
tblVehicleEF	MH	0.22	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.3200e-004	1.5379e-004
tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	0.01	0.54
tblVehicleEF	MH	0.24	0.08
tblVehicleEF	MHD	0.02	3.8322e-003
tblVehicleEF	MHD	2.7470e-003	1.0338e-003
tblVehicleEF	MHD	0.03	8.3828e-003

tblVehicleEF	MHD	0.37	0.41
tblVehicleEF	MHD	0.25	0.15
tblVehicleEF	MHD	3.74	0.87
tblVehicleEF	MHD	131.96	65.10
tblVehicleEF	MHD	1,167.79	993.45
tblVehicleEF	MHD	59.45	8.55
tblVehicleEF	MHD	0.34	0.34
tblVehicleEF	MHD	1.04	1.43
tblVehicleEF	MHD	9.99	1.69
tblVehicleEF	MHD	5.2000e-005	1.6197e-004
tblVehicleEF	MHD	0.13	0.13
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	3.0080e-003	7.0059e-003
tblVehicleEF	MHD	8.2100e-004	1.1182e-004
tblVehicleEF	MHD	5.0000e-005	1.5497e-004
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	2.8710e-003	6.6957e-003
tblVehicleEF	MHD	7.5400e-004	1.0282e-004
tblVehicleEF	MHD	6.4300e-004	2.8933e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.8200e-004	1.6833e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.23	0.04
tblVehicleEF	MHD	1.2710e-003	6.1778e-004
tblVehicleEF	MHD	0.01	9.4796e-003
tblVehicleEF	MHD	6.6000e-004	8.4616e-005
tblVehicleEF	MHD	6.4300e-004	2.8933e-004

tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	3.8200e-004	1.6833e-004
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.25	0.05
tblVehicleEF	OBUS	0.01	7.0977e-003
tblVehicleEF	OBUS	4.0840e-003	2.1965e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.24	0.64
tblVehicleEF	OBUS	0.30	0.26
tblVehicleEF	OBUS	4.08	1.58
tblVehicleEF	OBUS	110.55	97.36
tblVehicleEF	OBUS	1,272.30	1,210.85
tblVehicleEF	OBUS	64.94	13.46
tblVehicleEF	OBUS	0.24	0.43
tblVehicleEF	OBUS	0.85	1.45
tblVehicleEF	OBUS	2.74	1.13
tblVehicleEF	OBUS	2.2000e-005	1.4242e-004
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	2.8340e-003	7.8816e-003
tblVehicleEF	OBUS	9.3800e-004	1.5608e-004
tblVehicleEF	OBUS	2.1000e-005	1.3626e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	2.6900e-003	7.5260e-003
tblVehicleEF	OBUS	8.6200e-004	1.4351e-004
tblVehicleEF	OBUS	1.1660e-003	1.0619e-003
tblVehicleEF	OBUS	0.01	0.02

tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.3200e-004	4.8664e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.26	0.08
tblVehicleEF	OBUS	1.0660e-003	9.2423e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2100e-004	1.3322e-004
tblVehicleEF	OBUS	1.1660e-003	1.0619e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.3200e-004	4.8664e-004
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.28	0.08
tblVehicleEF	SBUS	0.81	0.07
tblVehicleEF	SBUS	7.6490e-003	4.4039e-003
tblVehicleEF	SBUS	0.06	6.3377e-003
tblVehicleEF	SBUS	8.87	2.93
tblVehicleEF	SBUS	0.48	0.37
tblVehicleEF	SBUS	7.57	0.86
tblVehicleEF	SBUS	1,023.58	337.48
tblVehicleEF	SBUS	1,008.60	970.50
tblVehicleEF	SBUS	61.81	5.06
tblVehicleEF	SBUS	4.35	2.71
tblVehicleEF	SBUS	1.72	3.09
tblVehicleEF	SBUS	10.76	1.18
tblVehicleEF	SBUS	2.1870e-003	2.0483e-003
tblVehicleEF	SBUS	0.74	0.74
tblVehicleEF	SBUS	0.01	0.01

tblVehicleEF	SBUS	8.4940e-003	0.02
tblVehicleEF	SBUS	1.1020e-003	6.7596e-005
tblVehicleEF	SBUS	2.0920e-003	1.9597e-003
tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.5880e-003	2.6690e-003
tblVehicleEF	SBUS	8.1060e-003	0.02
tblVehicleEF	SBUS	1.0130e-003	6.2152e-005
tblVehicleEF	SBUS	3.7080e-003	8.6957e-004
tblVehicleEF	SBUS	0.03	8.3043e-003
tblVehicleEF	SBUS	1.05	0.32
tblVehicleEF	SBUS	1.7580e-003	4.1393e-004
tblVehicleEF	SBUS	0.07	0.06
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.40	0.04
tblVehicleEF	SBUS	0.01	3.2190e-003
tblVehicleEF	SBUS	9.7440e-003	9.2881e-003
tblVehicleEF	SBUS	7.4900e-004	5.0069e-005
tblVehicleEF	SBUS	3.7080e-003	8.6957e-004
tblVehicleEF	SBUS	0.03	8.3043e-003
tblVehicleEF	SBUS	1.53	0.46
tblVehicleEF	SBUS	1.7580e-003	4.1393e-004
tblVehicleEF	SBUS	0.08	0.07
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.43	0.04
tblVehicleEF	UBUS	0.23	1.86
tblVehicleEF	UBUS	0.05	2.1857e-003
tblVehicleEF	UBUS	3.04	14.11
tblVehicleEF	UBUS	7.59	0.14
tblVehicleEF	UBUS	1,937.16	1,668.67
tblVehicleEF	UBUS	126.43	1.40

tblVehicleEF	UBUS	4.75	0.71
tblVehicleEF	UBUS	13.02	0.02
tblVehicleEF	UBUS	0.54	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.10	5.1160e-003
tblVehicleEF	UBUS	1.3960e-003	1.5176e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3315e-003
tblVehicleEF	UBUS	0.10	4.8931e-003
tblVehicleEF	UBUS	1.2840e-003	1.3953e-005
tblVehicleEF	UBUS	2.5990e-003	6.1448e-005
tblVehicleEF	UBUS	0.04	8.1446e-004
tblVehicleEF	UBUS	1.5170e-003	3.5792e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	9.4350e-003	4.9280e-003
tblVehicleEF	UBUS	0.65	9.2613e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.4020e-003	1.3873e-005
tblVehicleEF	UBUS	2.5990e-003	6.1448e-005
tblVehicleEF	UBUS	0.04	8.1446e-004
tblVehicleEF	UBUS	1.5170e-003	3.5792e-005
tblVehicleEF	UBUS	0.48	1.90
tblVehicleEF	UBUS	9.4350e-003	4.9280e-003
tblVehicleEF	UBUS	0.71	0.01
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	5.70	9.04
tblVehicleTrips	HS_TL	4.80	9.04
tblVehicleTrips	HW_TL	10.80	9.04
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00

tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	33.82	0.00
tblVehicleTrips	WD_TR	9.52	9.44
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5122	0.0230	1.9921	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1100e-003	0.0000	3.3405
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
Mobile	0.7000	1.4676	7.1032	0.0256	3.0895	0.0181	3.1076	0.8266	0.0170	0.8436	0.0000	2,339.1128	2,339.1128	0.0811	0.0000	2,341.1408
Waste						0.0000	0.0000		0.0000	0.0000	69.0332	0.0000	69.0332	4.0797	0.0000	171.0268

Water						0.0000	0.0000		0.0000	0.0000	6.2637	1.2845	7.5482	0.0233	0.0140	12.3000
Total	**3.2121**	**1.4906**	**9.0954**	**0.0257**	**3.0895**	**0.0292**	**3.1186**	**0.8266**	**0.0280**	**0.8547**	**75.2968**	**2,364.3909**	**2,439.6877**	**4.2159**	**0.0199**	**2,551.0197**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5122	0.0230	1.9921	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1100e-003	0.0000	3.3405
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
Mobile	0.7000	1.4676	7.1032	0.0256	3.0895	0.0181	3.1076	0.8266	0.0170	0.8436	0.0000	2,339.1128	2,339.1128	0.0811	0.0000	2,341.1408
Waste						0.0000	0.0000		0.0000	0.0000	69.0332	0.0000	69.0332	4.0797	0.0000	171.0268
Water						0.0000	0.0000		0.0000	0.0000	5.0109	1.0793	6.0902	0.0187	0.0112	9.8979
Total	**3.2121**	**1.4906**	**9.0954**	**0.0257**	**3.0895**	**0.0292**	**3.1186**	**0.8266**	**0.0280**	**0.8547**	**74.0441**	**2,364.1857**	**2,438.2298**	**4.2113**	**0.0171**	**2,548.6176**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.66**	**0.01**	**0.06**	**0.11**	**13.96**	**0.09**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7000	1.4676	7.1032	0.0256	3.0895	0.0181	3.1076	0.8266	0.0170	0.8436	0.0000	2,339.1128	2,339.1128	0.0811	0.0000	2,341.1408
Unmitigated	0.7000	1.4676	7.1032	0.0256	3.0895	0.0181	3.1076	0.8266	0.0170	0.8436	0.0000	2,339.1128	2,339.1128	0.0811	0.0000	2,341.1408

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Single Family Housing	2,539.36	2,665.79	2318.78	8,311,658	8,311,658
Total	2,539.36	2,665.79	2,318.78	8,311,658	8,311,658

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Single Family Housing	9.04	9.04	9.04	31.00	15.00	54.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Recreational Swimming Pool	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Single Family Housing	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.17636e+006	20.7308	0.0286	5.9200e-003	23.2116
Total		**20.7308**	**0.0286**	**5.9200e-003**	**23.2116**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.17636e+006	20.7308	0.0286	5.9200e-003	23.2116
Total		**20.7308**	**0.0286**	**5.9200e-003**	**23.2116**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.5122	0.0230	1.9921	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1100e-003	0.0000	3.3405
Unmitigated	2.5122	0.0230	1.9921	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1100e-003	0.0000	3.3405

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0798					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0596	0.0230	1.9921	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1100e-003	0.0000	3.3405
Total	**2.5122**	**0.0230**	**1.9921**	**1.1000e-004**		**0.0111**	**0.0111**		**0.0111**	**0.0111**	**0.0000**	**3.2628**	**3.2628**	**3.1100e-003**	**0.0000**	**3.3405**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0798					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0596	0.0230	1.9921	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1100e-003	0.0000	3.3405
Total	**2.5122**	**0.0230**	**1.9921**	**1.1000e-004**		**0.0111**	**0.0111**		**0.0111**	**0.0111**	**0.0000**	**3.2628**	**3.2628**	**3.1100e-003**	**0.0000**	**3.3405**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.0902	0.0187	0.0112	9.8979
Unmitigated	7.5482	0.0233	0.0140	12.3000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.177429 / 0.108747	0.0756	2.3000e-004	1.4000e-004	0.1232
Single Family Housing	17.5264 / 11.0493	7.4726	0.0231	0.0139	12.1769
Total		**7.5482**	**0.0233**	**0.0140**	**12.3000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.141944 / 0.102113	0.0609	1.9000e-004	1.1000e-004	0.0991
Single Family Housing	14.0211 / 10.3753	6.0293	0.0186	0.0111	9.7988
Total		**6.0902**	**0.0187**	**0.0112**	**9.8979**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	69.0332	4.0797	0.0000	171.0268
Unmitigated	69.0332	4.0797	0.0000	171.0268

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	17.1	3.4712	0.2051	0.0000	8.5996
Single Family Housing	322.98	65.5620	3.8746	0.0000	162.4271
Total		**69.0332**	**4.0797**	**0.0000**	**171.0268**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	17.1	3.4712	0.2051	0.0000	8.5996
Single Family Housing	322.98	65.5620	3.8746	0.0000	162.4271
Total		**69.0332**	**4.0797**	**0.0000**	**171.0268**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Half Road Construction - Demo & Grading - Op 2

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	269.00	Dwelling Unit	30.50	512,363.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE w/som PG&E (10%)

Land Use - Whole site grading

Construction Phase - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Trips and VMT - computed in EMFAC2017 using Demo 3/0/9 SitePrep 10/0/0 Grading 18/0/250

Demolition - Based on provided construction information

Grading - Used 1,000cy for misc import/export

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	30.00	4.00
tblConstructionPhase	NumDays	45.00	18.00
tblConstructionPhase	NumDays	20.00	5.00
tblGrading	MaterialExported	0.00	1,000.00
tblGrading	MaterialImported	0.00	1,000.00
tblLandUse	LandUseSquareFeet	484,200.00	512,363.00
tblLandUse	LotAcreage	87.34	30.50
tblLandUse	Population	769.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

tblOffRoadEquipment	UsageHours	8.00	3.10
tblOffRoadEquipment	UsageHours	8.00	4.30
tblOffRoadEquipment	UsageHours	8.00	4.80
tblProjectCharacteristics	CO2IntensityFactor	641.35	21
tblTripsAndVMT	HaulingTripNumber	9.00	0.00
tblTripsAndVMT	HaulingTripNumber	250.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0260	0.2925	0.1922	4.7000e-004	0.0315	0.0112	0.0427	3.4500e-003	0.0103	0.0137	0.0000	41.4427	41.4427	0.0134	0.0000	41.7778
Maximum	**0.0260**	**0.2925**	**0.1922**	**4.7000e-004**	**0.0315**	**0.0112**	**0.0427**	**3.4500e-003**	**0.0103**	**0.0137**	**0.0000**	**41.4427**	**41.4427**	**0.0134**	**0.0000**	**41.7778**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Year	tons/yr										MT/yr					
2022	7.7100e-003	0.1324	0.2611	4.7000e-004	0.0142	7.7000e-004	0.0149	1.5500e-003	7.7000e-004	2.3200e-003	0.0000	41.4427	41.4427	0.0134	0.0000	41.7778
Maximum	**7.7100e-003**	**0.1324**	**0.2611**	**4.7000e-004**	**0.0142**	**7.7000e-004**	**0.0149**	**1.5500e-003**	**7.7000e-004**	**2.3200e-003**	**0.0000**	**41.4427**	**41.4427**	**0.0134**	**0.0000**	**41.7778**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**70.38**	**54.74**	**-35.86**	**0.00**	**55.02**	**93.11**	**65.00**	**55.07**	**92.52**	**83.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**5-1-2022**	**7-31-2022**	0.3072	0.1354
		Highest	0.3072	0.1354

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/13/2022	5/18/2022	5	4	
2	Site Preparation	Site Preparation	5/18/2022	5/24/2022	5	5	
3	Grading	Grading	5/24/2022	6/16/2022	5	18	

Acres of Grading (Site Preparation Phase): 14

Acres of Grading (Grading Phase): 43.42

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73

Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Graders	1	6.40	187	0.41
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Scrapers	3	6.40	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	1	4.80	212	0.43
Grading	Excavators	1	3.10	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	3	4.30	367	0.48
Grading	Tractors/Loaders/Backhoes	1	4.80	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.4000e-004	0.0000	9.4000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0000e-004	3.5500e-003	6.5100e-003	1.0000e-005		1.7000e-004	1.7000e-004		1.6000e-004	1.6000e-004	0.0000	0.9072	0.9072	2.9000e-004	0.0000	0.9146
Total	**4.0000e-004**	**3.5500e-003**	**6.5100e-003**	**1.0000e-005**	**9.4000e-004**	**1.7000e-004**	**1.1100e-003**	**1.4000e-004**	**1.6000e-004**	**3.0000e-004**	**0.0000**	**0.9072**	**0.9072**	**2.9000e-004**	**0.0000**	**0.9146**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.2000e-004	0.0000	4.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	1.3000e-004	4.5500e-003	7.8400e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.9072	0.9072	2.9000e-004	0.0000	0.9146
Total	**1.3000e-004**	**4.5500e-003**	**7.8400e-003**	**1.0000e-005**	**4.2000e-004**	**2.0000e-005**	**4.4000e-004**	**6.0000e-005**	**2.0000e-005**	**8.0000e-005**	**0.0000**	**0.9072**	**0.9072**	**2.9000e-004**	**0.0000**	**0.9146**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.4200e-003	0.0000	7.4200e-003	8.0000e-004	0.0000	8.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7500e-003	0.0642	0.0417	1.0000e-004		2.4300e-003	2.4300e-003		2.2300e-003	2.2300e-003	0.0000	9.1665	9.1665	2.9600e-003	0.0000	9.2406
Total	**5.7500e-003**	**0.0642**	**0.0417**	**1.0000e-004**	**7.4200e-003**	**2.4300e-003**	**9.8500e-003**	**8.0000e-004**	**2.2300e-003**	**3.0300e-003**	**0.0000**	**9.1665**	**9.1665**	**2.9600e-003**	**0.0000**	**9.2406**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.3400e-003	0.0000	3.3400e-003	3.6000e-004	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0275	0.0555	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	9.1665	9.1665	2.9600e-003	0.0000	9.2406
Total	**1.7100e-003**	**0.0275**	**0.0555**	**1.0000e-004**	**3.3400e-003**	**1.7000e-004**	**3.5100e-003**	**3.6000e-004**	**1.7000e-004**	**5.3000e-004**	**0.0000**	**9.1665**	**9.1665**	**2.9600e-003**	**0.0000**	**9.2406**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0231	0.0000	0.0231	2.5000e-003	0.0000	2.5000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0199	0.2248	0.1440	3.6000e-004		8.5800e-003	8.5800e-003		7.9000e-003	7.9000e-003	0.0000	31.3690	31.3690	0.0102	0.0000	31.6227
Total	**0.0199**	**0.2248**	**0.1440**	**3.6000e-004**	**0.0231**	**8.5800e-003**	**0.0317**	**2.5000e-003**	**7.9000e-003**	**0.0104**	**0.0000**	**31.3690**	**31.3690**	**0.0102**	**0.0000**	**31.6227**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0104	0.0000	0.0104	1.1300e-003	0.0000	1.1300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8700e-003	0.1003	0.1978	3.6000e-004		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	31.3690	31.3690	0.0102	0.0000	31.6226
Total	**5.8700e-003**	**0.1003**	**0.1978**	**3.6000e-004**	**0.0104**	**5.8000e-004**	**0.0110**	**1.1300e-003**	**5.8000e-004**	**1.7100e-003**	**0.0000**	**31.3690**	**31.3690**	**0.0102**	**0.0000**	**31.6226**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Attachment 3: EMFAC2017 Calculations

Grading CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Demolition	3	0	12	0	9	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	129.6	0	180
Site Preparation	8	0	40	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	432	0	0
Grading	15	0	250	0	250	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2700	0	5000
Trenching	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Building Construction	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Paving	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Architectural Coating	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
												0		
						10.8	7.3	20				0		
												0		
												0		

Number of Days Per Year			
2022	5/13/22	6/13/22	24
2023			0
2024			
			24

18 ***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays	
Demolition	2022/05/13	2022/05/18	5	4	
Site Preparation	2022/05/18	2022/05/24	5	5	
Grading	2022/05/24	2022/06/13	5	15	
Trenching	2022/11/10	2023/02/01	0	0	Overlap
Building Construction	2022/11/10	2023/09/27	0	0	
Paving	2023/09/28	2023/10/25	0	0	
Architectural Coating	2023/10/26	2023/11/22	0	0	

Phase 1 CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Trenching	8	0	280	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3024	0	0
Building Construction	71	16	12425	2800	290	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	134190	20440	5800
Paving	18	0	250	0	112	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2700	0	2240
Building Interior	14	0	224	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2419.2	0	0
Building Construction	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Paving	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Architectural Coating	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
												0		
						10.8	7.3	20				0		
												0		
												0		

Number of Days Per Year					
2022	6/13/22	12/31/22	144		
2023	1/1/23	3/14/23	54		
2024					
			198	**198**	***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays	
Trenching	2022/06/13	2022/07/29	5	35	
Building Construction	2022/07/13	2023/03/14	5	175	
Building Interior	2022/10/11	2022/12/05	5	40	
Paving	2022/11/28	2022/12/19	5	16	Overlap
x	2022/11/10	2023/09/27	0	0	
x	2023/09/28	2023/10/25	0	0	
x	2023/10/26	2023/11/22	0	0	

DePaul CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Grading	10	0	150	0	8	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1620	0	160
Trenching	8	0	280	0	4	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3024	0	80
Paving	20	0	250	0	140	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2700	0	2800
Building Interior	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Building Construction	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Paving	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Architectural Coating	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
												0		
						10.8	7.3	20				0		
												0		
Number of Days Per Year												0		
			0											
2025	2023/10/04	12/31/23	60											
			60		**140**	***Total Workdays***								

Phase	Start Date	End Date	Days/Week	Workdays
Grading	2023/10/04	2023/10/24	5	15
Trenching	2023/10/25	2023/12/12	5	35
Paving	2023/12/19	2023/12/22	5	16
	2025/09/05	2025/09/22	0	0
x	2022/11/10	2023/09/27	0	0
x	2023/09/28	2023/10/25	0	0
x	2023/10/26	2023/11/22	0	0

Phase 2 CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Trenching	8	0	280	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3024	0	0
Building Construction	80	21	14000	3675	356	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	151200	26827.5	7120
Paving	20	0	250	0	140	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2700	0	2800
Building Interior	16	0	256	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2764.8	0	0
Building Construction	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Paving	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Architectural Coating	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
												0		
						10.8	7.3	20				0		
												0		
												0		

Number of Days Per Year			
2022			0
2023	2023/10/14	12/31/23	260
2024	1/1/24	8/15/2024	170
			430

236 ***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Trenching	2023/10/14	2023/12/01	5	35
Building Construction	2023/12/18	2024/08/16	5	175
Building Interior	2024/03/17	2024/05/10	5	40
Paving	2024/03/17	2024/04/08	5	16
x	2022/11/10	2023/09/27	0	0
x	2023/09/28	2023/10/25	0	0
x	2023/10/26	2023/11/22	0	0

Phase 3 CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Trenching	8	0	200	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2160	0	0
Building Construction	80	21	6000	1575	356	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	64800	11497.5	7120
Paving	20	0	250	0	140	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2700	0	2800
Building Interior	16	0	192	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2073.6	0	0
Building Construction	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Paving	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Architectural Coating	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
												0		
						10.8	7.3	20				0		
												0		
Number of Days Per Year												0		
			0											
2025	2025/04/13	12/31/23	140											
			140	**140**	***Total Workdays***									

Phase	Start Date	End Date	Days/Week	Workdays
Trenching	2025/04/13	2025/05/16	5	25
Building Construction	2025/06/07	2025/09/19	5	75
Building Interior	2025/09/05	2025/10/30	5	40
Paving	2025/09/05	2025/09/22	5	12
x	2022/11/10	2023/09/27	0	0
x	2023/09/28	2023/10/25	0	0
x	2023/10/26	2023/11/22	0	0

Adjustment Factors for EMFAC2017 Gasoline Light Duty Vehicles					
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust
NA	1	1	1	1	1
2021	1.0002	1.0001	1.0002	1.0009	1.0005
2022	1.0004	1.0003	1.0004	1.0018	1.0014
2023	1.0007	1.0006	1.0007	1.0032	1.0027
2024	1.0012	1.0010	1.0011	1.0051	1.0044
2025	1.0018	1.0016	1.0016	1.0074	1.0065
2026	1.0023	1.0022	1.0020	1.0091	1.0083
2027	1.0028	1.0028	1.0024	1.0105	1.0102
2028	1.0034	1.0035	1.0028	1.0117	1.0120
2029	1.0040	1.0042	1.0032	1.0129	1.0138
2030	1.0047	1.0051	1.0037	1.0142	1.0156
2031	1.0054	1.0061	1.0042	1.0155	1.0173
2032	1.0061	1.0072	1.0047	1.0169	1.0189
2033	1.0068	1.0083	1.0052	1.0182	1.0204
2034	1.0075	1.0095	1.0058	1.0196	1.0218
2035	1.0081	1.0108	1.0063	1.0210	1.0232
2036	1.0088	1.0121	1.0069	1.0223	1.0244
2037	1.0094	1.0134	1.0074	1.0236	1.0255
2038	1.0099	1.0148	1.0079	1.0248	1.0265
2039	1.0104	1.0161	1.0085	1.0259	1.0274
2040	1.0109	1.0174	1.0090	1.0270	1.0281
2041	1.0113	1.0186	1.0095	1.0279	1.0288
2042	1.0116	1.0198	1.0099	1.0286	1.0294
2043	1.0119	1.0207	1.0103	1.0293	1.0299
2044	1.0122	1.0216	1.0106	1.0299	1.0303
2045	1.0124	1.0225	1.0109	1.0303	1.0306
2046	1.0125	1.0233	1.0111	1.0308	1.0309
2047	1.0127	1.0240	1.0113	1.0311	1.0311
2048	1.0128	1.0246	1.0115	1.0314	1.0313
2049	1.0128	1.0252	1.0116	1.0316	1.0315
2050	1.0129	1.0257	1.0117	1.0318	1.0316
Enter Year: 2022	**1.0004**	**1.0003**	**1.0004**	**1.0018**	**1.0014**

*PM Exhaust off model factor is only applied to the PM Exhaust emissions not start/idle

The off-model adjustment factors need to be applied only to emissions from gasoline light duty vehicles (LDA, LDT1, LDT2 and MDV). Please note that the adjustment factors are by calendar year and includes all model years.

Enter NA in the date field if adjustments do not apply

2026 CalEEMod EMFAC2017 Emission Factors Input

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.004667	0.002827	0.00366	0.024581591	0.007072	0	0	0.059089	0
A	CH4_RUNEX	0.001366	0.002731	0.002421	0.002658	0.006766	0.006042	0.001368	0.048196739	0.002994	1.740623	0.322636	0.005471	0.007666
A	CH4_STREX	0.037668	0.048087	0.053787	0.059284	0.01193	0.006534	0.008683	4.41955E-07	0.016313	0.001757	0.251748	0.005364	0.021211
A	CO_IDLEX	0	0	0	0	0.181133	0.135072	0.395395	6.312916051	0.608593	0	0	2.477558	0
A	CO_RUNEX	0.470702	0.713398	0.660069	0.67636	0.614851	0.539388	0.193142	0.407888609	0.35403	13.20374	18.16544	0.449129	0.676059
A	CO_STREX	1.942342	2.094896	2.537292	2.688431	0.986313	0.549762	0.974119	0.005910001	1.731489	0.139137	9.112103	0.757026	1.865376
A	CO2_NBIO_IDLEX	0	0	0	0	8.664375	13.59577	69.62637	1010.863198	95.34232	0	0	344.9774	0
A	CO2_NBIO_RUNEX	220.2019	264.8733	280.9156	339.0796	749.5934	726.996	1051.185	1358.122651	1283.241	1654.125	209.9417	1025.262	1445.753
A	CO2_NBIO_STREX	46.74942	56.84445	60.83851	72.17283	11.01943	7.147686	8.852125	0.047796651	14.49277	1.395763	60.16678	4.41435	17.15363
A	NOX_IDLEX	0	0	0	0	0.052779	0.086502	0.384054	5.313842098	0.401134	0	0	3.237041	0
A	NOX_RUNEX	0.024319	0.052355	0.048719	0.054591	0.501705	0.60498	1.445388	2.645781643	1.452791	0.710904	1.142407	4.169337	1.212147
A	NOX_STREX	0.146785	0.185778	0.214688	0.241181	0.274	0.153209	1.698467	2.32114605	1.111138	0.012275	0.270461	0.952464	0.240339
A	PM10_IDLEX	0	0	0	0	0.000872	0.001466	0.000277	0.002421971	0.000131	0	0	0.003057	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.061011269	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009831	0.010801	0.012	0.035565238	0.012	0.033326	0.004	0.010812	0.013148
A	PM10_RUNEX	0.001191	0.001444	0.001268	0.001317	0.008597	0.014576	0.007064	0.024793091	0.00755	0.00517	0.002061	0.027088	0.020231
A	PM10_STREX	0.001567	0.001882	0.001614	0.001662	0.000232	0.000117	0.000112	6.07666E-07	0.000149	1.52E-05	0.002929	5.43E-05	0.00024
A	PM25_IDLEX	0	0	0	0	0.000834	0.001402	0.000265	0.002317197	0.000126	0	0	0.002925	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026147687	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002458	0.0027	0.003	0.00889131	0.003	0.008332	0.001	0.002703	0.003287
A	PM25_RUNEX	0.001096	0.001328	0.001167	0.001215	0.008179	0.013921	0.006752	0.023720525	0.00721	0.004945	0.001924	0.025902	0.019315
A	PM25_STREX	0.001441	0.00173	0.001484	0.001528	0.000213	0.000108	0.000103	5.58726E-07	0.000137	1.4E-05	0.002748	4.99E-05	0.000221
A	ROG_DIURN	0.031026	0.063386	0.056043	0.063565	0.001717	0.000843	0.000334	1.73946E-06	0.001072	2.71E-05	1.796069	0.000641	0.521835
A	ROG_HTSK	0.07546	0.124908	0.10677	0.116658	0.064563	0.033077	0.016141	7.87131E-05	0.015877	0.000258	0.658739	0.006205	0.044593
A	ROG_IDLEX	0	0	0	0	0.019371	0.01467	0.018199	0.425464995	0.0479	0	0	0.274128	0
A	ROG_RESTL	0.028067	0.053388	0.054637	0.062343	0.000904	0.000457	0.00018	9.87177E-07	0.000483	1.3E-05	0.964052	0.000292	0.192731
A	ROG_RUNEX	0.004919	0.011315	0.009547	0.010801	0.082268	0.103701	0.013929	0.025230325	0.020648	0.025271	2.163162	0.076133	0.053216
A	ROG_RUNLS	0.185854	0.473603	0.387491	0.396121	0.458804	0.204792	0.087699	0.000396674	0.180023	0.001452	1.752085	0.040739	1.014315
A	ROG_STREX	0.160651	0.222735	0.243054	0.281273	0.059664	0.032087	0.044627	2.31009E-06	0.083133	0.007362	1.911911	0.030553	0.084521
A	SO2_IDLEX	0	0	0	0	8.4E-05	0.00013	0.000661	0.009404557	0.000905	0	0	0.003286	0
A	SO2_RUNEX	9.28E-05	0.002615	0.010025	0.003351	0.007315	0.007016	0.010025	0.012421666	0.012348	0.010671	0.002078	0.009797	0.014185
A	SO2_STREX	0	0	8.76E-05	0.000714	0.000109	7.07E-05	8.76E-05	4.72987E-07	0.000143	1.38E-05	0.000595	4.37E-05	0.00017
A	TOG_DIURN	0.031026	0.063386	0.056043	0.063565	0.001717	0.000843	0.000334	1.73946E-06	0.001072	2.71E-05	1.796069	0.000641	0.521835
A	TOG_HTSK	0.07546	0.124908	0.10677	0.116658	0.064563	0.033077	0.016141	7.87131E-05	0.015877	0.000258	0.658739	0.006205	0.044593
A	TOG_IDLEX	0	0	0	0	0.027158	0.019579	0.024791	0.489206564	0.061489	0	0	0.393293	0
A	TOG_RESTL	0.028067	0.053388	0.054637	0.062343	0.000904	0.000457	0.00018	9.87177E-07	0.000483	1.3E-05	0.964052	0.000292	0.192731
A	TOG_RUNEX	0.007149	0.016504	0.013895	0.015681	0.099279	0.120104	0.017205	0.076057465	0.027322	1.776895	2.697331	0.090583	0.068739
A	TOG_RUNLS	0.185854	0.473603	0.387491	0.396121	0.458804	0.204792	0.087699	0.000396674	0.180023	0.001452	1.752085	0.040739	1.014315
A	TOG_STREX	0.175893	0.243867	0.266113	0.307959	0.065324	0.035131	0.04886	2.52926E-06	0.09102	0.00806	2.081516	0.033451	0.09254

2026 CalEEMod EMFAC2017 Fleet Mix Input

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.593877	0.053382	0.174267	0.106373	0.020945	0.005401	0.013559	0.022807	0.001528	0.001225	0.004979	0.000915	0.000742

2030 CalEEMod EMFAC2017 Emission Factors Input

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.004148	0.002505	0.003832	0.024231453	0.007098	0	0	0.070082	0
A	CH4_RUNEX	0.000959	0.001671	0.001726	0.001772	0.005195	0.005339	0.001034	0.04518098	0.002197	1.859484	0.319087	0.004404	0.005027
A	CH4_STREX	0.028931	0.035248	0.041821	0.043924	0.009023	0.004811	0.008383	4.34672E-07	0.015222	0.002186	0.24786	0.006338	0.019545
A	CO_IDLEX	0	0	0	0	0.17731	0.131894	0.405402	6.28489984	0.644155	0	0	2.927328	0
A	CO_RUNEX	0.411156	0.540474	0.559142	0.551517	0.468742	0.489111	0.152189	0.405949458	0.262856	14.11073	17.60732	0.374881	0.311691
A	CO_STREX	1.716961	1.849789	2.287973	2.324828	0.890393	0.484256	0.872515	0.006685308	1.577018	0.139137	9.199577	0.858725	1.635194
A	CO2_NBIO_IDLEX	0	0	0	0	8.251826	13.00041	65.09769	930.0496847	97.36242	0	0	337.4754	0
A	CO2_NBIO_RUNEX	199.8584	241.4555	249.7974	301.1272	698.5465	679.813	993.4479	1226.348086	1210.85	1668.671	209.7572	970.5049	1350.267
A	CO2_NBIO_STREX	42.16672	51.55301	53.79124	63.46105	10.09364	6.438033	8.550649	0.051649278	13.46187	1.401901	59.22586	5.059627	15.54123
A	NOX_IDLEX	0	0	0	0	0.045908	0.074209	0.341766	5.199426871	0.431935	0	0	2.710433	0
A	NOX_RUNEX	0.019319	0.033468	0.034489	0.035665	0.299902	0.384329	1.428316	2.517362076	1.448391	0.706433	1.137409	3.086533	1.063099
A	NOX_STREX	0.125333	0.151052	0.168209	0.179169	0.225227	0.124883	1.689216	2.314548745	1.129093	0.015157	0.270173	1.184451	0.23668
A	PM10_IDLEX	0	0	0	0	0.000915	0.001502	0.000162	0.002145897	0.000142	0	0	0.002048	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.061109857	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009901	0.010844	0.012	0.035621239	0.012	0.033326	0.004	0.010676	0.013189
A	PM10_RUNEX	0.000929	0.00107	0.001025	0.001034	0.007019	0.013839	0.007006	0.023790073	0.007882	0.005116	0.002138	0.021245	0.016043
A	PM10_STREX	0.001275	0.001461	0.00134	0.001344	0.00021	0.000106	0.000112	5.80093E-07	0.000156	1.52E-05	0.002862	6.76E-05	0.000212
A	PM25_IDLEX	0	0	0	0	0.000875	0.001437	0.000155	0.002053066	0.000136	0	0	0.00196	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026189939	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002475	0.002711	0.003	0.00890531	0.003	0.008332	0.001	0.002669	0.003297
A	PM25_RUNEX	0.000855	0.000984	0.000944	0.000954	0.006671	0.013218	0.006696	0.022760894	0.007526	0.004893	0.001994	0.02031	0.015312
A	PM25_STREX	0.001172	0.001344	0.001232	0.001236	0.000193	9.76E-05	0.000103	5.33374E-07	0.000144	1.4E-05	0.002676	6.22E-05	0.000195
A	ROG_DIURN	0.024903	0.046388	0.048996	0.057349	0.001403	0.000642	0.000289	1.32994E-06	0.001062	6.14E-05	1.786807	0.00087	0.347564
A	ROG_HTSK	0.061657	0.093564	0.089096	0.0981	0.054855	0.024352	0.013852	5.78076E-05	0.015622	0.000814	0.631299	0.008304	0.028392
A	ROG_IDLEX	0	0	0	0	0.01734	0.013466	0.01847	0.422100311	0.050126	0	0	0.322319	0
A	ROG_RESTL	0.022934	0.041206	0.048532	0.056738	0.000772	0.000374	0.000168	7.97633E-07	0.000487	3.58E-05	0.946881	0.000414	0.1401
A	ROG_RUNEX	0.003247	0.0065	0.006553	0.006887	0.072661	0.0982	0.011844	0.024014489	0.016744	0.026969	2.128511	0.060159	0.038911
A	ROG_RUNLS	0.170512	0.364405	0.336782	0.340289	0.429696	0.143744	0.071507	0.000284481	0.181965	0.004928	1.487321	0.053902	0.535482
A	ROG_STREX	0.118715	0.154126	0.182707	0.199251	0.043726	0.022756	0.041407	2.2699E-06	0.076636	0.009261	1.877593	0.036024	0.074231
A	SO2_IDLEX	0	0	0	0	7.99E-05	0.000124	0.000618	0.00865265	0.000924	0	0	0.003219	0
A	SO2_RUNEX	9E-05	0.002567	0.00948	0.002976	0.006812	0.006557	0.00948	0.011212041	0.011649	0.010417	0.002076	0.009288	0.013242
A	SO2_STREX	0	0	8.46E-05	0.000628	9.99E-05	6.37E-05	8.46E-05	5.11111E-07	0.000133	1.39E-05	0.000586	5.01E-05	0.000154
A	TOG_DIURN	0.024903	0.046388	0.048996	0.057349	0.001403	0.000642	0.000289	1.32994E-06	0.001062	6.14E-05	1.786807	0.00087	0.347564
A	TOG_HTSK	0.061657	0.093564	0.089096	0.0981	0.054855	0.024352	0.013852	5.78076E-05	0.015622	0.000814	0.631299	0.008304	0.028392
A	TOG_IDLEX	0	0	0	0	0.02413	0.017772	0.025282	0.485180108	0.063906	0	0	0.463821	0
A	TOG_RESTL	0.022934	0.041206	0.048532	0.056738	0.000772	0.000374	0.000168	7.97633E-07	0.000487	3.58E-05	0.946881	0.000414	0.1401
A	TOG_RUNEX	0.004716	0.009483	0.009524	0.009983	0.08579	0.112949	0.014288	0.071682245	0.021563	1.898202	2.666273	0.071678	0.048331
A	TOG_RUNLS	0.170512	0.364405	0.336782	0.340289	0.429696	0.143744	0.071507	0.000284481	0.181965	0.004928	1.487321	0.053902	0.535482
A	TOG_STREX	0.129977	0.168749	0.200041	0.218155	0.047875	0.024915	0.045336	2.48526E-06	0.083906	0.01014	2.04481	0.039442	0.081274

2030 CalEEMod EMFAC2017 Fleet Mix Input

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.595423	0.053963	0.1714	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.00478	0.0009	0.000728

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SANTA CLARA
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_TWP	PM2.5_PMB	PM2.5_PMT	PM10_RUP	PM10_IDLE	PM10_STR	PM10_PMT	PM10_PMB	CO2_RUNE	CO2_IDLEX	CO2_STREX	CH4_RUNE	CH4_IDLEX	CH4_STREX	N2O_RUNE	N2O_IDLEX	N2O_STREX	ROG_RUNI	ROG_IDLEX	ROG_STREX	ROG_HOTS	TOG_RUNI	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RESTL	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
SANTA CLA	2022	HHDT	Aggregate	Aggregate	GAS	4.973172	516.9338	99.50323	3.654204	0	0.338391	0.001236	0	0.000744	0.005	0.02646	0.001344	0	0.00081	0.02	0.06174	1964.961	0	46.86739	0.097725	0	0.00044	0.140899	0	0.010576	0.494672	0	0.002301	0.136891	0.830556	0.033943	0.061166	0.721824	0	0.00252	0.136891	0.830556	0.033943	0.061166	30.00648	0	5.27737	0.019445	0	0.000464
SANTA CLA	2022	HHDT	Aggregate	Aggregate	DSL	8277.463	1011013	88031.26	3.535499	63.08378	2.080194	0.033949	0.03347	0	0.008873	0.026088	0.035484	0.034983	0	0.035494	0.060872	1486.606	11783.13	0	0.003901	0.215524	0	0.233674	1.852143	0	0.08399	4.640183	0	0	0	0.095616	5.282495	0	0	0	0	0	0	0.366847	63.30293	0	0.014045	0.111321	0
SANTA CLA	2022	HHDT	Aggregate	Aggregate	NG	348.7902	14223.14	1360.282	1.755776	21.14752	0	0.004789	0.030991	0	0.009	0.02646	0.005006	0.032392	0	0.036	0.06174	3203.692	4060.116	0	3.511574	1.248503	0	0.653093	0.827681	0	0.161697	0.045805	0	0	0	3.710887	1.306054	0	0	0	0	0	10.70122	21.55662	0	0	0	0
SANTA CLA	2022	LDA	Aggregate	Aggregate	GAS	733557.7	26453304	3456649	0.03872	0	0.197227	0.001299	0	0.001748	0.002	0.01575	0.001413	0	0.001902	0.008	0.03675	259.2126	0	55.39361	0.002345	0	0.054199	0.004449	0	0.026685	0.009015	0	0.243726	0.100881	0.22086	0.178182	0.20337	0.613218	0	0.266848	0.100881	0.22086	0.178182	0.20337	0.63218	0	2.325265	0.002565	0	0.000548
SANTA CLA	2022	LDA	Aggregate	Aggregate	DSL	7146.668	268335.1	33963.02	0.071556	0	0	0.006579	0	0	0.002	0.01575	0.006877	0	0	0.008	0.03675	200.3149	0	0	0.000626	0	0	0.031487	0	0	0.013485	0	0	0	0	0.015352	0	0	0	0	0	0	0.198488	0	0	0.001894	0	0
SANTA CLA	2022	LDA	Aggregate	Aggregate	ELEC	25894.61	943282.8	126428	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0
SANTA CLA	2022	LDT1	Aggregate	Aggregate	GAS	73556.92	2443329	340743.8	0.091156	0	0.251292	0.001724	0	0.002226	0.002	0.01575	0.001875	0	0.002421	0.008	0.03675	300.527	0	64.49485	0.004882	0	0.070027	0.007217	0	0.028775	0.021236	0	0.344801	0.173613	0.628849	0.332831	0.420667	0.030964	0	0.377511	0.173613	0.628849	0.332831	0.420667	1.068397	0	2.450832	0.002974	0	0.000638
SANTA CLA	2022	LDT1	Aggregate	Aggregate	DSL	36.8388	667.9121	121.0603	1.185315	0	0	0.157566	0	0	0.002	0.01575	0.164691	0	0	0.008	0.03675	408.3259	0	0	0.009501	0	0	0.064183	0	0	0.204561	0	0	0	0	0.232879	0	0	0	0	0	0	1.159574	0	0	0.00386	0	0
SANTA CLA	2022	LDT1	Aggregate	Aggregate	ELEC	624.8771	24059.07	3099.469	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0
SANTA CLA	2022	LDT2	Aggregate	Aggregate	GAS	250455.4	8295824	1167439	0.077278	0	0.299792	0.001307	0	0.001684	0.002	0.01575	0.001421	0	0.001831	0.008	0.03675	327.6413	0	71.42656	0.003665	0	0.072415	0.006473	0	0.033384	0.014906	0	0.339292	0.128171	0.436499	0.281495	0.299507	0.021744	0	0.371482	0.128171	0.436499	0.281495	0.299507	0.860463	0	2.923834	0.003242	0	0.000707
SANTA CLA	2022	LDT2	Aggregate	Aggregate	DSL	1663.513	62652.21	8136.947	0.039252	0	0	0.004754	0	0	0.002	0.01575	0.004969	0	0	0.008	0.03675	275.5741	0	0	0.000647	0	0	0.043316	0	0	0.013935	0	0	0	0	0.015864	0	0	0	0	0	0	0.123161	0	0	0.002605	0	0
SANTA CLA	2022	LDT2	Aggregate	Aggregate	ELEC	2695.96	82111.52	13502.44	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0
SANTA CLA	2022	LHDT1	Aggregate	Aggregate	GAS	16536.9	566343.8	246375.2	0.235238	0.038471	0.530556	0.002161	0	0.000388	0.002	0.03276	0.00235	0	0.000422	0.008	0.07644	1006.569	121.1222	18.98971	0.01086	0.121305	0.025473	0.014262	0.003125	0.041267	0.052874	0.440699	0.129054	0.125369	0.861898	0.025267	0.050121	0.077153	0.643067	0.141298	0.125369	0.861898	0.025267	0.050121	0.97349	3.751848	1.764958	0.009961	0.001199	0.000188
SANTA CLA	2022	LHDT1	Aggregate	Aggregate	DSL	11104.44	423266.4	139679.8	1.613919	2.033114	0	0.021273	0.026869	0	0.003	0.03276	0.022235	0.028084	0	0.012	0.07644	544.3042	133.047	0	0.007318	0.005098	0	0.085557	0.020913	0	0.157544	0.10976	0	0	0	0.179353	0.124954	0	0	0	0	0	0.661457	0.909745	0	0.005146	0.001258	0
SANTA CLA	2022	LHDT2	Aggregate	Aggregate	GAS	2253.3	77523.96	33570.81	0.240034	0.037891	0.516259	0.002078	0	0.000346	0.002	0.03822	0.00226	0	0.000377	0.008	0.08918	1147.291	139.0737	21.54397	0.008737	0.120275	0.024583	0.015135	0.003045	0.039911	0.039365	0.434196	0.123837	0.121118	0.819863	0.023133	0.046225	0.057441	0.633578	0.135586	0.121118	0.819863	0.023133	0.046225	0.722025	3.75488	1.776904	0.011353	0.001376	0.000213
SANTA CLA	2022	LHDT2	Aggregate	Aggregate	DSL	4438.985	166319.5	55836.85	1.346918	2.041795	0	0.021771	0.027131	0	0.003	0.03822	0.022756	0.028358	0	0.012	0.08918	612.5422	213.4891	0	0.007003	0.005098	0	0.096283	0.033558	0	0.150761	0.10976	0	0	0	0.171631	0.124954	0	0	0	0	0	0.634383	0.909745	0	0.005791	0.002018	0
SANTA CLA	2022	MCY	Aggregate	Aggregate	GAS	32925.36	241011	65850.71	1.151611	0	0.270649	0.001812	0	0.002978	0.001	0.00504	0.001937	0	0.003161	0.004	0.01176	210.2729	0	61.39967	0.328946	0	0.256691	0.06628	0	0.015352	2.228751	0	1.954835	0.704215	2.060677	0.995009	1.817765	2.753726	0	2.127328	0.704215	2.060677	0.995009	1.817765	19.18808	0	9.0045	0.002081	0	0.000608
SANTA CLA	2022	MDV	Aggregate	Aggregate	GAS	151961.1	4876240	702265.7	0.099589	0	0.371177	0.001397	0	0.001912	0.002	0.01575	0.001519	0	0.002079	0.008	0.03675	396.236	0	86.90417	0.004621	0	0.087878	0.007887	0	0.036541	0.019446	0	0.437645	0.147462	0.472734	0.331376	0.347901	0.028322	0	0.479161	0.147462	0.472734	0.331376	0.347901	0.980018	0	3.406111	0.003921	0	0.00086
SANTA CLA	2022	MDV	Aggregate	Aggregate	DSL	3721.225	135478.8	18101.22	0.038775	0	0	0.004203	0	0	0.002	0.01575	0.004393	0	0	0.008	0.03675	360.3121	0	0	0.000478	0	0	0.056636	0	0	0.010285	0	0	0	0	0.011709	0	0	0	0	0	0	0.184421	0	0	0.003406	0	0
SANTA CLA	2022	MDV	Aggregate	Aggregate	ELEC	1080.167	34834.41	5508.057	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0	0	0	0	0	0
SANTA CLA	2022	MH	Aggregate	Aggregate	GAS	2891.835	26265.33	289.2991	0.413359	0	0.334516	0.001633	0	0.000362	0.003	0.05586	0.001776	0	0.000394	0.012	0.13034	1756.095	0	25.97914	0.015124	0	0.032419	0.025426	0	0.034963	0.066433	0	0.137518	0.088945	2.156488	0.036513	0.106238	0.096939	0	0.150564	0.088945	2.156488	0.036513	0.106238	1.697423	0	3.037213	0.017378	0	0.000257
SANTA CLA	2022	MH	Aggregate	Aggregate	DSL	1019.353	9712.32	101.9353	4.184918	0	0	0.085576	0	0	0.004	0.05586	0.089445	0	0	0.016	0.13034	1018.587	0	0	0.005027	0	0	0.160108	0	0	0.108225	0	0	0	0	0.123206	0	0	0	0	0	0	0.382773	0	0	0.009629	0	0
SANTA CLA	2022	MHDT	Aggregate	Aggregate	GAS	1456.112	75284.48	29133.88	0.474932	0.088412	0.377896	0.001319	0	0.000449	0.003	0.05586	0.001435	0	0.00051	0.012	0.13034	1722.789	532.6547	39.05903	0.014881	0.262553	0.04023	0.023376	0.007484	0.029181	0.072945	1.011617	0.219187	0.087649	0.506692	0.018903	0.038182	0.106442	1.47615	0.239982	0.087649	0.506692	0.018903	0.038182	1.680953	15.10368	4.339745	0.017048	0.005271	0.000287
SANTA CLA	2022	MHDT	Aggregate	Aggregate	DSL	9430.024	551923.8	94917.85	2.277066	7.413096	1.687822	0.039812	0.015538	0	0.003	0.05586	0.041612	0.01624	0	0.012	0.13034	1050.628	914.98	0	0.004378	0.004667	0	0.165144	0.143822	0	0.094265	0.100481	0	0	0	0.107314	0.11439	0	0	0	0	0	0.32147	2.58681	0	0.009926	0.008644	0
SANTA CLA	2022	OBUS	Aggregate	Aggregate	GAS	501.9655	24150.25	10043.33	0.443255	0.065137	0.32561	0.000952	0	0.000213	0.003	0.05586	0.001035	0	0.000232	0.012	0.13034	1767.375	377.9272	26.38965	0.013022	0.200837	0.030332	0.022732	0.005646	0.026387	0.061436	0.747416	0.156088	0.026802	0.295531	0.015889	0.036065	0.089647	1.090627	0.170897	0.026802	0.295531	0.015889	0.036065	1.365657	5.781487	3.261978	0.01749	0.00374	0.000261
SANTA CLA	2022	OBUS	Aggregate	Aggregate	DSL	762.3964	53839.19	6991.348	2.314382	10.4182	2.005848	0.021086	0.015288	0	0.003	0.05586	0.02204	0.015979	0	0.012	0.13034	1185.916	1892.098	0	0.002538	0.027964	0	0.18641	0.297411	0	0.054653	0.602048	0	0	0	0.062218	0.685386	0	0	0	0	0	0.239321	8.657847	0	0.011204	0.017876	0
SANTA CLA	2022	SBUS	Aggregate	Aggregate	GAS	249.3134	11500.83	997.2534	0.430325	0.924415	0.566946	0.001196	0	0.000498	0.002	0.3192	0.001301	0	0.000541	0.008	0.7448	865.5448	2582.545	48.67377	0.011856	2.442701	0.058309	0.024366	0.088243	0.053528	0.058325	10.61061	0.332747	0.061157	0.415506	0.010413	0.025261	0.085108	15.48298	0.364316	0.061157	0.415506	0.010413	0.025261	1.259002	82.05319	8.624782	0.008565	0.025556	0.000482
SANTA CLA	2022	SBUS	Aggregate	Aggregate	DSL	1014.086	31965.96	11702.42	6.765334	45.00081	0.786274	0.042018	0.05033	0	0.003	0.3192	0.043917	0.052605	0	0.012	0.7448	1145.085	3716.49	0	0.004669	0.013069	0	0.179991	0.584181	0	0.100532	0.281366	0	0	0	0.114448	0.320314	0	0	0	0	0	0.27746	5.867721	0	0.010818	0.035112	0
SANTA CLA	2022	UBUS	Aggregate	Aggregate	GAS	8.419396	1059.849	33.67758	0.491737	0	1.236285	0.000328	0	9.7E-05	0.003	0.05586	0.000356	0	0.000105	0.012	0.13034	2351.817	0	104.599	0.006789	0	0.178596	0.036386	0	0.091633	0.022728	0	0.768536	0.190076	1.35875	0.031079	0.049249	0.033164	0	0.84145	0.190076	1.35875	0.031079	0.049249	0.527722	0	8.852622	0.023273	0	0.001035
SANTA CLA	2022	UBUS	Aggregate	Aggregate	DSL	423.2358	46482.16	1692.943	0.803453	0	0	0.005651	0	0	0.008415	0.029326	0.005907	0	0	0.033661	0.068427	1481.178	0	0	0.077358	0	0	0.232821	0	0	0.001105	0	0	0	0	0.078949	0	0	0	0	0	0	0.131304	0	0	0.014002	0	0
SANTA CLA	2022	UBUS	Aggregate	Aggregate	NG	104.0289	12325.91	416.1154	0.48934	0	0	0.003183	0	0	0.008475	0.029034	0.003327	0	0	0.033899	0.067746	2016.3	0	0	6.413607	0	0	0.411036	0	0	0.091638	0	0	0	0	6.545556	0	0	0	0	0	0	49.80397	0	0	0	0	0

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SANTA CLARA
Calendar Year: 2026
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLE	NOx_STRE	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_TIR	PM2.5_PMW	PM2.5_PMT	PM10_RUP	PM10_IDLE	PM10_STR	PM10_TIR	PM10_PMW	PM10_PMT	CO2_RUNE	CO2_IDLEX	CO2_STRE	CH4_RUNE	CH4_IDLEX	CH4_STRE	N2O_RUNE	N2O_IDLEX	N2O_STRE	ROG_RUNI	ROG_IDLEX	ROG_STRE	ROG_HOTS	ROG_RUNI	ROG_REST	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STRE	TOG_HOTS	TOG_RUNI	TOG_RESTI	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
SANTA CLA	2026	HHDT	Aggregate	Aggregate	GAS	5.364051	687.2244	107.3239	2.901553	0	0.123525	0.001111	0	0.000507	0.005	0.02646	0.001208	0	0.000551	0.02	0.06174	1793.744	0	43.34586	0.071804	0	0.000401	0.125752	0	0.004225	0.328519	0	0.002095	0.071383	0.359736	0.017912	0.031562	0.479375	0	0.002294	0.071383	0.359736	0.017912	0.031562	27.34619	0	5.359666	0.017751	0	0.000429
SANTA CLA	2026	HHDT	Aggregate	Aggregate	DSL	8924.437	1100302	95711.65	2.666493	57.09144	2.360255	0.024019	0.024355	0	0.008892	0.026143	0.025105	0.025456	0	0.035569	0.061	1333.335	10856.43	0	0.001103	0.215452	0	0.209582	1.70648	0	0.02374	4.638633	0	0	0	0.027027	5.28073	0	0	0	0	0	0	0.240406	67.90439	0	0.012597	0.102566	0
SANTA CLA	2026	HHDT	Aggregate	Aggregate	NG	387.4411	15797.92	1511.02	1.192172	19.8411	0	0.00393	0.021114	0	0.009	0.02646	0.004107	0.022069	0	0.036	0.06174	3065.609	3870.947	0	3.327201	1.212401	0	0.624944	0.789118	0	0.11581	0.034377	0	0	0	3.473439	1.256776	0	0	0	0	0	10.90096	21.7521	0	0	0	0
SANTA CLA	2026	LDA	Aggregate	Aggregate	GAS	803316.6	27422437	3786948	0.025361	0	0.154822	0.001114	0	0.001523	0.002	0.01575	0.001211	0	0.001657	0.008	0.03675	231.4803	0	49.42279	0.001444	0	0.039822	0.003461	0	0.022774	0.005111	0	0.169499	0.079374	0.196051	0.139366	0.153495	0.493181	0	2.036512	0.002291	0	0.000489
SANTA CLA	2026	LDA	Aggregate	Aggregate	DSL	8761.921	309411.2	41704.47	0.032668	0	0	0.003405	0	0	0.002	0.01575	0.003558	0	0	0.008	0.03675	180.2059	0	0	0.00039	0	0	0.028326	0	0	0.008395	0	0	0	0	0.009557	0	0	0	0	0	0	0.1654	0	0	0.001704	0	0
SANTA CLA	2026	LDA	Aggregate	Aggregate	ELEC	36166.94	1348329	174853.1	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
SANTA CLA	2026	LDT1	Aggregate	Aggregate	GAS	81395.88	2557716	377984.9	0.053242	0	0.188746	0.001327	0	0.001762	0.002	0.01575	0.001443	0	0.001916	0.008	0.03675	270.6234	0	57.88564	0.002789	0	0.048967	0.004978	0	0.02436	0.011517	0	0.226362	0.126829	0.481219	0.251831	0.29879	0.016805	0	0.247838	0.126829	0.481219	0.251831	0.29879	0.722924	0	2.115706	0.002678	0	0.000573
SANTA CLA	2026	LDT1	Aggregate	Aggregate	DSL	24.30234	480.229	84.15979	0.751234	0	0	0.097028	0	0	0.002	0.01575	0.101415	0	0	0.008	0.03675	372.5093	0	0	0.005976	0	0	0.058553	0	0	0.128651	0	0	0	0	0.14646	0	0	0	0	0	0	0.792282	0	0	0.003522	0	0
SANTA CLA	2026	LDT1	Aggregate	Aggregate	ELEC	1379.343	55720.71	6839.142	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
SANTA CLA	2026	LDT2	Aggregate	Aggregate	GAS	265561.6	8306944	1235817	0.049643	0	0.220704	0.001151	0	0.001529	0.002	0.01575	0.001251	0	0.001663	0.008	0.03675	286.3694	0	62.68706	0.002482	0	0.055421	0.00474	0	0.027321	0.009671	0	0.249939	0.109665	0.398388	0.261316	0.267778	0.014111	0	0.273652	0.109665	0.398388	0.261316	0.267778	0.671341	0	2.592866	0.002834	0	0.00062
SANTA CLA	2026	LDT2	Aggregate	Aggregate	DSL	2179.627	73932.77	10496.07	0.032487	0	0	0.004202	0	0	0.002	0.01575	0.004392	0	0	0.008	0.03675	247.1738	0	0	0.000611	0	0	0.038852	0	0	0.013153	0	0	0	0	0.014974	0	0	0	0	0	0	0.127038	0	0	0.002337	0	0
SANTA CLA	2026	LDT2	Aggregate	Aggregate	ELEC	5458.528	152393.5	27053.7	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
SANTA CLA	2026	LHDT1	Aggregate	Aggregate	GAS	16770.98	556033.5	249862.6	0.151754	0.034252	0.4537	0.002099	0	0.000353	0.002	0.03276	0.002282	0	0.000384	0.008	0.07644	952.5009	116.2163	18.24638	0.006932	0.111178	0.019754	0.009676	0.002968	0.037044	0.032329	0.392624	0.098793	0.106906	0.759705	0.022308	0.042351	0.047175	0.572916	0.108166	0.106906	0.759705	0.022308	0.042351	0.625576	3.761779	1.633174	0.009426	0.00115	0.000181
SANTA CLA	2026	LHDT1	Aggregate	Aggregate	DSL	13027.47	469567.8	163869.1	0.916096	1.632082	0	0.01538	0.026486	0	0.003	0.03276	0.016075	0.027684	0	0.012	0.07644	509.3228	125.5551	0	0.006568	0.005098	0	0.080058	0.019736	0	0.141402	0.10976	0	0	0	0.160976	0.124954	0	0	0	0	0	0.602151	0.909745	0	0.004815	0.001187	0
SANTA CLA	2026	LHDT2	Aggregate	Aggregate	GAS	2384.455	79271.91	35524.83	0.145318	0.033553	0.440969	0.001987	0	0.00031	0.002	0.03822	0.002161	0	0.000337	0.008	0.08918	1083.731	133.0723	20.57258	0.005077	0.109892	0.018805	0.009942	0.002898	0.036006	0.021298	0.384876	0.092353	0.095204	0.589436	0.019579	0.036144	0.031078	0.56161	0.101115	0.095204	0.589436	0.019579	0.036144	0.403421	3.768218	1.582332	0.010724	0.001317	0.000204
SANTA CLA	2026	LHDT2	Aggregate	Aggregate	DSL	5304.447	185191.7	66723.26	0.80174	1.652316	0	0.01903	0.027033	0	0.003	0.03822	0.01989	0.028255	0	0.012	0.08918	574.2945	202.2523	0	0.006455	0.005098	0	0.090271	0.031791	0	0.138973	0.10976	0	0	0	0.158212	0.124954	0	0	0	0	0	0.59759	0.909745	0	0.005429	0.001912	0
SANTA CLA	2026	MCY	Aggregate	Aggregate	GAS	35953.12	246713	71906.25	1.142407	0	0.270461	0.001924	0	0.002748	0.001	0.00504	0.002061	0	0.002929	0.004	0.01176	209.9417	0	60.16678	0.322636	0	0.251748	0.06583	0	0.015364	2.163162	0	1.911911	0.658739	1.752085	0.964052	1.796069	2.697331	0	2.081516	0.658739	1.752085	0.964052	1.796069	18.16544	0	9.112103	0.002078	0	0.000595
SANTA CLA	2026	MDV	Aggregate	Aggregate	GAS	162018.4	4957363	750433	0.056427	0	0.253115	0.001168	0	0.001607	0.002	0.01575	0.001271	0	0.001748	0.008	0.03675	345.9595	0	75.91844	0.002781	0	0.062361	0.005221	0	0.028648	0.011068	0	0.29528	0.122339	0.415764	0.302987	0.308674	0.016149	0	0.323295	0.122339	0.415764	0.302987	0.308674	0.699315	0	2.804675	0.003424	0	0.000751
SANTA CLA	2026	MDV	Aggregate	Aggregate	DSL	4789.871	158691.3	22971.85	0.025016	0	0	0.003022	0	0	0.002	0.01575	0.003159	0	0	0.008	0.03675	322.1951	0	0	0.000375	0	0	0.050645	0	0	0.008076	0	0	0	0	0.009194	0	0	0	0	0	0	0.17154	0	0	0.003046	0	0
SANTA CLA	2026	MDV	Aggregate	Aggregate	ELEC	3176.215	92681.92	15973.91	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
SANTA CLA	2026	MH	Aggregate	Aggregate	GAS	2786.201	25915.09	278.7315	0.25296	0	0.339641	0.001408	0	0.000312	0.003	0.05586	0.001531	0	0.00034	0.012	0.13034	1639.481	0	24.24107	0.008941	0	0.029975	0.018592	0	0.037661	0.035657	0	0.119443	0.063018	1.433405	0.027247	0.073774	0.05203	0	0.130775	0.063018	1.433405	0.027247	0.073774	0.815894	0	2.636102	0.016224	0	0.00024
SANTA CLA	2026	MH	Aggregate	Aggregate	DSL	1151.648	10425.3	115.1648	3.596484	0	0	0.063829	0	0	0.004	0.05586	0.066715	0	0	0.016	0.13034	964.1862	0	0	0.004499	0	0	0.151557	0	0	0.096864	0	0	0	0	0.110273	0	0	0	0	0	0	0.328457	0	0	0.009115	0	0
SANTA CLA	2026	MHDT	Aggregate	Aggregate	GAS	1687.725	86801.44	33768.01	0.226062	0.089038	0.342531	0.00127	0	0.000413	0.003	0.05586	0.001382	0	0.000449	0.012	0.13034	1607.82	503.7098	35.57567	0.007011	0.273723	0.034894	0.013789	0.008178	0.029559	0.032131	1.02093	0.179349	0.064867	0.352453	0.014504	0.026884	0.046886	1.489739	0.196365	0.064867	0.352453	0.014504	0.026884	0.704545	15.21187	3.914871	0.015911	0.004985	0.000352
SANTA CLA	2026	MHDT	Aggregate	Aggregate	DSL	10254.12	577160.2	101941.7	1.628767	5.068172	2.147618	0.007577	0.00351	0	0.003	0.05586	0.007919	0.003668	0	0.012	0.13034	967.4707	838.5754	0	0.00052	0.003382	0	0.152073	0.131812	0	0.011192	0.072819	0	0	0	0.012741	0.082899	0	0	0	0	0	0.116231	2.729189	0	0.00914	0.007922	0
SANTA CLA	2026	OBUS	Aggregate	Aggregate	GAS	507.9074	22731.23	10162.21	0.292264	0.065184	0.313239	0.001097	0	0.000236	0.003	0.05586	0.001193	0	0.000256	0.012	0.13034	1652.302	361.5422	24.97816	0.008515	0.201911	0.028115	0.016502	0.005795	0.026094	0.039151	0.748116	0.143279	0.027364	0.310267	0.016664	0.036978	0.057129	1.09165	0.156872	0.027364	0.310267	0.016664	0.036978	0.834386	5.785715	2.984205	0.016351	0.003578	0.000247
SANTA CLA	2026	OBUS	Aggregate	Aggregate	DSL	796.7643	52087.07	7352.266	1.959254	8.776183	2.213983	0.009877	0.002762	0	0.003	0.05586	0.010324	0.002887	0	0.012	0.13034	1122.18	1865.346	0	0.000584	0.026755	0	0.176391	0.293206	0	0.012574	0.576038	0	0	0	0.014314	0.655776	0	0	0	0	0	0.144399	9.689916	0	0.010602	0.017623	0
SANTA CLA	2026	SBUS	Aggregate	Aggregate	GAS	305.0164	13306.38	1220.066	0.347767	0.925925	0.597767	0.00119	0	0.000524	0.002	0.3192	0.001294	0	0.00057	0.008	0.7448	833.8886	2496.465	46.34384	0.008421	2.440565	0.056313	0.021096	0.088976	0.055917	0.041057	10.63268	0.320756	0.065141	0.427694	0.012263	0.026924	0.059911	15.51518	0.351188	0.065141	0.427694	0.012263	0.026924	0.883814	82.1872	7.947598	0.008252	0.024705	0.000459
SANTA CLA	2026	SBUS	Aggregate	Aggregate	DSL	1004.235	31497.44	11588.73	5.783794	41.00653	0.989807	0.036341	0.03731	0	0.003	0.3192	0.037984	0.038997	0	0.012	0.7448	1106.109	3641.859	0	0.004224	0.012401	0	0.173865	0.57245	0	0.090951	0.266981	0	0	0	0.10354	0.303937	0	0	0	0	0	0.265493	6.63799	0	0.01045	0.034406	0
SANTA CLA	2026	UBUS	Aggregate	Aggregate	GAS	8.434703	1061.776	33.73881	0.23219	0	0.781025	0.002209	0	0.000888	0.003	0.05586	0.002402	0	0.000966	0.012	0.13034	1956.429	0	88.80542	0.006971	0	0.111797	0.02141	0	0.072132	0.022728	0	0.468399	0.016436	0.092409	0.003318	0.006895	0.033164	0	0.512838	0.016436	0.092409	0.003318	0.006895	0.322483	0	8.852622	0.01936	0	0.000879
SANTA CLA	2026	UBUS	Aggregate	Aggregate	DSL	404.8528	43393.97	1619.411	0.799803	0	0	0.005629	0	0	0.008352	0.029636	0.005884	0	0	0.033407	0.06915	1509.977	0	0	0.076902	0	0	0.237347	0	0	0.001099	0	0	0	0	0.078484	0	0	0	0	0	0	0.130458	0	0	0.014275	0	0
SANTA CLA	2026	UBUS	Aggregate	Aggregate	NG	123.3704	15521.01	493.4817	0.495108	0	0	0.003218	0	0	0.008639	0.028227	0.003363	0	0	0.034558	0.065863	2036.46	0	0	6.510688	0	0	0.415146	0	0	0.093025	0	0	0	0	6.644635	0	0	0	0	0	0	50.63551	0	0	0	0	0

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SANTA CLARA
Calendar Year: 2030
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLE	NOx_STRE	PM2.5_RU	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PMP	PM2.5_PMP	PM10_RUP	PM10_IDLE	PM10_STR	PM10_PMP	PM10_PMI	CO2_RUNE	CO2_IDLEX	CO2_STRE	CH4_RUNE	CH4_IDLEX	CH4_STRE	N2O_RUNE	N2O_IDLEX	N2O_STRE	ROG_RUNI	ROG_IDLEX	ROG_STRE	ROG_HOTS	ROG_RUNI	ROG_RESTI	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STRE	TOG_HOTS	TOG_RUNI	TOG_RESTI	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
SANTA CLA	2030	HHDT	Aggregate	Aggregate	GAS	6.644908	846.0095	132.9513	2.895279	0	0.044486	0.001084	0	0.000414	0.005	0.02646	0.001179	0	0.00045	0.02	0.06174	1677.599	0	40.07141	0.06849	0	0.000337	0.127319	0	0.001575	0.302922	0	0.001761	0.044849	0.220711	0.012382	0.020645	0.442024	0	0.001928	0.044849	0.220711	0.012382	0.020645	28.21474	0	5.186707	0.016601	0	0.000397
SANTA CLA	2030	HHDT	Aggregate	Aggregate	DSL	9431.66	1177485	1014553.9	2.539781	56.05241	2.353151	0.023044	0.021785	0	0.008907	0.026186	0.024086	0.02277	0	0.035627	0.061101	1202.821	10016.29	0	0.001063	0.214358	0	0.189067	1.574421	0	0.022896	4.615071	0	0	0	0.026066	5.253907	0	0	0	0	0	0	0.238872	67.80499	0	0.011364	0.094629	0
SANTA CLA	2030	HHDT	Aggregate	Aggregate	NG	400.4237	16329.01	1561.653	0.881174	19.09434	0	0.003462	0.015749	0	0.009	0.02646	0.003619	0.016461	0	0.036	0.06174	2899.524	3653.632	0	3.225286	1.19295	0	0.591087	0.744817	0	0.090199	0.028054	0	0	0	3.341906	1.230036	0	0	0	0	0	0	11.01311	21.88788	0	0	0	0
SANTA CLA	2030	LDA	Aggregate	Aggregate	GAS	869969.1	28403709	4092414	0.020358	0	0.132956	0.000879	0	0.001249	0.002	0.01575	0.000956	0	0.001359	0.008	0.03675	211.6944	0	44.94162	0.001023	0	0.030835	0.003085	0	0.020493	0.003388	0	0.12606	0.065117	0.180811	0.11416	0.123291	0.43107	0	1.801842	0.002095	0	0.000445
SANTA CLA	2030	LDA	Aggregate	Aggregate	DSL	10023.63	337674.2	47691.27	0.01676	0	0	0.001829	0	0	0.002	0.01575	0.001912	0	0	0.008	0.03675	166.1368	0	0	0.000273	0	0	0.026114	0	0	0.005885	0	0	0	0	0.006699	0	0	0	0	0	0	0.146966	0	0.001571	0	0	0
SANTA CLA	2030	LDA	Aggregate	Aggregate	ELEC	46172.96	1625146	221619.4	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0	0	0	0	0	0	0
SANTA CLA	2030	LDT1	Aggregate	Aggregate	GAS	88972.38	2670256	412660.2	0.034308	0	0.154254	0.000998	0	0.001379	0.002	0.01575	0.001085	0	0.001499	0.008	0.03675	248.8135	0	52.89319	0.001722	0	0.036164	0.003879	0	0.021779	0.00667	0	0.15755	0.095382	0.371981	0.194977	0.219194	0.509733	0	0.172497	0.095382	0.371981	0.194977	0.219194	0.548445	0	1.868724	0.002462	0	0.000523
SANTA CLA	2030	LDT1	Aggregate	Aggregate	DSL	12.41764	352.1646	54.72798	0.189506	0	0	0.017188	0	0	0.002	0.01575	0.017965	0	0	0.008	0.03675	322.0531	0	0	0.001569	0	0	0.050622	0	0	0.033785	0	0	0	0	0.038462	0	0	0	0	0	0	0.286183	0	0.003045	0	0	0
SANTA CLA	2030	LDT1	Aggregate	Aggregate	ELEC	2180.044	81488.93	10672.84	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0	0	0	0	0	0	0
SANTA CLA	2030	LDT2	Aggregate	Aggregate	GAS	281546.9	8446247	1307139	0.035247	0	0.174198	0.000925	0	0.001282	0.002	0.01575	0.001006	0	0.001394	0.008	0.03675	256.344	0	55.96845	0.00178	0	0.043514	0.003847	0	0.023481	0.006634	0	0.189401	0.09208	0.348635	0.233116	0.234964	0.90968	0	0.20737	0.09208	0.348635	0.233116	0.234964	0.568541	0	2.344012	0.002537	0	0.000554
SANTA CLA	2030	LDT2	Aggregate	Aggregate	DSL	2576.298	81354.46	12261.45	0.02908	0	0	0.003937	0	0	0.002	0.01575	0.004115	0	0	0.008	0.03675	226.4921	0	0	0.000595	0	0	0.035601	0	0	0.01282	0	0	0	0	0.014595	0	0	0	0	0	0	0.129762	0	0.002141	0	0	0
SANTA CLA	2030	LDT2	Aggregate	Aggregate	ELEC	8320.478	213767.2	40645.17	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0	0	0	0	0	0	0
SANTA CLA	2030	LHDT1	Aggregate	Aggregate	GAS	17444.25	563109.1	259893.3	0.098098	0.030587	0.387515	0.002081	0	0.000333	0.002	0.03276	0.002264	0	0.000362	0.008	0.07644	897.5407	110.5325	17.36665	0.004317	0.101968	0.015524	0.006844	0.002802	0.033538	0.018245	0.350811	0.075233	0.094381	0.739315	0.019801	0.035959	0.026623	0.511903	0.082371	0.094381	0.739315	0.019801	0.035959	0.368714	3.768698	1.531971	0.008882	0.001094	0.000172
SANTA CLA	2030	LHDT1	Aggregate	Aggregate	DSL	14887.61	510107.2	187267.4	0.522674	1.343027	0	0.011738	0.026289	0	0.003	0.03276	0.012269	0.027477	0	0.012	0.07644	478.8761	118.3357	0	0.006165	0.005098	0	0.075273	0.018601	0	0.13273	0.10976	0	0	0	0.155104	0.124954	0	0	0	0	0	0	0.579164	0.909745	0	0.004527	0.001119	0
SANTA CLA	2030	LHDT2	Aggregate	Aggregate	GAS	2535.293	81915.35	37772.09	0.091162	0.030032	0.379653	0.001975	0	0.000297	0.002	0.03822	0.002148	0	0.000323	0.008	0.08918	1021.816	126.3902	19.57212	0.00327	0.10112	0.014626	0.00699	0.00275	0.032936	0.012455	0.344716	0.06918	0.074032	0.436992	0.016932	0.02908	0.018175	0.503009	0.075743	0.074032	0.436992	0.016932	0.02908	0.249204	3.775612	1.472175	0.010112	0.001251	0.000194
SANTA CLA	2030	LHDT2	Aggregate	Aggregate	DSL	6126.051	201454.9	77058.01	0.503536	1.378592	0	0.017789	0.026933	0	0.003	0.03822	0.018593	0.028151	0	0.012	0.08918	540.7481	191.3797	0	0.006181	0.005098	0	0.084998	0.030082	0	0.133066	0.10976	0	0	0	0.151486	0.124954	0	0	0	0	0	0	0.586662	0.909745	0	0.005112	0.001809	0
SANTA CLA	2030	MCY	Aggregate	Aggregate	GAS	38839.87	253703.2	77679.74	1.137409	0	0.270173	0.001994	0	0.002676	0.001	0.00504	0.002138	0	0.002862	0.004	0.01176	209.7572	0	59.22586	0.319087	0	0.24786	0.065566	0	0.015364	2.128511	0	1.877593	0.631299	1.487321	0.946881	1.786807	2.666273	0	2.04481	0.631299	1.487321	0.946881	1.786807	17.60732	0	9.199577	0.002076	0	0.000586
SANTA CLA	2030	MDV	Aggregate	Aggregate	GAS	173606	5113918	803848	0.03715	0	0.190209	0.00093	0	0.001318	0.002	0.01575	0.001012	0	0.001433	0.008	0.03675	309.7804	0	67.68816	0.001872	0	0.04685	0.004005	0	0.024192	0.007071	0	0.21174	0.103941	0.361114	0.278651	0.281249	0.010317	0	0.231829	0.103941	0.361114	0.278651	0.281249	0.571385	0	2.441594	0.003066	0	0.00067
SANTA CLA	2030	MDV	Aggregate	Aggregate	DSL	5652.323	175214.3	26820.46	0.016338	0	0	0.001999	0	0	0.002	0.01575	0.00209	0	0	0.008	0.03675	295.1303	0	0	0.000296	0	0	0.04639	0	0	0.006382	0	0	0	0	0.007265	0	0	0	0	0	0	0.160558	0	0.002079	0	0	0
SANTA CLA	2030	MDV	Aggregate	Aggregate	ELEC	5412.776	143464.5	26723.4	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0	0	0	0	0	0	0
SANTA CLA	2030	MH	Aggregate	Aggregate	GAS	2781.183	26082.35	278.2296	0.161957	0	0.344848	0.001294	0	0.000284	0.003	0.05586	0.001408	0	0.000309	0.012	0.13034	1534.746	0	22.64387	0.005412	0	0.028477	0.014768	0	0.039513	0.01789	0	0.108156	0.041368	0.780207	0.020421	0.050661	0.026105	0	0.118417	0.041368	0.780207	0.020421	0.050661	0.321425	0	2.382509	0.015188	0	0.000224
SANTA CLA	2030	MH	Aggregate	Aggregate	DSL	1271.562	11026.54	127.1562	3.194675	0	0	0.048471	0	0	0.004	0.05586	0.050662	0	0	0.016	0.13034	913.8987	0	0	0.004117	0	0	0.143652	0	0	0.088635	0	0	0	0	0.100905	0	0	0	0	0	0	0.288665	0	0.00864	0	0	0
SANTA CLA	2030	MHDT	Aggregate	Aggregate	GAS	1942.274	96462.8	38861.02	0.137179	0.089333	0.328382	0.001276	0	0.000397	0.003	0.05586	0.001388	0	0.000432	0.012	0.13034	1512.526	477.0555	33.02741	0.004329	0.277482	0.032379	0.010371	0.008413	0.029895	0.018098	1.025296	0.159937	0.053505	0.276198	0.013009	0.02236	0.026409	1.49611	0.175111	0.053505	0.276198	0.013009	0.02236	0.365535	15.26266	3.370143	0.014968	0.004721	0.000327
SANTA CLA	2030	MHDT	Aggregate	Aggregate	DSL	11245.42	599136.6	111242.1	1.636194	4.546441	2.164606	0.007568	0.002068	0	0.003	0.05586	0.00791	0.002162	0	0.012	0.13034	909.8747	786.5238	0	0.000503	0.003226	0	0.14302	0.123631	0	0.010837	0.069445	0	0	0	0.012337	0.079058	0	0	0	0	0	0	0.11784	2.775159	0	0.008596	0.007431	0
SANTA CLA	2030	OBUS	Aggregate	Aggregate	GAS	521.2442	22324.56	10429.05	0.201397	0.065222	0.308429	0.001191	0	0.000252	0.003	0.05586	0.001295	0	0.000274	0.012	0.13034	1542.791	344.1269	23.61734	0.005871	0.202191	0.026706	0.012891	0.005853	0.026143	0.025703	0.748687	0.134449	0.027407	0.319238	0.017082	0.037276	0.037506	1.092483	0.147204	0.027407	0.319238	0.017082	0.037276	0.529537	5.789149	2.766701	0.015267	0.003405	0.000234
SANTA CLA	2030	OBUS	Aggregate	Aggregate	DSL	845.8557	51263.29	7867.551	1.991442	9.302951	2.216948	0.010285	0.002947	0	0.003	0.05586	0.01075	0.003081	0	0.012	0.13034	1066.293	1893.973	0	0.000596	0.028932	0	0.167606	0.297706	0	0.012842	0.6229	0	0	0	0.01462	0.709124	0	0	0	0	0	0	0.14672	10.36618	0	0.010074	0.017893	0
SANTA CLA	2030	SBUS	Aggregate	Aggregate	GAS	362.3014	15198.78	1449.205	0.285961	0.92653	0.616868	0.001215	0	0.000547	0.002	0.3192	0.001322	0	0.000595	0.008	0.7448	803.9675	2414.339	44.56576	0.00626	2.435971	0.055823	0.018735	0.089714	0.057177	0.030067	10.64152	0.317303	0.073145	0.474779	0.014584	0.030637	0.043873	15.52808	0.347407	0.073145	0.474779	0.014584	0.030637	0.649967	82.24088	7.563743	0.007956	0.023892	0.000441
SANTA CLA	2030	SBUS	Aggregate	Aggregate	DSL	9805.629	30722.11	11315.56	4.472027	34.94152	1.257143	0.029756	0.025511	0	0.003	0.3192	0.031102	0.026664	0	0.012	0.7448	1052.894	3501.127	0	0.003486	0.012263	0	0.1655	0.550328	0	0.075046	0.264022	0	0	0	0.085434	0.300569	0	0	0	0	0	0	0.238791	7.720739	0	0.009947	0.033077	0
SANTA CLA	2030	UBUS	Aggregate	Aggregate	GAS	8.45001	1063.703	33.80004	0.336697	0	0.964336	0.002209	0	0.000888	0.003	0.05586	0.002402	0	0.000966	0.012	0.13034	1956.157	0	89.19596	0.006892	0	0.139066	0.027885	0	0.079916	0.022728	0	0.589249	0.05182	0.313542	0.009109	0.015639	0.033164	0	0.645153	0.05182	0.313542	0.009109	0.015639	0.405122	0	8.852622	0.019358	0	0.000883
SANTA CLA	2030	UBUS	Aggregate	Aggregate	DSL	376.8943	42036.62	1507.577	0.804174	0	0	0.005656	0	0	0.008428	0.029265	0.005912	0	0	0.03371	0.068284	1523.264	0	0	0.077448	0	0	0.239436	0	0	0.001107	0	0	0	0	0.079041	0	0	0	0	0	0	0.131472	0	0.0144	0	0	0
SANTA CLA	2030	UBUS	Aggregate	Aggregate	NG	152.2876	16985.28	609.1502	0.487691	0	0	0.003174	0	0	0.008428	0.029265	0.003317	0	0	0.03371	0.068284	2010.534	0	0	6.385838	0	0	0.40986	0	0	0.091241	0	0	0	0	6.517216	0	0	0	0	0	0	49.56612	0	0	0	0	0

Option 2 - CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Demolition	3	0	12	0	9	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	129.6	0	180
Site Preparation	10	0	50	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	540	0	0
Grading	18	0	324	0	250	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3499.2	0	5000
Trenching	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Building Construction	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Paving	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Architectural Coating	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
												0		
						10.8	7.3	20				0		
												0		
												0		

Number of Days Per Year			
2022	5/13/22	6/16/22	35
2023			0
2024			
			35

26 ***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	2022/05/13	2022/05/18	5	4
Site Preparation	2022/05/18	2022/05/24	5	5
Grading	2022/05/24	6/16/2022	5	18
Trenching	2022/11/10	2023/02/01	0	0
Building Construction	2022/11/10	2023/09/27	0	0
Paving	2023/09/28	2023/10/25	0	0
Architectural Coating	2023/10/26	2023/11/22	0	0

Attachment 4: Project Construction and Operational Emissions and Health Risk Calculations

The Crosswinds, Morgan Hill, CA

DPM Emissions and Modeling Emission Rates - Without Mitigation

Construction Year	Construction Area	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2022	Grading	0.0096	DPM_G	19.2	0.006	7.36E-04	112,445	**6.54E-09**
2022	Phase 1	0.0232	DPM_P1	46.4	0.014	1.78E-03	48,664	**3.66E-08**
2023	Phase 1	0.0041	DPM_P1	8.3	0.003	3.17E-04	48,664	**6.51E-09**
2023	Depaul Extention	0.0022	DPM_DE	4.3	0.001	1.66E-04	7,712	**2.15E-08**
2023	Phase 2	0.0127	DPM_P2	25.4	0.008	9.75E-04	52,075	**1.87E-08**
2024	Phase 2	0.0152	DPM_P2	30.5	0.009	1.17E-03	52,075	**2.24E-08**
2025	Phase 3A	0.0095	DPM_P3A	19.0	0.006	7.27E-04	7,133	**1.02E-07**
2025	Phase 3B	0.0052	DPM_P3B	10.5	0.003	4.01E-04	3,937	**1.02E-07**
		0.0147		29.4	0.009	1.13E-03	11,070	
Total		***0.0965***		***192.9***	***0.0587***	***0.0074***		

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

The Crosswinds, Morgan Hill, CA

PM2.5 Fugitive Dust Emissions for Modeling - Without Mitigation

Construction Year	Construction Area	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Grading	FUG_G	0.0040	8.0	0.0024	3.08E-04	112,445	**2.74E-09**
2022	Phase 1	FUG_P1	0.0054	10.8	0.0033	4.14E-04	48,664	**8.51E-09**
2023	Phase 1	FUG_P1	0.0020	4.0	0.0012	1.55E-04	48,664	**3.19E-09**
2023	Depaul Extention	FUG_DE	0.0007	1.4	0.0004	5.48E-05	7,712	**7.11E-09**
2023	Phase 2	FUG_P2	0.0059	11.8	0.0036	4.52E-04	52,075	**8.68E-09**
2024	Phase 2	FUG_P2	0.0039	7.7	0.0023	2.95E-04	52,075	**5.67E-09**
2025	Phase 3A	FUG_P3A	0.0030	6.0	0.0018	2.28E-04	7,133	**3.20E-08**
2025	Phase 3B	FUG_P3B	0.0016	3.3	0.0010	1.26E-04	3,937	**3.20E-08**
			0.0046	9.2	0.0028	3.54E-04	11,070	
Total			***0.0311***	***62.3***	***0.0190***	***0.0024***		

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

The Crosswinds, Morgan Hill, CA - Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM (µg/m^3)	Maximum Concentrations: Fugitive PM2.5 (µg/m^3)	Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m^3)
2022	0.0084	0.0030	1.50	0.002	0.01
2023	0.0106	0.0057	1.75	0.002	0.02
2024	0.0118	0.0035	0.30	0.002	0.02
2025	0.0010	0.0003	0.02	0.0002	0.001
Total	-	-	**3.6**	-	-
Maximum	0.0118	0.0057	**-**	**0.002**	**0.02**

Maximum Impacts at Live Oak High School

	Unmitigated Emissions				
Construction Year	Maximum Concentrations: Exhaust PM2.5/DPM (µg/m^3)	Maximum Concentrations: Fugitive PM2.5 (µg/m^3)	Child Cancer Risk (per million)	Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m^3)
2022	0.0006	0.0001	0.04	0.0001	0.001
2023	0.0003	0.0001	0.02	0.0001	0.0004
2024	0.0003	0.0001	0.02	0.0001	0.0003
2025	0.0002	0.00004	0.01	0.00003	0.0002
Total	-	-	**0.1**	-	-
Maximum	0.0006	0.0001	**-**	**0.0001**	**0.001**

The Crosswinds, Morgan Hill, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information						
							Modeled				Maximum		
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Infant/Child Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Adult Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2022	0.0084	10	0.11	2022	0.0084	-	-			
1	1	0 - 1	2022	0.0084	10	1.38	2022	0.0084	1	0.02	0.0017	0.0030	0.0115
2	1	1 - 2	2023	0.0106	10	1.75	2023	0.0106	1	0.03	0.0021	0.0057	0.0164
3	1	2 - 3	2024	0.0118	3	0.30	2024	0.0118	1	0.03	0.0024	0.0035	0.0152
4	1	3 - 4	2025	0.0010	3	0.02	2025	0.0010	1	0.00	0.0002	0.0003	0.0012
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**3.6**				**0.09**			

* Third trimester of pregnancy

The Crosswinds, Morgan Hill, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Live Oak High School (+13 years old) - 1.5 meters - Child Exposure

Student Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)

Inhalation Dose = C_{air} x SAF x 8-Hr BR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
SAF = Student Adjustment Factor (unitless)
= (24 hrs/9 hrs) x (7 days/5 days) = 3.73
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant	School Child	Adult
Age -->	**0 - <2**	**2 - <16**	**16 - 30**
Parameter			
ASF =	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00
8-Hr BR* =	1200	520	240
A =	1	1	1
EF =	250	250	250
AT =	70	70	70
SAF =	1.00	3.73	1.00

* 95th percentile 8-hr breathing rates for moderate intensity activities

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)
1	1	13 - 14	2022	0.0006	3	0.0
2	1	14 - 15	2023	0.0003	3	0.0
3	1	15 - 16	2024	0.0003	3	0.0
4	1	16 - 17	2025	0.0002	3	0.0
5	1			0.0000	3	0.0
6	1			0.0000	3	0.0
7	1			0.0000	3	0.0
8	1			0.0000	3	0.0
9	1			0.0000	3	0.0
Total Increased Cancer Risk						**0.1**

Maximum Hazard Index	Maximum Fugitive PM2.5	Maximum Total PM2.5
0.0001	0.0001	0.0007
0.0001	0.0001	0.0004
0.0001	0.0001	0.0003
0.0000	0.0000	0.0002

* Children assumed to be 13 years of age or older with 4 years of Construction Exposure

Option 2

The Crosswinds, Morgan Hill, CA

DPM Emissions and Modeling Emission Rates - Without Mitigation

Construction Year	Construction Area	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2022	Grading	0.0122	DPM_G	24.3	0.007	9.33E-04	112,445	**8.30E-09**
2022	Phase 1	0.0232	DPM_P1	46.4	0.014	1.78E-03	48,664	**3.66E-08**
2023	Phase 1	0.0041	DPM_P1	8.3	0.003	3.17E-04	48,664	**6.51E-09**
2023	Depaul Extention	0.0022	DPM_DE	4.3	0.001	1.66E-04	7,712	**2.15E-08**
2023	Phase 2	0.0127	DPM_P2	25.4	0.008	9.75E-04	52,075	**1.87E-08**
2024	Phase 2	0.0152	DPM_P2	30.5	0.009	1.17E-03	52,075	**2.24E-08**
2025	Phase 3A	0.0095	DPM_P3A	19.0	0.006	7.27E-04	7,133	**1.02E-07**
2025	Phase 3B	0.0052	DPM_P3B	10.5	0.003	4.01E-04	3,937	**1.02E-07**
		0.0147		29.4	0.009	1.13E-03	11,070	
Total		***0.0990***		***198.1***	***0.0603***	***0.0076***		

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

The Crosswinds, Morgan Hill, CA

PM2.5 Fugitive Dust Emissions for Modeling - Without Mitigation

Construction Year	Construction Area	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Grading	FUG_G	0.0039	7.8	0.0024	3.00E-04	112,445	**2.67E-09**
2022	Phase 1	FUG_P1	0.0054	10.8	0.0033	4.14E-04	48,664	**8.51E-09**
2023	Phase 1	FUG_P1	0.0020	4.0	0.0012	1.55E-04	48,664	**3.19E-09**
2023	Depaul Extention	FUG_DE	0.0007	1.4	0.0004	5.48E-05	7,712	**7.11E-09**
2023	Phase 2	FUG_P2	0.0059	11.8	0.0036	4.52E-04	52,075	**8.68E-09**
2024	Phase 2	FUG_P2	0.0039	7.7	0.0023	2.95E-04	52,075	**5.67E-09**
2025	Phase 3A	FUG_P3A	0.0030	6.0	0.0018	2.28E-04	7,133	**3.20E-08**
2025	Phase 3B	FUG_P3B	0.0016	3.3	0.0010	1.26E-04	3,937	**3.20E-08**
			0.0046	9.2	0.0028	3.54E-04	11,070	
Total			***0.0310***	***62.1***	***0.0189***	***0.0024***		

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

The Crosswinds, Morgan Hill, CA - Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2022	0.0096	0.0030	1.70	0.002	0.01
2023	0.0106	0.0057	1.75	0.002	0.02
2024	0.0118	0.0035	0.30	0.002	0.02
2025	0.0010	0.0003	0.02	0.0002	0.001
Total	-	-	**3.8**	-	-
Maximum	0.0118	0.0057	**-**	**0.002**	**0.02**

Maximum Impacts at Live Oak High School

	Unmitigated Emissions				
Construction Year	Maximum Concentrations: Exhaust PM2.5/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Child Cancer Risk (per million)	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2022	0.0006	0.0001	0.04	0.0001	0.001
2023	0.0003	0.0001	0.02	0.0001	0.0004
2024	0.0003	0.0001	0.02	0.0001	0.0003
2025	0.0002	0.00004	0.01	0.00003	0.0002
Total	-	-	**0.1**	-	-
Maximum	0.0006	0.0001	**-**	**0.0001**	**0.001**

The Crosswinds, Morgan Hill, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information						
						Infant/Child		Modeled		Adult	Adult	Maximum		
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2022	0.0096	10	0.13	2022	0.0096	-	-			
1	1	0 - 1	2022	0.0096	10	1.57	2022	0.0096	1	0.03	0.0019	0.0030	0.0125
2	1	1 - 2	2023	0.0106	10	1.75	2023	0.0106	1	0.03	0.0021	0.0057	0.0164
3	1	2 - 3	2024	0.0118	3	0.30	2024	0.0118	1	0.03	0.0024	0.0035	0.0152
4	1	3 - 4	2025	0.0010	3	0.02	2025	0.0010	1	0.00	0.0002	0.0003	0.0012
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**3.8**				**0.09**			

* Third trimester of pregnancy

The Crosswinds, Morgan Hill, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Live Oak High School (+13 years old) - 1.5 meters - Child Exposure

Student Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)

Inhalation Dose = C_{air} x SAF x 8-Hr BR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
SAF = Student Adjustment Factor (unitless)
= (24 hrs/9 hrs) x (7 days/5 days) = 3.73
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant	School Child	Adult
Age -->	**0 - <2**	**2 - <16**	**16 - 30**
Parameter			
ASF =	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00
8-Hr BR* =	1200	520	240
A =	1	1	1
EF =	250	250	250
AT =	70	70	70
SAF =	1.00	3.73	1.00

* 95th percentile 8-hr breathing rates for moderate intensity activities

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)
1	1	13 - 14	2022	0.0006	3	0.04
2	1	14 - 15	2023	0.0003	3	0.02
3	1	15 - 16	2024	0.0003	3	0.02
4	1	16 - 17	2025	0.0002	3	0.01
5	1			0.0000	3	0.0
6	1			0.0000	3	0.0
7	1			0.0000	3	0.0
8	1			0.0000	3	0.0
9	1			0.0000	3	0.0
Total Increased Cancer Risk						**0.1**

Maximum Hazard Index	Maximum Fugitive PM2.5	Maximum Total PM2.5
0.0001	0.0001	0.0007
0.0001	0.0001	0.0004
0.0001	0.0001	0.0003
0.0000	0.0000	0.0002

* Children assumed to be 13 years of age or older with 4 years of Construction Exposure

Attachment 5: Community Risk Modeling Information and Calculations

CT-EMFAC2017 Emissions Factors for Mission View Drive

File Name: Crosswinds - Santa Clara (SF) - 2022 - Annual.EF
CT-EMFAC2017 Version: 1.0.2.27401
Run Date: 2/11/2021 10:45
Area: Santa Clara (SF)
Analysis Year: 2022
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.015	0.478	0.522
Truck 2	0.02	0.94	0.046
Non-Truck	0.965	0.014	0.961

Road Type: Major/Collector
Silt Loading Factor: CARB 0.032 g/m2
Precipitation Correction: CARB P = 64 days N = 365 days

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph
PM2.5	0.010417	0.006915	0.004735	0.003408	0.002622	0.002145	0.001861	0.001715	0.001672	0.001719
TOG	0.220898	0.145348	0.097291	0.068555	0.051819	0.041294	0.034513	0.030252	0.027821	0.026864
Diesel PM	0.001756	0.001459	0.001108	0.000865	0.000743	0.000683	0.000662	0.000677	0.000727	0.00081

Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
TOG	1.418515

Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.002108

Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.016811

Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.014871

END

Mission View Drive Traffic Emissions and Health Risk Calculations

Traffic Data Year = ***2030***

	AADT Total
Cumulative + Project Mission View Drive	14,020

Percent of Total Vehicles

Traffic Increase per Year (%) = *1.00%*

The Crosswinds, Morgan Hill, CA - On- and Off-Site Residential
Cumulative Operation - Mission View Drive
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
DPM_NB_MIS	Mission View Drive Northbound	NB	1	762.8	0.47	9.7	31.7	3.4	40	7,010
DPM_SB_MIS	Mission View Drive Southbound	SB	1	763.7	0.47	9.7	31.7	3.4	40	7,010
									Total	14,020

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.00068			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and DPM Emissions - DPM_NB_MIS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.91%	274	2.44E-05	9	6.44%	451	4.02E-05	17	5.52%	387	3.45E-05
2	2.59%	181	1.62E-05	10	7.25%	508	4.53E-05	18	3.34%	234	2.08E-05
3	2.82%	198	1.76E-05	11	6.33%	443	3.95E-05	19	2.42%	169	1.51E-05
4	3.39%	238	2.12E-05	12	6.90%	484	4.31E-05	20	0.92%	64	5.75E-06
5	2.19%	153	1.37E-05	13	6.27%	439	3.92E-05	21	2.99%	210	1.87E-05
6	3.39%	238	2.12E-05	14	6.15%	431	3.84E-05	22	4.14%	290	2.59E-05
7	6.10%	427	3.81E-05	15	5.12%	359	3.20E-05	23	2.47%	173	1.55E-05
8	4.66%	327	2.91E-05	16	3.85%	270	2.41E-05	24	0.86%	60	5.39E-06
								Total		7,010	

2022 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_SB_MIS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.91%	274	2.45E-05	9	6.44%	451	4.03E-05	17	5.52%	387	3.45E-05
2	2.59%	181	1.62E-05	10	7.25%	508	4.53E-05	18	3.34%	234	2.09E-05
3	2.82%	198	1.76E-05	11	6.33%	443	3.96E-05	19	2.42%	169	1.51E-05
4	3.39%	238	2.12E-05	12	6.90%	484	4.32E-05	20	0.92%	64	5.76E-06
5	2.19%	153	1.37E-05	13	6.27%	439	3.92E-05	21	2.99%	210	1.87E-05
6	3.39%	238	2.12E-05	14	6.15%	431	3.85E-05	22	4.14%	290	2.59E-05
7	6.10%	427	3.81E-05	15	5.12%	359	3.20E-05	23	2.47%	173	1.55E-05
8	4.66%	327	2.91E-05	16	3.85%	270	2.41E-05	24	0.86%	60	5.40E-06
								Total		7,010	

The Crosswinds, Morgan Hill, CA - On- and Off-Site Residential
Cumulative Operation - Mission View Drive
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
PM2.5_NB_MIS	Mission View Drive Northbound	NB	1	762.8	0.47	9.7	32	1.3	40	7,010
PM2.5_SB_MIS	Mission View Drive Southbound	SB	1	763.7	0.47	9.7	32	1.3	40	7,010
									Total	14,020

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.001715			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_NB_MIS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	81	1.82E-05	9	7.11%	499	1.13E-04	17	7.39%	518	1.17E-04
2	0.42%	29	6.63E-06	10	4.39%	308	6.95E-05	18	8.17%	573	1.29E-04
3	0.41%	29	6.48E-06	11	4.67%	327	7.39E-05	19	5.70%	399	9.01E-05
4	0.27%	19	4.22E-06	12	5.89%	413	9.33E-05	20	4.27%	300	6.76E-05
5	0.50%	35	7.90E-06	13	6.15%	431	9.73E-05	21	3.26%	228	5.16E-05
6	0.91%	64	1.43E-05	14	6.03%	423	9.55E-05	22	3.30%	231	5.22E-05
7	3.79%	266	6.01E-05	15	7.01%	491	1.11E-04	23	2.46%	172	3.89E-05
8	7.76%	544	1.23E-04	16	7.13%	500	1.13E-04	24	1.86%	131	2.95E-05
								Total		7,010	

2022 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_SB_MIS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	81	1.82E-05	9	7.11%	499	1.13E-04	17	7.39%	518	1.17E-04
2	0.42%	29	6.64E-06	10	4.39%	308	6.96E-05	18	8.17%	573	1.29E-04
3	0.41%	29	6.48E-06	11	4.67%	327	7.39E-05	19	5.70%	399	9.03E-05
4	0.27%	19	4.23E-06	12	5.89%	413	9.34E-05	20	4.27%	300	6.77E-05
5	0.50%	35	7.91E-06	13	6.15%	431	9.74E-05	21	3.26%	228	5.16E-05
6	0.91%	64	1.44E-05	14	6.03%	423	9.56E-05	22	3.30%	231	5.23E-05
7	3.79%	266	6.01E-05	15	7.01%	491	1.11E-04	23	2.46%	172	3.89E-05
8	7.76%	544	1.23E-04	16	7.13%	500	1.13E-04	24	1.86%	131	2.95E-05
								Total		7,010	

The Crosswinds, Morgan Hill, CA - On- and Off-Site Residential
Cumulative Operation - Mission View Drive
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEXH_NB_MIS	Mission View Drive Northbound	NB	1	762.8	0.47	9.7	32	1.3	40	7,010
TEXH_SB_MIS	Mission View Drive Southbound	SB	1	763.7	0.47	9.7	32	1.3	40	7,010
									Total	14,020

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.03025			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_NB_MIS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	81	3.21E-04	9	7.11%	499	1.99E-03	17	7.39%	518	2.06E-03
2	0.42%	29	1.17E-04	10	4.39%	308	1.23E-03	18	8.17%	573	2.28E-03
3	0.41%	29	1.14E-04	11	4.67%	327	1.30E-03	19	5.70%	399	1.59E-03
4	0.27%	19	7.45E-05	12	5.89%	413	1.65E-03	20	4.27%	300	1.19E-03
5	0.50%	35	1.39E-04	13	6.15%	431	1.72E-03	21	3.26%	228	9.10E-04
6	0.91%	64	2.53E-04	14	6.03%	423	1.68E-03	22	3.30%	231	9.22E-04
7	3.79%	266	1.06E-03	15	7.01%	491	1.96E-03	23	2.46%	172	6.86E-04
8	7.76%	544	2.17E-03	16	7.13%	500	1.99E-03	24	1.86%	131	5.20E-04
								Total		7,010	

2022 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_SB_MIS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	81	3.22E-04	9	7.11%	499	1.99E-03	17	7.39%	518	2.06E-03
2	0.42%	29	1.17E-04	10	4.39%	308	1.23E-03	18	8.17%	573	2.28E-03
3	0.41%	29	1.14E-04	11	4.67%	327	1.30E-03	19	5.70%	399	1.59E-03
4	0.27%	19	7.46E-05	12	5.89%	413	1.65E-03	20	4.27%	300	1.19E-03
5	0.50%	35	1.40E-04	13	6.15%	431	1.72E-03	21	3.26%	228	9.11E-04
6	0.91%	64	2.53E-04	14	6.03%	423	1.69E-03	22	3.30%	231	9.23E-04
7	3.79%	266	1.06E-03	15	7.01%	491	1.96E-03	23	2.46%	172	6.87E-04
8	7.76%	544	2.17E-03	16	7.13%	500	1.99E-03	24	1.86%	131	5.21E-04
								Total		7,010	

The Crosswinds, Morgan Hill, CA - On- and Off-Site Residential
Cumulative Operation - Mission View Drive
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEVAP_NB_MIS	Mission View Drive Northbound	NB	1	762.8	0.47	9.7	32	1.3	40	7,010
TEVAP_SB_MIS	Mission View Drive Southbound	SB	1	763.7	0.47	9.7	32	1.3	40	7,010
									Total	14,020

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle per Hour (g/hour)	1.41852			
Emissions per Vehicle per Mile (g/VMT)	0.03546			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_NB_MIS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	81	3.77E-04	9	7.11%	499	2.33E-03	17	7.39%	518	2.42E-03
2	0.42%	29	1.37E-04	10	4.39%	308	1.44E-03	18	8.17%	573	2.67E-03
3	0.41%	29	1.34E-04	11	4.67%	327	1.53E-03	19	5.70%	399	1.86E-03
4	0.27%	19	8.73E-05	12	5.89%	413	1.93E-03	20	4.27%	300	1.40E-03
5	0.50%	35	1.63E-04	13	6.15%	431	2.01E-03	21	3.26%	228	1.07E-03
6	0.91%	64	2.97E-04	14	6.03%	423	1.97E-03	22	3.30%	231	1.08E-03
7	3.79%	266	1.24E-03	15	7.01%	491	2.29E-03	23	2.46%	172	8.04E-04
8	7.76%	544	2.54E-03	16	7.13%	500	2.34E-03	24	1.86%	131	6.10E-04
								Total		7,010	

2022 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_SB_MIS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	81	3.77E-04	9	7.11%	499	2.33E-03	17	7.39%	518	2.42E-03
2	0.42%	29	1.37E-04	10	4.39%	308	1.44E-03	18	8.17%	573	2.68E-03
3	0.41%	29	1.34E-04	11	4.67%	327	1.53E-03	19	5.70%	399	1.87E-03
4	0.27%	19	8.74E-05	12	5.89%	413	1.93E-03	20	4.27%	300	1.40E-03
5	0.50%	35	1.64E-04	13	6.15%	431	2.01E-03	21	3.26%	228	1.07E-03
6	0.91%	64	2.97E-04	14	6.03%	423	1.98E-03	22	3.30%	231	1.08E-03
7	3.79%	266	1.24E-03	15	7.01%	491	2.30E-03	23	2.46%	172	8.05E-04
8	7.76%	544	2.54E-03	16	7.13%	500	2.34E-03	24	1.86%	131	6.10E-04
								Total		7,010	

The Crosswinds, Morgan Hill, CA - On- and Off-Site Residential
Cumulative Operation - Mission View Drive
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
FUG_NB_MIS	Mission View Drive Northbound	NB	1	762.8	0.47	9.7	32	1.3	40	7,010
FUG_SB_MIS	Mission View Drive Southbound	SB	1	763.7	0.47	9.7	32	1.3	40	7,010
									Total	14,020

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00211			
Brake Wear - Emissions per Vehicle (g/VMT)	0.01681			
Road Dust - Emissions per Vehicle (g/VMT)	0.01487			
otal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.03379			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_NB_MIS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	81	3.59E-04	9	7.11%	499	2.22E-03	17	7.39%	518	2.30E-03
2	0.42%	29	1.31E-04	10	4.39%	308	1.37E-03	18	8.17%	573	2.55E-03
3	0.41%	29	1.28E-04	11	4.67%	327	1.46E-03	19	5.70%	399	1.78E-03
4	0.27%	19	8.32E-05	12	5.89%	413	1.84E-03	20	4.27%	300	1.33E-03
5	0.50%	35	1.56E-04	13	6.15%	431	1.92E-03	21	3.26%	228	1.02E-03
6	0.91%	64	2.83E-04	14	6.03%	423	1.88E-03	22	3.30%	231	1.03E-03
7	3.79%	266	1.18E-03	15	7.01%	491	2.19E-03	23	2.46%	172	7.66E-04
8	7.76%	544	2.42E-03	16	7.13%	500	2.23E-03	24	1.86%	131	5.81E-04
								Total		7,010	

2022 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_SB_MIS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	81	3.59E-04	9	7.11%	499	2.22E-03	17	7.39%	518	2.31E-03
2	0.42%	29	1.31E-04	10	4.39%	308	1.37E-03	18	8.17%	573	2.55E-03
3	0.41%	29	1.28E-04	11	4.67%	327	1.46E-03	19	5.70%	399	1.78E-03
4	0.27%	19	8.33E-05	12	5.89%	413	1.84E-03	20	4.27%	300	1.33E-03
5	0.50%	35	1.56E-04	13	6.15%	431	1.92E-03	21	3.26%	228	1.02E-03
6	0.91%	64	2.83E-04	14	6.03%	423	1.88E-03	22	3.30%	231	1.03E-03
7	3.79%	266	1.18E-03	15	7.01%	491	2.19E-03	23	2.46%	172	7.67E-04
8	7.76%	544	2.42E-03	16	7.13%	500	2.23E-03	24	1.86%	131	5.82E-04
								Total		7,010	

The Crosswinds, Morgan Hill, CA - Mission View Drive Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Construction Residential MEI Receptor (1.5 meter receptor height)

Emission Year	2022
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Construction Residential MEI location

Meteorological Conditions	
BAQMD San Martin Airport Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Winf Direction	Variable

Construction Residential MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.00161	0.07345	0.08644

Construction Residential MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0865	0.08232	0.00418

The Crosswinds, Morgan Hill, CA - Mission View Drive Traffic Cancer Risk
Impacts at Construction Residential MEI - 1.5 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age -->	3rd Trimester	0 - 2	2 - 16	16 - 30
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2021	10	0.0016	0.0735	0.0864	0.022	0.006	0.0004	0.03
1	1	0 - 1	2021	10	0.0016	0.0735	0.0864	0.264	0.069	0.0048	0.34
2	1	1 - 2	2022	10	0.0016	0.0735	0.0864	0.264	0.069	0.0048	0.34
3	1	2 - 3	2023	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
4	1	3 - 4	2024	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
5	1	4 - 5	2025	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
6	1	5 - 6	2026	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
7	1	6 - 7	2027	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
8	1	7 - 8	2028	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
9	1	8 - 9	2029	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
10	1	9 - 10	2030	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
11	1	10 - 11	2031	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
12	1	11 - 12	2032	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
13	1	12 - 13	2033	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
14	1	13 - 14	2034	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
15	1	14 - 15	2035	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
16	1	15 - 16	2036	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
17	1	16-17	2037	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
18	1	17-18	2038	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
19	1	18-19	2039	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
20	1	19-20	2040	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
21	1	20-21	2041	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
22	1	21-22	2042	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
23	1	22-23	2043	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
24	1	23-24	2044	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
25	1	24-25	2045	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
26	1	25-26	2046	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
27	1	26-27	2047	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
28	1	27-28	2048	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
29	1	28-29	2049	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
30	1	29-30	2050	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
Total Increased Cancer Risk								1.20	0.312	0.022	**1.5**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.0003	0.08	0.09

* Third trimester of pregnancy

The Crosswinds, Morgan Hill, CA - Mission View Drive Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations - Without MERV13 Filtration
On-Site 1st Floor Residential Receptors (1.5 meter receptor height)

Emission Year	2022
Receptor Information	Maximum On-Site Receptor
Number of Receptors	514
Receptor Height	1.5 meters
Receptor Distances	12 meter grid spacing

Meteorological Conditions	
BAQMD San Martin Airport Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Winf Direction	Variable

1st Floor Project Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.00856	0.46646	0.54862

1st Floor Project PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.54895	0.52243	0.02652

The Crosswinds, Morgan Hill, CA - Mission View Drive Traffic Cancer Risk
Impacts at On-Site 1st Floor Residential Receptors - 1.5 meter receptor height
30 Year Residential Exposure - Without MERV13 Filtration

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age –>	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2021	10	0.0086	0.4665	0.5486	0.116	0.036	0.0025	0.16
1	1	0 - 1	2021	10	0.0086	0.4665	0.5486	1.406	0.437	0.0303	1.87
2	1	1 - 2	2022	10	0.0086	0.4665	0.5486	1.406	0.437	0.0303	1.87
3	1	2 - 3	2023	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
4	1	3 - 4	2024	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
5	1	4 - 5	2025	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
6	1	5 - 6	2026	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
7	1	6 - 7	2027	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
8	1	7 - 8	2028	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
9	1	8 - 9	2029	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
10	1	9 - 10	2030	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
11	1	10 - 11	2031	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
12	1	11 - 12	2032	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
13	1	12 - 13	2033	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
14	1	13 - 14	2034	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
15	1	14 - 15	2035	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
16	1	15 - 16	2036	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
17	1	16-17	2037	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
18	1	17-18	2038	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
19	1	18-19	2039	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
20	1	19-20	2040	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
21	1	20-21	2041	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
22	1	21-22	2042	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
23	1	22-23	2043	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
24	1	23-24	2044	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
25	1	24-25	2045	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
26	1	25-26	2046	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
27	1	26-27	2047	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
28	1	27-28	2048	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
29	1	28-29	2049	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
30	1	29-30	2050	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
Total Increased Cancer Risk								6.37	1.982	0.137	**8.5**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.002	0.52	0.55

* Third trimester of pregnancy

The Crosswinds, Morgan Hill, CA - Mission View Drive Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations - With MERV13 Filtration
On-Site 1st Floor Residential Receptors (1.5 meter receptor height)

Emission Year	2022
Receptor Information	Maximum On-Site Receptor
Number of Receptors	514
Receptor Height	1.5 meters
Receptor Distances	12 meter grid spacing
Meteorological Conditions	
BAQMD San Martin Airport Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Winf Direction	Variable

1st Floor Project Cancer Risk Maximum Concentrations

Meteorological	Concentration (µg/m3)*		
Data Years	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.002568	0.46646	0.54862

1st Floor Project PM2.5 Maximum Concentrations

Meteorological	PM2.5 Concentration (µg/m3)*		
Data Years	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.164685	0.156729	0.007956

The Crosswinds, Morgan Hill, CA - Mission View Drive Traffic Cancer Risk
Impacts at On-Site 1st Floor Residential Receptors - 1.5 meter receptor height
30 Year Residential Exposure - With MERV13 Filtration

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age –>	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2021	10	0.0026	0.4665	0.5486	0.035	0.036	0.0025	0.07
1	1	0 - 1	2021	10	0.0026	0.4665	0.5486	0.422	0.437	0.0303	0.89
2	1	1 - 2	2022	10	0.0026	0.4665	0.5486	0.422	0.437	0.0303	0.89
3	1	2 - 3	2023	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
4	1	3 - 4	2024	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
5	1	4 - 5	2025	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
6	1	5 - 6	2026	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
7	1	6 - 7	2027	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
8	1	7 - 8	2028	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
9	1	8 - 9	2029	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
10	1	9 - 10	2030	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
11	1	10 - 11	2031	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
12	1	11 - 12	2032	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
13	1	12 - 13	2033	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
14	1	13 - 14	2034	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
15	1	14 - 15	2035	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
16	1	15 - 16	2036	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
17	1	16-17	2037	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
18	1	17-18	2038	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
19	1	18-19	2039	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
20	1	19-20	2040	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
21	1	20-21	2041	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
22	1	21-22	2042	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
23	1	22-23	2043	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
24	1	23-24	2044	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
25	1	24-25	2045	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
26	1	25-26	2046	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
27	1	26-27	2047	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
28	1	27-28	2048	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
29	1	28-29	2049	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
30	1	29-30	2050	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
Total Increased Cancer Risk								1.91	1.982	0.137	**4.0**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.001	0.16	0.16

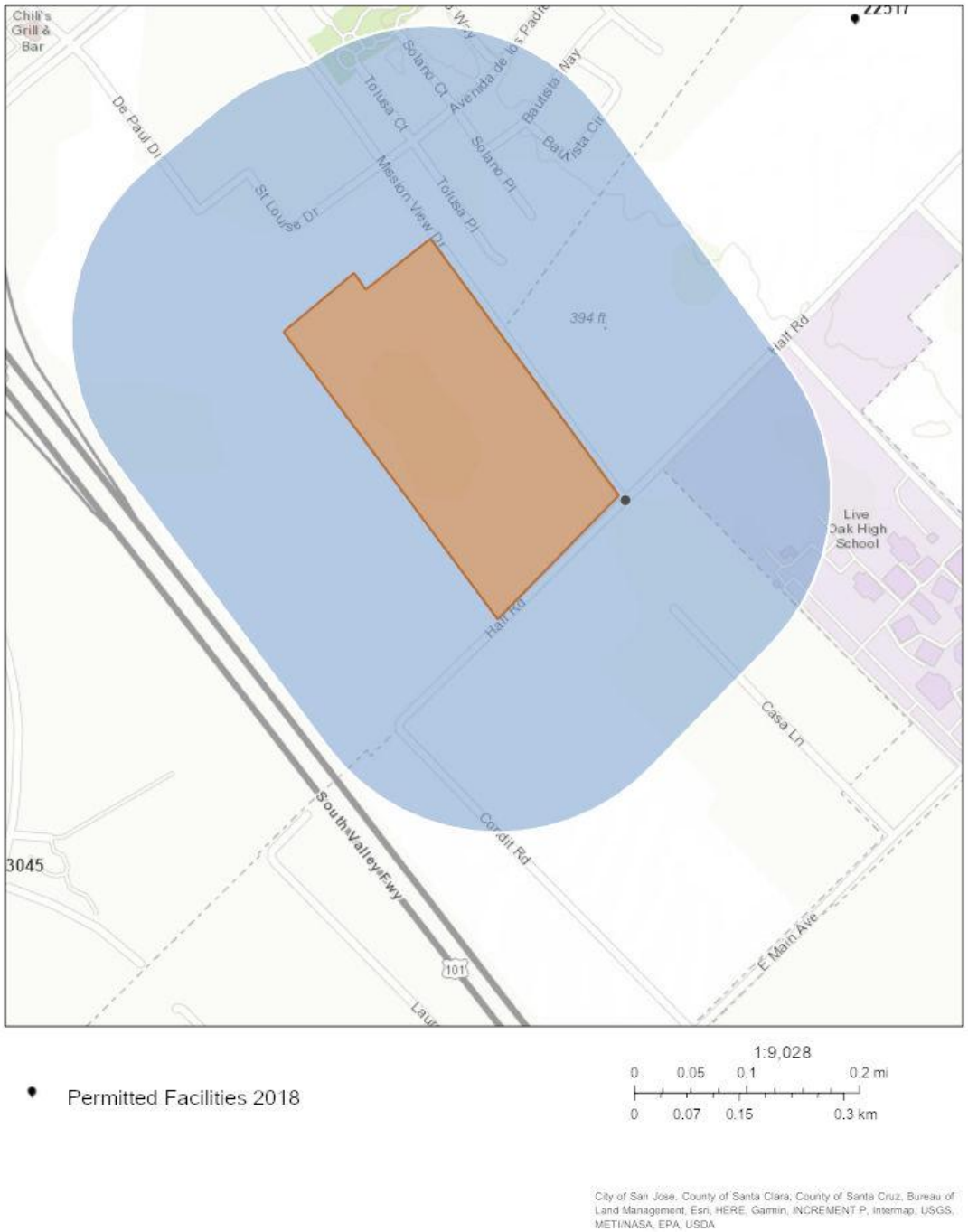
* Third trimester of pregnancy

Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 9,250,182.75 ft²

Dec 10 2020 16:15:14 Pacific Standard Time



Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	0	N/A	N/A

Note: The estimated risk and hazard impacts from these sources would be expected to be substantially lower when site specific Health Risk Screening Assessments are conducted.

The screening level map is not recommended for evaluating sensitive land uses such as schools, senior centers, day cares, and health facilities.

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Appendix B

Air Quality and GHG Analysis

THE CROSSWINDS AT MORGAN HILL AIR QUALITY & GREENHOUSE GAS ASSESSMENT

Morgan Hill, California

April 6, 2021
Revised May 12, 2022

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I&R Project#: 20-161

Introduction

The purpose of this report is to address air quality, community health risk, and greenhouse gas (GHG) impacts associated with The Crosswinds at Morgan Hill residential project located at the northwest corner of the Half Road and Mission View Drive intersection in Morgan Hill, California. The air quality impacts and GHG emissions would be associated with the demolition of the existing land uses at the site, construction of new building and infrastructure, and operation of the project. Air pollutant and GHG emissions associated with the construction and operation of the project were predicted using appropriate computer models. In addition, the potential project health risk impact (includes construction and operation) and the impacts of existing toxic air contaminant (TAC) sources affecting the nearby and proposed sensitive receptors were evaluated. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).[1]

Project Description

The approximately 31-acre project site consists of the Assessor's Parcel Numbers 728-30-001, 728-30-002, 728-30-002, and 728-30-004. The project site is mostly undeveloped with only a vacant single-family residence located in the southwestern section of the site. The project proposes demolish the existing uses and construct a total of 269 new residential units: 56 single-family, 64 duets, and 149 condominiums. There would be a total of 40 below-market-rate (BMR) units. The project would provide 606 parking spaces, including 538 covered spaces and 68 uncovered spaces. The project site would be accessed via three vehicular connections: two site entries from DePaul Drive and one entry from Mission View Drive. DePaul Drive is proposed to be extended approximately 2,000 feet south along the project site's eastern frontage to provide direct access to the project site.

Setting

The project is located in Santa Clara County, which is in the San Francisco Bay Area Air Basin. Ambient air quality standards have been established at both the State and federal level. The Bay Area meets all ambient air quality standards with the exception of ground-level ozone, respirable particulate matter (PM_{10}), and fine particulate matter ($PM_{2.5}$).

Air Pollutants of Concern

High ozone levels are caused by the cumulative emissions of reactive organic gases (ROG) and nitrogen oxides (NO_X). These precursor pollutants react under certain meteorological conditions to form high ozone levels. Controlling the emissions of these precursor pollutants is the focus of the Bay Area's attempts to reduce ozone levels. The highest ozone levels in the Bay Area occur in the eastern and southern inland valleys that are downwind of air pollutant sources. High ozone levels aggravate respiratory and cardiovascular diseases, reduce lung function, and increase coughing and chest discomfort.

[1] Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

Particulate matter is another problematic air pollutant of the Bay Area. Particulate matter is assessed and measured in terms of respirable particulate matter or particles that have a diameter of 10 micrometers or less (PM_{10}) and fine particulate matter where particles have a diameter of 2.5 micrometers or less ($PM_{2.5}$). Elevated concentrations of PM_{10} and $PM_{2.5}$ are the result of both region-wide (or cumulative) emissions and localized emissions. High particulate matter levels aggravate respiratory and cardiovascular diseases, reduce lung function, increase mortality (e.g., lung cancer), and result in reduced lung function growth in children.

Toxic Air Contaminants

TACs are a broad class of compounds known to cause morbidity or mortality (usually because they cause cancer) and include, but are not limited to, the criteria air pollutants. TACs are found in ambient air, especially in urban areas, and are caused by industry, agriculture, fuel combustion, and commercial operations (e.g., dry cleaners). TACs are typically found in low concentrations, even near their source (e.g., diesel particulate matter [DPM] near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal level.

Diesel exhaust is the predominant TAC in urban air and is estimated to represent about three-quarters of the cancer risk from TACs (based on the Bay Area average). According to the California Air Resources Board (CARB), diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB, and are listed as carcinogens either under the State's Proposition 65 or under the Federal Hazardous Air Pollutants programs. The most recent Office of Environmental Health Hazard Assessment (OEHHA) risk assessment guidelines were published in February of 2015.[2] See *Attachment 1* for a detailed description of the community risk modeling methodology used in this assessment.

Regulatory Agencies

Federal Regulations

The United States Environmental Protection Agency (EPA) sets nationwide emission standards for mobile sources, which include on-road (highway) motor vehicles such trucks, buses, and automobiles, and non-road (off-road) vehicles and equipment used in construction, agricultural, industrial, and mining activities (such as bulldozers and loaders). The EPA also sets nationwide fuel standards. California also has the ability to set motor vehicle emission standards and standards for fuel used in California, as long as they are the same or more stringent than the Federal standards.

In the past decade the EPA has established a number of emission standards for on- and non-road heavy-duty diesel engines used in trucks and other equipment. This was done in part because diesel

[2] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.

engines are a significant source of nitrogen oxides, or NO_X, and particulate matter (PM_{10} and $PM_{2.5}$) and because the EPA has identified diesel particulate matter as a probable carcinogen. Implementation of the heavy-duty diesel on-road vehicle standards and the non-road diesel engine standards are estimated to reduce PM and NO_X emissions from diesel engines up to 95 percent in 2030 when the heavy-duty vehicle fleet is completely replaced with newer heavy-duty vehicles that comply with these emission standards.[3]

In concert with the diesel engine emission standards, the EPA has also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The new standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500 parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from about 3,000 ppmw to 15 ppmw). The low sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel (ULSD) is currently required for use by all vehicles in the U.S.

All of the above Federal diesel engine and diesel fuel requirements have been adopted by California, in some cases with modifications making the requirements more stringent or the implementation dates sooner.

State Regulations

To address the issue of diesel emissions in the state, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles[4]. In addition to requiring more stringent emission standards for new on-road and off-road mobile sources and stationary diesel-fueled engines to reduce particulate matter emissions by 90 percent, a significant component of the plan involves application of emission control strategies to existing diesel vehicles and equipment. Many of the measures of the Diesel Risk Reduction Plan have been approved and adopted, including the Federal on-road and non-road diesel engine emission standards for new engines, as well as adoption of regulations for low sulfur fuel in California.

CARB has adopted and implemented a number of regulations for stationary and mobile sources to reduce emissions of DPM. Several of these regulatory programs affect medium and heavy-duty diesel trucks that represent the bulk of DPM emissions from California highways. CARB regulations require on-road diesel trucks to be retrofitted with particulate matter controls or replaced to meet 2010 or later engine standards that have much lower DPM and $PM_{2.5}$ emissions. This regulation will substantially reduce these emissions between 2013 and 2023. While new trucks and buses will meet strict federal standards, this measure is intended to accelerate the rate at which the fleet either turns over so there are more cleaner vehicles on the road or is retrofitted to meet similar standards. With this regulation, older, more polluting trucks would be removed from the roads sooner.

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[3] USEPA, 2000. *Regulatory Announcement, Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements*. EPA420-F-00-057. December.

[4] California Air Resources Board, 2000. *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles*. October.

CARB has also adopted and implemented regulations to reduce DPM and NO_X emissions from in-use (existing) and new off-road heavy-duty diesel vehicles (e.g., loaders, tractors, bulldozers, backhoes, off-highway trucks, etc.). The regulations apply to diesel-powered off-road vehicles with engines 25 horsepower (hp) or greater. The regulations are intended to reduce particulate matter and NO_X exhaust emissions by requiring owners to turn over their fleet (replace older equipment with newer equipment) or retrofit existing equipment in order to achieve specified fleet-averaged emission rates. Implementation of this regulation, in conjunction with stringent Federal off-road equipment engine emission limits for new vehicles, will significantly reduce emissions of DPM and NO_X.

Bay Area Air Quality Management District (BAAQMD)

BAAQMD has jurisdiction over an approximately 5,600-square mile area, commonly referred to as the San Francisco Bay Area (Bay Area). The District's boundary encompasses the nine San Francisco Bay Area counties, including Alameda County, Contra Costa County, Marin County, San Francisco County, San Mateo County, Santa Clara County, Napa County, southwestern Solano County and southern Sonoma County.

BAAQMD is the lead agency in developing plans to address attainment and maintenance of the National Ambient Air Quality Standards and California Ambient Air Quality Standards. The District also has permit authority over most types of stationary equipment utilized for the proposed project. The BAAQMD is responsible for permitting and inspection of stationary sources; enforcement of regulations, including setting fees, levying fines, and enforcement actions; and ensuring that public nuisances are minimized.

BAAQMD's Community Air Risk Evaluation (CARE) program addresses communities with higher air pollution levels. The program identifies areas where vulnerable populations are exposed to higher levels, applies the scientific methods and strategies to reduce air pollution health impacts in these areas and engages the community and other agencies to develop additional actions to reduce impacts. BAAQMD has developed maps that show areas with elevated pollution levels and identified impacted areas. Morgan Hill does not fall under any of these impacted areas.

The BAAQMD *California Environmental Quality Act (CEQA) Air Quality Guidelines*[5] were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process consistent with CEQA requirements including thresholds of significance, mitigation measures, and background air quality information. They also include assessment methodologies for air toxics, odors, and greenhouse gas emissions. *Attachment 1* includes detailed community risk modeling methodology.

[5] Bay Area Air Quality Management District, 2011. *CEQA Air Quality Guidelines*. May. (Updated May 2017)

Morgan Hill 2035General Plan

Adopted July 27, 2016, the *Morgan Hill 2035 General Plan* includes goals, policies, and actions to improve air quality issues facing the City of Morgan Hill.[6] The following goals, policies, and actions are applicable to the proposed project:

Goal NRE-10: Reduced air pollution emissions.

Policy NRE-10.1 **Regional and Subregional Cooperation**. Cooperate with regional agencies in developing and implementing air quality management plans. Support subregional coordination with other cities, counties, and agencies in the Santa Clara Valley and adjacent areas to address land use, jobs/housing balance, and transportation planning issues as a means of improving air quality.

Policy NRE-10.2 **State and Federal Regulation**. Encourage effective regulation of mobile and stationary sources of air pollution and support State and federal regulations to improve automobile emission controls.

Policy NRE-10.3 **Automobile Emissions**. Encourage the use of and infrastructure for alternative fuel, hybrid, and electric vehicles. Encourage new and existing public and private development to include electric vehicle charging stations.

Policy NRE-10.4 **Reduced Automobile Use**. To reduce air pollution the frequency and length of automobile trips and the amount of traffic congestion by controlling sprawl, promoting infill development, and encouraging mixed uses and higher density development near transit. Support the expansion and improvement of alternative modes of transportation. Encourage development project designs that protect and improve air quality and minimize direct and indirect air pollutant emissions by including components that reduce vehicle trips.

Goal NRE-11: Minimized exposure of people to toxic air contaminants such as ozone, carbon monoxide, lead, and particulate matter.

Policy NRE-11.1 **TACs and Proposed Sensitive Use**s. Require modeling for sensitive land uses, such as residential development, proposed near sources of pollution such as freeways and industrial uses. Require new residential development and projects categorized as sensitive receptors to incorporate effective mitigation measures into project designs or be located adequate distances from sources of toxic air contaminants (TACs) to avoid significant risk to health and safety.

[6] City of Morgan Hill, California (2016). "Chapter 8 Natural Resources and Environment". *City of Morgan Hill General Plan 2035.* https://www.morgan-hill.ca.gov/DocumentCenter/View/22839/MH2035-General-Plan---December-2017?bidId=

Policy NRE-11.2 **TACs and Existing Sensitive Uses**. Encourage the installation of appropriate air filtration mechanisms at existing schools, residences, and other sensitive receptors adversely affected by existing or proposed pollution sources.

Policy NRE-11.3 **Health Risk Assessments.** For proposed development that emits toxic air contaminants, require project proponents to prepare health risk assessments in accordance with Bay Area Air Quality Management District procedures as part of environmental review and implement effective mitigation measures to reduce potential health risks to less-than-significant levels. Alternatively, require these projects to be located an adequate distance from residences and other sensitive receptors to avoid health risks. Consult with the Bay Area Air Quality Management District to identify stationary and mobile toxic air contaminant sources and determine the need for and requirements of a health risk assessment for proposed developments

Policy NRE-11.4 **Truck Routes**. For development projects generating significant heavy-duty truck traffic, designate truck routes that minimize exposure of sensitive receptors to toxic air contaminants and particulate matter.

Policy NRE-11.5 **Truck Idling**. For development projects generating significant truck traffic, require signage to remind drivers that the State truck idling law limits truck idling to five (5) minutes.

Policy NRE-11.6 **Vegetation Buffers**. Encourage the use of pollution-absorbing trees and vegetation in buffer areas between substantial sources of toxic air contaminants and sensitive receptors.

Goal NRE-12: Minimized air pollutant emissions from demolition and construction activities

Policy NRE-12.1: **Best Practices.** Requirement that development projects implement best management practices to reduce air pollutant emissions associated with construction and operation of the project.

Policy NRE-12.2 **Conditions of Approvals.** Include dust, particulate matter, and construction equipment exhaust control measures as conditions of approval for subdivision maps, site development and planned development permits, grading permits, and demolition permits. At a minimum, conditions shall conform to construction mitigation measures recommended in the current Bay Area Air Quality Management District CEQA Guidelines.

Policy NRE-12.3 **Control Measures.** Require construction and demolition projects that have the potential to disturb asbestos (from soil or building material) to comply with all the requirements of the California Air Resource Board's air toxics

control measures (ATCMs) for Construction, Grading, Quarrying, and Surface Mining Operations.

Policy NRE-12.4 **Grading**. Require subdivision designs and site planning to minimize grading and use landform grading in hillside areas.

- Action NRE-12.A Standard Measures for Demolition and Grading. Adopt and periodically update dust, particulate matter, and exhaust control standard measures for demolition, grading, and construction activities to include on project plans mitigation measures as conditions of approval based Bay Area Air Quality Management District CEQA Guidelines. Include measures to prevent silt loading on roadways that generates particulate matter air pollution by prohibiting unpaved or unprotected access to public roadways from construction sites.
- Action NRE-12.B Grading Ordinance. Revise the grading ordinance and condition grading permits to require that graded areas be stabilized from the completion of grading to commencement and construction.

Sensitive Receptors

There are groups of people more affected by air pollution than others. CARB has identified the following persons who are most likely to be affected by air pollution: children under 16, the elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. These groups are classified as sensitive receptors. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. For cancer risk assessments, infants and children are the most sensitive receptors, since they are more susceptible to cancer causing TACs. Residential locations are assumed to include infants and small children.

The closest sensitive receptors to the project site are the residents in the single-family homes to the south and east of the site opposite the roadways. There are other single-family residences to the north, east, and south of the site at further distances. The De Paul Health Center is located to the north of the site. In addition, there are children (13 years and older) at the Live Oak High School to the southeast of the site. This project would also introduce new sensitive receptors (residents).

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA and these significance thresholds were contained in the District's 2011 *CEQA Air Quality Guidelines*. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA. The thresholds were challenged through a series of court challenges and were mostly upheld. BAAQMD updated the *CEQA Air Quality Guidelines* in 2017 to include the latest significance thresholds that were used in this analysis are summarized in Table 1.

Table 1. BAAQMD Air Quality and GHG Significance Thresholds

Criteria Air Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lbs./day)	Average Daily Emissions (lbs./day)	Annual Average Emissions (tons/year)
ROG	54	54	10
NO_x	54	54	10
PM_{10}	82 (Exhaust)	82	15
$PM_{2.5}$	54 (Exhaust)	54	10
CO	Not Applicable	9.0 ppm (8-hour average) or 20.0 ppm (1-hour average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards	**Single Sources Within 1,000-foot Zone of Influence**	**Combined Sources (Cumulative from all sources within 1,000-foot zone of influence)**	
Excess Cancer Risk	>10.0 per one million	>100 per one million	
Hazard Index	>1.0	>10.0	
Incremental annual $PM_{2.5}$	>0.3 µg/m^3	>0.8 µg/m^3	
Greenhouse Gas Emissions			
Land Use Projects – direct and indirect emissions	Compliance with a Qualified GHG Reduction Strategy OR 1,100 metric tons annually or 4.6 metric tons per capita (for 2020) *		

Note: ROG = reactive organic gases, NOx = nitrogen oxides, PM_{10} = course particulate matter or particulates with an aerodynamic diameter of 10 micrometers (µm) or less, $PM_{2.5}$ = fine particulate matter or particulates with an aerodynamic diameter of 2.5µm or less. GHG = greenhouse gases.

*BAAQMD does not have a recommended post-2020 GHG threshold.

AIR QUALITY IMPACTS AND MITIGATION MEASURES

Impact AIR-1: Conflict with or obstruct implementation of the applicable air quality plan?

BAAQMD is the regional agency responsible for overseeing compliance with State and Federal laws, regulations, and programs within the San Francisco Bay Area Air Basin (SFBAAB). BAAQMD, with assistance from the Association of Bay Area Governments (ABAG) and Metropolitan Transportation Commission (MTC), prepares and implements specific plans to meet the applicable laws, regulations, and programs. The most recent and comprehensive of which is the *Bay Area 2017 Clean Air Plan*.[7] The primary goals of the Clean Air Plan are to attain air quality standards, reduce population exposure and protect public health, and reduce GHG emissions and protect the climate. The BAAQMD has also developed CEQA guidelines to assist lead agencies in evaluating the significance of air quality and GHG impacts. In formulating compliance strategies, BAAQMD relies on planned land uses established by local general plans. Land use planning affects vehicle travel, which, in turn, affects region-wide emissions of air pollutants and GHGs.

The 2017 Clean Air Plan, adopted by BAAQMD in April 2017, includes control measures that are intended to reduce air pollutant emissions in the Bay Area either directly or indirectly. Plans must show consistency with the control measures listed within the Clean Air Plan. At the project-level, there are no consistency measures or thresholds. The proposed project would not conflict with the latest Clean Air planning efforts since 1) project would have emissions below the BAAQMD thresholds (see Impact below) and 2) the project would be considered urban infill.

Impact AIR-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

The Bay Area is considered a non-attainment area for ground-level O_3 and $PM_{2.5}$ under both the Federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for PM_{10} under the California Clean Air Act, but not the federal act. The area has attained both State and Federal ambient air quality standards for carbon monoxide. As part of an effort to attain and maintain ambient air quality standards for O_3, $PM_{2.5}$ and PM_{10}, the BAAQMD has established thresholds of significance for these air pollutants and their precursors. These thresholds are for O_3 precursor pollutants (ROG and NOx), PM_{10}, and $PM_{2.5}$ and apply to both construction period and operational period impacts.

Construction Period Emissions

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from on-site construction activity, construction vehicle trips, and evaporative emissions. The project land use types and size, and anticipated construction schedule were input to CalEEMod. The CARB EMission FACtors 2017 (EMFAC2017) model was used to predict emissions from construction traffic, which includes worker travel, vendor trucks, and haul trucks.[8]

[7] Bay Area Air Quality Management District (BAAQMD), 2017. *Final 2017 Clean Air Plan.*
[8] See CARB's EMFAC2017 Web Database at https://www.arb.ca.gov/emfac/2017/

The CalEEMod model output along with construction inputs are included in *Attachment 2* and EMFAC2017 vehicle emissions modeling outputs are included in *Attachment 3*.

CalEEMod Inputs

Land Use Inputs

The proposed residential project would be constructed in five phases. Separate CalEEMod runs were conducted for each phase as each phase would construct new buildings and roadways over several years. The land uses for each construction phase were entered into CalEEMod as described in Table 2.

Table 1. Summary of Project Land Use Inputs

Project Land Uses	Size	Units	Square Feet (sf)	Acreage
Whole Site Preparation/Grading Phase, 2022				
Single Family Housing	269	Dwelling Units	512,363	30.5
Phase 1, 2022-2023				
Single Family Housing	54	Dwelling Units	39,600	12.2
Condo/Townhouse	40	Dwelling Units	40,000	
Recreational Swimming Pool	3	1,000-sf	3,000	
Other Asphalt Surface	1.2	Acre	52,272	
DePaul Extension Phase, 2023				
Other Asphalt Surface	1.4	Acre	60,984	1.4
Phase 2, 2023-2024				
Single Family Housing	66	Dwelling Units	118,800	12.9
Condo/Townhouse	45	Dwelling Units	45,000	
Other Asphalt Surface	1.3	Acre	56,628	
Phase 3, 2025				
Condo/Townhouse	64	Dwelling Units	64,000	2.9
Other Asphalt Surface	0.5	Acre	21,780	

Construction Inputs

The project's construction analysis was originally assessed under Option 1 where the stormwater drainage would be directed to the Madrone Channel. An alternative construction method (Option 2), which includes on-site underground water tanks for stormwater drainage, may potentially be used for this project. This work would be completed by hand, as they are modular systems, during the grading/excavation phase this phase would include one additional excavator. With this approach for Option 2, the number of workdays would increase by 16 days but would not alter the overall timeframe.

CalEEMod computes annual emissions for construction that are based on the project type, size and acreage. The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The construction build-out scenario, including equipment list and schedule, were based on construction information provided by the project applicant for both options.

The CalEEMod construction equipment worksheet provided by the applicant included the schedule for each phase for both scenarios (included in *Attachment 2*). Within each phase, the quantity of equipment to be used along with the average hours per day and total number of workdays was provided. Since different equipment would have different estimates of the working days per phase, the hours per day for each phase was computed by dividing the total number of hours that the equipment would be used by the total number of days in that phase. The construction schedule for both options assumed that the earliest possible start date would be May 2022 and the project would be built out over a period of approximately 3 years and 5 months, or 724 construction workdays. The first year of full operation was assumed to be 2026.

Construction Truck Traffic Emissions

The latest version of the CalEEMod model is based on the older version of the CARB EMFAC2014 motor vehicle emission factor model. This model has been superseded by the EMFAC2017 model; however, CalEEMod has not been updated to include EMFAC2017. Construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on the estimate of demolition material to be exported, soil material imported and/or exported to the site, and the estimate of cement and asphalt truck trips. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. The total trips for those were computed by multiplying the daily trip rate by the number of days in that phase. For both construction scenarios, the haul trips for demolition were estimated from the provided demolition volumes by assuming each truck could carry 10 tons per load. The number of concrete and asphalt total round haul trips for both options were provided for the project and converted to total one-way trips, assuming two trips per round-trip delivery.

The construction traffic information was combined with EMFAC2017 motor vehicle emissions factors. EMFAC2017 provides aggregate emission rates in grams per mile for each vehicle type. The vehicle mix for this study was based on CalEEMod default assumptions, where worker trips are assumed to be comprised of light-duty autos (EMFAC category LDA) and light duty trucks (EMFAC category LDT1and LDT2). Vendor trips are comprised of delivery and large trucks (EMFAC category MHDT and HHDT) and haul trips, including cement trucks, are comprised of large trucks (EMFAC category HHDT). Travel distances are based on CalEEMod default lengths, which are 10.8 miles for worker travel, 7.3 miles for vendor trips, and 20 miles for hauling (demolition material export and soil import/export). Since CalEEMod does not address cement or asphalt trucks, these were treated as vendor travel distances. Each trip was assumed to include an idle time of 5 minutes. Emissions associated with vehicle starts were also included. On-road emission rates in Santa Clara County for the year 2022 were used. Table 3 provides the traffic inputs that were combined with the EMFAC2017 emission factors to compute vehicle emissions.

Table 3. Construction Traffic Data Used for EMFAC2017 Model Runs

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Total Worker Trips[1]	Total Vendor Trips[1]	Total Haul Trips[2]	
Vehicle mix[1]	72% LDA 6% LDT1 22% LDT2	38% MHDT 62% HHDT	100% HDDT	
Trip Length (miles)	10.8	7.3	20.0 (Demo/Soil) 7.3 (Cement/Asphalt)	CalEEMod default distance with 5-min truck idle time.
Whole Site Preparation/Grading Phase, 2022 (*Option 2*)				
Demolition	12	-	9	1,900-sf building demolition. CalEEMod default worker trips.
Site Preparation	40 (*50*)	-	-	CalEEMod default worker trips.
Grading	250 (*324*)	-	250	Estimated 1,000-cy export and 1,000-cy import. CalEEMod default worker trips.
Phase 1, 2022-2023				
Trenching	280	-	-	CalEEMod default worker trips.
Building Construction	12,425	2,800	290	145 cement roundtrips. CalEEMod default worker and vendor trips.
Architectural Coating	224	-	-	CalEEMod default worker trips.
Paving	250	-	112	562-cy asphalt. CalEEMod default worker trips.
DePaul Extension Phase, 2023				
Grading	150	-	-	CalEEMod default worker trips.
Trenching	280	-	-	CalEEMod default worker trips.
Paving	250	-	140	612-cy asphalt. CalEEMod default worker trips.
Phase 2, 2023-2024				
Trenching	280	-	-	CalEEMod default worker trips.
Building Construction	14,000	3,675	356	178 cement roundtrips. CalEEMod default worker and vendor trips.
Architectural Coating	256	-	-	CalEEMod default worker trips.
Paving	250	-	140	700-cy asphalt. CalEEMod default worker trips.
Phase 3, 2025				
Trenching	200	-	-	CalEEMod default worker trips.
Building Construction	6,000	1,575	160	80 cement roundtrips. CalEEMod default worker and vendor trips.
Architectural Coating	192	-	-	CalEEMod default worker trips.
Paving	250	-	72	300-cy asphalt. CalEEMod default worker trips.

Notes: [1] Based on 2022 EMFAC2017 light-duty vehicle fleet mix for Santa Clara County.
[2] Includes demolition and grading trips estimated by CalEEMod based on amount of material to be removed.

Summary of Computed Construction Period Emissions

Average daily emissions for both construction options were annualized for each year of construction by dividing the annual construction emissions by the number of active workdays during that year. Table 4 shows average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust during construction of the project for both options. As indicated in Table 4, predicted construction period emissions would not exceed the BAAQMD significance thresholds for both options.

Table 4. Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Exhaust
Construction Emissions Per Year (Tons)				
2022 (Whole Site Prep/Grading Phase and Phase 1) (*Option 2*)	1.05 (*1.06*)	0.67 (*0.70*)	0.03 (*0.04*)	0.03 (*0.03*)
2023 (Phase 1, DePaul Extension Phase, and Phase 2)	0.03	0.29	0.02	0.02
2024 (Phases 2)	1.20	0.27	0.02	0.01
2025 (Phase 3)	0.49	0.27	0.01	0.01
Annualized Daily Construction Emissions (pounds/day)				
2022 (154 construction workdays) (*Option 2*)	13.68 (*13.74*)	8.64 (*9.10*)	0.44 (*0.47*)	0.42 (*0.44*)
2023 (220 construction workdays)	0.30	2.60	0.18	0.17
2024 (210 construction workdays)	11.39	2.53	0.15	0.14
2025 (140 construction workdays)	6.95	3.85	0.21	0.21
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

Construction activities, particularly during site preparation and grading, would temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. *Mitigation Measure AQ-1 would implement BAAQMD-recommended best management practices.*

Mitigation Measure AQ-1: **Include measures to control dust and exhaust during construction.**

During any construction period ground disturbance, the applicant shall ensure that the project contractor implement measures to control dust and exhaust. Implementation of the measures recommended by BAAQMD and listed below would reduce the air quality impacts associated with grading and new construction to a less-than-significant level. Additional measures are identified to reduce construction equipment exhaust emissions. The contractor shall implement the following best management practices that are required of all projects:

1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.

3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.

4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).

5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.

6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.

7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.

8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

Effectiveness of Mitigation Measure AQ-1

The measures above are consistent with BAAQMD-recommended basic control measures for reducing fugitive particulate matter that are contained in the BAAQMD CEQA Air Quality Guidelines.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by future residents. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to estimate emissions from operation of the proposed project assuming full build-out.

CalEEMod Inputs

Land Uses

Due to the project's phased construction, a separate CalEEMod run was conducted in order to calculate the operational emission of the project. The proposed operational project land uses were input into CalEEMod as follows:

- 269 dwelling units and 512,363-sf entered as "Single Family Housing" on 30.5 acres,
- 3,000-sf entered as "Recreational Swimming Pool" and
- 3 acres entered as "Other Asphalt Surfaces".

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest year of full operation would be 2026 if construction begins in 2022. Emissions associated with build-out later than 2026 would be lower.

Trip Generation Rates and VMT

CalEEMod allows the user to enter specific vehicle trip generation rates. Therefore, the project-specific daily trip generation rate provided by the traffic consultant was entered into the model.[9] The weekday trip generation rates were adjusted using the traffic daily rates. The Saturday and Sunday trip rates were adjusted by multiplying the ratio of the CalEEMod default rates for Saturday and Sunday trips to the default weekday rate with the project-specific daily weekday trip rate. The default trip lengths and trip types specified by CalEEMod were used.

The CalEEMod overall trip length with Passby and Diverted trips was computed at 6.33 miles for this project. The Traffic Report vehicle miles travelled (VMT) analysis reports that without any mitigation applied, the project would generate 27.41 miles per capita per day. The California Department of Finance Population and Housing Estimate reports 3.11-persons per household for 2019.[10] This equates to 837 residents that would result in a weekday VMT estimate of 22,942 miles per day. The VMT per trip was computed at 9.04 miles. This trip rate was used in CalEEMod with Passby and diverted trip effects set to 0.

EMFAC2017 Adjustment

The vehicle emission factors and fleet mix used in CalEEMod are based on EMission FACtors from 2014 (EMFAC2014), which is an older CARB emission inventory for on road and off road mobile sources. Since the release of CalEEMod Version 2016.3.2, new emission factors have been produced by CARB. EMFAC2017 became available for use in March 2018 and approved by the EPA in August 2019. It includes the latest data on California's car and truck fleets and travel activity. Additionally, CARB has recently released EMFAC off-model adjustment factors to

[9] Correspondence with Maria Kisyova, Assistant Project Manager, David J. Powers & Associates, Inc., November 10, 2020, *Hexagon - The Crosswinds Trip Gen and Volumes 11-10-20*.
[10] State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2010-2019*. Sacramento, California. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/.

account for the Safer Affordable Efficient (SAFE) Vehicle Rule Part one.[11,12] The SAFE vehicle Rule Part One revoked California's authority to set its own GHG emission standards and set zero emission vehicle mandates in California. As a result of this ruling, mobile criteria pollutant and GHG emissions would increase. Therefore, the CalEEMod vehicle emission factors and fleet mix were updated with the emission rates and fleet mix from EMFAC2017, which were adjusted with the CARB EMFAC off-model adjustment factors. More details about the updates in emissions calculation methodologies and data are available in the EMFAC2017 Technical Support Document.[13]

Electricity

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. GHG emissions modeling includes those indirect emissions from electricity consumption. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on Pacific Gas and Electric's (PG&E) 2008 emissions rate. However, PG&E published in 2019 emissions rates for 2010 through 2017, which showed the emission rate for delivered electricity had been reduced to 210 pounds CO2 per megawatt of electricity delivered in the year 2017.[14] However, this project would use electricity supplied by Silicon Valley Clean Energy (SVCE)

SVCE purchases carbon-free electricity and partners with PG&E to deliver this electricity over existing power lines that they maintain. SVCE provides 100-percent carbon-free energy. However, customers have the option to opt out of the program and purchase electricity from PG&E, which is not carbon free, as described above. This analysis assumes a 10-percent non-participation rate with SVCE. Therefore, an electricity emission rate of 21 pounds per of CO_2 per megawatt of electricity delivered was used for this analysis.

Natural Gas

Ordinance No. 2306 add Chapter 15.63 to the Morgan Hill Municipal Code: Prohibition of Natural Gas Infrastructure in New Buildings. Under this newly adopted code, natural gas infrastructure would be prohibited in newly constructed buildings; however, there is an exception where an applicant can establish that it is not feasible. For this analysis, only newly constructed residences were assumed to be all electric with no gas usage.

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[11] California Air Resource Board, 2019. *EMFAC Off-Model Adjustment Factors to Account for the SAFE Vehicle Rule Part One*. November. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_adjustment_factors_final_draft.pdf

[12] California Air Resource Board, 2020. *EMFAC Off-Model Adjustment Factors for Carbon Dioxide (CO_20 Emissions to Accounts for the SAFE Vehicles Rule Part One and the Final SAFE Rule*. June. Web: https://ww3.arb.ca.gov/msei/emfac_off_model_co2_adjustment_factors_06262020-final.pdf?utm_medium=email&utm_source=govdelivery

[13] See CARB 2018: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/road-documentation/msei-modeling-tools-emfac

[14] PG&E, 2019. *Corporate Responsibility and Sustainability Report*. Web: http://www.pgecorp.com/corp_responsibility/reports/2019/assets/PGE_CRSR_2019.pdf

Other Inputs

Default model assumptions for emissions associated with solid waste generation use were applied to the project. Water/wastewater use were changed to 100% aerobic conditions to represent wastewater treatment plant conditions. All hearths were assumed to be powered by natural gas per BAAQMD Regulation 6, Rule 3, which requires that new building construction not install a wood-burning device (effective as of November 1, 2016).

Existing Uses

The existing land uses on the project site include a vacant single-family residence. This use produces little to no operational and traffic emissions which would not considerably offset emissions from the proposed project. Therefore, the emissions from the existing uses were not considered, nor used to offset proposed project conditions.

Summary of Computed Operational Period Emissions

Annual emissions were predicted using CalEEMod and daily emissions were estimating assuming 365 days of operation. Table 5 shows average daily emissions of ROG, NO_X, total PM_{10}, and total $PM_{2.5}$ during operation of the project. The operational period emissions would not exceed the BAAQMD significance thresholds.

Table 5. Operational Period Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2026 Project Operational Emissions (*tons/year*)	3.35 tons	1.68 tons	3.12 tons	0.86 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Thresholds?	No	No	No	No
2026 Project Operational Emissions (*lbs./day*)[1]	18.36 lbs.	9.21 lbs.	17.10 lbs.	4.71 lbs.
BAAQMD Thresholds (lbs./day)	*54 lbs.*	*54 lbs.*	*82 lbs.*	*54 lbs.*
Exceed Threshold?	No	No	No	No

Notes: [1] Assumes 365-day operation.

Impact AIR-3: Expose sensitive receptors to substantial pollutant concentrations?

Project impacts related to increased community risk can occur either by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity or by significantly exacerbating existing cumulative TAC impacts. This project would introduce new sources of TACs during construction (i.e., on-site construction and truck hauling emissions) and operation (i.e., mobile sources and stationary sources).

Project construction activity would generate dust and equipment exhaust that would affect nearby sensitive receptors. The project would not include the installation of an emergency generator powered by a diesel engine, which would produce TAC and air pollutant emissions. The project would generate some traffic, consisting of light-duty vehicles. However, the number of daily trips

generated by the project are low (i.e., 2,539 daily trips)[15] and emissions from automobile traffic generated by the project would be spread out over a broad geographical area and not localized. Project traffic was not considered a source of substantial TACs or $PM_{2.5}$ that could lead to health impacts.

Project impacts to existing sensitive receptors were addressed for temporary construction activities and long-term operational conditions. There are also several sources of existing TACs and localized air pollutants in the vicinity of the project. The impact of the existing sources of TAC was also assessed in terms of the cumulative risk that includes the project contribution, as well as the risk on the new sensitive receptors introduced by the project.

Community Risk Methodology for Construction and Operation

Community risk impacts were addressed by predicting increased cancer risk, the increase in annual $PM_{2.5}$ concentrations and computing the Hazard Index (HI) for non-cancer health risks. The risk impacts from the project are the combination of risks from construction and operation sources. These sources include on-site construction activity, construction truck hauling, and increased traffic from the project. To evaluate the increased cancer risks from the project, a 30-year exposure period was used, per BAAQMD guidance,[16] with the sensitive receptors being exposed to both project construction and operation emissions during this timeframe.

The project increased cancer risk is computed by summing the project construction cancer risk and operation cancer risk contributions. Unlike, the increased maximum cancer risk, the annual $PM_{2.5}$ concentration and HI values are not additive but based on the annual maximum values for the entirety of the project. The project maximally exposed individual (MEI) is identified as the sensitive receptor that is most impacted by the project's construction and operation.

The methodology for computing community risks impacts is contained in *Attachment 1*. This involved the calculation of TAC and $PM_{2.5}$ emissions, dispersion modeling of these emissions, and computations of cancer risk and non-cancer health effects.

Modeled Sensitive Receptors

Receptors for this assessment included locations where sensitive populations would be present for extended periods of time (i.e., chronic exposures). This includes the existing residences to the south, east, and north of the site, the patients at the De Pal Health Center to the north, and the students at the high school to the southeast of the project site, as shown in Figure 1. Residential receptors and receptors at the health center were assumed to include all receptor groups (i.e., infants, children, and adults) with almost continuous exposure to project emissions. Community risks were also computed for children at the Live Oak High School (13 years and older).

[15] Correspondence with Maria Kisyova, Assistant Project Manager, David J. Powers & Associates, Inc., November 10, 2020, *Hexagon - The Crosswinds Trip Gen and Volumes 11-10-20*.
[16] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines.* December 2016.

Community Health Risk from Project Construction

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust, which is a known TAC. These exhaust air pollutant emissions would not be considered to contribute substantially to existing or projected air quality violations. Construction exhaust emissions may still pose health risks for sensitive receptors such as surrounding residents. The primary community risk impact issue associated with construction emissions are cancer risk and exposure to $PM_{2.5}$. Diesel exhaust poses both a potential health and nuisance impact to nearby receptors. A health risk assessment of the project construction activities was conducted that evaluated potential health effects to nearby sensitive receptors from construction emissions of DPM and $PM_{2.5}$.[17] This assessment included dispersion modeling to predict the offsite and onsite concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

Construction Emissions

The CalEEMod model and EMFAC2017 calculations provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total PM_{10} exhaust emissions from all construction stages for both options reported in Table 6. The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod and EMFAC2017 for the overall construction period for both options and are included as part of the Total $PM_{2.5}$ emissions reported in Table 6.

Table 6. Localized Project Construction Emissions of DPM and Fugitive $PM_{2.5}$

Description	DPM	$PM_{2.5}$
Whole Site Prep/Grading Phase (2022) (*Option 2*)	0.0096 tons (19 pounds) *0.0122 tons (24 pounds)*	0.0040 tons (8 pounds) *0.0039 tons (8 pounds*)
Phase 1 (2022-2023)	0.0273 tons (55 pounds)	0.0074 tons (15 pounds)
DePaul Extension Phase (2023)	0.0022 tons (4 pounds)	0.0007 tons (1 pounds)
Phase 2 (2023-2024)	0.0279 tons (56 pounds)	0.0097 tons (19 pounds)
Phase 3 (2025)	0.0147 tons (29 pounds)	0.0046 tons (9 pounds)

Dispersion Modeling

The U.S. EPA AERMOD dispersion model was used to predict concentrations of DPM and $PM_{2.5}$ concentrations at sensitive receptors (residences, daycare, and high school) in the vicinity of the project construction area. The AERMOD dispersion model is a BAAQMD-recommended model for use in modeling analysis of these types of emission activities for CEQA projects.[18] Emission

[17] DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.
[18] Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May.

sources for the construction site were grouped into two categories: exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions.

Construction Sources

To represent the construction equipment exhaust emissions, an area source emission release height of 20 feet (6 meters) was used for the area sources.[19] The release height incorporates both the physical release height from the construction equipment (i.e., the height of the exhaust pipe) and plume rise after it leaves the exhaust pipe. Plume rise is due to both the high temperature of the exhaust and the high velocity of the exhaust gas. It should be noted that when modeling an area source, plume rise is not calculated by the AERMOD dispersion model as it would do for a point source (exhaust stack). Therefore, the release height from an area source used to represent emissions from sources with plume rise, such as construction equipment, should be based on the height the exhaust plume is expected to achieve, not just the height of the top of the exhaust pipe.

For modeling fugitive $PM_{2.5}$ emissions, a near-ground level release height of 7 feet (2 meters) was used for the area source. Fugitive dust emissions at construction sites come from a variety of sources, including truck and equipment travel, grading activities, truck loading (with loaders) and unloading (rear or bottom dumping), loaders and excavators moving and transferring soil and other materials, etc. All of these activities result in fugitive dust emissions at various heights at the point(s) of generation. Once generated, the dust plume will tend to rise as it moves downwind across the site and exit the site at a higher elevation than when it was generated. For all these reasons, a 7-foot release height was used as the average release height across the construction site. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources.

AERMOD Inputs and Meteorological Data

The modeling used a five-year data set (2013-2017) of hourly meteorological data from the San Martin Airport that was prepared for use with the AERMOD model by BAAQMD. Construction emissions were modeled as occurring daily between 7:00 a.m. to 4:00 p.m., when the majority of construction activity would occur. Annual DPM and $PM_{2.5}$ concentrations from construction activities during the 2022-2025 period were calculated using the model. DPM and $PM_{2.5}$ concentrations were calculated at nearby sensitive receptors.

Receptor heights of 5 feet (1.5 meters) were used to represent the breathing height on the first floors of nearby single-family residences and the health center.[20] Receptor heights of 5 feet (1.5 meter) were also used to represent the breathing height of the older children at the high school.

[19] California Air Resource Board, 2007. *Proposed Regulation for In-Use Off-Road Diesel Vehicles, Appendix D: Health Risk Methodology*. April. Web: https://ww3.arb.ca.gov/regact/2007/ordiesl07/ordiesl07.htm

[20] Bay Area Air Quality Management District, 2012, Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0. May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

Summary of Construction Community Risk Impacts

The increased cancer risk calculations were based on applying the BAAQMD recommended age sensitivity factors to the TAC concentrations, as described in *Attachment 1*. Age-sensitivity factors reflect the greater sensitivity of infants and small children to cancer causing TACs. The range of infant through adult exposures were assumed to occur at all residences and child exposure was assumed to occur at the high school during the entire construction period. Infant exposure at residences was used as a worst-case assumption, while child and adult exposures would be less.

The maximum modeled annual $PM_{2.5}$ concentration was calculated based on combined exhaust and fugitive concentrations. The maximum computed HI values was based on the ratio of the maximum DPM concentration modeled and the chronic inhalation reference exposure level of 5 $\mu g/m^3$.

The maximum modeled annual DPM and $PM_{2.5}$ concentrations for both construction options, which include both the DPM and fugitive $PM_{2.5}$ concentrations, were identified at nearby sensitive receptors to find the MEI. Results of this assessment indicated that the MEI most affected by construction for both options was located on the first floor (5 feet above ground) of a single-family residence to the south of the project site opposite Half Road. The location of the MEI and nearby sensitive receptors are shown in Figure 1.

In addition, the maximum cancer risks, $PM_{2.5}$ concentrations, and HI at the Live Oak High School are all below the BAAQMD single-source thresholds. Table 7 summarizes the maximum cancer risks, $PM_{2.5}$ concentrations, and health hazard indexes for project related construction activities for both options. *Attachment 4* to this report includes the emission calculations used for the construction modeling and the cancer risk calculations for both options.

Community Risks from Project Operation – Generator and Traffic

Operation of the project would have long-term emissions from mobile sources (i.e., traffic). Stationary equipment that could emit substantial TACs (e.g., emergency generators) are not planned for this project. Per BAAQMD recommended risks and methodology, a road with less than 10,000 total vehicles per day is considered a low-impact source of TACs.[21] This project would generate 2,539 daily trips dispersed on the roadway systems with a majority of the trips being from light-duty vehicles (i.e., passenger automobiles), which is a fraction of 10,000 daily vehicles. Therefore, emissions from project traffic are considered negligible and not included within this analysis.

Summary of Project-Related Community Risks at the Off-site Project MEI

For this project, the sensitive receptor identified in Figure 1 as the construction MEI is also the project MEI. At this location, the MEI would be exposed to four years of construction cancer risks. The annual $PM_{2.5}$ concentration and HI values are based on an annual maximum risk for the entirety of the project. As shown in Table 7, the unmitigated maximum cancer risks, $PM_{2.5}$

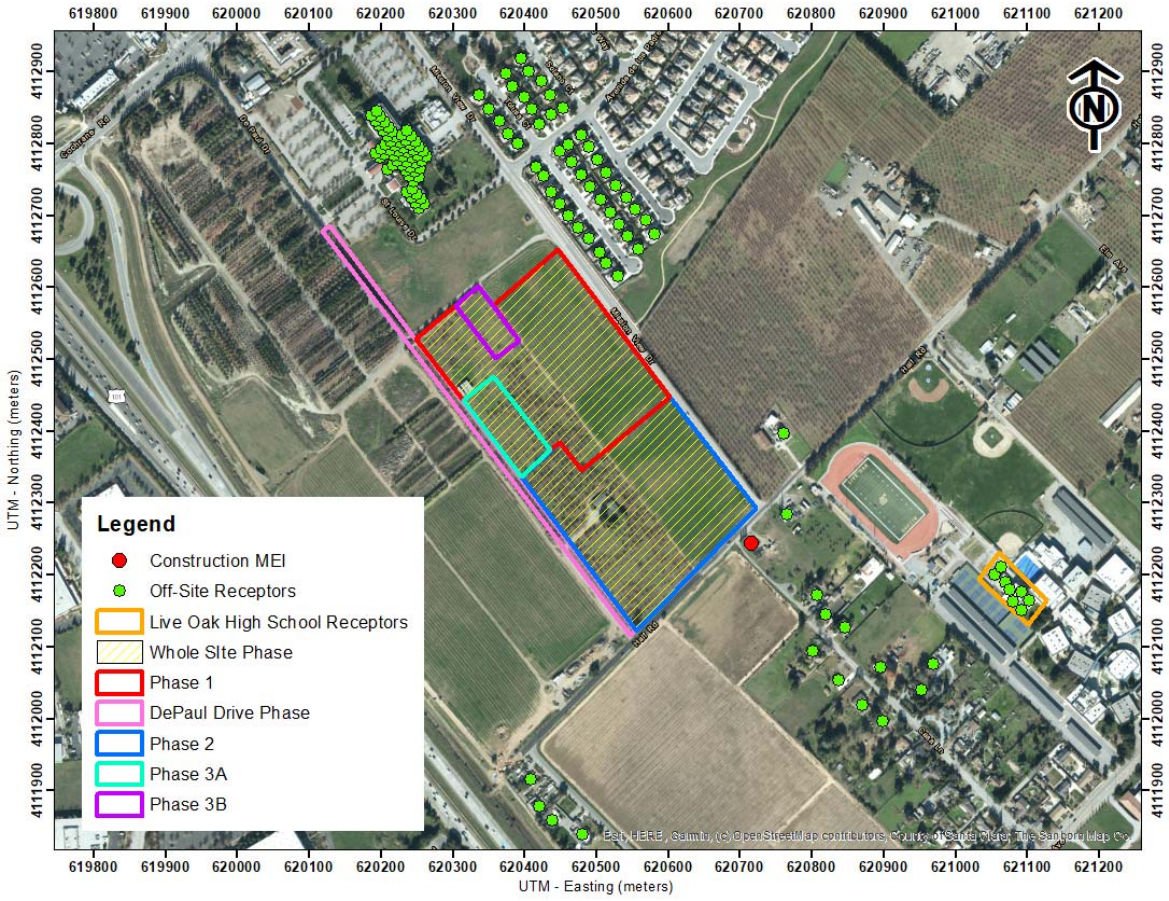
[21] Bay Area Air Quality Management District, 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

concentration, and HI from construction activities at the MEI location would not exceed the BAAQMD single-source significance thresholds.

Table 7. Construction and Operation Risk Impacts at the Off-Site Receptors

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Project Construction (*Option 2 – Unmitigated*)	Unmitigated	3.6 (infant) *(3.8 (infant))*	0.02 *(0.02)*	<0.01 *(<0.01)*
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*
Live Oak High School Student Receptors				
Project Construction (*Option 2 – Unmitigated*)	Unmitigated	0.1 (child) *(0.1 (child))*	<0.01 *(<0.01)*	<0.01 *(<0.01)*
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceeds Threshold?	Unmitigated	*No*	*No*	*No*

Figure 1. Project Construction Site, Locations of Off-Site Sensitive Receptors and Maximum TAC Impact Locations (MEI)

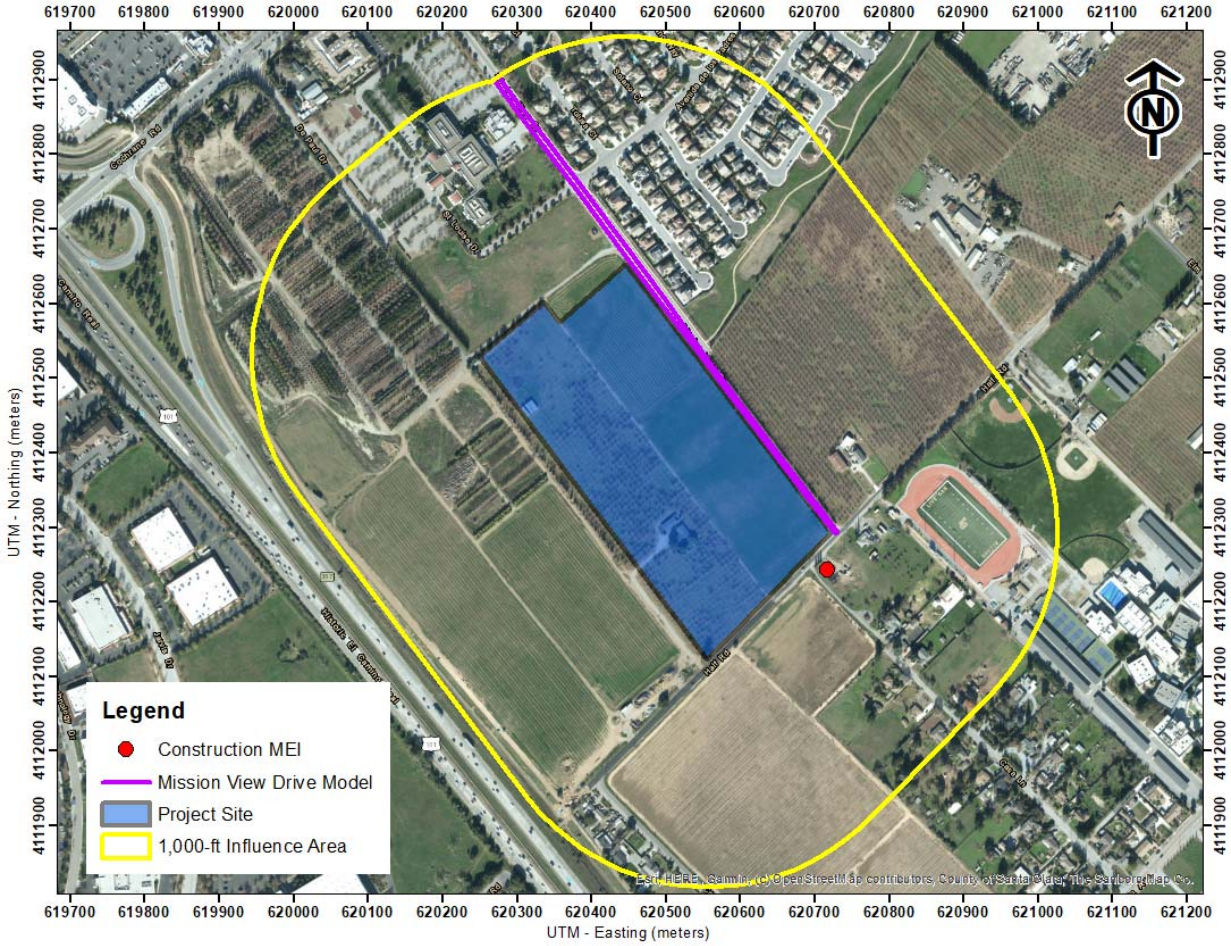


Combined Impact of All TAC Sources on the Off-Site Construction MEIs

Community health risk assessments typically look at all substantial sources of TACs that can affect sensitive receptors that are located within 1,000 feet of the project site (i.e., influence area). These sources include rail lines, freeways or highways, busy surface streets, and stationary sources identified by BAAQMD.

A review of the project area indicates that traffic on Mission View Drive has an average daily traffic (ADT) of over 10,000 vehicles. All other roadways within the area are assumed to have an ADT that is less than 10,000 vehicles. No stationary sources were identified within the 1,000-foot influence area using the BAAQMD's stationary source geographic information systems (GIS) map tool.[22] Figure 2 shows the sources affecting the project site and MEI. Community risk impacts from these sources upon the MEI are reported in Table 8. Details of the modeling and community risk calculations are included in *Attachment 5*.

Figure 2. Project Site, MEI, and Nearby TAC and $PM_{2.5}$ Sources



[22] BAAQMD, https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65

Local Roadways – Mission View Drive

A refined analysis of potential health impacts from vehicle traffic on Mission View Drive was conducted. The refined analysis involved predicting emissions for the traffic volume and mix of vehicle types on the roadway near the project site and using an atmospheric dispersion model to predict exposure to TACs. The associated cancer risks are then computed based on the modeled exposures. *Attachment 1* includes a description of how community risk impacts, including cancer risk are computed.

Emission Rates

This analysis involved the development of DPM, organic TACs, and $PM_{2.5}$ emissions for traffic on both roadways using the Caltrans version of the EMFAC2017 emissions model, known as CT-EMFAC2017. CT-EMFAC2017 provides emission factors for mobile source criteria pollutants and TACs, including DPM. Emission processes modeled include running exhaust for DPM, $PM_{2.5}$ and total organic compounds (e.g., TOG), running evaporative losses for TOG, and tire and brake wear and fugitive road dust for $PM_{2.5}$. All $PM_{2.5}$ emissions from all vehicles were used, rather than just the $PM_{2.5}$ fraction from diesel powered vehicles, because all vehicle types (i.e., gasoline and diesel powered) produce $PM_{2.5}$. Additionally, $PM_{2.5}$ emissions from vehicle tire and brake wear and from re-entrained roadway dust were included in these emissions. DPM emissions are projected to decrease in the future and are reflected in the CT-EMFAC2017 emissions data. Inputs to the model include region (i.e., Santa Clara County), type of road(i.e., major/collector), truck percentage for non-state highways in Santa Clara County (3.51 percent),[23] traffic mix assigned by CT-EMFAC2017 for the county, year of analysis (2022 – construction start year), and season (annual).

The average daily traffic (ADT) for Mission View Drive were based on AM and PM peak-hour cumulative plus project traffic volumes for the nearby roadways provided by the project's traffic consultant.[24] The calculated ADT on Mission View Drive was 14,020 vehicles. Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,[25] which were then applied to the ADT volumes to obtain estimated hourly traffic volumes and emissions for the roadway. An average travel speed of 40 miles per hour (mph) on Mission View Drive was used for all hours of the day based on posted speed limit signs on the roadway.

In order to estimate TAC and $PM_{2.5}$ emissions over the 30-year exposure period used for calculating the increased cancer risks for sensitive receptors at the MEI and project site, the CT-EMFAC2017 model was used to develop vehicle emission factors for the year 2022 (project construction year). Year 2022 emissions were conservatively assumed as being representative of future conditions over the time period that cancer risks are evaluated.

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[23] Bay Area Air Quality Management District, 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0.* May. Web: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf?la=en

[24] Correspondence with Maria Kisyova, Assistant Project Manager, David J. Powers & Associates, Inc., November 10, 2020, *Hexagon - The Crosswinds Trip Gen and Volumes 11-10-20*.

[25] The Burden output from EMFAC2007, a previous version of CARB's EMFAC model, was used for this since the current web-based version of EMFAC2014 does not include Burden type output with hour by hour traffic volume information.

Dispersion Modeling

Dispersion modeling of TAC and $PM_{2.5}$ emissions was conducted using the EPA AERMOD air quality dispersion model, which is recommended by the BAAQMD for this type of analysis.[26] TAC and $PM_{2.5}$ emissions from traffic on Mission View Drive within 1,000 feet of the project site were evaluated. Vehicle traffic on the roadway was modeled using a series of adjacent volume sources along a line (line volume sources); with line segments used for the northbound and southbound travel directions on Mission View Drive. The same meteorological data and off-site sensitive receptors used in the previous dispersion modeling were used in the roadway modeling. Other inputs to the model included road geometry and elevations, hourly traffic emissions, and receptor locations. Annual TAC and $PM_{2.5}$ concentrations for 2022 from traffic on Mission View Drive were calculated using the model. Concentrations were calculated at the project MEI with receptor heights of 5 feet (1.5 meters) to represent the breathing heights of residents in the single-family home.

Figure 2 shows the roadway segments modeled and residential receptor locations used in the modeling. Table 8 lists the risks and hazards from the roadway. The emission rates and roadway calculations used in the analysis are shown in *Attachment 5*.

Summary of Cumulative Risks at Off-Site Project MEI

Table 8 reports both the project and cumulative community risk impacts at the sensitive receptors most affected by construction (i.e., the MEI). Without mitigation, the project's community risk from project construction activities would not exceed the single-source maximum increased cancer risk, $PM_{2.5}$ concentration, or HI thresholds. In addition, the combined unmitigated cancer risk, $PM_{2.5}$ concentration, and HI values would not exceed their respective cumulative thresholds.

Table 8. Cumulative Community Risk Impacts from Combined TAC Sources at MEIs

Source		Cancer Risk* (per million)	Annual $PM_{2.5}$* ($\mu g/m^3$)	Hazard Index
Project Impacts				
Project Construction	Unmitigated	3.6 (infant)	0.02	<0.01
BAAQMD Single-Source Threshold		***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*
Cumulative Sources				
Mission View Drive, ADT 14,020		1.5 (infant)	0.09	<0.01
Combined Sources	*Unmitigated*	5.1 (infant)	0.11	<0.02
BAAQMD Cumulative Source Threshold		***>100***	***>0.8***	***>10.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*

[26] BAAQMD. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May 2012

Non-CEQA: On-Site Community Risk Assessment for TAC Sources - New Project Residences

In addition to evaluating health impact from project construction, a health risk assessment was completed to assess the impact that existing TAC sources would have on the new proposed sensitive receptors (residents) that the project would introduce. The same TAC sources identified above were used in this health risk assessment.[27]

Local Roadways – Mission View Drive

The roadway analysis for the project residents was conducted in the same manner as described above for the off-site MEI. The project set of receptors were placed around the boundary of the project residential area and were spaced every 39 feet (12 meters). Roadway impacts were modeled at receptor heights of 5 feet (1.5 meters) representing sensitive receptors on the first floor on the future single-family homes and condo/townhomes. The portions of Mission View Drive included in the modeling are shown in Figure 3 along with the project site and receptor locations where impacts were modeled.

Maximum increased cancer risks were calculated for the residents at the project site using the maximum modeled TAC concentrations. A 30-year exposure period was used in calculating cancer risks assuming the residents would include third trimester pregnancy and infants/children and were assumed to be in the new housing area for 24 hours per day for 350 days per year. The highest impacts from Mission View Drive occurred at the first-floor receptor in a home along the eastern boundary of the project site closest to the roadway. Cancer risks associated with Mission View Drive are greatest closest to Mission View Drive and decrease with distance from the road. The roadway community risk impacts at the project site are shown in Table 9. Details of the emission calculations, dispersion modeling, and cancer risk calculations are contained in *Attachment 5.*

Cumulative Community Health Risk at Project Site

Community risk impacts from the combined sources upon the project site are reported in Table 9. The TAC sources are compared against the BAAQMD single-source threshold and then combined and compared against the BAAQMD cumulative-source threshold. As shown, the cancer risks and HIs from the nearby sources do not exceed their single-source or cumulative-source thresholds. However, annual $PM_{2.5}$ concentrations are estimated to exceed the single-source threshold, but not the cumulative-source threshold, due to emissions from Mission View Drive.

[27] We note that to the extent this analysis considers *existing* air quality issues in relation to the impact on *future residents* of the Project, it does so for informational purposes only pursuant to the judicial decisions in *CBIA v. BAAQMD* (2015) 62 Cal.4th 369, 386 and *Ballona Wetlands Land Trust v. City of Los Angeles* (2011) 201 Cal.App.4th 455, 473, which confirm that the impacts of the environment on a project are excluded from CEQA unless the project itself "exacerbates" such impacts.

Figure 3. Project Site, On-Site Residential Receptors, Roadway Segments Evaluated, and Locations of Maximum Roadway TAC Impacts

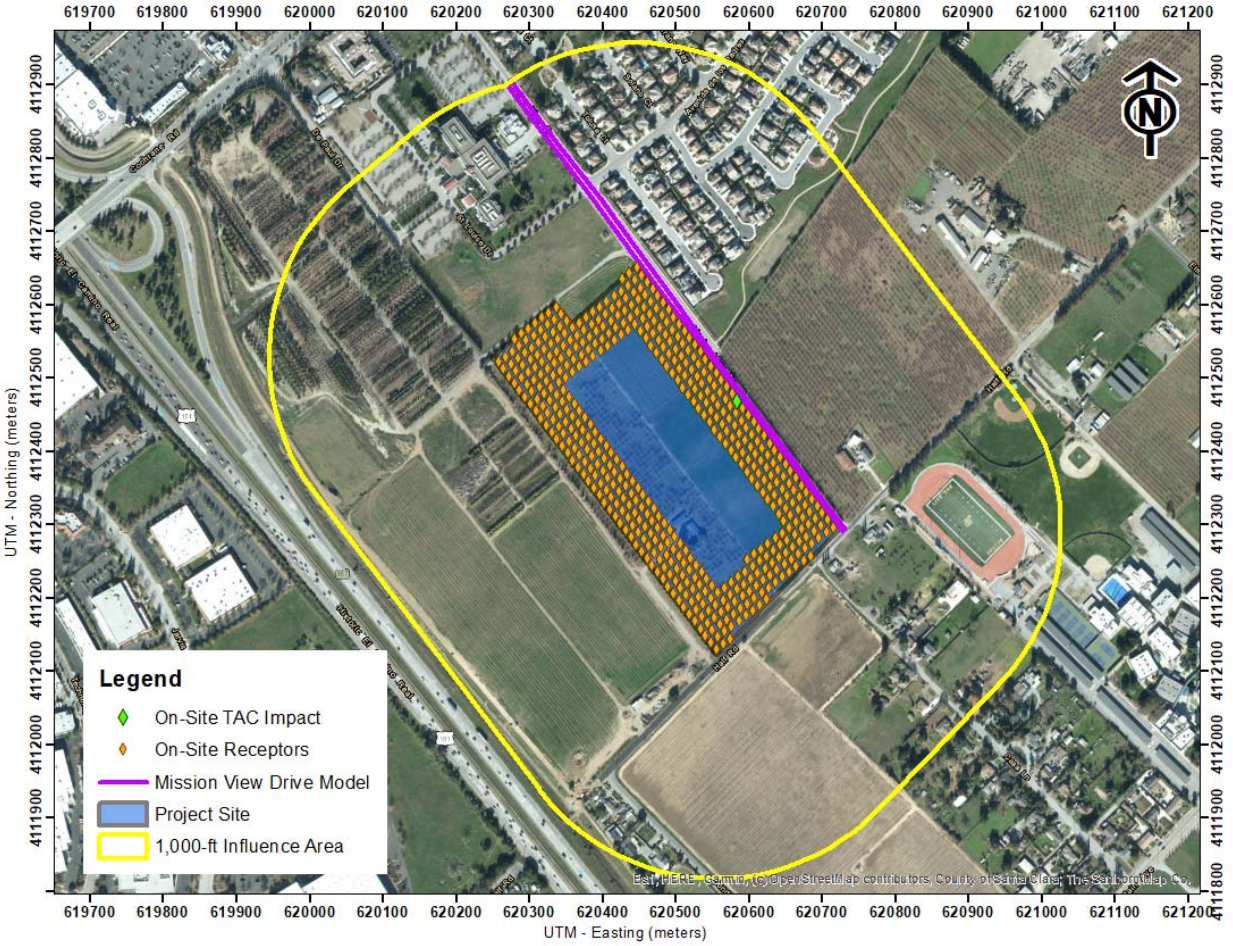

Table 9. Impacts from Combined Sources to Project Site Receptors

Source	Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Mission View Drive, ADT 14,020	8.5 (infant)	**0.55**	<0.01
BAAQMD Single-Source Threshold	***>10.0***	***>0.3***	***>1.0***
Exceed Threshold?	*No*	***Yes***	*No*
Cumulative Total	8.5	0.55	<0.01
BAAQMD Cumulative Source Threshold	***>100***	***>0.8***	***>10.0***
Exceed Threshold?	*No*	*No*	*No*

Recommended Design Features to Reduce Project Receptor Exposure

Filtration in ventilation systems at the project site would be recommended to reduce the level of harmful pollutants to below the significant thresholds. The significant exposure for new project receptors is judged by two effects: (1) increased cancer risk, and (2) annual $PM_{2.5}$ concentration. Exposure to annual $PM_{2.5}$ concentrations from Mission View Drive traffic is above its respective threshold. Cancer risk is mostly the result of exposure to diesel particulate matter, although, gasoline vehicle exhaust contributes to this effect. Annual $PM_{2.5}$ concentrations are based on the exposure to $PM_{2.5}$ resulting from emissions attributable to truck and auto exhaust, the wearing of brakes and tires and re-entrainment of roadway dust from vehicles traveling over pavement. The modeled $PM_{2.5}$ exposure to future residents drives the mitigation plan. Reducing particulate matter exposure would reduce both annual $PM_{2.5}$ exposures and cancer risk.

The project shall include the following measures to minimize long-term increased cancer risk and annual $PM_{2.5}$ exposure for new project occupants:

1. Install air filtration in project residential dwelling units (buildings) within 75 feet of Mission View Drive travel lanes. Air filtration devices shall be rated MERV13 or higher. To ensure adequate health protection to sensitive receptors (i.e., residents), this ventilation system, whether mechanical or passive, shall filter all fresh air that would be circulated into the dwelling units.

2. The ventilation system shall be designed to keep the building at positive pressure when doors and windows are closed to reduce the intrusion of unfiltered outside air into the building

3. As part of implementing this measure, an ongoing maintenance plan for the buildings' heating, ventilation, and air conditioning (HVAC) air filtration system shall be required.

4. Ensure that the use agreement and other property documents: (1) require cleaning, maintenance, and monitoring of the affected buildings for air flow leaks, (2) include assurance that new owners or tenants are provided information on the ventilation system, and (3) include provisions that fees associated with owning or leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed.

Effectiveness of Recommended Design Features

A properly installed and operated ventilation system with MERV13 would achieve an 80-percent reduction.[28] The overall effectiveness calculations take into account the amount of time spent outdoors and away from home. Assuming that the filtration system is 80-percent effective and the

[28] Bay Area Air Quality Management District (2016). Appendix B: Best Practices to Reduce Exposure to Local Air Pollution, *Planning Healthy Places A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning* (p. 38). http://www.baaqmd.gov/~/media/files/planning-and-research/planning-healthy-places/php_may20_2016-pdf.pdf?la=en

individual is being exposed to 21 hours of indoor filtered air and three hours of outdoor unfiltered air, then the overall effectiveness of a MERV13 filtration system would be about 70-percent for $PM_{2.5}$ exposure. This would reduce the maximum annual $PM_{2.5}$ concentration from Mission View Drive to 0.16 $\mu g/m^3$. With this recommended design feature, impacts from Mission View Drive would be below their respective single-source thresholds.

Impact AIR-4: Create objectionable odors affecting a substantial number of people?

The project would generate localized emissions of diesel exhaust during construction equipment operation and truck activity. These emissions may be noticeable from time to time by adjacent receptors. However, they would be localized and are not likely to adversely affect people off-site by resulting in confirmed odor complaints. The project would not include any sources of significant odors that would cause complaints from surrounding uses.

Greenhouse Gas Emissions

Setting

Gases that trap heat in the atmosphere, GHGs, regulate the earth's temperature. This phenomenon, known as the greenhouse effect, is responsible for maintaining a habitable climate. The most common GHGs are carbon dioxide (CO_2) and water vapor but there are also several others, most importantly methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). These are released into the earth's atmosphere through a variety of natural processes and human activities. Sources of GHGs are generally as follows:

- CO_2, CH_4, and N_2O are byproducts of fossil fuel combustion.
- N_2O is associated with agricultural operations such as fertilization of crops.
- CH_4 is commonly created by off-gassing from agricultural practices (e.g., keeping livestock) and landfill operations.
- Chlorofluorocarbons (CFCs) were widely used as refrigerants, propellants, and cleaning solvents but their production has been stopped by international treaty.
- HFCs are now used as a substitute for CFCs in refrigeration and cooling.
- PFCs and sulfur hexafluoride emissions are commonly created by industries such as aluminum production and semi-conductor manufacturing.

Each GHG has its own potency and effect upon the earth's energy balance. This is expressed in terms of a global warming potential (GWP), with CO_2 being assigned a value of 1 and sulfur hexafluoride being several orders of magnitude stronger. In GHG emission inventories, the weight of each gas is multiplied by its GWP and is measured in units of CO_2 equivalents (CO_2e).

An expanding body of scientific research supports the theory that global climate change is currently affecting changes in weather patterns, average sea level, ocean acidification, chemical reaction rates, and precipitation rates, and that it will increasingly do so in the future. The climate and several naturally occurring resources within California are adversely affected by the global warming trend. Increased precipitation and sea level rise will increase coastal flooding, saltwater intrusion, and degradation of wetlands. Mass migration and/or loss of plant and animal species could also occur. Potential effects of global climate change that could adversely affect human health include more extreme heat waves and heat-related stress; an increase in climate-sensitive diseases; more frequent and intense natural disasters such as flooding, hurricanes and drought; and increased levels of air pollution.

Recent Regulatory Actions for California GHG Emissions

Executive Order S-3-05 – California GHG Reduction Targets

Executive Order (EO) S-3-05 was signed by Governor Arnold Schwarzenegger in 2005 to set GHG emission reduction targets for California. The three targets established by this EO are as follows: (1) reduce California's GHG emissions to 2000 levels by 2010, (2) reduce California's GHG emissions to 1990 levels by 2020, and (3) reduce California's GHG emissions by 80 percent below 1990 levels by 2050.

Assembly Bill 32 (AB 32), California Global Warming Solutions Act (2006)

AB 32, the Global Warming Solutions Act of 2006, codified the State's GHG emissions target by directing CARB to reduce the State's global warming emissions to 1990 levels by 2020. AB 32 was signed and passed into law by Governor Schwarzenegger on September 27, 2006. Since that time, the CARB, CEC, California Public Utilities Commission (CPUC), and Building Standards Commission have all been developing regulations that will help meet the goals of AB 32 and Executive Order S-3-05.

A Scoping Plan for AB 32 was adopted by CARB in December 2008. It contains the State's main strategies to reduce GHGs from business-as-usual emissions projected in 2020 back down to 1990 levels. Business-as-usual (BAU) is the projected emissions in 2020, including increases in emissions caused by growth, without any GHG reduction measures. The Scoping Plan has a range of GHG reduction actions, including direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system.

As directed by AB 32, CARB has also approved a statewide GHG emissions limit. On December 6, 2007, CARB staff resolved an amount of 427 million metric tons (MMT) of CO_2e as the total statewide GHG 1990 emissions level and 2020 emissions limit. The limit is a cumulative statewide limit, not a sector- or facility-specific limit. CARB updated the future 2020 BAU annual emissions forecast, in light of the economic downturn, to 545 MMT of CO_2e. Two GHG emissions reduction measures currently enacted that were not previously included in the 2008 Scoping Plan baseline inventory were included, further reducing the baseline inventory to 507 MMT of CO_2e. Thus, an estimated reduction of 80 MMT of CO_2e is necessary to reduce statewide emissions to meet the AB 32 target by 2020.

Executive Order B-30-15 & Senate Bill 32 GHG Reduction Targets – 2030 GHG Reduction Target

In April 2015, Governor Brown signed Executive Order which extended the goals of AB 32, setting a greenhouse gas emissions target at 40 percent of 1990 levels by 2030. On September 8, 2016, Governor Brown signed SB 32, which legislatively established the GHG reduction target of 40 percent of 1990 levels by 2030. In November 2017, CARB issued *California's 2017 Climate Change Scoping Plan*. While the State is on track to exceed the AB 32 scoping plan 2020 targets, this plan is an update to reflect the enacted SB 32 reduction target.

SB 32 was passed in 2016, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. CARB is currently working on a second update to the Scoping Plan to reflect the 2030 target set by Executive Order B-30-15 and codified by SB 32. The proposed Scoping Plan Update was published on January 20, 2017 as directed by SB 32 companion legislation AB 197. The mid-term 2030 target is considered critical by CARB on the path to obtaining an even deeper GHG emissions target of 80 percent below 1990 levels by 2050, as directed in Executive Order S-3-05. The Scoping Plan outlines the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure, providing a blueprint to continue driving down GHG emissions and obtain the statewide goals.

The new Scoping Plan establishes a strategy that will reduce GHG emissions in California to meet the 2030 target (note that the AB 32 Scoping Plan only addressed 2020 targets and a long-term goal). Key features of this plan are:

- Cap and Trade program places a firm limit on 80 percent of the State's emissions;
- Achieving a 50-percent Renewable Portfolio Standard by 2030 (currently at about 29 percent statewide);
- Increase energy efficiency in existing buildings;
- Develop fuels with an 18-percent reduction in carbon intensity;
- Develop more high-density, transit-oriented housing;
- Develop walkable and bikeable communities;
- Increase the number of electric vehicles on the road and reduce oil demand in half;
- Increase zero-emissions transit so that 100 percent of new buses are zero emissions;
- Reduce freight-related emissions by transitioning to zero emissions where feasible and near-zero emissions with renewable fuels everywhere else; and
- Reduce "super pollutants" by reducing methane and HFCs by 40 percent.

In the updated Scoping Plan, CARB recommends statewide targets of no more than 6 metric tons CO_2e per capita (statewide) by 2030 and no more than 2 metric tons CO_2e per capita by 2050. The statewide per capita targets account for all emissions sectors, statewide population forecasts, and the statewide reductions necessary to achieve the 2030 statewide target under SB 32 and the longer-term State emissions reduction goal of 80 percent below 1990 levels by 2050.

Executive Order B-55-18 – Carbon Neutrality

In 2018, a new statewide goal was established to achieve carbon neutrality as soon as possible, but no later than 2045, and to maintain net negative emissions thereafter. CARB and other relevant state agencies are tasked with establishing sequestration targets and create policies/programs that would meet this goal.

Senate Bill 375, California's Regional Transportation and Land Use Planning Efforts (2008)

California enacted legislation (SB 375) to expand the efforts of AB 32 by controlling indirect GHG emissions caused by urban sprawl. SB 375 provides incentives for local governments and applicants to implement new conscientiously planned growth patterns. This includes incentives for creating attractive, walkable, and sustainable communities and revitalizing existing communities. The legislation also allows applicants to bypass certain environmental reviews under CEQA if they build projects consistent with the new sustainable community strategies. Development of more alternative transportation options that would reduce vehicle trips and miles traveled, along with traffic congestion, would be encouraged. SB 375 enhances CARB's ability to reach the AB 32 goals by directing the agency in developing regional GHG emission reduction targets to be achieved from the transportation sector for 2020 and 2035. CARB works with the metropolitan planning organizations (e.g. Association of Bay Area Governments [ABAG] and Metropolitan Transportation Commission [MTC]) to align their regional transportation, housing, and land use plans to reduce vehicle miles traveled and demonstrate the region's ability to attain its GHG

reduction targets. A similar process is used to reduce transportation emissions of ozone precursor pollutants in the Bay Area.

SB 350 Renewable Portfolio Standards

In September 2015, the California Legislature passed SB 350, which increases the states Renewables Portfolio Standard (RPS) for content of electrical generation from the 33 percent target for 2020 to a 50 percent renewables target by 2030.

Senate Bill 100 – Current Renewable Portfolio Standards

In September 2018, SB 100 was signed by Governor Brown to revise California's RPS program goals, furthering California's focus on using renewable energy and carbon-free power sources for its energy needs. The bill would require all California utilities to supply a specific percentage of their retail sales from renewable resources by certain target years. By December 31, 2024, 44 percent of the retails sales would need to be from renewable energy sources, by December 31, 2026 the target would be 40 percent, by December 31, 2017 the target would be 52 percent, and by December 31, 2030 the target would be 60 percent. By December 31, 2045, all California utilities would be required to supply retail electricity that is 100 percent carbon-free and sourced from eligible renewable energy resource to all California end-use customers.

California Building Standards Code – Title 24 Part 11 & Part 6

The California Green Building Standards Code (CALGreen Code) is part of the California Building Standards Code under Title 24, Part 11.[29] The CALGreen Code encourages sustainable construction standards that involve planning/design, energy efficiency, water efficiency resource efficiency, and environmental quality. These green building standard codes are mandatory statewide and are applicable to residential and non-residential developments. The most recent CALGreen Code (2019 California Building Standard Code) was effective as of January 1, 2020.

The California Building Energy Efficiency Standards (California Energy Code) is under Title 24, Part 6 and is overseen by the California Energy Commission (CEC). This code includes design requirements to conserve energy in new residential and non-residential developments, while being cost effective for homeowners. This Energy Code is enforced and verified by cities during the planning and building permit process. The current energy efficiency standards (2019 Energy Code) replaced the 2016 Energy Code as of January 1,2020. Under the 2019 standards, single-family homes are predicted to be 53 percent more efficient than homes built under the 2016 standard due more stringent energy-efficiency standards and mandatory installation of solar photovoltaic systems. For nonresidential developments, it is predicted that these buildings will use 30 percent less energy due to lightening upgrades.[30]

[29] See: https://www.dgs.ca.gov/BSC/Resources/Page-Content/Building-Standards-Commission-Resources-List-Folder/CALGreen#:~:text=CALGreen%20is%20the%20first%2Din,to%201990%20levels%20by%202020.
[30] See: https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf

Federal and Statewide GHG Emissions

The U.S. EPA reported that in 2018, total gross nationwide GHG emissions were 6,676.6 million metric tons (MMT) carbon dioxide equivalent (CO_2e).[31] These emissions were lower than peak levels of 7,416 MMT that were emitted in 2007. CARB updates the statewide GHG emission inventory on an annual basis where the latest inventory includes 2000 through 2017 emissions.[32] In 2017, GHG emissions from statewide emitting activities were 424 MMT. The 2017 emissions have decreased by 14 percent since peak levels in 2004 and are 7 MMT below the 1990 emissions level and the State's 2020 GHG limit. Per capita GHG emissions in California have dropped from a 2001 peak of 14.1 MT per person to 10.7 MT per person in 2017. The most recent Bay Area emission inventory was computed for the year 2011.[33] The Bay Area GHG emission were 87 MMT. As a point of comparison, statewide emissions were about 444 MMT in 2011

Morgan Hill 2035 General Plan

The Climate Change section of the Natural Resources and Environment chapter of the Morgan Hill 2035 General Plan contains goals, policies and implementing actions that pertain to GHG emissions. Applicable General Plan policies are listed below:

Goal NRE-15 An adaptive and resilient community that responds to climate change.

Policy NRE-15.1 **Greenhouse Gas Emission Reduction Targets**. Maintain a greenhouse gas reduction trajectory that is consistent with the greenhouse gas reduction targets of Executive Orders B-30-15 (40 percent below 1990 levels by 2030) and S-03-05 (80 percent below 1990 levels by 2050) to ensure the City is consistent with statewide efforts to reduce greenhouse gas emissions.

Policy NRE-15.2 **Linking Land Use and Transportation**. Encourage land use and transportation patterns that reduce dependence on automobiles.

Policy NRE-15.3 **Climate Action Plan**. Utilize policies in this General Plan denoted with the green leaf symbol as the City's greenhouse gas emissions reduction strategy.

Policy NRE-15.4 **Sustainable Land Use**. Promote land use patterns that reduce the number and length of motor vehicle trips.

Policy NRE-15.5 **Jobs Housing Balance**. To the extent feasible, encourage a balance and match between jobs and housing.

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[31] United States Environmental Protection Agency, 2020. *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2018*. April. Web: https://www.epa.gov/sites/production/files/2020-04/documents/us-ghg-inventory-2020-main-text.pdf.

[32] CARB. 2019. *2019 Edition, California Greenhouse Gas Emission Inventory: 2000 – 2017*. Web: https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2017/ghg_inventory_trends_00-17.pdf.

[33] BAAQMD. 2015. *Bay Area Emissions Inventory Summary Report: Greenhouse Gases Base Year 2011*. January. Web: http://www.baaqmd.gov/~/media/files/planning-and-research/emission-inventory/by2011_ghgsummary.pdf.

Policy NRE-15.6 **Residential Near Transit**. Encourage higher density residential and mixed-use development adjacent to commercial centers and transit corridors – the land along or within walking distance of a street served by transit.

Policy NRE-15.7 **Mix of Uses in Employment Centers**. Encourage employment areas to include a mix of support services to minimize the number of employee trips.

Policy NRE-15.8 **Walkable City**. Encourage retail and office areas to be located within walking and biking distance of existing and proposed residential developments.

Policy NRE-15.9 **Urban Forest**. Support development and maintenance of a healthy, vibrant urban forest through outreach, incentives, and strategic leadership.

Policy NRE-15.10 **VMT Reduction**. Continue to work with the Santa Clara Valley Transportation Authority on regional transportation solutions that will reduce vehicle miles traveled and greenhouse gas emissions.

Policy NRE-15.11 **Green Building**. Promote green building practices in new development.

The General Plan's Energy Efficiency section contains policies that indirectly reduce GHG emissions:

Goal NRE-16 Conservation of energy resources.

Policy NRE-16.1 **Energy Standards for New Development**. New development, including public buildings, should be designed to exceed State standards for the use of energy.

Policy NRE-16.2 **Energy Conservation**. Promote energy conservation techniques and energy efficiency in building design, orientation, and construction.

Policy NRE-16.3 **Energy Use Data and Analysis**. Provide information to increase building owner, tenant, and operator knowledge about how, when, and where building energy is used.

Policy NRE-16.5 **Energy Efficiency**. Encourage development project designs that protect and improve air quality and minimize direct and indirect air pollutant emissions by including components that promote energy efficiency.

Policy NRE-16.6 **Landscaping for Energy Conservation**. Encourage landscaping plans for new development to address the planting of trees and shrubs that will provide shade to reduce the need for cooling systems and allow for winter daylighting.

Policy NRE-16.7 **Renewable Energy**. Encourage new and existing development to incorporate renewable energy generating features, like solar panels and solar hot water heaters.

Policy NRE-16.8 **Residential Development Code**. Emphasize energy conservation building techniques for new residential construction through the implementation of Chapter 18.78 of the Municipal Code.

Policy NRE-16.9 **Subdivision Design**. In compliance with Section 66473.1 of the State Subdivision Map Act, promote subdivision design that provides for passive solar heating and natural cooling through the Development Review Committee subdivision review procedures.

However, the City does not have a CAP, a CAP Compliance Checklist, or a specific metric ton GHG threshold for project-level construction or operation. Therefore, the BAAQMD's CEQA Air Quality Guideline's thresholds are used.

BAAQMD GHG Significance Thresholds

The BAAQMD's CEQA Air Quality Guidelines do not use quantified thresholds for projects that are in a jurisdiction with a qualified GHG reductions plan (i.e., a Climate Action Plan). The plan has to address emissions associated with the period that the project would operate (e.g., beyond year 2020). For quantified emissions, the guidelines recommended a GHG threshold of 1,100 metric tons or 4.6 metric tons (MT) per capita. These thresholds were developed based on meeting the 2020 GHG targets set in the scoping plan that addressed AB 32. Development of the project would occur beyond 2020, so a threshold that addresses a future target is appropriate.

Although BAAQMD has not published a quantified threshold for 2030 yet, this assessment uses a "Substantial Progress" efficiency metric of 2.8 MT CO_2e/year/service population and a bright-line threshold of 660 MT CO_2e/year based on the GHG reduction goals of EO B-30-15. The service population metric of 2.8 is calculated for 2030 based on the 1990 inventory and the projected 2030 statewide population and employment levels.[34] The 2030 bright-line threshold is a 40 percent reduction of the 2020 1,100 MT CO_2e/year threshold. Evidence published by the State indicates the AB 32 goal of reducing statewide GHG emissions to 1990 levels was met prior to 2020. Current State plans are to further reduce emissions to 40% below 1990 levels by 2030. Assuming statewide emissions are at 1990 levels or lower in 2020, it would be logical to reduce the BAAQMD-recommended threshold for meeting the AB 32 threshold by 40% to develop a threshold for 2030.

Impact GHG-1: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

GHG emissions associated with development of the proposed project would occur over the short-term from construction activities, consisting primarily of emissions from equipment exhaust and worker and vendor trips. There would also be long-term operational emissions associated with

[34] Bay Area Air Quality Management District, 2016. *CLE International 12th Annual Super-Conference CEQA Guidelines, Case Law and Policy Update*. December.

vehicular traffic within the project vicinity, energy and water usage, and solid waste disposal. Emissions for the proposed project are discussed below and were analyzed using the methodology recommended in the BAAQMD CEQA Air Quality Guidelines.

CalEEMod Modeling

CalEEMod was used to predict GHG emissions from operation of the site assuming full build-out of the project. The project land use types and size and other project-specific information were input to the model, as described above within the operational period emissions. CalEEMod output is included in *Attachment 2*.

Service Population Emissions

The project service population efficiency rate is based on the number of future residents. For this project, the number of future residents was estimated by multiplying the total number of units (i.e., 269 units) by the persons per household rate for the City of Morgan Hill found in the California Department of Finance Population and Housing Estimate report.[35] Using the 3.11-person per household 2019 rate, the number of future residents was estimated to be 837 residents. This total service population was used to calculate the per capita emissions.

Construction Emissions

GHG emissions associated with construction were computed to be 451 MT of CO_2e for the total construction period. These are the emissions from on-site operation of construction equipment, vendor and hauling truck trips, and worker trips. Neither the City nor BAAQMD have an adopted threshold of significance for construction-related GHG emissions, though BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction. BAAQMD also encourages the incorporation of best management practices to reduce GHG emissions during construction where feasible and applicable.

Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully developed site under the proposed project. As shown in Table 10, the annual emissions resulting from operation of the new dwelling units of the proposed project are predicted to be 2,784 MT of CO_2e in 2026 and 2,549 MT of CO_2e in 2030. The service population emission for the year 2026 and 2030 are predicted to be 3.33 and 3.05 MT/CO_{2e}/year/service population, respectively.

To be considered an exceedance, the project must exceed both the GHG significance threshold in metric tons per year and the service population significance threshold in the future year of 2030. The project would exceed the annual emissions bright-line threshold of 660 MT CO_2e/year in 2030

[35] State of California, Department of Finance, *E-5 Population and Housing Estimates for Cities, Counties, and the State, 2010-2019*. Sacramento, California. Available at: http://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-5/.

and would exceed the per service population threshold of 2.8 MT of CO_2e/year/service population in 2030. Therefore, the project would be in exceedance for GHG emissions.

Table 10. Annual Project GHG Emissions (CO_2e) in Metric Tons and Per Capita

Source Category	Proposed Project in 2026	Proposed Project in 2030
Area	3	3
Energy Consumption	23	23
Mobile	2,577	2,341
Solid Waste Generation	171	171
Water Usage	10	10
Total (MT CO_{2e}/year)	**2,784**	**2,549**
Significance Threshold	***660 MT CO2e/year***	***660 MT CO_2e/year***
Service Population Emissions (MT CO_{2e}/year/service population)	3.33	3.05
Significance Threshold	***3.52 in 2026***	***2.8 in 2030***
Exceeds both thresholds?	*No*	*Yes*
Emissions over threshold(MT CO_{2e}/year)		206 MT

Measures to Consider to Reduce GHG Emissions

Develop a GHG reduction plan to reduce GHG emissions in the build-out year by 206 MT/year. These reductions shall be kept in place by the project until the City adopts it's GHG reduction plan that contains goals and associated strategy to decrease emissions in a manner consistent with meeting the State's interim 2030 GHG emissions reduction target of 40 percent below 1990 levels. The following GHG reduction measure should be considered to further reduce GHG emissions from operation of the project and the service population efficiency metric such that the metric would be below the significance threshold. Elements of this recommendation may include, but would not be limited to, the following:

1. Implementation of a transportation demand management (TDM) program to reduce mobile GHG emissions;

2. Installation of solar power systems or other renewable electric generating systems that provide electricity to power on-site equipment and possibly provide excess electric power;

3. Provide infrastructure for electric vehicle charging in residential units (i.e., provide 220 VAC power);

4. Increase water conservation above State average conditions for residential uses by installing low flow water utilities and irrigation; and

5. Purchase verifiable carbon emission offsets.

Impact GHG-2: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The proposed project would not conflict or otherwise interfere with the statewide GHG reduction measures identified in CARB's Scoping Plan nor would the project conflict with SB 100 goals. For example, proposed buildings would be constructed in conformance with CALGreen and the Title 24 Building Code, which requires high-efficiency water fixtures, water-efficient irrigation systems, and compliance with current energy efficacy standards.

Supporting Documentation

Attachment 1 is the methodology used to compute community risk impacts, including the methods to compute lifetime cancer risk from exposure to project emissions.

Attachment 2 includes the CalEEMod output for project construction and operational criteria air pollutant and GHG emissions. The operational outputs for 2030 uses are also included in this attachment. Also included are any modeling assumptions.

Attachment 3 includes the EMFAC2017 emissions modeling. The input files for these calculations are voluminous and are available upon request in digital format.

Attachment 4 is the construction health risk assessment. AERMOD dispersion modeling files for these assessments, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 5 includes the cumulative community risk calculations, modeling results, and health risk calculations from sources affecting the construction MEI and on-site sensitive receptors.

Attachment 1: Health Risk Calculation Methodology

A health risk assessment (HRA) for exposure to Toxic Air Contaminates (TACs) requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and California Air Resources Board (CARB) develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[36] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.[37] This HRA used the 2015 OEHHA risk assessment guidelines and CARB guidance. The BAAQMD has adopted recommended procedures for applying the newest OEHHA guidelines as part of Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[38] Exposure parameters from the OEHHA guidelines and the recent BAAQMD HRA Guidelines were used in this evaluation.

Cancer Risk

Potential increased cancer risk from inhalation of TACs is calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency and duration of exposure. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day) or liters per kilogram of body weight per 8-hour period for the case of worker or school child exposures. As recommended by the BAAQMD for residential exposures, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. For children at schools and daycare facilities, BAAQMD recommends using the 95th percentile 8-hour breathing rates. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of

[36] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.
[37] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[38] BAAQMD, 2016. *BAAQMD Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines*. December 2016.

30 years for sources with long-term emissions (e.g., roadways). For workers, assumed to be adults, a 25-year exposure period is recommended by the BAAQMD. For school children a 9-year exposure period is recommended by the BAAQMD.

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. Use of the FAH factors is allowed by the BAAQMD if there are no schools in the project vicinity have a cancer risk of one in a million or greater assuming 100 percent exposure (FAH = 1.0).

Functionally, cancer risk is calculated using the following parameters and formulas:

Cancer Risk (per million) = $CPF \times Inhalation\ Dose \times ASF \times ED/AT \times FAH \times 10^6$

Where:

CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = $C_{air} \times DBR^* \times A \times (EF/365) \times 10^{-6}$

Where:

C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
8HrBR = 8-hour breathing rate (L/kg body weight-8 hours)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

* An 8-hour breathing rate (8HrBR) is used for worker and school child exposures.

The health risk parameters used in this evaluation are summarized as follows:

Parameter	*Exposure Type* →	Infant		Child	Adult
	Age Range →	3rd Trimester	0<2	2 < 16	16 - 30
DPM Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day) 80th Percentile Rate		273	758	572	261
Daily Breathing Rate (L/kg-day) 95th Percentile Rate		361	1,090	745	335
8-hour Breathing Rate (L/kg-8 hours) 95th Percentile Rate		-	1,200	520	240
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14*
Exposure Frequency (days/year)		350	350	350	350*
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home (FAH)		0.85-1.0	0.85-1.0	0.72-1.0	0.73*

Non-Cancer Hazards

Non-cancer health risk is usually determined by comparing the predicted level of exposure to a chemical to the level of exposure that is not expected to cause any adverse effects (reference exposure level), even to the most susceptible people. Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is diesel particulate matter (DPM). For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu g/m^3$).

Annual $PM_{2.5}$ Concentrations

While not a TAC, fine particulate matter ($PM_{2.5}$) has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under the California Environmental Quality Act (CEQA). The thresholds of significance for $PM_{2.5}$ (project level and cumulative) are in terms of an increase in the annual average concentration. When considering $PM_{2.5}$ impacts, the contribution from all sources of $PM_{2.5}$ emissions should be included. For projects with potential impacts from nearby local roadways, the $PM_{2.5}$ impacts should include those from vehicle exhaust emissions, $PM_{2.5}$ generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads.

Attachment 2: CalEEMod Modeling Inputs and Outputs

Air Quality/Noise Construction Information Data Request

Project Name: Crosswinds Half Road and Mission View

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size 269 Dwelling Units 30.5 total project acres disturbed

512,363 s.f. residential

0 s.f. retail

0 s.f. office/commercial

0 s.f. other, specify:

0 s.f. parking garage NA spaces

s.f. parking lot 809 spaces

Construction Hours am to pm

Pile Driving? Y/N? N

Project include OPERATIONAL GENERATOR OR FIRE PUMP on-site? N

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower:

Fuel Type:

Location in project (Plans Desired if Available):

DO NOT MULTIPLY EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
Entire Site	**Demolition**	**Start Date:**	**5/13/2022**	**Total phase:**	**4**			Overall Import/Export Volumes
		End Date:	**5/17/2022**					
0	Concrete/Industrial Saws	81	0.73	0	0	0.00	0	**Demolition Volume**
1	Excavators	158	0.38	8	4	8.00	32	Square footage of buildings to be demolished
0	Rubber-Tired Dozers	247	0.4	0	0	0.00	0	(or total tons to be hauled)
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	1,900 square feet or
								2 Hauling volume (tons)
Entire Site	**Site Preparation**	**Start Date:**	**5/18/2022**	**Total phase:**	**5**			
		End Date:	**5/23/2022**					
1	Graders	187	0.41	8	4	6.40	32	
0	Rubber Tired Dozers	247	0.4	0	0	0.00	0	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
3	Scrapers	361	0.48	8	4	6.40	96	
Entire Site	**Grading / Excavation**	**Start Date:**	**5/24/2022**	**Total phase:**	**15**			
		End Date:	**6/8/2022**					**Soil Hauling Volume**
0	Excavators	158	0.38	0	0	0.00	0	Export volume = 0 cubic yards
1	Graders	187	0.41	8	13	6.93	104	Import volume = 0 cubic yards
0	Rubber Tired Dozers	247	0.4	0	0	0.00	0	
3	Scrapers	361	0.48	8	8	4.27	192	
1	Tractors/Loaders/Backhoes	97	0.37	8	9	4.80	72	
1	Compactor	171	0.42	8	9	4.80	72	
Phase 1	**Trenching - Underground**	**Start Date:**	**6/13/2022**	**Total phase:**	**35**			
		End Date:	**7/18/2022**					
1	Tractor/Loader/Backhoe	97	0.37	8	35	8.00	280	
1.5	Excavators	158	0.38	8	35	8.00	420	
	Other Equipment?							
Phase 2	**Trenching - Underground**	**Start Date:**	**10/14/2023**	**Total phase:**	**35**			
		End Date:	**11/18/2023**					
1	Tractor/Loader/Backhoe	97	0.37	8	35	8.00	280	
1.5	Excavators	158	0.38	8	35	8.00	420	
	Other Equipment?							
Phase 3	**Trenching - Underground**	**Start Date:**	**4/13/2025**	**Total phase:**	**25**			
		End Date:	**5/8/2025**					
1	Tractor/Loader/Backhoe	97	0.37	4	10	1.14	40	
1.5	Excavators	158	0.38	4	10	1.14	60	**Cement Trucks 403 Total Round-Trips**
	Other Equipment?							**Phase 1: Aprx. 145**
								Phase 2: Aprx. 178
Phase 1	**Building - Exterior**	**Start Date:**	**7/13/2022**	**Total phase:**	**175**			**Phase 3: Aprx. 80**
		End Date:	**5/8/2023**					
0	Cranes	231	0.29			0.00	0	Electric? (Y/N) N Otherwise assumed diesel
1	Forklifts	89	0.2	6	144	4.94	864	Liquid Propane (LPG)? (Y/N) N Otherwise Assumed diesel
0	Generator Sets	84	0.74			0.00	0	Or temporary line power? (Y/N) Y
1	Tractors/Loaders/Backhoes	97	0.37	6	24	0.82	144	
0	Welders	46	0.45			0.00	0	
	Other Equipment?					0.00		
Phase 2	**Building - Exterior**	**Start Date:**	**12/18/2023**	**Total phase:**	**175**			
		End Date:	**10/13/2024**					
0	Cranes	231	0.29			0.00	0	
1	Forklifts	89	0.2	6	144	4.94	864	
0	Generator Sets	84	0.74			0.00	0	
1	Tractors/Loaders/Backhoes	97	0.37	6	24	0.82	144	
0	Welders	46	0.45			0.00	0	
	Other Equipment?					0.00		
Phase 3	**Building - Exterior**	**Start Date:**	**6/7/2025**	**Total phase:**	**75**			
		End Date:	**1/8/2026**					
0	Cranes	231	0.29			0.00	0	
1	Forklifts	89	0.2	6	72	2.47	432	
0	Generator Sets	84	0.74			0.00	0	
1	Tractors/Loaders/Backhoes	97	0.37	6	12	0.41	72	
0	Welders	46	0.45			0.00	0	
	Other Equipment?					0.00		
Phase 1	**Building - Interior**	**Start Date:**	**10/11/2022**	**Total phase:**	**40**			
		End Date:	**10/6/2023**					
5	Air Compressors	78	0.48	4	40	4.00	800	
0	Aerial Lift	62	0.31			0.00	0	
	Other Equipment?							
1	Paving Equipment	132	0.36	8	12	2.00	96	
1	Rollers	80	0.38	8	12	2.00	96	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
1	Graders	187	0.41	8	14	2.33	112	
Phase 2	**Building - Interior**	**Start Date:**	**3/17/2024**	**Total phase:**	**40**			
		End Date:	**3/12/2025**					
5	Air Compressors	78	0.48	4	40	4.00	800	
0	Aerial Lift	62	0.31			0.00	0	
	Other Equipment?							
1	Paving Equipment	132	0.36	8	12	2.00	96	
1	Rollers	80	0.38	8	12	2.00	96	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
1	Graders	187	0.41	8	14	2.33	112	
Phase 3	**Building - Interior**	**Start Date:**	**9/5/2025**	**Total phase:**	**40**			
		End Date:	**6/7/2026**					
5	Air Compressors	78	0.48	4	40	4.00	800	
0	Aerial Lift	62	0.31			0.00	0	
	Other Equipment?							
1	Paving Equipment	132	0.36	8	6	1.00	48	
1	Rollers	80	0.38	8	6	1.00	48	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
1	Graders	187	0.41	8	7	1.17	56	
Phase 1	**Paving**	**Start Date:**	**10/11/2022**	**Total phase:**	**16**			
		Start Date:	**11/1/2022**					
2	Cement and Mortar Mixers	9	0.56	8	4	0.67	64	
1	Pavers	130	0.42	8	2	0.33	16	**Asphalt: 562 cubic yards**
1	Paving Equipment	132	0.36	8	2	0.33	16	
1	Rollers	80	0.38	8	2	0.33	16	
2	Tractors/Loaders/Backhoes	97	0.37	8	4	0.67	64	
1	Graders	187	.	8	2	0.33	16	
Phase 2	**Paving**	**Start Date:**	**3/17/2024**	**Total phase:**	**16**			
		Start Date:	**4/7/2024**					
2	Cement and Mortar Mixers	9	0.56	8	4	0.67	64	
1	Pavers	130	0.42	8	2	0.33	16	**Asphalt: 700 cubic yards**
1	Paving Equipment	132	0.36	8	2	0.33	16	
1	Rollers	80	0.38	8	2	0.33	16	
2	Tractors/Loaders/Backhoes	97	0.37	8	4	0.67	64	
1	Graders	187	.	8	2	0.33	16	
Phase 3	**Paving**	**Start Date:**	**9/5/2025**	**Total phase:**	**12**			
		Start Date:	**9/19/2025**					
2	Cement and Mortar Mixers	9	0.56	8	3	0.50	48	
1	Pavers	130	0.42	8	1.5	0.25	12	**Asphalt: 300 cubic yards**
1	Paving Equipment	132	0.36	8	1.5	0.25	12	
1	Rollers	80	0.38	8	1.5	0.25	12	
2	Tractors/Loaders/Backhoes	97	0.37	8	3	0.50	48	
1	Graders	187	.	8	1.5	0.25	12	
De Paul	**Grading / Excavation**	**Start Date:**	**10/4/2023**	**Total phase:**	**15**			
		End Date:	**10/19/2023**					**Soil Hauling Volume**
0	Excavators	158	0.38	0	0	0.00	0	Export volume = 0 cubic yards
1	Graders	187	0.41	8	1	0.53	8	Import volume = 0 cubic yards
0	Rubber Tired Dozers	247	0.4	0	0	0.00	0	
1	Scrapers	361	0.48	8	1.5	0.80	12	
1	Tractors/Loaders/Backhoes	97	0.37	8	1.5	0.80	12	
1	Compactor	171	0.42	8	1.5	0.80	12	
De Paul	**Trenching - Underground**	**Start Date:**	**10/24/2023**	**Total phase:**	**35**			
		End Date:	**11/28/2023**					
1	Tractor/Loader/Backhoe	97	0.37	8	2	0.46	16	
1.5	Excavators	158	0.38	8	2	0.46	24	
De Paul	**Paving**	**Start Date:**	**12/19/2023**	**Total phase:**	**16**			
		Start Date:	**1/4/2024**					
2	Cement and Mortar Mixers	9	0.56	8	4	0.67	64	
1	Pavers	130	0.42	8	2	0.33	16	**Asphalt: 612 cubic yards**
1	Paving Equipment	132	0.36	8	2	0.33	16	
1	Rollers	80	0.38	8	2	0.33	16	
2	Tractors/Loaders/Backhoes	97	0.37	8	4	0.67	64	
1	Graders	187	.	8	2	0.33	16	
	Additional Phases	**Start Date:**	**All Phases**	**Total phase:**				
		Start Date:	**Accounted for Above**					

Equipment types listed in "Equipment Types" worksheet tab.

Equipment listed in this sheet is to provide an example of inputs

It is assumed that water trucks would be used during grading

Add or subtract phases and equipment, as appropriate

Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

Table 1: Construction Phasing			
Construction	Number of Units	Construction Duration	Acreage
All Phases	N/A	1 month – May 2022 May 2022 (demolition and site preparation - entire site) May 2022 to June 2022 (grading/excavation of proposed residential area)	
Phase 1	40 condominium units (Buildings A and B, G - J) 32 single-family attached units (Building units 89 - 120) 22 single-family detached units (Building units 1-22) Clubhouse/pool area	16 months: June 2022 – October 2023 June 2022 – July 2022 (Trenching) July 2022 to May 2023 (Exterior building construction) October 2022 to November 2022 (Paving) October 2022 to October 2023 (Interior Building Construction)	12.2 Acres +/-
Phase 2	34 single-family detached units (Building units 23 through 56) 32 single-family detached units (Building units 57-88) 45 condominium units (Buildings Q through W)	17 months: October 2023 – March 2025 October 2023 – November 2023 (Trenching) December 2023 to October 2024 (Exterior building construction) March 2024 to April 2024 (paving) March 2024 to March 2025 (interior building construction)	12.88 Acres +/-
De Paul Extension	DePaul Drive Extension	3 months: October 2023 – January 2024 October 2023 to November 2023 (Grading / Excavation & Trenching) December 2023 to January 2024 (Paving)	1.36 Acres +/- in Crosswinds property (3.74 +/- Acres for Full Extension)
Phase 3	64 condominium units Buildings C through F and K through P	14 months: April 2025 – June 2026 April 2025 – May 2025 (Trenching) June 2025 to January 2026 (Exterior building construction) September 2025 to September 2025 (Paving) September 2025 to June 2026 (Interior Building Construction)	2.85 +/- Acres

The Crosswinds Trip Generation Estimates

Proposed Land Use	Size		Daily		AM Peak Hour						PM Peak Hour					
						Split		Trip				Split		Trip		
			Rate	Trip	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
Single-Family Detached Housing (ITE LU # 210)[1]	269	Dwelling Units	9.44	2,539	0.74	25%	75%	50	149	199	0.99	63%	37%	168	98	266

Notes:
[1]ITE Trip Generation Manual, 10th Edition 2017

thresholds recommended in the Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018.

Per OPR's technical advisory, VMT per resident (capita) is the recommended metric to evaluate CEQA-related transportation impacts for residential land uses. As stated in the technical advisory, OPR recommends an impact threshold of 15% below the existing VMT levels for residential land uses. OPR allows the existing VMT to be measured as regional or citywide VMT per capita. Therefore, 15% below the city-wide residential VMT per capita is established as the impact threshold for the residential uses of the project.

The VTA's VMT Evaluation Tool indicates that the citywide average VMT per capita is currently 24.64. Therefore, the OPR recommends an impact threshold of 15% below the citywide average VMT per capita equates to 20.94 VMT per capita.

VMT Evaluation

The results of the VMT analysis using the VTA's VMT Evaluation Tool indicate that the existing VMT for residential uses in the project vicinity is 30.46 VMT per capita.

The results also indicate that the project is projected to generate VMT per capita (27.41), which would exceed the OPR's recommended impact threshold of 20.94 VMT per capita. Therefore, the project would result in an impact on the transportation system based on OPR's VMT impact criteria.

The VTA VMT Evaluation Tool output sheets are shown in Figure 5 and also included in Appendix A.

VMT Impacts and Mitigation

Using OPR's impact thresholds, the project would need to implement VMT reduction measures to achieve a 24% reduction (27.41 to 20.94) in its VMT per capita for the proposed residential uses to reduce its impact to less than significant levels. However, per the VMT tool, the maximum reduction possible is 24.37. Further reductions in VMT are not likely feasible for residential projects due to the limited alternative modes of transportation and supporting employment land uses within the City.

The project's VMT per capita could be reduced to 24.37 with the implementation of the following Travel Demand Management (TDM) strategies, however, the reduced VMT per capita would still be greater than the OPR's recommended impact threshold of 20.94 VMT per capita.

- TP01 – School Pool Programs: Organize a program that matches families in carpools for school pick-up and drop-off of all households from the project. Organizing a school pool program helps match parents who transport students to schools without a busing program, including private schools, charter schools, and neighborhood schools where students cannot walk or bike. The school pool program would be open to all families in the development. School pools reduce the total number of vehicle trips traveling to and from schools, thereby reducing VMT. **and**
- TP03 – Car Share Programs: Provide subsidies and promotions, as well as dedicated parking spaces, for car-sharing services such as GetAround for 100% of residents from the project. Supporting a car-sharing program allows for people to have on-demand access to a shared fleet of vehicles on an as-needed basis. Car sharing helps support the use of walking, biking, carpooling, and transit by providing other means for business/day trips or a guaranteed ride home option, allowing for overall reductions in auto use, which results in reduced VMT. **and**

Figure 5
VMT Analysis

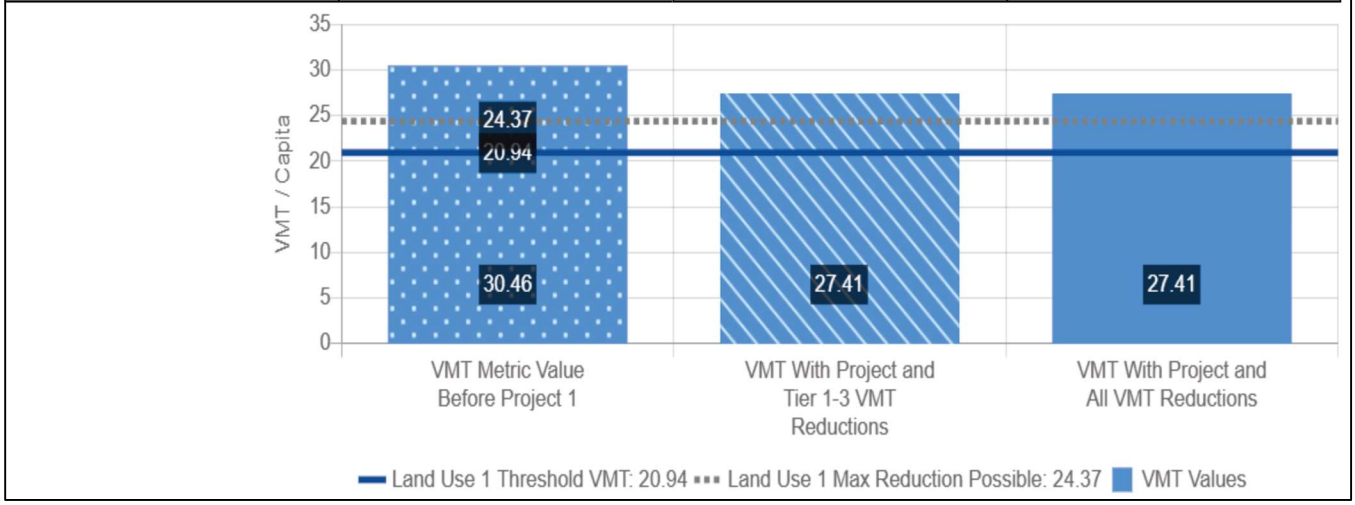
Santa Clara Countywide VMT Evaluation Tool Report

Valley Transportation Authority
Page 2

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Without Project:	Home-based VMT per Capita
VMT Baseline Description 1:	City Average
VMT Baseline Value 1:	24.64
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	30.46	27.41	27.41
Low VMT Screening Analysis	No (Fail)	No (Fail)	No (Fail)



- TP07 – Subsidized of Discounted Transit Programs: Provide fully (100%) subsidized transit passes for all project residents. Providing subsidies for transit use encourages people to use transit rather than driving, thereby reducing VMT. **and**
- TP14 – Transit Service Expansion: Project subsidizes transit service through fees and contributions to the transit provider, thereby improving transit service to the project, resulting in increased use of transit and reduced VMT. VTA Local Route 87 is currently serving the project site, and its service frequency should be increased by 100%. **and**
- TP18 – Voluntary Travel Behavior Change Programs: Provide a program that targets individual attitudes towards travel and providing tools for individuals to analyze and alter their travel behavior with 100% expected resident participation. These programs include mass communication campaigns and travel feedback programs, such as travel diaries or feedback on

calories burned from activities and travel. This strategy encourages the use of shared ride modes, transit, walking, and biking, thereby reducing VMT.

OPR's recommended 15% below existing VMT impact threshold encourages developments in transit-rich, highly mixed-use areas to implement design features and trip reduction measures to take advantage of existing multi-model infrastructure and land use mixes in reducing trip making and/or trip lengths. However, many communities such as Morgan Hill have very limited multi-modal transportation infrastructure and lack a mix of complementary land uses. The lack of employment in these communities along with minimal transit options results in a greater number and longer commute trips. Therefore, it is highly unlikely that developments like the proposed project in these cities can achieve OPR's recommended 15% reduction in VMT. Therefore, absent of the City adopting its own City-specific VMT policies and impact thresholds, the proposed project's VMT impact must be deemed significant and unavoidable.

Vehcile Trip Length Calcualtions

Hexagon Report

Total Trips Generated	2,539	For 269 dwelling units
VMT per capita	27.41	Project unmitigated VMT/capita
Service Population	837	Based on 3.11 persons per household
Total VMT	22,942	
Miles Per Trip:	9.04	

CalEEMod Default Trip Information

Annual VMT	5,833,860	Trip Generation		**Computed** Annual Trips	921,886
Weekday VMT	16,067	Weekday Trip Gen.	2,539	Weekday	661,954
Saturday VMT	16,871	Saturday Trip Gen.	2,666	Saturday	139,013
Sunday VMT	14,675	Sunday Trip Gen.	2,319	Sunday	120,919
VMT/Trip	6.33				

Computed CalEEMod VMT Rate with Hexagon VMT

Hexagon Rate (weekday)	27.41	Project unmitigated VMT/capita
CalEEMod Rate	19.20	CalEEMod unmitigated VMT/capita
Correction Factor	0.70	
CalEEMod Trip Length:	9.04	

Uncontrolled Half Rd Construction Criteria Air Pollutants								
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	PM2.5 Fugitive	**CO2e**	
Phase	Year	Tons				MT	
Construction Equipment - CalEEMod								
Grading	2022	0.02	0.26	0.01	0.0080	0.0036	42	
Phase 1	2022	1.02	0.29	0.02	0.0146	0.0000	52	
	2023	0.00	0.02	0.00	0.0011	0.0000	3	
De Paul Extention	2023	0.00	0.03	0.00	0.0012	0.0002	6	
Phase 2	2023	0.01	0.09	0.00	0.0038	0.0000	22	
	2024	1.19	0.20	0.01	0.0092	0.0000	37	
Phase 3	2025	0.48	0.17	0.01	0.0074	0.0000	42	
EMFAC								
Grading	2022	0.00	0.02	0.00	0.0009	0.0004	9	
Phase 1	2022	0.01	0.09	0.01	0.0086	0.0062	59	
	2023	0.00	0.04	0.00	0.0032	0.0023	22	
De Paul Extention	2023	0.00	0.01	0.00	0.0008	0.0005	7	
Phase 2	2023	0.01	0.10	0.01	0.0085	0.0059	60	
	2024	0.01	0.07	0.01	0.0055	0.0039	39	
Phase 3	2025	0.01	0.10	0.01	0.0070	0.0046	52	
Total Construction Emissions by Year								
2022	1.05	0.67	0.03	0.0321	0.0102	162		
2023	0.03	0.29	0.02	0.0187	0.0089	119		
2024	1.20	0.27	0.02	0.0148	0.0039	76		
2025	0.49	0.27	0.01	0.0144	0.0046	94		
	Total Construction Emissions							
Tons	2.8	1.5	0.1	0.1		451		
Pounds/Workdays	*Average Daily Emissions*					Workdays		
2022	13.68	8.64	0.44	0.42			154	
2023	0.30	2.60	0.18	0.17			220	
2024	11.39	2.53	0.15	0.14			210	
2025	6.95	3.85	0.21	0.21			140	
							724	

Half Rd Operational Criteria Air Pollutants							
Unmitigated	ROG	NOX	Total PM10	Total PM2.5			
Year	Tons Per Year						
Total	3.35	1.68	3.12	0.86			
	Existing Use Emissions						
Total							
	Net Annual Operational Emissions						
Tons/year	3.35	1.68	3.12	0.86			
	Average Daily Emissions						
Pounds Per Day	18.36	9.21	17.10	4.71			

Category	**Half Rd CO2e**			
	2026 Project	Existing	2030 Project	Existing
Area	3		3	
Energy	23		23	
Mobile	2,577		2341	
Waste	171		171	
Water	10		10	
TOTAL	2,784	0	2,549	0
Net GHG Emissions		2,784		2549
Service Population	837			
Per Capita Emissions		3.33		3.05
Threshold		3.52		2.80
Emission Over Threshold		0.00		206
	269 units			
CA DOF 2020 =	3.11 pphh			

	Uncontrolled Half Rd Construction HRA Pollutants						
	Unmitigated			PM10 Exhaust	Mitigated	PM2.5 Fugitive	**Mitigated**
Phase	Year	Tons					
	Construction Equipment - CalEEMod						
Grading	2022			0.0087	0.0007	0.0036	0.0021
Phase 1	2022			0.0154	0.0009	0.0000	0.0000
	2023			0.0012	0.0001	0.0000	0.0000
De Paul Extention	2023			0.0014	0.0001	0.0002	0.0001
Phase 2	2023			0.0042	0.0004	0.0000	0.0000
	2024			0.0097	0.0007	0.0000	0.0000
Phase 3	2025			0.0077	0.0007	0.0000	0.0000
	EMFAC						
Grading	2022			0.0009	0.0009	0.0004	0.0004
Phase 1	2022			0.0086	0.0086	0.0062	0.0062
	2023			0.0032	0.0032	0.0023	0.0023
De Paul Extention	2023			0.0008	0.0008	0.0005	0.0005
Phase 2	2023			0.0085	0.0085	0.0059	0.0059
	2024			0.0055	0.0055	0.0039	0.0039
Phase 3	2025			0.0070	0.0070	0.0046	0.0046
	Total Construction Emissions by Year						
	2022			0.03	0.0111	0.0102	0.0087
	2023			0.02	0.0131	0.0089	0.0088
	2024			0.02	0.0062	0.0039	0.0039
	2025			0.01	0.0077	0.0046	0.0046

Air Quality/Noise Construction Information Data Request

Project Name: Crosswinds Half Road and Mission View Option 2

Complete ALL Portions in Yellow

See Equipment Type TAB for type, horsepower and load factor

Project Size
269 Dwelling Units
30.5 total project acres disturbed
512,363 s.f. residential
0 s.f. retail
0 s.f. office/commercial
0 s.f. other, specify:
0 s.f. parking garage NA spaces
s.f. parking lot 809 spaces

Construction Hours am to pm

Pile Driving? Y/N? N

Project include OPERATIONAL GENERATOR OR FIRE PUMP on-site? N

IF YES (if BOTH separate values) -->

Kilowatts/Horsepower:

Fuel Type:

Location in project (Plans Desired if Available):

DO NOT MULTIPLY EQUIPMENT HOURS/DAY BY THE QUANTITY OF EQUIPMENT

Quantity	Description	HP	Load Factor	Hours/day	Total Work Days	Avg. Hours per day	Annual Hours	Comments
Entire Site	**Demolition**	**Start Date:**	**5/13/2022**	**Total phase:**	**4**			**Overall Import/Export Volumes**
		End Date:	**5/17/2022**					
0	Concrete/Industrial Saws	81	0.73	0	0	0.00	0	**Demolition Volume**
1	Excavators	158	0.38	8	4	8.00	32	Square footage of buildings to be demolished
0	Rubber-Tired Dozers	247	0.4	0	0	0.00	0	(or total tons to be hauled)
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	1,000 square feet or
								? Hauling volume (tons
Entire Site	**Site Preparation**	**Start Date:**	**5/18/2022**	**Total phase:**	**5**			
		End Date:	**5/23/2022**					
1	Graders	187	0.41	8	4	6.40	32	
0	Rubber Tired Dozers	247	0.4	0	0	0.00	0	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
3	Scrapers	361	0.48	8	4	6.40	96	
Entire Site	**Grading / Excavation**	**Start Date:**	**5/24/2022**	**Total phase:**	**18**			
		End Date:	**6/11/2022**					**Soil Hauling Volume**
1	Excavators	158	0.38	8	7	3.11	56	Export volume = 0 cubic yards
1	Graders	187	0.41	8	18	8.00	144	Import volume =0 cubic yards
0	Rubber Tired Dozers	247	0.4	0	0	0.00	0	
3	Scrapers	361	0.48	8	10	4.44	240	
1	Tractors/Loaders/Backhoes	97	0.37	8	11	4.89	88	
1	Compactor	171	0.42	8	9	4.00	72	
Phase 1	**Trenching - Underground**	**Start Date:**	**6/16/2022**	**Total phase:**	**35**			
		End Date:	**7/21/2022**					
1	Tractor/Loader/Backhoe	97	0.37	8	35	8.00	280	
1.5	Excavators	158	0.38	8	35	8.00	420	
	Other Equipment?							
Phase 2	**Trenching - Underground**	**Start Date:**	**10/14/2023**	**Total phase:**	**35**			
		End Date:	**11/19/2023**					
1	Tractor/Loader/Backhoe	97	0.37	8	35	8.00	280	
1.5	Excavators	158	0.38	8	35	8.00	420	
	Other Equipment?							
Phase 3	**Trenching - Underground**	**Start Date:**	**4/13/2025**	**Total phase:**	**25**			
		End Date:	**5/8/2025**					
1	Tractor/Loader/Backhoe	97	0.37	4	10	1.14	40	
1.5	Excavators	158	0.38	4	10	1.14	60	**Cement Trucks 403 Total Round-Trips**
	Other Equipment?							**Phase 1: Aprx. 145**
Phase 1	**Building - Exterior**	**Start Date:**	**7/16/2022**	**Total phase:**	**178**			**Phase 2: Aprx. 178**
		End Date:	**5/12/2023**					**Phase 3: Aprx. 80**
0	Cranes	231	0.29			0.00	0	Electric? (Y/N) N Otherwise assumed diesel
1	Forklifts	89	0.2	6	144	4.94	864	Liquid Propane (LPG)? (Y/N) N Otherwise Assumed diesel
0	Generator Sets	84	0.74			0.00	0	Or temporary line power? (Y/N) Y
1	Tractors/Loaders/Backhoes	97	0.37	6	24	0.82	144	
0	Welders	46	0.45			0.00	0	
	Other Equipment?					0.00		
Phase 2	**Building - Exterior**	**Start Date:**	**12/18/2023**	**Total phase:**	**178**			
		End Date:	**10/13/2024**					
0	Cranes	231	0.29			0.00	0	
1	Forklifts	89	0.2	6	144	4.94	864	
0	Generator Sets	84	0.74			0.00	0	
1	Tractors/Loaders/Backhoes	97	0.37	6	24	0.82	144	
0	Welders	46	0.45			0.00	0	
	Other Equipment?					0.00		
Phase 3	**Building - Exterior**	**Start Date:**	**6/7/2025**	**Total phase:**	**78**			
		End Date:	**1/8/2026**					
0	Cranes	231	0.29			0.00	0	
1	Forklifts	89	0.2	6	72	2.47	432	
0	Generator Sets	84	0.74			0.00	0	
1	Tractors/Loaders/Backhoes	97	0.37	6	12	0.41	72	
0	Welders	46	0.45			0.00	0	
	Other Equipment?					0.00		
Phase 1	**Building - Interior**	**Start Date:**	**10/14/2022**	**Total phase:**	**40**			
		End Date:	**10/9/2023**					
5	Air Compressors	78	0.48	4	40	4.00	800	
0	Aerial Lift	62	0.31			0.00	0	
	Other Equipment?							
1	Paving Equipment	132	0.36	8	12	2.00	96	
1	Rollers	80	0.38	8	12	2.00	96	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
1	Graders	187	0.41	8	14	2.33	112	
Phase 2	**Building - Interior**	**Start Date:**	**3/17/2024**	**Total phase:**	**40**			
		End Date:	**3/12/2025**					
5	Air Compressors	78	0.48	4	40	4.00	800	
0	Aerial Lift	62	0.31			0.00	0	
	Other Equipment?							
1	Paving Equipment	132	0.36	8	12	2.00	96	
1	Rollers	80	0.38	8	12	2.00	96	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
1	Graders	187	0.41	8	14	2.33	112	
Phase 3	**Building - Interior**	**Start Date:**	**9/5/2025**	**Total phase:**	**40**			
		End Date:	**6/7/2026**					
5	Air Compressors	78	0.48	4	40	4.00	800	
0	Aerial Lift	62	0.31			0.00	0	
	Other Equipment?							
1	Paving Equipment	132	0.36	8	6	1.00	48	
1	Rollers	80	0.38	8	6	1.00	48	
0	Tractors/Loaders/Backhoes	97	0.37	0	0	0.00	0	
1	Graders	187	0.41	8	7	1.17	56	
Phase 1	**Paving**	**Start Date:**	**10/14/2022**	**Total phase:**	**16**			
		Start Date:	**11/4/2022**					
2	Cement and Mortar Mixers	9	0.56	8	4	0.67	64	
1	Pavers	130	0.42	8	2	0.33	16	**Asphalt: 562 cubic yards**
1	Paving Equipment	132	0.36	8	2	0.33	16	
1	Rollers	80	0.38	8	2	0.33	16	
2	Tractors/Loaders/Backhoes	97	0.37	8	4	0.67	64	
1	Graders	187	.	8	2	0.33	16	
Phase 2	**Paving**	**Start Date:**	**3/17/2024**	**Total phase:**	**16**			
		Start Date:	**4/7/2024**					
2	Cement and Mortar Mixers	9	0.56	8	4	0.67	64	
1	Pavers	130	0.42	8	2	0.33	16	**Asphalt: 700 cubic yards**
1	Paving Equipment	132	0.36	8	2	0.33	16	
1	Rollers	80	0.38	8	2	0.33	16	
2	Tractors/Loaders/Backhoes	97	0.37	8	4	0.67	64	
1	Graders	187	.	8	2	0.33	16	
Phase 3	**Paving**	**Start Date:**	**9/5/2025**	**Total phase:**	**12**			
		Start Date:	**9/19/2025**					
2	Cement and Mortar Mixers	9	0.56	8	3	0.50	48	
1	Pavers	130	0.42	8	1.5	0.25	12	**Asphalt: 300 cubic yards**
1	Paving Equipment	132	0.36	8	1.5	0.25	12	
1	Rollers	80	0.38	8	1.5	0.25	12	
2	Tractors/Loaders/Backhoes	97	0.37	8	3	0.50	48	
1	Graders	187	.	8	1.5	0.25	12	
De Paul	**Grading / Excavation**	**Start Date:**	**10/4/2023**	**Total phase:**	**18**			
		End Date:	**10/19/2023**					**Soil Hauling Volume**
0	Excavators	158	0.38	0	0	0.00	0	Export volume = 0 cubic yards
1	Graders	187	0.41	8	1	0.44	8	Import volume =0 cubic yards
0	Rubber Tired Dozers	247	0.4	0	0	0.00	0	
1	Scrapers	361	0.48	8	1.5	0.67	12	
1	Tractors/Loaders/Backhoes	97	0.37	8	1.5	0.67	12	
1	Compactor	171	0.42	8	1.5	0.67	12	
De Paul	**Trenching - Underground**	**Start Date:**	**10/24/2023**	**Total phase:**	**35**			
		End Date:	**11/28/2023**					
1	Tractor/Loader/Backhoe	97	0.37	8	2	0.46	16	
1.5	Excavators	158	0.38	8	2	0.46	24	
De Paul	**Paving**	**Start Date:**	**12/19/2023**	**Total phase:**	**16**			
		Start Date:	**1/4/2024**					
2	Cement and Mortar Mixers	9	0.56	8	4	0.67	64	
1	Pavers	130	0.42	8	2	0.33	16	**Asphalt: 612 cubic yards**
1	Paving Equipment	132	0.36	8	2	0.33	16	
1	Rollers	80	0.38	8	2	0.33	16	
2	Tractors/Loaders/Backhoes	97	0.37	8	4	0.67	64	
1	Graders	187	.	8	2	0.33	16	
	Additional Phases	**Start Date:**	**All Phases Accounted for Above**	**Total phase:**				
		Start Date:						

Equipment types listed in "Equipment Types" worksheet tab.

Equipment listed in this sheet is to provide an example of inputs
It is assumed that water trucks would be used during grading
Add or subtract phases and equipment, as appropriate
Modify horsepower or load factor, as appropriate

Complete one sheet for each project component

	Option 2 Uncontrolled Half Rd Construction Criteria Air Pollutants							
	Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	PM2.5 Fugitive	**CO2e**	
Phase	Year	Tons					MT	
	Construction Equipment - CalEEMod							
Grading	2022	0.03	0.29	0.01	0.0103	0.0035	42	
Phase 1	2022	1.02	0.29	0.02	0.0146	0.0000	52	
	2023	0.00	0.02	0.00	0.0011	0.0000	3	
De Paul Extention	2023	0.00	0.03	0.00	0.0012	0.0002	6	
Phase 2	2023	0.01	0.09	0.00	0.0038	0.0000	22	
	2024	1.19	0.20	0.01	0.0092	0.0000	37	
Phase 3	2025	0.48	0.17	0.01	0.0074	0.0000	42	
	EMFAC							
Grading	2022	0.00	0.02	0.00	0.0005	0.0005	9	
Phase 1	2022	0.01	0.09	0.01	0.0086	0.0062	59	
	2023	0.00	0.04	0.00	0.0032	0.0023	22	
De Paul Extention	2023	0.00	0.01	0.00	0.0008	0.0005	7	
Phase 2	2023	0.01	0.10	0.01	0.0085	0.0059	60	
	2024	0.01	0.07	0.01	0.0055	0.0039	39	
Phase 3	2025	0.01	0.10	0.01	0.0070	0.0046	52	
	Total Construction Emissions by Year							
	2022	1.06	0.70	0.04	0.0340	0.0101	162	
	2023	0.03	0.29	0.02	0.0187	0.0089	119	
	2024	1.20	0.27	0.02	0.0148	0.0039	76	
	2025	0.49	0.27	0.01	0.0144	0.0046	94	
		Total Construction Emissions						
	Tons	2.8	1.5	0.1	0.1		451	
	Pounds/Workdays	*Average Daily Emissions*					Workdays	
	2022	13.74	9.10	0.47	0.44			154
	2023	0.30	2.60	0.18	0.17			220
	2024	11.39	2.53	0.15	0.14			210
	2025	6.95	3.85	0.21	0.21			140
								724

	Option 2 Uncontrolled Half Rd Construction Criteria Air Pollutants							
	Unmitigated			PM10 Exhaust	Mitigated	PM2.5 Fugitive	**Mitigated**	
Phase	Year	Tons						
	Construction Equipment - CalEEMod							
Grading	2022			0.0112	0.0008	0.0035	0.0016	
Phase 1	2022			0.0154	0.0009	0.0000	0.0000	
	2023			0.0012	0.0001	0.0000	0.0000	
De Paul Extention	2023			0.0014	0.0001	0.0002	0.0001	
Phase 2	2023			0.0042	0.0004	0.0000	0.0000	
	2024			0.0097	0.0007	0.0000	0.0000	
Phase 3	2025			0.0077	0.0007	0.0000	0.0000	
	EMFAC							
Grading	2022			0.0010	0.0010	0.0005	0.0005	
Phase 1	2022			0.0086	0.0086	0.0062	0.0062	
	2023			0.0032	0.0032	0.0023	0.0023	
De Paul Extention	2023			0.0008	0.0008	0.0005	0.0005	
Phase 2	2023			0.0085	0.0085	0.0059	0.0059	
	2024			0.0055	0.0055	0.0039	0.0039	
Phase 3	2025			0.0070	0.0070	0.0046	0.0046	
	Total Construction Emissions by Year							
	2022			0.04	0.0113	0.0101	0.0082	
	2023			0.02	0.0131	0.0089	0.0088	
	2024			0.02	0.0062	0.0039	0.0039	
	2025			0.01	0.0077	0.0046	0.0046	

Half Road Construction - Demo & Grading

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	269.00	Dwelling Unit	30.50	512,363.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE w/som PG&E (10%)

Land Use - Whole site grading

Construction Phase - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Grading - Used 1,000cy for misc import/export

Demolition - Based on provided construction information

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Trips and VMT - computed in EMFAC2017 using Demo 3/0/9 SitePrep 8/0/0 Grading 15/0/250

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	30.00	4.00
tblConstructionPhase	NumDays	45.00	15.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	PhaseEndDate	6/10/2022	5/18/2022
tblConstructionPhase	PhaseEndDate	9/9/2022	6/13/2022
tblConstructionPhase	PhaseEndDate	7/8/2022	5/24/2022
tblConstructionPhase	PhaseStartDate	5/1/2022	5/13/2022
tblConstructionPhase	PhaseStartDate	7/9/2022	5/24/2022
tblConstructionPhase	PhaseStartDate	6/11/2022	5/18/2022
tblGrading	MaterialExported	0.00	1,000.00
tblGrading	MaterialImported	0.00	1,000.00
tblLandUse	LandUseSquareFeet	484,200.00	512,363.00
tblLandUse	LotAcreage	87.34	30.50
tblLandUse	Population	769.00	0.00
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	LoadFactor	0.48	0.48
tblOffRoadEquipment	LoadFactor	0.43	0.43

tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	UsageHours	8.00	6.93
tblOffRoadEquipment	UsageHours	8.00	4.80
tblOffRoadEquipment	UsageHours	8.00	4.27
tblProjectCharacteristics	CO2IntensityFactor	641.35	21

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0214	0.2581	0.1541	4.7000e-004	0.0282	8.7100e-003	0.0369	3.6300e-003	8.0200e-003	0.0117	0.0000	42.0434	42.0434	0.0107	0.0000	42.3098
Maximum	**0.0214**	**0.2581**	**0.1541**	**4.7000e-004**	**0.0282**	**8.7100e-003**	**0.0369**	**3.6300e-003**	**8.0200e-003**	**0.0117**	**0.0000**	**42.0434**	**42.0434**	**0.0107**	**0.0000**	**42.3098**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	7.2800e-003	0.1311	0.2068	4.7000e-004	0.0145	6.9000e-004	0.0152	2.1300e-003	6.8000e-004	2.8100e-003	0.0000	42.0434	42.0434	0.0107	0.0000	42.3097
Maximum	**7.2800e-003**	**0.1311**	**0.2068**	**4.7000e-004**	**0.0145**	**6.9000e-004**	**0.0152**	**2.1300e-003**	**6.8000e-004**	**2.8100e-003**	**0.0000**	**42.0434**	**42.0434**	**0.0107**	**0.0000**	**42.3097**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**65.92**	**49.22**	**-34.18**	**0.00**	**48.56**	**92.08**	**58.83**	**41.32**	**91.52**	**75.88**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2022	7-31-2022	0.2792	0.1382
		Highest	0.2792	0.1382

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/13/2022	5/18/2022	5	4	
2	Site Preparation	Site Preparation	5/18/2022	5/24/2022	5	5	
3	Grading	Grading	5/24/2022	6/13/2022	5	15	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 35.02

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Graders	1	6.40	187	0.41
Demolition	Excavators	1	8.00	158	0.38
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Grading	Excavators	0	8.00	158	0.38
Site Preparation	Scrapers	2	6.40	367	0.48
Grading	Crawler Tractors	1	4.80	212	0.43
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Graders	1	6.93	187	0.41
Grading	Tractors/Loaders/Backhoes	1	4.80	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	3	4.27	367	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	1	3.00	0.00	9.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	250.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.4000e-004	0.0000	9.4000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0000e-004	3.5500e-003	6.5100e-003	1.0000e-005		1.7000e-004	1.7000e-004		1.6000e-004	1.6000e-004	0.0000	0.9072	0.9072	2.9000e-004	0.0000	0.9146
Total	**4.0000e-004**	**3.5500e-003**	**6.5100e-003**	**1.0000e-005**	**9.4000e-004**	**1.7000e-004**	**1.1100e-003**	**1.4000e-004**	**1.6000e-004**	**3.0000e-004**	**0.0000**	**0.9072**	**0.9072**	**2.9000e-004**	**0.0000**	**0.9146**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.1100e-003	2.6000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3343	0.3343	2.0000e-005	0.0000	0.3347
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0380	0.0380	0.0000	0.0000	0.0380
Total	**5.0000e-005**	**1.1200e-003**	**3.9000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.3723**	**0.3723**	**2.0000e-005**	**0.0000**	**0.3727**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.2000e-004	0.0000	4.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.3000e-004	4.5500e-003	7.8400e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.9072	0.9072	2.9000e-004	0.0000	0.9146
Total	**1.3000e-004**	**4.5500e-003**	**7.8400e-003**	**1.0000e-005**	**4.2000e-004**	**2.0000e-005**	**4.4000e-004**	**6.0000e-005**	**2.0000e-005**	**8.0000e-005**	**0.0000**	**0.9072**	**0.9072**	**2.9000e-004**	**0.0000**	**0.9146**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.1100e-003	2.6000e-004	0.0000	8.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.3343	0.3343	2.0000e-005	0.0000	0.3347
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	1.0000e-005	1.3000e-004	0.0000	5.0000e-005	0.0000	5.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0380	0.0380	0.0000	0.0000	0.0380
Total	**5.0000e-005**	**1.1200e-003**	**3.9000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**3.0000e-005**	**0.0000**	**0.3723**	**0.3723**	**2.0000e-005**	**0.0000**	**0.3727**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	4.1200e-003	0.0464	0.0291	7.0000e-005		1.7400e-003	1.7400e-003		1.6000e-003	1.6000e-003	0.0000	6.5218	6.5218	2.1100e-003	0.0000	6.5746
Total	**4.1200e-003**	**0.0464**	**0.0291**	**7.0000e-005**	**5.3000e-003**	**1.7400e-003**	**7.0400e-003**	**5.7000e-004**	**1.6000e-003**	**2.1700e-003**	**0.0000**	**6.5218**	**6.5218**	**2.1100e-003**	**0.0000**	**6.5746**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.2000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1265	0.1265	0.0000	0.0000	0.1266
Total	**6.0000e-005**	**4.0000e-005**	**4.2000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1265**	**0.1265**	**0.0000**	**0.0000**	**0.1266**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.2100e-003	0.0196	0.0395	7.0000e-005		1.2000e-004	1.2000e-004		1.2000e-004	1.2000e-004	0.0000	6.5218	6.5218	2.1100e-003	0.0000	6.5745
Total	**1.2100e-003**	**0.0196**	**0.0395**	**7.0000e-005**	**2.3900e-003**	**1.2000e-004**	**2.5100e-003**	**2.6000e-004**	**1.2000e-004**	**3.8000e-004**	**0.0000**	**6.5218**	**6.5218**	**2.1100e-003**	**0.0000**	**6.5745**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.0000e-005	4.0000e-005	4.2000e-004	0.0000	1.6000e-004	0.0000	1.6000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.1265	0.1265	0.0000	0.0000	0.1266
Total	**6.0000e-005**	**4.0000e-005**	**4.2000e-004**	**0.0000**	**1.6000e-004**	**0.0000**	**1.6000e-004**	**4.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1265**	**0.1265**	**0.0000**	**0.0000**	**0.1266**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0187	0.0000	0.0187	2.0200e-003	0.0000	2.0200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0155	0.1761	0.1082	2.7000e-004		6.7000e-003	6.7000e-003		6.1700e-003	6.1700e-003	0.0000	24.1178	24.1178	7.8000e-003	0.0000	24.3128
Total	**0.0155**	**0.1761**	**0.1082**	**2.7000e-004**	**0.0187**	**6.7000e-003**	**0.0254**	**2.0200e-003**	**6.1700e-003**	**8.1900e-003**	**0.0000**	**24.1178**	**24.1178**	**7.8000e-003**	**0.0000**	**24.3128**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	9.2000e-004	0.0307	7.1600e-003	1.0000e-004	2.1200e-003	9.0000e-005	2.2100e-003	5.8000e-004	9.0000e-005	6.7000e-004	0.0000	9.2860	9.2860	4.2000e-004	0.0000	9.2965
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.2000e-004	2.2000e-004	2.3700e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.4000e-004	0.0000	0.7118	0.7118	2.0000e-005	0.0000	0.7122
Total	**1.2400e-003**	**0.0309**	**9.5300e-003**	**1.1000e-004**	**3.0100e-003**	**1.0000e-004**	**3.1100e-003**	**8.2000e-004**	**1.0000e-004**	**9.1000e-004**	**0.0000**	**9.9978**	**9.9978**	**4.4000e-004**	**0.0000**	**10.0086**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.4100e-003	0.0000	8.4100e-003	9.1000e-004	0.0000	9.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5800e-003	0.0749	0.1492	2.7000e-004		4.5000e-004	4.5000e-004		4.5000e-004	4.5000e-004	0.0000	24.1178	24.1178	7.8000e-003	0.0000	24.3128
Total	**4.5800e-003**	**0.0749**	**0.1492**	**2.7000e-004**	**8.4100e-003**	**4.5000e-004**	**8.8600e-003**	**9.1000e-004**	**4.5000e-004**	**1.3600e-003**	**0.0000**	**24.1178**	**24.1178**	**7.8000e-003**	**0.0000**	**24.3128**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	9.2000e-004	0.0307	7.1600e-003	1.0000e-004	2.1200e-003	9.0000e-005	2.2100e-003	5.8000e-004	9.0000e-005	6.7000e-004	0.0000	9.2860	9.2860	4.2000e-004	0.0000	9.2965
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	3.2000e-004	2.2000e-004	2.3700e-003	1.0000e-005	8.9000e-004	1.0000e-005	9.0000e-004	2.4000e-004	1.0000e-005	2.4000e-004	0.0000	0.7118	0.7118	2.0000e-005	0.0000	0.7122
Total	**1.2400e-003**	**0.0309**	**9.5300e-003**	**1.1000e-004**	**3.0100e-003**	**1.0000e-004**	**3.1100e-003**	**8.2000e-004**	**1.0000e-004**	**9.1000e-004**	**0.0000**	**9.9978**	**9.9978**	**4.4000e-004**	**0.0000**	**10.0086**

Half Rd Constr Phase 1

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	1.20	Acre	0.00	52,272.00	0
Recreational Swimming Pool	3.00	1000sqft	0.00	3,000.00	0
Condo/Townhouse	40.00	Dwelling Unit	12.20	40,000.00	114
Single Family Housing	54.00	Dwelling Unit	0.00	97,200.00	154

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	5			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SCVE w/some PG&E

Land Use - Added recreational pool area. Assume 10% of 12.2 acres paved

Construction Phase - Based on provided construction information

Off-road Equipment - construction plans

Off-road Equipment - construction plans

Off-road Equipment - construction plans

Off-road Equipment - construction plans

Trips and VMT - added cement and asphalt trips (see EMFAC2017)

Demolition -

Grading -

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	300.00	175.00
tblConstructionPhase	NumDays	20.00	16.00
tblConstructionPhase	NumDays	10.00	35.00
tblLandUse	LotAcreage	1.20	0.00
tblLandUse	LotAcreage	0.07	0.00

tblLandUse	LotAcreage	2.50	12.20
tblLandUse	LotAcreage	17.53	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	4.90
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	21
tblTripsAndVMT	VendorTripNumber	19.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	71.00	0.00
tblTripsAndVMT	WorkerTripNumber	14.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	1.0192	0.2902	0.3675	5.9000e-004	0.0000	0.0154	0.0154	0.0000	0.0146	0.0146	0.0000	51.6038	51.6038	0.0123	0.0000	51.9107
2023	2.1200e-003	0.0203	0.0255	3.0000e-005	0.0000	1.1900e-003	1.1900e-003	0.0000	1.1000e-003	1.1000e-003	0.0000	3.0277	3.0277	9.8000e-004	0.0000	3.0522
Maximum	**1.0192**	**0.2902**	**0.3675**	**5.9000e-004**	**0.0000**	**0.0154**	**0.0154**	**0.0000**	**0.0146**	**0.0146**	**0.0000**	**51.6038**	**51.6038**	**0.0123**	**0.0000**	**51.9107**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.9958	0.2360	0.4101	5.9000e-004	0.0000	9.4000e-004	9.4000e-004	0.0000	9.4000e-004	9.4000e-004	0.0000	51.6038	51.6038	0.0123	0.0000	51.9106
2023	7.8000e-004	0.0151	0.0261	3.0000e-005	0.0000	6.0000e-005	6.0000e-005	0.0000	6.0000e-005	6.0000e-005	0.0000	3.0277	3.0277	9.8000e-004	0.0000	3.0522
Maximum	**0.9958**	**0.2360**	**0.4101**	**5.9000e-004**	**0.0000**	**9.4000e-004**	**9.4000e-004**	**0.0000**	**9.4000e-004**	**9.4000e-004**	**0.0000**	**51.6038**	**51.6038**	**0.0123**	**0.0000**	**51.9106**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.42**	**19.11**	**-11.01**	**0.00**	**0.00**	**93.95**	**93.95**	**0.00**	**93.61**	**93.61**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**6-13-2022**	**9-12-2022**	0.1183	0.1160
2	**9-13-2022**	**12-12-2022**	1.1757	1.1042
3	**12-13-2022**	**3-12-2023**	0.0328	0.0225
4	**3-13-2023**	**6-12-2023**	0.0006	0.0004

		Highest	1.1757	1.1042

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Trenching	Site Preparation	6/13/2022	7/29/2022	5	35	
2	Building Construction	Building Construction	7/13/2022	3/14/2023	5	175	
3	Building Interior	Architectural Coating	10/11/2022	12/5/2022	5	40	
4	Paving	Paving	11/28/2022	12/19/2022	5	16	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 277,830; Residential Outdoor: 92,610; Non-Residential Indoor: 2,550; Non-Residential Outdoor: 850; Striped Parking

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Trenching	Excavators	2	8.00	158	0.38
Trenching	Rubber Tired Dozers	0	8.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	1	4.90	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	1.00	9	0.56
Paving	Graders	1	1.00	187	0.41
Paving	Pavers	1	1.00	130	0.42
Paving	Paving Equipment	1	1.00	132	0.36

Paving	Rollers	1	1.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Building Interior	Air Compressors	5	4.00	78	0.48
Building Interior	Graders	1	2.30	187	0.41
Building Interior	Paving Equipment	1	1.00	132	0.36
Building Interior	Rollers	1	1.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Trenching	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Interior	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Trenching - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.9700e-003	0.0915	0.1531	2.4000e-004		4.5800e-003	4.5800e-003		4.2200e-003	4.2200e-003	0.0000	20.6586	20.6586	6.6800e-003	0.0000	20.8256

Total	**9.9700e-003**	**0.0915**	**0.1531**	**2.4000e-004**	**0.0000**	**4.5800e-003**	**4.5800e-003**	**0.0000**	**4.2200e-003**	**4.2200e-003**	**0.0000**	**20.6586**	**20.6586**	**6.6800e-003**	**0.0000**	**20.8256**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.4400e-003	0.1034	0.1781	2.4000e-004		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	20.6586	20.6586	6.6800e-003	0.0000	20.8256
Total	**3.4400e-003**	**0.1034**	**0.1781**	**2.4000e-004**	**0.0000**	**3.9000e-004**	**3.9000e-004**	**0.0000**	**3.9000e-004**	**3.9000e-004**	**0.0000**	**20.6586**	**20.6586**	**6.6800e-003**	**0.0000**	**20.8256**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.5500e-003	0.0526	0.0607	8.0000e-005		3.3300e-003	3.3300e-003		3.0600e-003	3.0600e-003	0.0000	7.1594	7.1594	2.3200e-003	0.0000	7.2173
Total	**5.5500e-003**	**0.0526**	**0.0607**	**8.0000e-005**		**3.3300e-003**	**3.3300e-003**		**3.0600e-003**	**3.0600e-003**	**0.0000**	**7.1594**	**7.1594**	**2.3200e-003**	**0.0000**	**7.2173**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8400e-003	0.0357	0.0618	8.0000e-005		1.3000e-004	1.3000e-004		1.3000e-004	1.3000e-004	0.0000	7.1594	7.1594	2.3200e-003	0.0000	7.2173
Total	**1.8400e-003**	**0.0357**	**0.0618**	**8.0000e-005**		**1.3000e-004**	**1.3000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**7.1594**	**7.1594**	**2.3200e-003**	**0.0000**	**7.2173**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.1200e-003	0.0203	0.0255	3.0000e-005		1.1900e-003	1.1900e-003		1.1000e-003	1.1000e-003	0.0000	3.0277	3.0277	9.8000e-004	0.0000	3.0522
Total	**2.1200e-003**	**0.0203**	**0.0255**	**3.0000e-005**		**1.1900e-003**	**1.1900e-003**		**1.1000e-003**	**1.1000e-003**	**0.0000**	**3.0277**	**3.0277**	**9.8000e-004**	**0.0000**	**3.0522**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.8000e-004	0.0151	0.0261	3.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.0277	3.0277	9.8000e-004	0.0000	3.0522
Total	**7.8000e-004**	**0.0151**	**0.0261**	**3.0000e-005**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**3.0277**	**3.0277**	**9.8000e-004**	**0.0000**	**3.0522**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Interior - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Archit. Coating	0.9856					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0169	0.1328	0.1418	2.5000e-004		6.8700e-003	6.8700e-003		6.7600e-003	6.7600e-003	0.0000	21.8377	21.8377	2.6700e-003	0.0000	21.9044
Total	**1.0025**	**0.1328**	**0.1418**	**2.5000e-004**		**6.8700e-003**	**6.8700e-003**		**6.7600e-003**	**6.7600e-003**	**0.0000**	**21.8377**	**21.8377**	**2.6700e-003**	**0.0000**	**21.9044**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.9856					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.5300e-003	0.0881	0.1551	2.5000e-004		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	21.8377	21.8377	2.6700e-003	0.0000	21.9044
Total	**0.9901**	**0.0881**	**0.1551**	**2.5000e-004**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**21.8377**	**21.8377**	**2.6700e-003**	**0.0000**	**21.9044**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2500e-003	0.0132	0.0119	2.0000e-005		5.7000e-004	5.7000e-004		5.3000e-004	5.3000e-004	0.0000	1.9481	1.9481	6.1000e-004	0.0000	1.9633
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2500e-003**	**0.0132**	**0.0119**	**2.0000e-005**		**5.7000e-004**	**5.7000e-004**		**5.3000e-004**	**5.3000e-004**	**0.0000**	**1.9481**	**1.9481**	**6.1000e-004**	**0.0000**	**1.9633**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.6000e-004	8.8600e-003	0.0151	2.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	1.9481	1.9481	6.1000e-004	0.0000	1.9633
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.6000e-004**	**8.8600e-003**	**0.0151**	**2.0000e-005**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**1.9481**	**1.9481**	**6.1000e-004**	**0.0000**	**1.9633**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Half Rd Constr. - De Paul Extension

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	1.40	Acre	1.40	60,984.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE with some PG&E

Land Use - Roadway Construction

Construction Phase - Based on provided schedule - all fit into 2023 (60 days)

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Grading -

Trips and VMT - 612 cy asphalt and equipment. Modeled using EMFAC2017

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	3.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	4.00	15.00
tblConstructionPhase	NumDays	10.00	16.00
tblConstructionPhase	PhaseEndDate	10/9/2023	12/12/2023
tblConstructionPhase	PhaseEndDate	10/9/2023	10/24/2023
tblConstructionPhase	PhaseEndDate	10/23/2023	12/22/2023
tblConstructionPhase	PhaseStartDate	10/10/2023	10/25/2023
tblConstructionPhase	PhaseStartDate	10/10/2023	12/19/2023
tblOffRoadEquipment	LoadFactor	0.48	0.48

tblOffRoadEquipment	LoadFactor	0.43	0.43
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	OffRoadEquipmentType		Scrapers
tblOffRoadEquipment	OffRoadEquipmentType		Crawler Tractors
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	21
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Year	tons/yr										MT/yr					
2023	3.6100e-003	0.0320	0.0343	7.0000e-005	1.9900e-003	1.3500e-003	3.3400e-003	2.1000e-004	1.2400e-003	1.4600e-003	0.0000	5.8494	5.8494	1.8900e-003	0.0000	5.8966
Maximum	**3.6100e-003**	**0.0320**	**0.0343**	**7.0000e-005**	**1.9900e-003**	**1.3500e-003**	**3.3400e-003**	**2.1000e-004**	**1.2400e-003**	**1.4600e-003**	**0.0000**	**5.8494**	**5.8494**	**1.8900e-003**	**0.0000**	**5.8966**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	1.5100e-003	0.0240	0.0436	7.0000e-005	8.9000e-004	1.1000e-004	1.0000e-003	1.0000e-004	1.1000e-004	2.1000e-004	0.0000	5.8494	5.8494	1.8900e-003	0.0000	5.8966
Maximum	**1.5100e-003**	**0.0240**	**0.0436**	**7.0000e-005**	**8.9000e-004**	**1.1000e-004**	**1.0000e-003**	**1.0000e-004**	**1.1000e-004**	**2.1000e-004**	**0.0000**	**5.8494**	**5.8494**	**1.8900e-003**	**0.0000**	**5.8966**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**58.17**	**25.01**	**-27.10**	**0.00**	**55.28**	**91.85**	**70.06**	**52.38**	**91.13**	**85.62**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	10/4/2023	10/24/2023	5	15	
2	Trenching	Trenching	10/25/2023	12/12/2023	5	35	

3	Paving	Paving	12/19/2023	12/22/2023	5	16	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 3.75

Acres of Paving: 1.4

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Graders	1	1.00	187	0.41
Paving	Cement and Mortar Mixers	2	1.00	9	0.56
Grading	Rubber Tired Dozers	0	6.00	247	0.40
Trenching	Generator Sets	0	8.00	84	0.74
Trenching	Cranes	0	6.00	231	0.29
Trenching	Forklifts	0	6.00	89	0.20
Grading	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Paving	Pavers	1	1.00	130	0.42
Paving	Rollers	1	1.00	80	0.38
Grading	Scrapers	1	1.00	367	0.48
	Rubber Tired Dozers	1	6.00	247	0.40
Trenching	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Grading	Crawler Tractors	1	1.00	212	0.43
	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	2	1.00	97	0.37
Trenching	Excavators	2	1.00	158	0.38
	Graders	1	6.00	187	0.41
Paving	Paving Equipment	1	1.00	132	0.36
Paving	Graders	1	1.00	187	0.41
Trenching	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Trenching	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.9900e-003	0.0000	1.9900e-003	2.1000e-004	0.0000	2.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6600e-003	0.0184	0.0116	3.0000e-005		7.0000e-004	7.0000e-004		6.5000e-004	6.5000e-004	0.0000	2.7012	2.7012	8.7000e-004	0.0000	2.7230
Total	**1.6600e-003**	**0.0184**	**0.0116**	**3.0000e-005**	**1.9900e-003**	**7.0000e-004**	**2.6900e-003**	**2.1000e-004**	**6.5000e-004**	**8.6000e-004**	**0.0000**	**2.7012**	**2.7012**	**8.7000e-004**	**0.0000**	**2.7230**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.9000e-004	0.0000	8.9000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.2000e-004	8.6200e-003	0.0170	3.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	2.7012	2.7012	8.7000e-004	0.0000	2.7230
Total	**5.2000e-004**	**8.6200e-003**	**0.0170**	**3.0000e-005**	**8.9000e-004**	**5.0000e-005**	**9.4000e-004**	**1.0000e-004**	**5.0000e-005**	**1.5000e-004**	**0.0000**	**2.7012**	**2.7012**	**8.7000e-004**	**0.0000**	**2.7230**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Trenching - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.1600e-003	0.0102	0.0192	3.0000e-005		5.0000e-004	5.0000e-004		4.6000e-004	4.6000e-004	0.0000	2.5933	2.5933	8.4000e-004	0.0000	2.6143
Total	**1.1600e-003**	**0.0102**	**0.0192**	**3.0000e-005**		**5.0000e-004**	**5.0000e-004**		**4.6000e-004**	**4.6000e-004**	**0.0000**	**2.5933**	**2.5933**	**8.4000e-004**	**0.0000**	**2.6143**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.3000e-004	0.0130	0.0224	3.0000e-005		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	2.5933	2.5933	8.4000e-004	0.0000	2.6142
Total	**4.3000e-004**	**0.0130**	**0.0224**	**3.0000e-005**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**	**0.0000**	**2.5933**	**2.5933**	**8.4000e-004**	**0.0000**	**2.6142**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	3.3000e-004	3.3900e-003	3.5100e-003	1.0000e-005		1.5000e-004	1.5000e-004		1.4000e-004	1.4000e-004	0.0000	0.5549	0.5549	1.7000e-004	0.0000	0.5593
Paving	4.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**7.9000e-004**	**3.3900e-003**	**3.5100e-003**	**1.0000e-005**		**1.5000e-004**	**1.5000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.5549**	**0.5549**	**1.7000e-004**	**0.0000**	**0.5593**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.0000e-004	2.3700e-003	4.2100e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.5549	0.5549	1.7000e-004	0.0000	0.5593
Paving	4.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**5.6000e-004**	**2.3700e-003**	**4.2100e-003**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.5549**	**0.5549**	**1.7000e-004**	**0.0000**	**0.5593**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Half Rd Constr. Phase 2

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	66.00	Dwelling Unit	12.88	118,800.00	189
Condo/Townhouse	45.00	Dwelling Unit	0.00	45,000.00	129
Other Asphalt Surfaces	1.30	Acre	0.00	56,628.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE with some PG&E

Land Use - Assume roughly 10% of site is asphalt

Construction Phase - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Trips and VMT - Concrete = 178 roundtrips, asphalt 700cy Modeled in EMFAC w/CalEEMod trips

Construction Off-road Equipment Mitigation - Tier4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	20.00	40.00
tblConstructionPhase	NumDays	300.00	175.00
tblConstructionPhase	NumDays	20.00	16.00
tblConstructionPhase	PhaseEndDate	4/25/2025	5/10/2024
tblConstructionPhase	PhaseEndDate	2/28/2025	8/16/2024
tblConstructionPhase	PhaseEndDate	3/28/2025	4/8/2024
tblConstructionPhase	PhaseStartDate	3/29/2025	3/17/2024
tblConstructionPhase	PhaseStartDate	1/6/2024	12/18/2023
tblConstructionPhase	PhaseStartDate	3/1/2025	3/17/2024

tblLandUse	LotAcreage	21.43	12.88
tblLandUse	LotAcreage	2.81	0.00
tblLandUse	LotAcreage	1.30	0.00
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.41	0.41
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Paving Equipment
tblOffRoadEquipment	OffRoadEquipmentType		Rollers
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentType		Cement and Mortar Mixers
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Graders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	5.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	7.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00

tblProjectCharacteristics	CO2IntensityFactor	641.35	21
tblTripsAndVMT	VendorTripNumber	21.00	0.00
tblTripsAndVMT	WorkerTripNumber	16.00	0.00
tblTripsAndVMT	WorkerTripNumber	80.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	9.6900e-003	0.0852	0.1585	2.4000e-004	0.0000	4.2200e-003	4.2200e-003	0.0000	3.8800e-003	3.8800e-003	0.0000	21.3175	21.3175	6.8900e-003	0.0000	21.4898
2024	1.1887	0.2005	0.2510	4.2000e-004	0.0000	9.6800e-003	9.6800e-003	0.0000	9.2300e-003	9.2300e-003	0.0000	36.2867	36.2867	7.1700e-003	0.0000	36.4659
Maximum	**1.1887**	**0.2005**	**0.2510**	**4.2000e-004**	**0.0000**	**9.6800e-003**	**9.6800e-003**	**0.0000**	**9.2300e-003**	**9.2300e-003**	**0.0000**	**36.2867**	**36.2867**	**7.1700e-003**	**0.0000**	**36.4659**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	3.6000e-003	0.1066	0.1837	2.4000e-004	0.0000	4.0000e-004	4.0000e-004	0.0000	4.0000e-004	4.0000e-004	0.0000	21.3175	21.3175	6.8900e-003	0.0000	21.4898
2024	1.1729	0.1573	0.2754	4.2000e-004	0.0000	6.5000e-004	6.5000e-004	0.0000	6.5000e-004	6.5000e-004	0.0000	36.2867	36.2867	7.1700e-003	0.0000	36.4659

Maximum	**1.1729**	**0.1573**	**0.2754**	**4.2000e-004**	**0.0000**	**6.5000e-004**	**6.5000e-004**	**0.0000**	**6.5000e-004**	**6.5000e-004**	**0.0000**	**36.2867**	**36.2867**	**7.1700e-003**	**0.0000**	**36.4659**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**1.83**	**7.63**	**-12.13**	**0.00**	**0.00**	**92.45**	**92.45**	**0.00**	**91.99**	**91.99**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**10-14-2023**	**1-13-2024**	0.0986	0.1131
2	**1-14-2024**	**4-13-2024**	0.6948	0.6653
3	**4-14-2024**	**7-13-2024**	0.6573	0.6317
4	**7-14-2024**	**9-30-2024**	0.0098	0.0075
		Highest	0.6948	0.6653

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Building Construction	Building Construction	12/18/2023	8/16/2024	5	175	
2	Paving	Paving	3/17/2024	4/8/2024	5	16	
3	Building Interior	Architectural Coating	3/17/2024	5/10/2024	5	40	
4	Utilities	Trenching	10/14/2023	12/1/2023	5	35	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 331,695; Residential Outdoor: 110,565; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Interior	Air Compressors	5	4.00	78	0.48
Utilities	Excavators	2	8.00	158	0.38

Utilities	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Interior	Paving Equipment	1	2.00	132	0.36
Building Construction	Cranes	0	7.00	231	0.29
Building Construction	Forklifts	1	5.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Paving	Pavers	1	1.00	130	0.42
Paving	Rollers	1	1.00	80	0.38
Building Interior	Rollers	1	2.00	80	0.38
Building Interior	Graders	1	3.00	187	0.41
Building Construction	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Paving	Cement and Mortar Mixers	2	1.00	9	0.56
Paving	Tractors/Loaders/Backhoes	2	1.00	97	0.37
Paving	Paving Equipment	1	1.00	132	0.36
Paving	Graders	1	1.00	187	0.41
Building Construction	Welders	0	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Building Interior	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.2000e-004	3.9600e-003	4.9700e-003	1.0000e-005		2.3000e-004	2.3000e-004		2.1000e-004	2.1000e-004	0.0000	0.5907	0.5907	1.9000e-004	0.0000	0.5954
Total	**4.2000e-004**	**3.9600e-003**	**4.9700e-003**	**1.0000e-005**		**2.3000e-004**	**2.3000e-004**		**2.1000e-004**	**2.1000e-004**	**0.0000**	**0.5907**	**0.5907**	**1.9000e-004**	**0.0000**	**0.5954**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	1.5000e-004	2.9500e-003	5.0900e-003	1.0000e-005		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	0.5907	0.5907	1.9000e-004	0.0000	0.5954
Total	**1.5000e-004**	**2.9500e-003**	**5.0900e-003**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**0.5907**	**0.5907**	**1.9000e-004**	**0.0000**	**0.5954**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	6.3400e-003	0.0605	0.0818	1.1000e-004		3.3200e-003	3.3200e-003		3.0500e-003	3.0500e-003	0.0000	9.7475	9.7475	3.1500e-003	0.0000	9.8263
Total	**6.3400e-003**	**0.0605**	**0.0818**	**1.1000e-004**		**3.3200e-003**	**3.3200e-003**		**3.0500e-003**	**3.0500e-003**	**0.0000**	**9.7475**	**9.7475**	**3.1500e-003**	**0.0000**	**9.8263**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5000e-003	0.0486	0.0841	1.1000e-004		1.8000e-004	1.8000e-004		1.8000e-004	1.8000e-004	0.0000	9.7475	9.7475	3.1500e-003	0.0000	9.8263
Total	**2.5000e-003**	**0.0486**	**0.0841**	**1.1000e-004**		**1.8000e-004**	**1.8000e-004**		**1.8000e-004**	**1.8000e-004**	**0.0000**	**9.7475**	**9.7475**	**3.1500e-003**	**0.0000**	**9.8263**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.2500e-003	0.0125	0.0140	3.0000e-005		5.3000e-004	5.3000e-004		4.9000e-004	4.9000e-004	0.0000	2.2175	2.2175	7.0000e-004	0.0000	2.2349
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.2500e-003**	**0.0125**	**0.0140**	**3.0000e-005**		**5.3000e-004**	**5.3000e-004**		**4.9000e-004**	**4.9000e-004**	**0.0000**	**2.2175**	**2.2175**	**7.0000e-004**	**0.0000**	**2.2349**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.3000e-004	0.0102	0.0174	3.0000e-005		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	2.2175	2.2175	7.0000e-004	0.0000	2.2349
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**5.3000e-004**	**0.0102**	**0.0174**	**3.0000e-005**		**7.0000e-005**	**7.0000e-005**		**7.0000e-005**	**7.0000e-005**	**0.0000**	**2.2175**	**2.2175**	**7.0000e-004**	**0.0000**	**2.2349**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Building Interior - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1649					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0163	0.1275	0.1552	2.8000e-004		5.8400e-003	5.8400e-003		5.6900e-003	5.6900e-003	0.0000	24.3217	24.3217	3.3200e-003	0.0000	24.4047
Total	**1.1811**	**0.1275**	**0.1552**	**2.8000e-004**		**5.8400e-003**	**5.8400e-003**		**5.6900e-003**	**5.6900e-003**	**0.0000**	**24.3217**	**24.3217**	**3.3200e-003**	**0.0000**	**24.4047**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.1649					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.9900e-003	0.0985	0.1740	2.8000e-004		4.0000e-004	4.0000e-004		4.0000e-004	4.0000e-004	0.0000	24.3217	24.3217	3.3200e-003	0.0000	24.4046
Total	**1.1699**	**0.0985**	**0.1740**	**2.8000e-004**		**4.0000e-004**	**4.0000e-004**		**4.0000e-004**	**4.0000e-004**	**0.0000**	**24.3217**	**24.3217**	**3.3200e-003**	**0.0000**	**24.4046**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Utilities - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	9.2700e-003	0.0812	0.1535	2.4000e-004		3.9900e-003	3.9900e-003		3.6700e-003	3.6700e-003	0.0000	20.7268	20.7268	6.7000e-003	0.0000	20.8944
Total	**9.2700e-003**	**0.0812**	**0.1535**	**2.4000e-004**		**3.9900e-003**	**3.9900e-003**		**3.6700e-003**	**3.6700e-003**	**0.0000**	**20.7268**	**20.7268**	**6.7000e-003**	**0.0000**	**20.8944**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.4500e-003	0.1037	0.1786	2.4000e-004		3.9000e-004	3.9000e-004		3.9000e-004	3.9000e-004	0.0000	20.7268	20.7268	6.7000e-003	0.0000	20.8944
Total	**3.4500e-003**	**0.1037**	**0.1786**	**2.4000e-004**		**3.9000e-004**	**3.9000e-004**		**3.9000e-004**	**3.9000e-004**	**0.0000**	**20.7268**	**20.7268**	**6.7000e-003**	**0.0000**	**20.8944**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Half Rd Constr. Phase 3 - Santa Clara County, Annual

Half Rd Constr. Phase 3

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	0.50	Acre	0.00	21,780.00	0
Condo/Townhouse	64.00	Dwelling Unit	2.85	64,000.00	183

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE with some PG&E

Land Use - Assume roughly 10-20% of site is asphalt

Construction Phase - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Off-road Equipment - Based on provided construciton information

Trips and VMT - Concrete = 80 roundtrips, asphalt 300cy Modeled in EMFAC w/CalEEMod trips

Construction Off-road Equipment Mitigation - Tier4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	5.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	4.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	10.00	40.00
tblConstructionPhase	NumDays	220.00	75.00
tblConstructionPhase	NumDays	10.00	12.00
tblLandUse	LotAcreage	0.50	0.00
tblLandUse	LotAcreage	4.00	2.85
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	5.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	6.00	4.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	7.00	3.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblOffRoadEquipment	UsageHours	6.00	1.00
tblOffRoadEquipment	UsageHours	8.00	1.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	21
tblTripsAndVMT	VendorTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	55.00	0.00
tblTripsAndVMT	WorkerTripNumber	20.00	0.00
tblTripsAndVMT	WorkerTripNumber	11.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.4773	0.1738	0.2858	4.7000e-004	0.0000	7.7100e-003	7.7100e-003	0.0000	7.3700e-003	7.3700e-003	0.0000	41.0081	41.0081	8.6700e-003	0.0000	41.2248

Maximum	**0.4773**	**0.1738**	**0.2858**	**4.7000e-004**	**0.0000**	**7.7100e-003**	**7.7100e-003**	**0.0000**	**7.3700e-003**	**7.3700e-003**	**0.0000**	**41.0081**	**41.0081**	**8.6700e-003**	**0.0000**	**41.2248**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2025	0.4631	0.1835	0.3196	4.7000e-004	0.0000	7.1000e-004	7.1000e-004	0.0000	7.1000e-004	7.1000e-004	0.0000	41.0080	41.0080	8.6700e-003	0.0000	41.2248
Maximum	**0.4631**	**0.1835**	**0.3196**	**4.7000e-004**	**0.0000**	**7.1000e-004**	**7.1000e-004**	**0.0000**	**7.1000e-004**	**7.1000e-004**	**0.0000**	**41.0080**	**41.0080**	**8.6700e-003**	**0.0000**	**41.2248**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**2.97**	**-5.59**	**-11.84**	**0.00**	**0.00**	**90.79**	**90.79**	**0.00**	**90.37**	**90.37**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**4-13-2025**	**7-12-2025**	0.0583	0.0798
2	**7-13-2025**	**9-30-2025**	0.2870	0.2725
		Highest	0.2870	0.2725

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Utilities	Trenching	4/13/2025	5/16/2025	5	25	
2	Building Construction	Building Construction	6/7/2025	9/19/2025	5	75	
3	Paving	Paving	9/5/2025	9/22/2025	5	12	

4	Building Interior	Architectural Coating	9/5/2025	10/30/2025	5	40	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 129,600; Residential Outdoor: 43,200; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area:

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Building Construction	Cranes	0	8.00	231	0.29
Building Construction	Forklifts	1	3.00	89	0.20
Building Construction	Generator Sets	0	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	1.00	97	0.37
Building Construction	Welders	0	8.00	46	0.45
Paving	Cement and Mortar Mixers	2	1.00	9	0.56
Paving	Graders	1	1.00	187	0.41
Paving	Pavers	1	1.00	130	0.42
Paving	Paving Equipment	1	1.00	132	0.36
Paving	Rollers	1	1.00	80	0.38
Paving	Tractors/Loaders/Backhoes	2	1.00	97	0.37
Building Interior	Air Compressors	5	4.00	78	0.48
Building Interior	Graders	1	2.00	187	0.41
Building Interior	Paving Equipment	1	1.00	132	0.36
Building Interior	Rollers	1	1.00	80	0.38
Utilities	Excavators	2	8.00	158	0.38
Utilities	Tractors/Loaders/Backhoes	1	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class

Building Construction	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Interior	8	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utilities	3	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Utilities - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.8300e-003	0.0472	0.1094	1.7000e-004		2.1700e-003	2.1700e-003		2.0000e-003	2.0000e-003	0.0000	14.7727	14.7727	4.7800e-003	0.0000	14.8922
Total	**5.8300e-003**	**0.0472**	**0.1094**	**1.7000e-004**		**2.1700e-003**	**2.1700e-003**		**2.0000e-003**	**2.0000e-003**	**0.0000**	**14.7727**	**14.7727**	**4.7800e-003**	**0.0000**	**14.8922**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.4600e-003	0.0739	0.1272	1.7000e-004		2.8000e-004	2.8000e-004		2.8000e-004	2.8000e-004	0.0000	14.7727	14.7727	4.7800e-003	0.0000	14.8922
Total	**2.4600e-003**	**0.0739**	**0.1272**	**1.7000e-004**		**2.8000e-004**	**2.8000e-004**		**2.8000e-004**	**2.8000e-004**	**0.0000**	**14.7727**	**14.7727**	**4.7800e-003**	**0.0000**	**14.8922**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.8400e-003	0.0178	0.0264	4.0000e-005		8.7000e-004	8.7000e-004		8.0000e-004	8.0000e-004	0.0000	3.1729	3.1729	1.0300e-003	0.0000	3.1986
Total	**1.8400e-003**	**0.0178**	**0.0264**	**4.0000e-005**		**8.7000e-004**	**8.7000e-004**		**8.0000e-004**	**8.0000e-004**	**0.0000**	**3.1729**	**3.1729**	**1.0300e-003**	**0.0000**	**3.1986**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.1000e-004	0.0158	0.0273	4.0000e-005		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	3.1729	3.1729	1.0300e-003	0.0000	3.1986
Total	**8.1000e-004**	**0.0158**	**0.0273**	**4.0000e-005**		**6.0000e-005**	**6.0000e-005**		**6.0000e-005**	**6.0000e-005**	**0.0000**	**3.1729**	**3.1729**	**1.0300e-003**	**0.0000**	**3.1986**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Paving - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.6000e-004	8.3700e-003	0.0105	2.0000e-005		3.4000e-004	3.4000e-004		3.2000e-004	3.2000e-004	0.0000	1.6661	1.6661	5.2000e-004	0.0000	1.6792

Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**8.6000e-004**	**8.3700e-003**	**0.0105**	**2.0000e-005**		**3.4000e-004**	**3.4000e-004**		**3.2000e-004**	**3.2000e-004**	**0.0000**	**1.6661**	**1.6661**	**5.2000e-004**	**0.0000**	**1.6792**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	3.1000e-004	7.1000e-003	0.0126	2.0000e-005		3.0000e-005	3.0000e-005		3.0000e-005	3.0000e-005	0.0000	1.6661	1.6661	5.2000e-004	0.0000	1.6792
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.1000e-004**	**7.1000e-003**	**0.0126**	**2.0000e-005**		**3.0000e-005**	**3.0000e-005**		**3.0000e-005**	**3.0000e-005**	**0.0000**	**1.6661**	**1.6661**	**5.2000e-004**	**0.0000**	**1.6792**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Interior - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4551					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0137	0.1004	0.1396	2.5000e-004		4.3300e-003	4.3300e-003		4.2600e-003	4.2600e-003	0.0000	21.3963	21.3963	2.3400e-003	0.0000	21.4549
Total	**0.4687**	**0.1004**	**0.1396**	**2.5000e-004**		**4.3300e-003**	**4.3300e-003**		**4.2600e-003**	**4.2600e-003**	**0.0000**	**21.3963**	**21.3963**	**2.3400e-003**	**0.0000**	**21.4549**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.4551					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.4500e-003	0.0868	0.1525	2.5000e-004		3.5000e-004	3.5000e-004		3.5000e-004	3.5000e-004	0.0000	21.3962	21.3962	2.3400e-003	0.0000	21.4548
Total	**0.4595**	**0.0868**	**0.1525**	**2.5000e-004**		**3.5000e-004**	**3.5000e-004**		**3.5000e-004**	**3.5000e-004**	**0.0000**	**21.3962**	**21.3962**	**2.3400e-003**	**0.0000**	**21.4548**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Half Rd - Operational - Santa Clara County, Annual

Half Rd - Operational

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.00	Acre	0.00	130,680.00	0
Recreational Swimming Pool	3.00	1000sqft	0.00	3,000.00	0
Single Family Housing	269.00	Dwelling Unit	30.50	512,363.00	769

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE with some PG&E

Land Use - Added club House. Assume about 10% asphalt surfaces

Construction Phase - Operational run

Off-road Equipment - Operational run

Trips and VMT - Operational run

Vehicle Trips - Crosswinds Trip Rate with VMT rate

Woodstoves - No Hearth

Water And Wastewater - Wastewater Treatment

Water Mitigation -

Energy Use - Reach code = no natural gas

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblEnergyUse	NT24NG	3,155.00	0.00
tblEnergyUse	T24NG	25,910.09	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	67.25	0.00
tblFireplaces	NumberWood	115.67	0.00
tblFleetMix	HHD	0.02	0.02
tblFleetMix	LDA	0.62	0.59
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.0300e-003	5.4009e-003
tblFleetMix	MCY	5.2040e-003	4.9788e-003
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MH	6.8100e-004	7.4215e-004
tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	2.1950e-003	1.5279e-003
tblFleetMix	SBUS	6.3800e-004	9.1499e-004
tblFleetMix	UBUS	1.5020e-003	1.2248e-003
tblLandUse	LandUseSquareFeet	484,200.00	512,363.00
tblLandUse	LotAcreage	3.00	0.00
tblLandUse	LotAcreage	0.07	0.00
tblLandUse	LotAcreage	87.34	30.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	21

tblVehicleEF	HHD	0.31	0.02
tblVehicleEF	HHD	0.06	0.05
tblVehicleEF	HHD	0.07	4.4196e-007
tblVehicleEF	HHD	1.52	6.31
tblVehicleEF	HHD	0.93	0.41
tblVehicleEF	HHD	3.74	5.9100e-003
tblVehicleEF	HHD	4,207.12	1,010.86
tblVehicleEF	HHD	1,529.11	1,358.12
tblVehicleEF	HHD	11.80	0.05
tblVehicleEF	HHD	13.04	5.31
tblVehicleEF	HHD	1.80	2.65
tblVehicleEF	HHD	19.31	2.32
tblVehicleEF	HHD	5.9270e-003	2.4220e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	6.0050e-003	0.02
tblVehicleEF	HHD	1.1600e-004	6.0767e-007
tblVehicleEF	HHD	5.6710e-003	2.3172e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8440e-003	8.8913e-003
tblVehicleEF	HHD	5.7450e-003	0.02
tblVehicleEF	HHD	1.0700e-004	5.5873e-007
tblVehicleEF	HHD	9.5000e-005	1.7395e-006
tblVehicleEF	HHD	4.6590e-003	7.8713e-005
tblVehicleEF	HHD	0.39	0.43
tblVehicleEF	HHD	6.0000e-005	9.8718e-007
tblVehicleEF	HHD	0.09	0.03
tblVehicleEF	HHD	4.0300e-004	3.9667e-004
tblVehicleEF	HHD	0.08	2.3101e-006
tblVehicleEF	HHD	0.04	9.4046e-003

tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.7900e-004	4.7299e-007
tblVehicleEF	HHD	9.5000e-005	1.7395e-006
tblVehicleEF	HHD	4.6590e-003	7.8713e-005
tblVehicleEF	HHD	0.46	0.49
tblVehicleEF	HHD	6.0000e-005	9.8718e-007
tblVehicleEF	HHD	0.15	0.08
tblVehicleEF	HHD	4.0300e-004	3.9667e-004
tblVehicleEF	HHD	0.09	2.5293e-006
tblVehicleEF	LDA	2.5670e-003	1.3656e-003
tblVehicleEF	LDA	3.2680e-003	0.04
tblVehicleEF	LDA	0.41	0.47
tblVehicleEF	LDA	0.84	1.94
tblVehicleEF	LDA	206.01	220.20
tblVehicleEF	LDA	48.83	46.75
tblVehicleEF	LDA	0.03	0.02
tblVehicleEF	LDA	0.04	0.15
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	1.5230e-003	1.1907e-003
tblVehicleEF	LDA	2.1880e-003	1.5672e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	1.4020e-003	1.0962e-003
tblVehicleEF	LDA	2.0120e-003	1.4410e-003
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.07	0.08
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	6.4390e-003	4.9190e-003
tblVehicleEF	LDA	0.03	0.19

tblVehicleEF	LDA	0.04	0.16
tblVehicleEF	LDA	2.0620e-003	9.2798e-005
tblVehicleEF	LDA	5.0200e-004	0.00
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	0.07	0.08
tblVehicleEF	LDA	0.02	0.03
tblVehicleEF	LDA	9.3640e-003	7.1492e-003
tblVehicleEF	LDA	0.03	0.19
tblVehicleEF	LDA	0.05	0.18
tblVehicleEF	LDT1	5.5980e-003	2.7305e-003
tblVehicleEF	LDT1	7.5190e-003	0.05
tblVehicleEF	LDT1	0.76	0.71
tblVehicleEF	LDT1	1.67	2.09
tblVehicleEF	LDT1	262.03	264.87
tblVehicleEF	LDT1	61.70	56.84
tblVehicleEF	LDT1	0.07	0.05
tblVehicleEF	LDT1	0.09	0.19
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	1.9540e-003	1.4441e-003
tblVehicleEF	LDT1	2.6790e-003	1.8819e-003
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	1.7980e-003	1.3285e-003
tblVehicleEF	LDT1	2.4630e-003	1.7304e-003
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.16	0.12
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.01	0.01
tblVehicleEF	LDT1	0.13	0.47

tblVehicleEF	LDT1	0.10	0.22
tblVehicleEF	LDT1	2.6280e-003	2.6149e-003
tblVehicleEF	LDT1	6.4500e-004	0.00
tblVehicleEF	LDT1	0.06	0.06
tblVehicleEF	LDT1	0.16	0.12
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	0.13	0.47
tblVehicleEF	LDT1	0.11	0.24
tblVehicleEF	LDT2	3.9270e-003	2.4213e-003
tblVehicleEF	LDT2	4.6800e-003	0.05
tblVehicleEF	LDT2	0.58	0.66
tblVehicleEF	LDT2	1.13	2.54
tblVehicleEF	LDT2	296.40	280.92
tblVehicleEF	LDT2	69.39	60.84
tblVehicleEF	LDT2	0.05	0.05
tblVehicleEF	LDT2	0.08	0.21
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.6390e-003	1.2677e-003
tblVehicleEF	LDT2	2.3480e-003	1.6141e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.5070e-003	1.1670e-003
tblVehicleEF	LDT2	2.1590e-003	1.4841e-003
tblVehicleEF	LDT2	0.03	0.06
tblVehicleEF	LDT2	0.09	0.11
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	9.7420e-003	9.5471e-003
tblVehicleEF	LDT2	0.06	0.39

tblVehicleEF	LDT2	0.06	0.24
tblVehicleEF	LDT2	2.9680e-003	0.01
tblVehicleEF	LDT2	7.1300e-004	8.7599e-005
tblVehicleEF	LDT2	0.03	0.06
tblVehicleEF	LDT2	0.09	0.11
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.01	0.01
tblVehicleEF	LDT2	0.06	0.39
tblVehicleEF	LDT2	0.07	0.27
tblVehicleEF	LHD1	4.6790e-003	4.6672e-003
tblVehicleEF	LHD1	0.01	6.7655e-003
tblVehicleEF	LHD1	0.02	0.01
tblVehicleEF	LHD1	0.14	0.18
tblVehicleEF	LHD1	0.81	0.61
tblVehicleEF	LHD1	2.14	0.99
tblVehicleEF	LHD1	8.97	8.66
tblVehicleEF	LHD1	665.14	749.59
tblVehicleEF	LHD1	29.84	11.02
tblVehicleEF	LHD1	0.07	0.05
tblVehicleEF	LHD1	0.82	0.50
tblVehicleEF	LHD1	0.85	0.27
tblVehicleEF	LHD1	8.4500e-004	8.7170e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	9.8314e-003
tblVehicleEF	LHD1	0.01	8.5973e-003
tblVehicleEF	LHD1	8.1100e-004	2.3163e-004
tblVehicleEF	LHD1	8.0900e-004	8.3399e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.5630e-003	2.4578e-003
tblVehicleEF	LHD1	0.01	8.1792e-003

tblVehicleEF	LHD1	7.4600e-004	2.1298e-004
tblVehicleEF	LHD1	2.3230e-003	1.7167e-003
tblVehicleEF	LHD1	0.09	0.06
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.2230e-003	9.0428e-004
tblVehicleEF	LHD1	0.11	0.08
tblVehicleEF	LHD1	0.30	0.46
tblVehicleEF	LHD1	0.21	0.06
tblVehicleEF	LHD1	9.0000e-005	8.3993e-005
tblVehicleEF	LHD1	6.5140e-003	7.3147e-003
tblVehicleEF	LHD1	3.3800e-004	1.0905e-004
tblVehicleEF	LHD1	2.3230e-003	1.7167e-003
tblVehicleEF	LHD1	0.09	0.06
tblVehicleEF	LHD1	0.02	0.03
tblVehicleEF	LHD1	1.2230e-003	9.0428e-004
tblVehicleEF	LHD1	0.13	0.10
tblVehicleEF	LHD1	0.30	0.46
tblVehicleEF	LHD1	0.23	0.07
tblVehicleEF	LHD2	2.9160e-003	2.8272e-003
tblVehicleEF	LHD2	6.1790e-003	6.0419e-003
tblVehicleEF	LHD2	4.7100e-003	6.5336e-003
tblVehicleEF	LHD2	0.12	0.14
tblVehicleEF	LHD2	0.49	0.54
tblVehicleEF	LHD2	0.99	0.55
tblVehicleEF	LHD2	13.82	13.60
tblVehicleEF	LHD2	689.53	727.00
tblVehicleEF	LHD2	22.84	7.15
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.42	0.60
tblVehicleEF	LHD2	0.35	0.15

tblVehicleEF	LHD2	1.1530e-003	1.4658e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.8100e-004	1.1718e-004
tblVehicleEF	LHD2	1.1040e-003	1.4024e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.7010e-003	2.7003e-003
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.5100e-004	1.0775e-004
tblVehicleEF	LHD2	6.3900e-004	8.4288e-004
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.6200e-004	4.5659e-004
tblVehicleEF	LHD2	0.10	0.10
tblVehicleEF	LHD2	0.05	0.20
tblVehicleEF	LHD2	0.06	0.03
tblVehicleEF	LHD2	1.3500e-004	1.2990e-004
tblVehicleEF	LHD2	6.7010e-003	7.0164e-003
tblVehicleEF	LHD2	2.4600e-004	7.0732e-005
tblVehicleEF	LHD2	6.3900e-004	8.4288e-004
tblVehicleEF	LHD2	0.02	0.03
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	3.6200e-004	4.5659e-004
tblVehicleEF	LHD2	0.11	0.12
tblVehicleEF	LHD2	0.05	0.20
tblVehicleEF	LHD2	0.07	0.04
tblVehicleEF	MCY	0.45	0.32
tblVehicleEF	MCY	0.16	0.25
tblVehicleEF	MCY	18.05	18.17

tblVehicleEF	MCY	10.25	9.11
tblVehicleEF	MCY	170.65	209.94
tblVehicleEF	MCY	44.05	60.17
tblVehicleEF	MCY	1.14	1.14
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	2.0890e-003	2.0606e-003
tblVehicleEF	MCY	3.4880e-003	2.9293e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	1.9500e-003	1.9235e-003
tblVehicleEF	MCY	3.2730e-003	2.7475e-003
tblVehicleEF	MCY	0.89	1.80
tblVehicleEF	MCY	0.66	0.66
tblVehicleEF	MCY	0.48	0.96
tblVehicleEF	MCY	2.16	2.16
tblVehicleEF	MCY	0.54	1.75
tblVehicleEF	MCY	2.16	1.91
tblVehicleEF	MCY	2.0660e-003	2.0775e-003
tblVehicleEF	MCY	6.7200e-004	5.9540e-004
tblVehicleEF	MCY	0.89	1.80
tblVehicleEF	MCY	0.66	0.66
tblVehicleEF	MCY	0.48	0.96
tblVehicleEF	MCY	2.69	2.70
tblVehicleEF	MCY	0.54	1.75
tblVehicleEF	MCY	2.35	2.08
tblVehicleEF	MDV	7.0480e-003	2.6580e-003
tblVehicleEF	MDV	0.01	0.06
tblVehicleEF	MDV	0.85	0.68

tblVehicleEF	MDV	2.04	2.69
tblVehicleEF	MDV	400.76	339.08
tblVehicleEF	MDV	92.41	72.17
tblVehicleEF	MDV	0.10	0.05
tblVehicleEF	MDV	0.17	0.24
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.7210e-003	1.3173e-003
tblVehicleEF	MDV	2.4070e-003	1.6618e-003
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.5860e-003	1.2148e-003
tblVehicleEF	MDV	2.2130e-003	1.5279e-003
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.15	0.12
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.02	0.01
tblVehicleEF	MDV	0.10	0.40
tblVehicleEF	MDV	0.15	0.28
tblVehicleEF	MDV	4.0100e-003	3.3511e-003
tblVehicleEF	MDV	9.5900e-004	7.1421e-004
tblVehicleEF	MDV	0.06	0.06
tblVehicleEF	MDV	0.15	0.12
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.03	0.02
tblVehicleEF	MDV	0.10	0.40
tblVehicleEF	MDV	0.16	0.31
tblVehicleEF	MH	0.02	7.6665e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.24	0.68

tblVehicleEF	MH	4.69	1.87
tblVehicleEF	MH	1,198.30	1,445.75
tblVehicleEF	MH	57.81	17.15
tblVehicleEF	MH	1.06	1.21
tblVehicleEF	MH	0.72	0.24
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	1.0090e-003	2.4040e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2210e-003	3.2869e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	9.2700e-004	2.2104e-004
tblVehicleEF	MH	0.64	0.52
tblVehicleEF	MH	0.05	0.04
tblVehicleEF	MH	0.23	0.19
tblVehicleEF	MH	0.07	0.05
tblVehicleEF	MH	0.02	1.01
tblVehicleEF	MH	0.27	0.08
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.6000e-004	1.6975e-004
tblVehicleEF	MH	0.64	0.52
tblVehicleEF	MH	0.05	0.04
tblVehicleEF	MH	0.23	0.19
tblVehicleEF	MH	0.09	0.07
tblVehicleEF	MH	0.02	1.01
tblVehicleEF	MH	0.30	0.09
tblVehicleEF	MHD	0.02	3.6597e-003
tblVehicleEF	MHD	3.4340e-003	1.3684e-003
tblVehicleEF	MHD	0.04	8.6826e-003

tblVehicleEF	MHD	0.37	0.40
tblVehicleEF	MHD	0.29	0.19
tblVehicleEF	MHD	4.65	0.97
tblVehicleEF	MHD	133.69	69.63
tblVehicleEF	MHD	1,178.99	1,051.19
tblVehicleEF	MHD	59.87	8.85
tblVehicleEF	MHD	0.35	0.38
tblVehicleEF	MHD	1.08	1.45
tblVehicleEF	MHD	10.16	1.70
tblVehicleEF	MHD	8.3000e-005	2.7717e-004
tblVehicleEF	MHD	0.13	0.13
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	3.0880e-003	7.0645e-003
tblVehicleEF	MHD	8.3800e-004	1.1167e-004
tblVehicleEF	MHD	8.0000e-005	2.6518e-004
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	2.9480e-003	6.7521e-003
tblVehicleEF	MHD	7.7100e-004	1.0268e-004
tblVehicleEF	MHD	7.3900e-004	3.3434e-004
tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	4.0900e-004	1.8037e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.28	0.04
tblVehicleEF	MHD	1.2880e-003	6.6060e-004
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	6.8000e-004	8.7599e-005
tblVehicleEF	MHD	7.3900e-004	3.3434e-004

tblVehicleEF	MHD	0.04	0.02
tblVehicleEF	MHD	0.03	0.02
tblVehicleEF	MHD	4.0900e-004	1.8037e-004
tblVehicleEF	MHD	0.05	0.02
tblVehicleEF	MHD	0.02	0.09
tblVehicleEF	MHD	0.31	0.05
tblVehicleEF	OBUS	0.01	7.0724e-003
tblVehicleEF	OBUS	5.0380e-003	2.9936e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.24	0.61
tblVehicleEF	OBUS	0.37	0.35
tblVehicleEF	OBUS	4.49	1.73
tblVehicleEF	OBUS	104.04	95.34
tblVehicleEF	OBUS	1,285.07	1,283.24
tblVehicleEF	OBUS	65.96	14.49
tblVehicleEF	OBUS	0.22	0.40
tblVehicleEF	OBUS	0.92	1.45
tblVehicleEF	OBUS	2.69	1.11
tblVehicleEF	OBUS	2.0000e-005	1.3134e-004
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	2.8820e-003	7.5496e-003
tblVehicleEF	OBUS	8.7800e-004	1.4869e-004
tblVehicleEF	OBUS	2.0000e-005	1.2566e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	2.7360e-003	7.2095e-003
tblVehicleEF	OBUS	8.0800e-004	1.3672e-004
tblVehicleEF	OBUS	1.1600e-003	1.0723e-003
tblVehicleEF	OBUS	0.01	0.02

tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.1900e-004	4.8324e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.28	0.08
tblVehicleEF	OBUS	1.0040e-003	9.0545e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.3800e-004	1.4342e-004
tblVehicleEF	OBUS	1.1600e-003	1.0723e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.04	0.06
tblVehicleEF	OBUS	5.1900e-004	4.8324e-004
tblVehicleEF	OBUS	0.05	0.03
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.31	0.09
tblVehicleEF	SBUS	0.81	0.06
tblVehicleEF	SBUS	0.01	5.4707e-003
tblVehicleEF	SBUS	0.07	5.3640e-003
tblVehicleEF	SBUS	8.46	2.48
tblVehicleEF	SBUS	0.78	0.45
tblVehicleEF	SBUS	8.66	0.76
tblVehicleEF	SBUS	1,071.32	344.98
tblVehicleEF	SBUS	1,032.09	1,025.26
tblVehicleEF	SBUS	58.82	4.41
tblVehicleEF	SBUS	6.58	3.24
tblVehicleEF	SBUS	2.75	4.17
tblVehicleEF	SBUS	11.46	0.95
tblVehicleEF	SBUS	5.0460e-003	3.0574e-003
tblVehicleEF	SBUS	0.74	0.74
tblVehicleEF	SBUS	0.01	0.01

tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	9.7600e-004	5.4262e-005
tblVehicleEF	SBUS	4.8280e-003	2.9252e-003
tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.6090e-003	2.7030e-003
tblVehicleEF	SBUS	0.01	0.03
tblVehicleEF	SBUS	8.9800e-004	4.9892e-005
tblVehicleEF	SBUS	3.3660e-003	6.4114e-004
tblVehicleEF	SBUS	0.03	6.2048e-003
tblVehicleEF	SBUS	1.00	0.27
tblVehicleEF	SBUS	1.5600e-003	2.9202e-004
tblVehicleEF	SBUS	0.09	0.08
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.44	0.03
tblVehicleEF	SBUS	0.01	3.2858e-003
tblVehicleEF	SBUS	9.9690e-003	9.7972e-003
tblVehicleEF	SBUS	7.3700e-004	4.3684e-005
tblVehicleEF	SBUS	3.3660e-003	6.4114e-004
tblVehicleEF	SBUS	0.03	6.2048e-003
tblVehicleEF	SBUS	1.45	0.39
tblVehicleEF	SBUS	1.5600e-003	2.9202e-004
tblVehicleEF	SBUS	0.11	0.09
tblVehicleEF	SBUS	0.02	0.04
tblVehicleEF	SBUS	0.48	0.03
tblVehicleEF	UBUS	0.23	1.74
tblVehicleEF	UBUS	0.04	1.7571e-003
tblVehicleEF	UBUS	3.77	13.20
tblVehicleEF	UBUS	7.31	0.14
tblVehicleEF	UBUS	2,007.57	1,654.13
tblVehicleEF	UBUS	114.33	1.40

tblVehicleEF	UBUS	7.17	0.71
tblVehicleEF	UBUS	13.83	0.01
tblVehicleEF	UBUS	0.57	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.15	5.1699e-003
tblVehicleEF	UBUS	1.2080e-003	1.5176e-005
tblVehicleEF	UBUS	0.24	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3315e-003
tblVehicleEF	UBUS	0.15	4.9447e-003
tblVehicleEF	UBUS	1.1100e-003	1.3953e-005
tblVehicleEF	UBUS	2.0830e-003	2.7092e-005
tblVehicleEF	UBUS	0.03	2.5832e-004
tblVehicleEF	UBUS	1.1550e-003	1.3037e-005
tblVehicleEF	UBUS	0.36	0.03
tblVehicleEF	UBUS	7.3900e-003	1.4524e-003
tblVehicleEF	UBUS	0.58	7.3619e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.2750e-003	1.3812e-005
tblVehicleEF	UBUS	2.0830e-003	2.7092e-005
tblVehicleEF	UBUS	0.03	2.5832e-004
tblVehicleEF	UBUS	1.1550e-003	1.3037e-005
tblVehicleEF	UBUS	0.62	1.78
tblVehicleEF	UBUS	7.3900e-003	1.4524e-003
tblVehicleEF	UBUS	0.64	8.0603e-003
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	5.70	9.04
tblVehicleTrips	HS_TL	4.80	9.04
tblVehicleTrips	HW_TL	10.80	9.04
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00

tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	33.82	0.00
tblVehicleTrips	WD_TR	9.52	9.44
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5125	0.0230	1.9955	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1200e-003	0.0000	3.3409
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
Mobile	0.8400	1.6527	8.1255	0.0275	3.0891	0.0211	3.1102	0.8265	0.0198	0.8463	0.0000	2,574.1903	2,574.1903	0.0953	0.0000	2,576.5721
Waste						0.0000	0.0000		0.0000	0.0000	69.0332	0.0000	69.0332	4.0797	0.0000	171.0268

Water						0.0000	0.0000		0.0000	0.0000	6.2637	1.2845	7.5482	0.0233	0.0140	12.3000
Total	**3.3525**	**1.6757**	**10.1210**	**0.0276**	**3.0891**	**0.0322**	**3.1213**	**0.8265**	**0.0309**	**0.8573**	**75.2968**	**2,599.4684**	**2,674.7652**	**4.2301**	**0.0199**	**2,786.4513**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5125	0.0230	1.9955	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1200e-003	0.0000	3.3409
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
Mobile	0.8400	1.6527	8.1255	0.0275	3.0891	0.0211	3.1102	0.8265	0.0198	0.8463	0.0000	2,574.1903	2,574.1903	0.0953	0.0000	2,576.5721
Waste						0.0000	0.0000		0.0000	0.0000	69.0332	0.0000	69.0332	4.0797	0.0000	171.0268
Water						0.0000	0.0000		0.0000	0.0000	5.0109	1.0793	6.0902	0.0187	0.0112	9.8979
Total	**3.3525**	**1.6757**	**10.1210**	**0.0276**	**3.0891**	**0.0322**	**3.1213**	**0.8265**	**0.0309**	**0.8573**	**74.0441**	**2,599.2632**	**2,673.3073**	**4.2255**	**0.0171**	**2,784.0492**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.66**	**0.01**	**0.05**	**0.11**	**13.96**	**0.09**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.8400	1.6527	8.1255	0.0275	3.0891	0.0211	3.1102	0.8265	0.0198	0.8463	0.0000	2,574.1903	2,574.1903	0.0953	0.0000	2,576.5721
Unmitigated	0.8400	1.6527	8.1255	0.0275	3.0891	0.0211	3.1102	0.8265	0.0198	0.8463	0.0000	2,574.1903	2,574.1903	0.0953	0.0000	2,576.5721

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Single Family Housing	2,539.36	2,665.79	2318.78	8,311,658	8,311,658
Total	2,539.36	2,665.79	2,318.78	8,311,658	8,311,658

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Single Family Housing	9.04	9.04	9.04	31.00	15.00	54.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.618126	0.034987	0.181060	0.102744	0.012808	0.005030	0.012887	0.022139	0.002195	0.001502	0.005204	0.000638	0.000681
Recreational Swimming Pool	0.618126	0.034987	0.181060	0.102744	0.012808	0.005030	0.012887	0.022139	0.002195	0.001502	0.005204	0.000638	0.000681
Single Family Housing	0.593877	0.053382	0.174267	0.106373	0.020945	0.005401	0.013559	0.022807	0.001528	0.001225	0.004979	0.000915	0.000742

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.17636e+006	20.7308	0.0286	5.9200e-003	23.2116
Total		**20.7308**	**0.0286**	**5.9200e-003**	**23.2116**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.17636e+006	20.7308	0.0286	5.9200e-003	23.2116
Total		**20.7308**	**0.0286**	**5.9200e-003**	**23.2116**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.5125	0.0230	1.9955	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1200e-003	0.0000	3.3409
Unmitigated	2.5125	0.0230	1.9955	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1200e-003	0.0000	3.3409

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0798					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0599	0.0230	1.9955	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1200e-003	0.0000	3.3409
Total	**2.5125**	**0.0230**	**1.9955**	**1.1000e-004**		**0.0111**	**0.0111**		**0.0111**	**0.0111**	**0.0000**	**3.2628**	**3.2628**	**3.1200e-003**	**0.0000**	**3.3409**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0798					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0599	0.0230	1.9955	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1200e-003	0.0000	3.3409
Total	**2.5125**	**0.0230**	**1.9955**	**1.1000e-004**		**0.0111**	**0.0111**		**0.0111**	**0.0111**	**0.0000**	**3.2628**	**3.2628**	**3.1200e-003**	**0.0000**	**3.3409**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.0902	0.0187	0.0112	9.8979
Unmitigated	7.5482	0.0233	0.0140	12.3000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.177429 / 0.108747	0.0756	2.3000e-004	1.4000e-004	0.1232
Single Family Housing	17.5264 / 11.0493	7.4726	0.0231	0.0139	12.1769
Total		**7.5482**	**0.0233**	**0.0140**	**12.3000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.141944 / 0.102113	0.0609	1.9000e-004	1.1000e-004	0.0991
Single Family Housing	14.0211 / 10.3753	6.0293	0.0186	0.0111	9.7988
Total		**6.0902**	**0.0187**	**0.0112**	**9.8979**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	69.0332	4.0797	0.0000	171.0268
Unmitigated	69.0332	4.0797	0.0000	171.0268

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	17.1	3.4712	0.2051	0.0000	8.5996
Single Family Housing	322.98	65.5620	3.8746	0.0000	162.4271
Total		**69.0332**	**4.0797**	**0.0000**	**171.0268**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	17.1	3.4712	0.2051	0.0000	8.5996
Single Family Housing	322.98	65.5620	3.8746	0.0000	162.4271
Total		**69.0332**	**4.0797**	**0.0000**	**171.0268**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Half Rd - Operational - Santa Clara County, Annual

Half Rd - Operational

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	3.00	Acre	0.00	130,680.00	0
Recreational Swimming Pool	3.00	1000sqft	0.00	3,000.00	0
Single Family Housing	269.00	Dwelling Unit	30.50	512,363.00	769

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE with some PG&E

Land Use - Added club House. Assume about 10% asphalt surfaces

Construction Phase - Operational run

Off-road Equipment - Operational run

Trips and VMT - Operational run

Vehicle Trips - Crosswinds Trip Rate. Traffic VMT all Primary trips

Woodstoves - No Hearth

Water And Wastewater - Wastewater Treatment

Water Mitigation -

Energy Use - Reach Code - no natural gas

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	0.00
tblEnergyUse	NT24NG	3,155.00	0.00
tblEnergyUse	T24NG	25,910.09	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberGas	67.25	0.00
tblFireplaces	NumberWood	115.67	0.00
tblFleetMix	HHD	0.02	0.02
tblFleetMix	LDA	0.62	0.60
tblFleetMix	LDT1	0.03	0.05
tblFleetMix	LDT2	0.18	0.17
tblFleetMix	LHD1	0.01	0.02
tblFleetMix	LHD2	5.0600e-003	5.5563e-003
tblFleetMix	MCY	5.1220e-003	4.7803e-003
tblFleetMix	MDV	0.10	0.11
tblFleetMix	MH	6.5100e-004	7.2763e-004
tblFleetMix	MHD	0.01	0.01
tblFleetMix	OBUS	2.2210e-003	1.4429e-003
tblFleetMix	SBUS	6.4600e-004	9.0041e-004
tblFleetMix	UBUS	1.4700e-003	1.1782e-003
tblLandUse	LandUseSquareFeet	484,200.00	512,363.00
tblLandUse	LotAcreage	3.00	0.00
tblLandUse	LotAcreage	0.07	0.00
tblLandUse	LotAcreage	87.34	30.50
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	21

tblVehicleEF	HHD	0.27	0.02
tblVehicleEF	HHD	0.06	0.05
tblVehicleEF	HHD	0.06	4.3467e-007
tblVehicleEF	HHD	1.43	6.28
tblVehicleEF	HHD	0.94	0.41
tblVehicleEF	HHD	4.01	6.6853e-003
tblVehicleEF	HHD	4,037.05	930.05
tblVehicleEF	HHD	1,498.85	1,226.35
tblVehicleEF	HHD	12.27	0.05
tblVehicleEF	HHD	12.16	5.20
tblVehicleEF	HHD	1.59	2.52
tblVehicleEF	HHD	19.20	2.31
tblVehicleEF	HHD	3.6830e-003	2.1459e-003
tblVehicleEF	HHD	0.06	0.06
tblVehicleEF	HHD	0.04	0.04
tblVehicleEF	HHD	5.6600e-003	0.02
tblVehicleEF	HHD	1.3500e-004	5.8009e-007
tblVehicleEF	HHD	3.5230e-003	2.0531e-003
tblVehicleEF	HHD	0.03	0.03
tblVehicleEF	HHD	8.8550e-003	8.9053e-003
tblVehicleEF	HHD	5.4140e-003	0.02
tblVehicleEF	HHD	1.2400e-004	5.3337e-007
tblVehicleEF	HHD	1.0100e-004	1.3299e-006
tblVehicleEF	HHD	4.6010e-003	5.7808e-005
tblVehicleEF	HHD	0.37	0.42
tblVehicleEF	HHD	6.4000e-005	7.9763e-007
tblVehicleEF	HHD	0.08	0.02
tblVehicleEF	HHD	4.1900e-004	2.8448e-004
tblVehicleEF	HHD	0.07	2.2699e-006
tblVehicleEF	HHD	0.04	8.6527e-003

tblVehicleEF	HHD	0.01	0.01
tblVehicleEF	HHD	1.8800e-004	5.1111e-007
tblVehicleEF	HHD	1.0100e-004	1.3299e-006
tblVehicleEF	HHD	4.6010e-003	5.7808e-005
tblVehicleEF	HHD	0.43	0.49
tblVehicleEF	HHD	6.4000e-005	7.9763e-007
tblVehicleEF	HHD	0.15	0.07
tblVehicleEF	HHD	4.1900e-004	2.8448e-004
tblVehicleEF	HHD	0.08	2.4853e-006
tblVehicleEF	LDA	1.8990e-003	9.5948e-004
tblVehicleEF	LDA	2.1050e-003	0.03
tblVehicleEF	LDA	0.33	0.41
tblVehicleEF	LDA	0.63	1.72
tblVehicleEF	LDA	181.37	199.86
tblVehicleEF	LDA	42.51	42.17
tblVehicleEF	LDA	0.03	0.02
tblVehicleEF	LDA	0.03	0.13
tblVehicleEF	LDA	0.04	0.04
tblVehicleEF	LDA	8.0000e-003	8.0000e-003
tblVehicleEF	LDA	1.1470e-003	9.2883e-004
tblVehicleEF	LDA	1.8260e-003	1.2750e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	2.0000e-003	2.0000e-003
tblVehicleEF	LDA	1.0560e-003	8.5482e-004
tblVehicleEF	LDA	1.6790e-003	1.1723e-003
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	4.7560e-003	3.2466e-003
tblVehicleEF	LDA	0.03	0.17

tblVehicleEF	LDA	0.03	0.12
tblVehicleEF	LDA	1.8150e-003	8.9986e-005
tblVehicleEF	LDA	4.3500e-004	0.00
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	0.06	0.06
tblVehicleEF	LDA	0.02	0.02
tblVehicleEF	LDA	6.9190e-003	4.7163e-003
tblVehicleEF	LDA	0.03	0.17
tblVehicleEF	LDA	0.03	0.13
tblVehicleEF	LDT1	3.6800e-003	1.6710e-003
tblVehicleEF	LDT1	4.5270e-003	0.04
tblVehicleEF	LDT1	0.55	0.54
tblVehicleEF	LDT1	1.12	1.85
tblVehicleEF	LDT1	233.07	241.46
tblVehicleEF	LDT1	54.62	51.55
tblVehicleEF	LDT1	0.05	0.03
tblVehicleEF	LDT1	0.06	0.15
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	8.0000e-003	8.0000e-003
tblVehicleEF	LDT1	1.4520e-003	1.0704e-003
tblVehicleEF	LDT1	2.1870e-003	1.4615e-003
tblVehicleEF	LDT1	0.02	0.02
tblVehicleEF	LDT1	2.0000e-003	2.0000e-003
tblVehicleEF	LDT1	1.3350e-003	9.8426e-004
tblVehicleEF	LDT1	2.0110e-003	1.3438e-003
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.12	0.09
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	9.1170e-003	6.4999e-003
tblVehicleEF	LDT1	0.09	0.36

tblVehicleEF	LDT1	0.06	0.15
tblVehicleEF	LDT1	2.3350e-003	2.5672e-003
tblVehicleEF	LDT1	5.6500e-004	0.00
tblVehicleEF	LDT1	0.05	0.05
tblVehicleEF	LDT1	0.12	0.09
tblVehicleEF	LDT1	0.04	0.04
tblVehicleEF	LDT1	0.01	9.4833e-003
tblVehicleEF	LDT1	0.09	0.36
tblVehicleEF	LDT1	0.07	0.17
tblVehicleEF	LDT2	2.9960e-003	1.7258e-003
tblVehicleEF	LDT2	3.1970e-003	0.04
tblVehicleEF	LDT2	0.49	0.56
tblVehicleEF	LDT2	0.89	2.29
tblVehicleEF	LDT2	264.16	249.80
tblVehicleEF	LDT2	61.38	53.79
tblVehicleEF	LDT2	0.04	0.03
tblVehicleEF	LDT2	0.05	0.17
tblVehicleEF	LDT2	0.04	0.04
tblVehicleEF	LDT2	8.0000e-003	8.0000e-003
tblVehicleEF	LDT2	1.3060e-003	1.0247e-003
tblVehicleEF	LDT2	2.0190e-003	1.3399e-003
tblVehicleEF	LDT2	0.02	0.02
tblVehicleEF	LDT2	2.0000e-003	2.0000e-003
tblVehicleEF	LDT2	1.2010e-003	9.4361e-004
tblVehicleEF	LDT2	1.8570e-003	1.2320e-003
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	7.4390e-003	6.5534e-003
tblVehicleEF	LDT2	0.06	0.34

tblVehicleEF	LDT2	0.04	0.18
tblVehicleEF	LDT2	2.6450e-003	9.4796e-003
tblVehicleEF	LDT2	6.2800e-004	8.4616e-005
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.07	0.09
tblVehicleEF	LDT2	0.03	0.05
tblVehicleEF	LDT2	0.01	9.5243e-003
tblVehicleEF	LDT2	0.06	0.34
tblVehicleEF	LDT2	0.05	0.20
tblVehicleEF	LHD1	3.9820e-003	4.1476e-003
tblVehicleEF	LHD1	8.6490e-003	5.1953e-003
tblVehicleEF	LHD1	0.01	9.0227e-003
tblVehicleEF	LHD1	0.14	0.18
tblVehicleEF	LHD1	0.61	0.47
tblVehicleEF	LHD1	1.67	0.89
tblVehicleEF	LHD1	8.93	8.25
tblVehicleEF	LHD1	641.43	698.55
tblVehicleEF	LHD1	26.94	10.09
tblVehicleEF	LHD1	0.06	0.05
tblVehicleEF	LHD1	0.53	0.30
tblVehicleEF	LHD1	0.67	0.23
tblVehicleEF	LHD1	7.8900e-004	9.1482e-004
tblVehicleEF	LHD1	0.08	0.08
tblVehicleEF	LHD1	0.01	9.9012e-003
tblVehicleEF	LHD1	0.01	7.0191e-003
tblVehicleEF	LHD1	6.6500e-004	2.1020e-004
tblVehicleEF	LHD1	7.5500e-004	8.7524e-004
tblVehicleEF	LHD1	0.03	0.03
tblVehicleEF	LHD1	2.6030e-003	2.4753e-003
tblVehicleEF	LHD1	9.7020e-003	6.6712e-003

tblVehicleEF	LHD1	6.1100e-004	1.9327e-004
tblVehicleEF	LHD1	1.8620e-003	1.4028e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.01	0.02
tblVehicleEF	LHD1	1.0210e-003	7.7246e-004
tblVehicleEF	LHD1	0.10	0.07
tblVehicleEF	LHD1	0.26	0.43
tblVehicleEF	LHD1	0.15	0.04
tblVehicleEF	LHD1	8.9000e-005	7.9916e-005
tblVehicleEF	LHD1	6.2670e-003	6.8120e-003
tblVehicleEF	LHD1	3.0000e-004	9.9885e-005
tblVehicleEF	LHD1	1.8620e-003	1.4028e-003
tblVehicleEF	LHD1	0.08	0.05
tblVehicleEF	LHD1	0.02	0.02
tblVehicleEF	LHD1	1.0210e-003	7.7246e-004
tblVehicleEF	LHD1	0.11	0.09
tblVehicleEF	LHD1	0.26	0.43
tblVehicleEF	LHD1	0.16	0.05
tblVehicleEF	LHD2	2.5430e-003	2.5046e-003
tblVehicleEF	LHD2	5.3180e-003	5.3393e-003
tblVehicleEF	LHD2	3.2330e-003	4.8112e-003
tblVehicleEF	LHD2	0.12	0.13
tblVehicleEF	LHD2	0.45	0.49
tblVehicleEF	LHD2	0.88	0.48
tblVehicleEF	LHD2	13.62	13.00
tblVehicleEF	LHD2	675.95	679.81
tblVehicleEF	LHD2	21.83	6.44
tblVehicleEF	LHD2	0.07	0.07
tblVehicleEF	LHD2	0.22	0.38
tblVehicleEF	LHD2	0.26	0.12

tblVehicleEF	LHD2	1.0460e-003	1.5018e-003
tblVehicleEF	LHD2	0.09	0.09
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	9.3120e-003	0.01
tblVehicleEF	LHD2	3.7400e-004	1.0610e-004
tblVehicleEF	LHD2	1.0000e-003	1.4368e-003
tblVehicleEF	LHD2	0.04	0.04
tblVehicleEF	LHD2	2.7080e-003	2.7109e-003
tblVehicleEF	LHD2	8.8860e-003	0.01
tblVehicleEF	LHD2	3.4400e-004	9.7559e-005
tblVehicleEF	LHD2	5.1500e-004	6.4205e-004
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.01
tblVehicleEF	LHD2	3.0800e-004	3.7383e-004
tblVehicleEF	LHD2	0.09	0.10
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.04	0.02
tblVehicleEF	LHD2	1.3300e-004	1.2413e-004
tblVehicleEF	LHD2	6.5670e-003	6.5573e-003
tblVehicleEF	LHD2	2.3300e-004	6.3710e-005
tblVehicleEF	LHD2	5.1500e-004	6.4205e-004
tblVehicleEF	LHD2	0.02	0.02
tblVehicleEF	LHD2	0.01	0.02
tblVehicleEF	LHD2	3.0800e-004	3.7383e-004
tblVehicleEF	LHD2	0.11	0.11
tblVehicleEF	LHD2	0.04	0.14
tblVehicleEF	LHD2	0.05	0.02
tblVehicleEF	MCY	0.46	0.32
tblVehicleEF	MCY	0.16	0.25
tblVehicleEF	MCY	17.52	17.61

tblVehicleEF	MCY	10.34	9.20
tblVehicleEF	MCY	171.38	209.76
tblVehicleEF	MCY	42.85	59.23
tblVehicleEF	MCY	1.14	1.14
tblVehicleEF	MCY	0.32	0.27
tblVehicleEF	MCY	0.01	0.01
tblVehicleEF	MCY	4.0000e-003	4.0000e-003
tblVehicleEF	MCY	2.1570e-003	2.1383e-003
tblVehicleEF	MCY	3.3210e-003	2.8616e-003
tblVehicleEF	MCY	5.0400e-003	5.0400e-003
tblVehicleEF	MCY	1.0000e-003	1.0000e-003
tblVehicleEF	MCY	2.0120e-003	1.9944e-003
tblVehicleEF	MCY	3.1070e-003	2.6764e-003
tblVehicleEF	MCY	0.88	1.79
tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.12	2.13
tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.11	1.88
tblVehicleEF	MCY	2.0640e-003	2.0757e-003
tblVehicleEF	MCY	6.5900e-004	5.8609e-004
tblVehicleEF	MCY	0.88	1.79
tblVehicleEF	MCY	0.61	0.63
tblVehicleEF	MCY	0.46	0.95
tblVehicleEF	MCY	2.66	2.67
tblVehicleEF	MCY	0.46	1.49
tblVehicleEF	MCY	2.30	2.04
tblVehicleEF	MDV	5.1180e-003	1.7719e-003
tblVehicleEF	MDV	7.2260e-003	0.04
tblVehicleEF	MDV	0.68	0.55

tblVehicleEF	MDV	1.51	2.32
tblVehicleEF	MDV	358.67	301.13
tblVehicleEF	MDV	82.28	63.46
tblVehicleEF	MDV	0.07	0.04
tblVehicleEF	MDV	0.11	0.18
tblVehicleEF	MDV	0.04	0.04
tblVehicleEF	MDV	8.0000e-003	8.0000e-003
tblVehicleEF	MDV	1.3880e-003	1.0344e-003
tblVehicleEF	MDV	2.0820e-003	1.3439e-003
tblVehicleEF	MDV	0.02	0.02
tblVehicleEF	MDV	2.0000e-003	2.0000e-003
tblVehicleEF	MDV	1.2780e-003	9.5360e-004
tblVehicleEF	MDV	1.9150e-003	1.2356e-003
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.01	6.8870e-003
tblVehicleEF	MDV	0.09	0.34
tblVehicleEF	MDV	0.10	0.20
tblVehicleEF	MDV	3.5870e-003	2.9757e-003
tblVehicleEF	MDV	8.4800e-004	6.2800e-004
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.13	0.10
tblVehicleEF	MDV	0.05	0.06
tblVehicleEF	MDV	0.02	9.9832e-003
tblVehicleEF	MDV	0.09	0.34
tblVehicleEF	MDV	0.11	0.22
tblVehicleEF	MH	8.2310e-003	5.0270e-003
tblVehicleEF	MH	0.02	0.02
tblVehicleEF	MH	0.45	0.31

tblVehicleEF	MH	3.72	1.64
tblVehicleEF	MH	1,184.19	1,350.27
tblVehicleEF	MH	56.79	15.54
tblVehicleEF	MH	0.84	1.06
tblVehicleEF	MH	0.62	0.24
tblVehicleEF	MH	0.13	0.13
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.8300e-004	2.1213e-004
tblVehicleEF	MH	0.06	0.06
tblVehicleEF	MH	3.2210e-003	3.2971e-003
tblVehicleEF	MH	0.01	0.02
tblVehicleEF	MH	8.1200e-004	1.9505e-004
tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.04	0.04
tblVehicleEF	MH	0.01	0.54
tblVehicleEF	MH	0.22	0.07
tblVehicleEF	MH	0.01	0.01
tblVehicleEF	MH	6.3200e-004	1.5379e-004
tblVehicleEF	MH	0.46	0.35
tblVehicleEF	MH	0.04	0.03
tblVehicleEF	MH	0.18	0.14
tblVehicleEF	MH	0.05	0.05
tblVehicleEF	MH	0.01	0.54
tblVehicleEF	MH	0.24	0.08
tblVehicleEF	MHD	0.02	3.8322e-003
tblVehicleEF	MHD	2.7470e-003	1.0338e-003
tblVehicleEF	MHD	0.03	8.3828e-003

tblVehicleEF	MHD	0.37	0.41
tblVehicleEF	MHD	0.25	0.15
tblVehicleEF	MHD	3.74	0.87
tblVehicleEF	MHD	131.96	65.10
tblVehicleEF	MHD	1,167.79	993.45
tblVehicleEF	MHD	59.45	8.55
tblVehicleEF	MHD	0.34	0.34
tblVehicleEF	MHD	1.04	1.43
tblVehicleEF	MHD	9.99	1.69
tblVehicleEF	MHD	5.2000e-005	1.6197e-004
tblVehicleEF	MHD	0.13	0.13
tblVehicleEF	MHD	0.01	0.01
tblVehicleEF	MHD	3.0080e-003	7.0059e-003
tblVehicleEF	MHD	8.2100e-004	1.1182e-004
tblVehicleEF	MHD	5.0000e-005	1.5497e-004
tblVehicleEF	MHD	0.06	0.06
tblVehicleEF	MHD	3.0000e-003	3.0000e-003
tblVehicleEF	MHD	2.8710e-003	6.6957e-003
tblVehicleEF	MHD	7.5400e-004	1.0282e-004
tblVehicleEF	MHD	6.4300e-004	2.8933e-004
tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.02	0.02
tblVehicleEF	MHD	3.8200e-004	1.6833e-004
tblVehicleEF	MHD	0.04	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.23	0.04
tblVehicleEF	MHD	1.2710e-003	6.1778e-004
tblVehicleEF	MHD	0.01	9.4796e-003
tblVehicleEF	MHD	6.6000e-004	8.4616e-005
tblVehicleEF	MHD	6.4300e-004	2.8933e-004

tblVehicleEF	MHD	0.03	0.01
tblVehicleEF	MHD	0.03	0.03
tblVehicleEF	MHD	3.8200e-004	1.6833e-004
tblVehicleEF	MHD	0.05	0.01
tblVehicleEF	MHD	0.02	0.07
tblVehicleEF	MHD	0.25	0.05
tblVehicleEF	OBUS	0.01	7.0977e-003
tblVehicleEF	OBUS	4.0840e-003	2.1965e-003
tblVehicleEF	OBUS	0.02	0.02
tblVehicleEF	OBUS	0.24	0.64
tblVehicleEF	OBUS	0.30	0.26
tblVehicleEF	OBUS	4.08	1.58
tblVehicleEF	OBUS	110.55	97.36
tblVehicleEF	OBUS	1,272.30	1,210.85
tblVehicleEF	OBUS	64.94	13.46
tblVehicleEF	OBUS	0.24	0.43
tblVehicleEF	OBUS	0.85	1.45
tblVehicleEF	OBUS	2.74	1.13
tblVehicleEF	OBUS	2.2000e-005	1.4242e-004
tblVehicleEF	OBUS	0.13	0.13
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	2.8340e-003	7.8816e-003
tblVehicleEF	OBUS	9.3800e-004	1.5608e-004
tblVehicleEF	OBUS	2.1000e-005	1.3626e-004
tblVehicleEF	OBUS	0.06	0.06
tblVehicleEF	OBUS	3.0000e-003	3.0000e-003
tblVehicleEF	OBUS	2.6900e-003	7.5260e-003
tblVehicleEF	OBUS	8.6200e-004	1.4351e-004
tblVehicleEF	OBUS	1.1660e-003	1.0619e-003
tblVehicleEF	OBUS	0.01	0.02

tblVehicleEF	OBUS	0.03	0.05
tblVehicleEF	OBUS	5.3200e-004	4.8664e-004
tblVehicleEF	OBUS	0.04	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.26	0.08
tblVehicleEF	OBUS	1.0660e-003	9.2423e-004
tblVehicleEF	OBUS	0.01	0.01
tblVehicleEF	OBUS	7.2100e-004	1.3322e-004
tblVehicleEF	OBUS	1.1660e-003	1.0619e-003
tblVehicleEF	OBUS	0.01	0.02
tblVehicleEF	OBUS	0.05	0.06
tblVehicleEF	OBUS	5.3200e-004	4.8664e-004
tblVehicleEF	OBUS	0.05	0.02
tblVehicleEF	OBUS	0.03	0.18
tblVehicleEF	OBUS	0.28	0.08
tblVehicleEF	SBUS	0.81	0.07
tblVehicleEF	SBUS	7.6490e-003	4.4039e-003
tblVehicleEF	SBUS	0.06	6.3377e-003
tblVehicleEF	SBUS	8.87	2.93
tblVehicleEF	SBUS	0.48	0.37
tblVehicleEF	SBUS	7.57	0.86
tblVehicleEF	SBUS	1,023.58	337.48
tblVehicleEF	SBUS	1,008.60	970.50
tblVehicleEF	SBUS	61.81	5.06
tblVehicleEF	SBUS	4.35	2.71
tblVehicleEF	SBUS	1.72	3.09
tblVehicleEF	SBUS	10.76	1.18
tblVehicleEF	SBUS	2.1870e-003	2.0483e-003
tblVehicleEF	SBUS	0.74	0.74
tblVehicleEF	SBUS	0.01	0.01

tblVehicleEF	SBUS	8.4940e-003	0.02
tblVehicleEF	SBUS	1.1020e-003	6.7596e-005
tblVehicleEF	SBUS	2.0920e-003	1.9597e-003
tblVehicleEF	SBUS	0.32	0.32
tblVehicleEF	SBUS	2.5880e-003	2.6690e-003
tblVehicleEF	SBUS	8.1060e-003	0.02
tblVehicleEF	SBUS	1.0130e-003	6.2152e-005
tblVehicleEF	SBUS	3.7080e-003	8.6957e-004
tblVehicleEF	SBUS	0.03	8.3043e-003
tblVehicleEF	SBUS	1.05	0.32
tblVehicleEF	SBUS	1.7580e-003	4.1393e-004
tblVehicleEF	SBUS	0.07	0.06
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.40	0.04
tblVehicleEF	SBUS	0.01	3.2190e-003
tblVehicleEF	SBUS	9.7440e-003	9.2881e-003
tblVehicleEF	SBUS	7.4900e-004	5.0069e-005
tblVehicleEF	SBUS	3.7080e-003	8.6957e-004
tblVehicleEF	SBUS	0.03	8.3043e-003
tblVehicleEF	SBUS	1.53	0.46
tblVehicleEF	SBUS	1.7580e-003	4.1393e-004
tblVehicleEF	SBUS	0.08	0.07
tblVehicleEF	SBUS	0.02	0.05
tblVehicleEF	SBUS	0.43	0.04
tblVehicleEF	UBUS	0.23	1.86
tblVehicleEF	UBUS	0.05	2.1857e-003
tblVehicleEF	UBUS	3.04	14.11
tblVehicleEF	UBUS	7.59	0.14
tblVehicleEF	UBUS	1,937.16	1,668.67
tblVehicleEF	UBUS	126.43	1.40

tblVehicleEF	UBUS	4.75	0.71
tblVehicleEF	UBUS	13.02	0.02
tblVehicleEF	UBUS	0.54	0.07
tblVehicleEF	UBUS	0.01	0.03
tblVehicleEF	UBUS	0.10	5.1160e-003
tblVehicleEF	UBUS	1.3960e-003	1.5176e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	3.0000e-003	8.3315e-003
tblVehicleEF	UBUS	0.10	4.8931e-003
tblVehicleEF	UBUS	1.2840e-003	1.3953e-005
tblVehicleEF	UBUS	2.5990e-003	6.1448e-005
tblVehicleEF	UBUS	0.04	8.1446e-004
tblVehicleEF	UBUS	1.5170e-003	3.5792e-005
tblVehicleEF	UBUS	0.23	0.03
tblVehicleEF	UBUS	9.4350e-003	4.9280e-003
tblVehicleEF	UBUS	0.65	9.2613e-003
tblVehicleEF	UBUS	0.02	0.01
tblVehicleEF	UBUS	1.4020e-003	1.3873e-005
tblVehicleEF	UBUS	2.5990e-003	6.1448e-005
tblVehicleEF	UBUS	0.04	8.1446e-004
tblVehicleEF	UBUS	1.5170e-003	3.5792e-005
tblVehicleEF	UBUS	0.48	1.90
tblVehicleEF	UBUS	9.4350e-003	4.9280e-003
tblVehicleEF	UBUS	0.71	0.01
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	5.70	9.04
tblVehicleTrips	HS_TL	4.80	9.04
tblVehicleTrips	HW_TL	10.80	9.04
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	100.00

tblVehicleTrips	ST_TR	9.10	0.00
tblVehicleTrips	SU_TR	13.60	0.00
tblVehicleTrips	WD_TR	33.82	0.00
tblVehicleTrips	WD_TR	9.52	9.44
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5122	0.0230	1.9921	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1100e-003	0.0000	3.3405
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
Mobile	0.7000	1.4676	7.1032	0.0256	3.0895	0.0181	3.1076	0.8266	0.0170	0.8436	0.0000	2,339.1128	2,339.1128	0.0811	0.0000	2,341.1408
Waste						0.0000	0.0000		0.0000	0.0000	69.0332	0.0000	69.0332	4.0797	0.0000	171.0268

Water						0.0000	0.0000		0.0000	0.0000	6.2637	1.2845	7.5482	0.0233	0.0140	12.3000
Total	**3.2121**	**1.4906**	**9.0954**	**0.0257**	**3.0895**	**0.0292**	**3.1186**	**0.8266**	**0.0280**	**0.8547**	**75.2968**	**2,364.3909**	**2,439.6877**	**4.2159**	**0.0199**	**2,551.0197**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.5122	0.0230	1.9921	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1100e-003	0.0000	3.3405
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
Mobile	0.7000	1.4676	7.1032	0.0256	3.0895	0.0181	3.1076	0.8266	0.0170	0.8436	0.0000	2,339.1128	2,339.1128	0.0811	0.0000	2,341.1408
Waste						0.0000	0.0000		0.0000	0.0000	69.0332	0.0000	69.0332	4.0797	0.0000	171.0268
Water						0.0000	0.0000		0.0000	0.0000	5.0109	1.0793	6.0902	0.0187	0.0112	9.8979
Total	**3.2121**	**1.4906**	**9.0954**	**0.0257**	**3.0895**	**0.0292**	**3.1186**	**0.8266**	**0.0280**	**0.8547**	**74.0441**	**2,364.1857**	**2,438.2298**	**4.2113**	**0.0171**	**2,548.6176**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.66**	**0.01**	**0.06**	**0.11**	**13.96**	**0.09**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.7000	1.4676	7.1032	0.0256	3.0895	0.0181	3.1076	0.8266	0.0170	0.8436	0.0000	2,339.1128	2,339.1128	0.0811	0.0000	2,341.1408
Unmitigated	0.7000	1.4676	7.1032	0.0256	3.0895	0.0181	3.1076	0.8266	0.0170	0.8436	0.0000	2,339.1128	2,339.1128	0.0811	0.0000	2,341.1408

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Recreational Swimming Pool	0.00	0.00	0.00		
Single Family Housing	2,539.36	2,665.79	2318.78	8,311,658	8,311,658
Total	2,539.36	2,665.79	2,318.78	8,311,658	8,311,658

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Recreational Swimming Pool	9.50	7.30	7.30	33.00	48.00	19.00	52	39	9
Single Family Housing	9.04	9.04	9.04	31.00	15.00	54.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Recreational Swimming Pool	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Single Family Housing	0.595423	0.053963	0.171400	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.004780	0.000900	0.000728

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	20.7308	20.7308	0.0286	5.9200e-003	23.2116
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Single Family Housing	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.17636e+006	20.7308	0.0286	5.9200e-003	23.2116
Total		**20.7308**	**0.0286**	**5.9200e-003**	**23.2116**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	2.17636e+006	20.7308	0.0286	5.9200e-003	23.2116
Total		**20.7308**	**0.0286**	**5.9200e-003**	**23.2116**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.5122	0.0230	1.9921	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1100e-003	0.0000	3.3405
Unmitigated	2.5122	0.0230	1.9921	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1100e-003	0.0000	3.3405

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0798					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0596	0.0230	1.9921	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1100e-003	0.0000	3.3405
Total	**2.5122**	**0.0230**	**1.9921**	**1.1000e-004**		**0.0111**	**0.0111**		**0.0111**	**0.0111**	**0.0000**	**3.2628**	**3.2628**	**3.1100e-003**	**0.0000**	**3.3405**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.3728					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	2.0798					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0596	0.0230	1.9921	1.1000e-004		0.0111	0.0111		0.0111	0.0111	0.0000	3.2628	3.2628	3.1100e-003	0.0000	3.3405
Total	**2.5122**	**0.0230**	**1.9921**	**1.1000e-004**		**0.0111**	**0.0111**		**0.0111**	**0.0111**	**0.0000**	**3.2628**	**3.2628**	**3.1100e-003**	**0.0000**	**3.3405**

7.0 Water Detail

7.1 Mitigation Measures Water

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

Use Water Efficient Irrigation System

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.0902	0.0187	0.0112	9.8979
Unmitigated	7.5482	0.0233	0.0140	12.3000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.177429 / 0.108747	0.0756	2.3000e-004	1.4000e-004	0.1232
Single Family Housing	17.5264 / 11.0493	7.4726	0.0231	0.0139	12.1769
Total		**7.5482**	**0.0233**	**0.0140**	**12.3000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	0.141944 / 0.102113	0.0609	1.9000e-004	1.1000e-004	0.0991
Single Family Housing	14.0211 / 10.3753	6.0293	0.0186	0.0111	9.7988
Total		**6.0902**	**0.0187**	**0.0112**	**9.8979**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	69.0332	4.0797	0.0000	171.0268
Unmitigated	69.0332	4.0797	0.0000	171.0268

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	17.1	3.4712	0.2051	0.0000	8.5996
Single Family Housing	322.98	65.5620	3.8746	0.0000	162.4271
Total		**69.0332**	**4.0797**	**0.0000**	**171.0268**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Recreational Swimming Pool	17.1	3.4712	0.2051	0.0000	8.5996
Single Family Housing	322.98	65.5620	3.8746	0.0000	162.4271
Total		**69.0332**	**4.0797**	**0.0000**	**171.0268**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Half Road Construction - Demo & Grading - Op 2

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	269.00	Dwelling Unit	30.50	512,363.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2026
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE w/som PG&E (10%)

Land Use - Whole site grading

Construction Phase - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Off-road Equipment - Based on provided construction information

Trips and VMT - computed in EMFAC2017 using Demo 3/0/9 SitePrep 10/0/0 Grading 18/0/250

Demolition - Based on provided construction information

Grading - Used 1,000cy for misc import/export

Construction Off-road Equipment Mitigation - Tier 4i and BMPs

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	2.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	6.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstEquipMitigation	Tier	No Change	Tier 4 Interim
tblConstructionPhase	NumDays	30.00	4.00
tblConstructionPhase	NumDays	45.00	18.00
tblConstructionPhase	NumDays	20.00	5.00
tblGrading	MaterialExported	0.00	1,000.00
tblGrading	MaterialImported	0.00	1,000.00
tblLandUse	LandUseSquareFeet	484,200.00	512,363.00
tblLandUse	LotAcreage	87.34	30.50
tblLandUse	Population	769.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00

tblOffRoadEquipment	UsageHours	8.00	3.10
tblOffRoadEquipment	UsageHours	8.00	4.30
tblOffRoadEquipment	UsageHours	8.00	4.80
tblProjectCharacteristics	CO2IntensityFactor	641.35	21
tblTripsAndVMT	HaulingTripNumber	9.00	0.00
tblTripsAndVMT	HaulingTripNumber	250.00	0.00
tblTripsAndVMT	WorkerTripNumber	3.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0260	0.2925	0.1922	4.7000e-004	0.0315	0.0112	0.0427	3.4500e-003	0.0103	0.0137	0.0000	41.4427	41.4427	0.0134	0.0000	41.7778
Maximum	**0.0260**	**0.2925**	**0.1922**	**4.7000e-004**	**0.0315**	**0.0112**	**0.0427**	**3.4500e-003**	**0.0103**	**0.0137**	**0.0000**	**41.4427**	**41.4427**	**0.0134**	**0.0000**	**41.7778**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Year	tons/yr										MT/yr					
2022	7.7100e-003	0.1324	0.2611	4.7000e-004	0.0142	7.7000e-004	0.0149	1.5500e-003	7.7000e-004	2.3200e-003	0.0000	41.4427	41.4427	0.0134	0.0000	41.7778
Maximum	**7.7100e-003**	**0.1324**	**0.2611**	**4.7000e-004**	**0.0142**	**7.7000e-004**	**0.0149**	**1.5500e-003**	**7.7000e-004**	**2.3200e-003**	**0.0000**	**41.4427**	**41.4427**	**0.0134**	**0.0000**	**41.7778**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**70.38**	**54.74**	**-35.86**	**0.00**	**55.02**	**93.11**	**65.00**	**55.07**	**92.52**	**83.10**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**5-1-2022**	**7-31-2022**	0.3072	0.1354
		Highest	0.3072	0.1354

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/13/2022	5/18/2022	5	4	
2	Site Preparation	Site Preparation	5/18/2022	5/24/2022	5	5	
3	Grading	Grading	5/24/2022	6/16/2022	5	18	

Acres of Grading (Site Preparation Phase): 14

Acres of Grading (Grading Phase): 43.42

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73

Demolition	Excavators	1	8.00	158	0.38
Demolition	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Graders	1	6.40	187	0.41
Site Preparation	Rubber Tired Dozers	0	8.00	247	0.40
Site Preparation	Scrapers	3	6.40	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Grading	Crawler Tractors	1	4.80	212	0.43
Grading	Excavators	1	3.10	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	0	8.00	247	0.40
Grading	Scrapers	3	4.30	367	0.48
Grading	Tractors/Loaders/Backhoes	1	4.80	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	1	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	7	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					9.4000e-004	0.0000	9.4000e-004	1.4000e-004	0.0000	1.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0000e-004	3.5500e-003	6.5100e-003	1.0000e-005		1.7000e-004	1.7000e-004		1.6000e-004	1.6000e-004	0.0000	0.9072	0.9072	2.9000e-004	0.0000	0.9146
Total	**4.0000e-004**	**3.5500e-003**	**6.5100e-003**	**1.0000e-005**	**9.4000e-004**	**1.7000e-004**	**1.1100e-003**	**1.4000e-004**	**1.6000e-004**	**3.0000e-004**	**0.0000**	**0.9072**	**0.9072**	**2.9000e-004**	**0.0000**	**0.9146**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					4.2000e-004	0.0000	4.2000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Off-Road	1.3000e-004	4.5500e-003	7.8400e-003	1.0000e-005		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.9072	0.9072	2.9000e-004	0.0000	0.9146
Total	**1.3000e-004**	**4.5500e-003**	**7.8400e-003**	**1.0000e-005**	**4.2000e-004**	**2.0000e-005**	**4.4000e-004**	**6.0000e-005**	**2.0000e-005**	**8.0000e-005**	**0.0000**	**0.9072**	**0.9072**	**2.9000e-004**	**0.0000**	**0.9146**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.4200e-003	0.0000	7.4200e-003	8.0000e-004	0.0000	8.0000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.7500e-003	0.0642	0.0417	1.0000e-004		2.4300e-003	2.4300e-003		2.2300e-003	2.2300e-003	0.0000	9.1665	9.1665	2.9600e-003	0.0000	9.2406
Total	**5.7500e-003**	**0.0642**	**0.0417**	**1.0000e-004**	**7.4200e-003**	**2.4300e-003**	**9.8500e-003**	**8.0000e-004**	**2.2300e-003**	**3.0300e-003**	**0.0000**	**9.1665**	**9.1665**	**2.9600e-003**	**0.0000**	**9.2406**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.3400e-003	0.0000	3.3400e-003	3.6000e-004	0.0000	3.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.7100e-003	0.0275	0.0555	1.0000e-004		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	9.1665	9.1665	2.9600e-003	0.0000	9.2406
Total	**1.7100e-003**	**0.0275**	**0.0555**	**1.0000e-004**	**3.3400e-003**	**1.7000e-004**	**3.5100e-003**	**3.6000e-004**	**1.7000e-004**	**5.3000e-004**	**0.0000**	**9.1665**	**9.1665**	**2.9600e-003**	**0.0000**	**9.2406**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0231	0.0000	0.0231	2.5000e-003	0.0000	2.5000e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0199	0.2248	0.1440	3.6000e-004		8.5800e-003	8.5800e-003		7.9000e-003	7.9000e-003	0.0000	31.3690	31.3690	0.0102	0.0000	31.6227
Total	**0.0199**	**0.2248**	**0.1440**	**3.6000e-004**	**0.0231**	**8.5800e-003**	**0.0317**	**2.5000e-003**	**7.9000e-003**	**0.0104**	**0.0000**	**31.3690**	**31.3690**	**0.0102**	**0.0000**	**31.6227**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0104	0.0000	0.0104	1.1300e-003	0.0000	1.1300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.8700e-003	0.1003	0.1978	3.6000e-004		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	31.3690	31.3690	0.0102	0.0000	31.6226
Total	**5.8700e-003**	**0.1003**	**0.1978**	**3.6000e-004**	**0.0104**	**5.8000e-004**	**0.0110**	**1.1300e-003**	**5.8000e-004**	**1.7100e-003**	**0.0000**	**31.3690**	**31.3690**	**0.0102**	**0.0000**	**31.6226**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Attachment 3: EMFAC2017 Calculations

Grading CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Demolition	3	0	12	0	9	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	129.6	0	180
Site Preparation	8	0	40	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	432	0	0
Grading	15	0	250	0	250	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2700	0	5000
Trenching	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Building Construction	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Paving	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Architectural Coating	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
												0		
						10.8	7.3	20				0		
												0		
												0		

Number of Days Per Year			
2022	5/13/22	6/13/22	24
2023			0
2024			
			24

18 ***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays	
Demolition	2022/05/13	2022/05/18	5	4	
Site Preparation	2022/05/18	2022/05/24	5	5	
Grading	2022/05/24	2022/06/13	5	15	
Trenching	2022/11/10	2023/02/01	0	0	Overlap
Building Construction	2022/11/10	2023/09/27	0	0	
Paving	2023/09/28	2023/10/25	0	0	
Architectural Coating	2023/10/26	2023/11/22	0	0	

Phase 1 CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Trenching	8	0	280	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3024	0	0
Building Construction	71	16	12425	2800	290	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	134190	20440	5800
Paving	18	0	250	0	112	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2700	0	2240
Building Interior	14	0	224	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2419.2	0	0
Building Construction	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Paving	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Architectural Coating	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
												0		
						10.8	7.3	20				0		
												0		
												0		

Number of Days Per Year					
2022	6/13/22	12/31/22	144		
2023	1/1/23	3/14/23	54		
2024					
			198	**198**	***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays	
Trenching	2022/06/13	2022/07/29	5	35	
Building Construction	2022/07/13	2023/03/14	5	175	
Building Interior	2022/10/11	2022/12/05	5	40	
Paving	2022/11/28	2022/12/19	5	16	Overlap
x	2022/11/10	2023/09/27	0	0	
x	2023/09/28	2023/10/25	0	0	
x	2023/10/26	2023/11/22	0	0	

DePaul CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Grading	10	0	150	0	8	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	1620	0	160
Trenching	8	0	280	0	4	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3024	0	80
Paving	20	0	250	0	140	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2700	0	2800
Building Interior	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Building Construction	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Paving	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Architectural Coating	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
												0		
						10.8	7.3	20				0		
												0		
Number of Days Per Year												0		
			0											
2025	2023/10/04	12/31/23	60											
			60		**140**	***Total Workdays***								

Phase	Start Date	End Date	Days/Week	Workdays
Grading	2023/10/04	2023/10/24	5	15
Trenching	2023/10/25	2023/12/12	5	35
Paving	2023/12/19	2023/12/22	5	16
	2025/09/05	2025/09/22	0	0
x	2022/11/10	2023/09/27	0	0
x	2023/09/28	2023/10/25	0	0
x	2023/10/26	2023/11/22	0	0

Phase 2 CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Trenching	8	0	280	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3024	0	0
Building Construction	80	21	14000	3675	356	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	151200	26827.5	7120
Paving	20	0	250	0	140	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2700	0	2800
Building Interior	16	0	256	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2764.8	0	0
Building Construction	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Paving	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Architectural Coating	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
												0		
						10.8	7.3	20				0		
												0		
												0		

Number of Days Per Year			
2022			0
2023	2023/10/14	12/31/23	260
2024	1/1/24	8/15/2024	170
			430

236 ***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Trenching	2023/10/14	2023/12/01	5	35
Building Construction	2023/12/18	2024/08/16	5	175
Building Interior	2024/03/17	2024/05/10	5	40
Paving	2024/03/17	2024/04/08	5	16
x	2022/11/10	2023/09/27	0	0
x	2023/09/28	2023/10/25	0	0
x	2023/10/26	2023/11/22	0	0

Phase 3 CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Trenching	8	0	200	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2160	0	0
Building Construction	80	21	6000	1575	356	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	64800	11497.5	7120
Paving	20	0	250	0	140	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2700	0	2800
Building Interior	16	0	192	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	2073.6	0	0
Building Construction	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Paving	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Architectural Coating	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
												0		
						10.8	7.3	20				0		
												0		
												0		

Number of Days Per Year					
			0		
2025	2025/04/13	12/31/23	140		
			140	**140**	***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Trenching	2025/04/13	2025/05/16	5	25
Building Construction	2025/06/07	2025/09/19	5	75
Building Interior	2025/09/05	2025/10/30	5	40
Paving	2025/09/05	2025/09/22	5	12
x	2022/11/10	2023/09/27	0	0
x	2023/09/28	2023/10/25	0	0
x	2023/10/26	2023/11/22	0	0

Adjustment Factors for EMFAC2017 Gasoline Light Duty Vehicles					
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust
NA	1	1	1	1	1
2021	1.0002	1.0001	1.0002	1.0009	1.0005
2022	1.0004	1.0003	1.0004	1.0018	1.0014
2023	1.0007	1.0006	1.0007	1.0032	1.0027
2024	1.0012	1.0010	1.0011	1.0051	1.0044
2025	1.0018	1.0016	1.0016	1.0074	1.0065
2026	1.0023	1.0022	1.0020	1.0091	1.0083
2027	1.0028	1.0028	1.0024	1.0105	1.0102
2028	1.0034	1.0035	1.0028	1.0117	1.0120
2029	1.0040	1.0042	1.0032	1.0129	1.0138
2030	1.0047	1.0051	1.0037	1.0142	1.0156
2031	1.0054	1.0061	1.0042	1.0155	1.0173
2032	1.0061	1.0072	1.0047	1.0169	1.0189
2033	1.0068	1.0083	1.0052	1.0182	1.0204
2034	1.0075	1.0095	1.0058	1.0196	1.0218
2035	1.0081	1.0108	1.0063	1.0210	1.0232
2036	1.0088	1.0121	1.0069	1.0223	1.0244
2037	1.0094	1.0134	1.0074	1.0236	1.0255
2038	1.0099	1.0148	1.0079	1.0248	1.0265
2039	1.0104	1.0161	1.0085	1.0259	1.0274
2040	1.0109	1.0174	1.0090	1.0270	1.0281
2041	1.0113	1.0186	1.0095	1.0279	1.0288
2042	1.0116	1.0198	1.0099	1.0286	1.0294
2043	1.0119	1.0207	1.0103	1.0293	1.0299
2044	1.0122	1.0216	1.0106	1.0299	1.0303
2045	1.0124	1.0225	1.0109	1.0303	1.0306
2046	1.0125	1.0233	1.0111	1.0308	1.0309
2047	1.0127	1.0240	1.0113	1.0311	1.0311
2048	1.0128	1.0246	1.0115	1.0314	1.0313
2049	1.0128	1.0252	1.0116	1.0316	1.0315
2050	1.0129	1.0257	1.0117	1.0318	1.0316
Enter Year: 2022	**1.0004**	**1.0003**	**1.0004**	**1.0018**	**1.0014**

*PM Exhaust off model factor is only applied to the PM Exhaust emissions not start/idle

The off-model adjustment factors need to be applied only to emissions from gasoline light duty vehicles (LDA, LDT1, LDT2 and MDV). Please note that the adjustment factors are by calendar year and includes all model years.

Enter NA in the date field if adjustments do not apply

2026 CalEEMod EMFAC2017 Emission Factors Input

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.004667	0.002827	0.00366	0.024581591	0.007072	0	0	0.059089	0
A	CH4_RUNEX	0.001366	0.002731	0.002421	0.002658	0.006766	0.006042	0.001368	0.048196739	0.002994	1.740623	0.322636	0.005471	0.007666
A	CH4_STREX	0.037668	0.048087	0.053787	0.059284	0.01193	0.006534	0.008683	4.41955E-07	0.016313	0.001757	0.251748	0.005364	0.021211
A	CO_IDLEX	0	0	0	0	0.181133	0.135072	0.395395	6.312916051	0.608593	0	0	2.477558	0
A	CO_RUNEX	0.470702	0.713398	0.660069	0.67636	0.614851	0.539388	0.193142	0.407888609	0.35403	13.20374	18.16544	0.449129	0.676059
A	CO_STREX	1.942342	2.094896	2.537292	2.688431	0.986313	0.549762	0.974119	0.005910001	1.731489	0.139137	9.112103	0.757026	1.865376
A	CO2_NBIO_IDLEX	0	0	0	0	8.664375	13.59577	69.62637	1010.863198	95.34232	0	0	344.9774	0
A	CO2_NBIO_RUNEX	220.2019	264.8733	280.9156	339.0796	749.5934	726.996	1051.185	1358.122651	1283.241	1654.125	209.9417	1025.262	1445.753
A	CO2_NBIO_STREX	46.74942	56.84445	60.83851	72.17283	11.01943	7.147686	8.852125	0.047796651	14.49277	1.395763	60.16678	4.41435	17.15363
A	NOX_IDLEX	0	0	0	0	0.052779	0.086502	0.384054	5.313842098	0.401134	0	0	3.237041	0
A	NOX_RUNEX	0.024319	0.052355	0.048719	0.054591	0.501705	0.60498	1.445388	2.645781643	1.452791	0.710904	1.142407	4.169337	1.212147
A	NOX_STREX	0.146785	0.185778	0.214688	0.241181	0.274	0.153209	1.698467	2.32114605	1.111138	0.012275	0.270461	0.952464	0.240339
A	PM10_IDLEX	0	0	0	0	0.000872	0.001466	0.000277	0.002421971	0.000131	0	0	0.003057	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.061011269	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009831	0.010801	0.012	0.035565238	0.012	0.033326	0.004	0.010812	0.013148
A	PM10_RUNEX	0.001191	0.001444	0.001268	0.001317	0.008597	0.014576	0.007064	0.024793091	0.00755	0.00517	0.002061	0.027088	0.020231
A	PM10_STREX	0.001567	0.001882	0.001614	0.001662	0.000232	0.000117	0.000112	6.07666E-07	0.000149	1.52E-05	0.002929	5.43E-05	0.00024
A	PM25_IDLEX	0	0	0	0	0.000834	0.001402	0.000265	0.002317197	0.000126	0	0	0.002925	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026147687	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002458	0.0027	0.003	0.00889131	0.003	0.008332	0.001	0.002703	0.003287
A	PM25_RUNEX	0.001096	0.001328	0.001167	0.001215	0.008179	0.013921	0.006752	0.023720525	0.00721	0.004945	0.001924	0.025902	0.019315
A	PM25_STREX	0.001441	0.00173	0.001484	0.001528	0.000213	0.000108	0.000103	5.58726E-07	0.000137	1.4E-05	0.002748	4.99E-05	0.000221
A	ROG_DIURN	0.031026	0.063386	0.056043	0.063565	0.001717	0.000843	0.000334	1.73946E-06	0.001072	2.71E-05	1.796069	0.000641	0.521835
A	ROG_HTSK	0.07546	0.124908	0.10677	0.116658	0.064563	0.033077	0.016141	7.87131E-05	0.015877	0.000258	0.658739	0.006205	0.044593
A	ROG_IDLEX	0	0	0	0	0.019371	0.01467	0.018199	0.425464995	0.0479	0	0	0.274128	0
A	ROG_RESTL	0.028067	0.053388	0.054637	0.062343	0.000904	0.000457	0.00018	9.87177E-07	0.000483	1.3E-05	0.964052	0.000292	0.192731
A	ROG_RUNEX	0.004919	0.011315	0.009547	0.010801	0.082268	0.103701	0.013929	0.025230325	0.020648	0.025271	2.163162	0.076133	0.053216
A	ROG_RUNLS	0.185854	0.473603	0.387491	0.396121	0.458804	0.204792	0.087699	0.000396674	0.180023	0.001452	1.752085	0.040739	1.014315
A	ROG_STREX	0.160651	0.222735	0.243054	0.281273	0.059664	0.032087	0.044627	2.31009E-06	0.083133	0.007362	1.911911	0.030553	0.084521
A	SO2_IDLEX	0	0	0	0	8.4E-05	0.00013	0.000661	0.009404557	0.000905	0	0	0.003286	0
A	SO2_RUNEX	9.28E-05	0.002615	0.010025	0.003351	0.007315	0.007016	0.010025	0.012421666	0.012348	0.010671	0.002078	0.009797	0.014185
A	SO2_STREX	0	0	8.76E-05	0.000714	0.000109	7.07E-05	8.76E-05	4.72987E-07	0.000143	1.38E-05	0.000595	4.37E-05	0.00017
A	TOG_DIURN	0.031026	0.063386	0.056043	0.063565	0.001717	0.000843	0.000334	1.73946E-06	0.001072	2.71E-05	1.796069	0.000641	0.521835
A	TOG_HTSK	0.07546	0.124908	0.10677	0.116658	0.064563	0.033077	0.016141	7.87131E-05	0.015877	0.000258	0.658739	0.006205	0.044593
A	TOG_IDLEX	0	0	0	0	0.027158	0.019579	0.024791	0.489206564	0.061489	0	0	0.393293	0
A	TOG_RESTL	0.028067	0.053388	0.054637	0.062343	0.000904	0.000457	0.00018	9.87177E-07	0.000483	1.3E-05	0.964052	0.000292	0.192731
A	TOG_RUNEX	0.007149	0.016504	0.013895	0.015681	0.099279	0.120104	0.017205	0.076057465	0.027322	1.776895	2.697331	0.090583	0.068739
A	TOG_RUNLS	0.185854	0.473603	0.387491	0.396121	0.458804	0.204792	0.087699	0.000396674	0.180023	0.001452	1.752085	0.040739	1.014315
A	TOG_STREX	0.175893	0.243867	0.266113	0.307959	0.065324	0.035131	0.04886	2.52926E-06	0.09102	0.00806	2.081516	0.033451	0.09254

2026 CalEEMod EMFAC2017 Fleet Mix Input

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.593877	0.053382	0.174267	0.106373	0.020945	0.005401	0.013559	0.022807	0.001528	0.001225	0.004979	0.000915	0.000742

2030 CalEEMod EMFAC2017 Emission Factors Input

Season	EmissionType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
A	CH4_IDLEX	0	0	0	0	0.004148	0.002505	0.003832	0.024231453	0.007098	0	0	0.070082	0
A	CH4_RUNEX	0.000959	0.001671	0.001726	0.001772	0.005195	0.005339	0.001034	0.04518098	0.002197	1.859484	0.319087	0.004404	0.005027
A	CH4_STREX	0.028931	0.035248	0.041821	0.043924	0.009023	0.004811	0.008383	4.34672E-07	0.015222	0.002186	0.24786	0.006338	0.019545
A	CO_IDLEX	0	0	0	0	0.17731	0.131894	0.405402	6.28489984	0.644155	0	0	2.927328	0
A	CO_RUNEX	0.411156	0.540474	0.559142	0.551517	0.468742	0.489111	0.152189	0.405949458	0.262856	14.11073	17.60732	0.374881	0.311691
A	CO_STREX	1.716961	1.849789	2.287973	2.324828	0.890393	0.484256	0.872515	0.006685308	1.577018	0.139137	9.199577	0.858725	1.635194
A	CO2_NBIO_IDLEX	0	0	0	0	8.251826	13.00041	65.09769	930.0496847	97.36242	0	0	337.4754	0
A	CO2_NBIO_RUNEX	199.8584	241.4555	249.7974	301.1272	698.5465	679.813	993.4479	1226.348086	1210.85	1668.671	209.7572	970.5049	1350.267
A	CO2_NBIO_STREX	42.16672	51.55301	53.79124	63.46105	10.09364	6.438033	8.550649	0.051649278	13.46187	1.401901	59.22586	5.059627	15.54123
A	NOX_IDLEX	0	0	0	0	0.045908	0.074209	0.341766	5.199426871	0.431935	0	0	2.710433	0
A	NOX_RUNEX	0.019319	0.033468	0.034489	0.035665	0.299902	0.384329	1.428316	2.517362076	1.448391	0.706433	1.137409	3.086533	1.063099
A	NOX_STREX	0.125333	0.151052	0.168209	0.179169	0.225227	0.124883	1.689216	2.314548745	1.129093	0.015157	0.270173	1.184451	0.23668
A	PM10_IDLEX	0	0	0	0	0.000915	0.001502	0.000162	0.002145897	0.000142	0	0	0.002048	0
A	PM10_PMBW	0.03675	0.03675	0.03675	0.03675	0.07644	0.08918	0.13034	0.061109857	0.13034	0.069383	0.01176	0.7448	0.13034
A	PM10_PMTW	0.008	0.008	0.008	0.008	0.009901	0.010844	0.012	0.035621239	0.012	0.033326	0.004	0.010676	0.013189
A	PM10_RUNEX	0.000929	0.00107	0.001025	0.001034	0.007019	0.013839	0.007006	0.023790073	0.007882	0.005116	0.002138	0.021245	0.016043
A	PM10_STREX	0.001275	0.001461	0.00134	0.001344	0.00021	0.000106	0.000112	5.80093E-07	0.000156	1.52E-05	0.002862	6.76E-05	0.000212
A	PM25_IDLEX	0	0	0	0	0.000875	0.001437	0.000155	0.002053066	0.000136	0	0	0.00196	0
A	PM25_PMBW	0.01575	0.01575	0.01575	0.01575	0.03276	0.03822	0.05586	0.026189939	0.05586	0.029736	0.00504	0.3192	0.05586
A	PM25_PMTW	0.002	0.002	0.002	0.002	0.002475	0.002711	0.003	0.00890531	0.003	0.008332	0.001	0.002669	0.003297
A	PM25_RUNEX	0.000855	0.000984	0.000944	0.000954	0.006671	0.013218	0.006696	0.022760894	0.007526	0.004893	0.001994	0.02031	0.015312
A	PM25_STREX	0.001172	0.001344	0.001232	0.001236	0.000193	9.76E-05	0.000103	5.33374E-07	0.000144	1.4E-05	0.002676	6.22E-05	0.000195
A	ROG_DIURN	0.024903	0.046388	0.048996	0.057349	0.001403	0.000642	0.000289	1.32994E-06	0.001062	6.14E-05	1.786807	0.00087	0.347564
A	ROG_HTSK	0.061657	0.093564	0.089096	0.0981	0.054855	0.024352	0.013852	5.78076E-05	0.015622	0.000814	0.631299	0.008304	0.028392
A	ROG_IDLEX	0	0	0	0	0.01734	0.013466	0.01847	0.422100311	0.050126	0	0	0.322319	0
A	ROG_RESTL	0.022934	0.041206	0.048532	0.056738	0.000772	0.000374	0.000168	7.97633E-07	0.000487	3.58E-05	0.946881	0.000414	0.1401
A	ROG_RUNEX	0.003247	0.0065	0.006553	0.006887	0.072661	0.0982	0.011844	0.024014489	0.016744	0.026969	2.128511	0.060159	0.038911
A	ROG_RUNLS	0.170512	0.364405	0.336782	0.340289	0.429696	0.143744	0.071507	0.000284481	0.181965	0.004928	1.487321	0.053902	0.535482
A	ROG_STREX	0.118715	0.154126	0.182707	0.199251	0.043726	0.022756	0.041407	2.2699E-06	0.076636	0.009261	1.877593	0.036024	0.074231
A	SO2_IDLEX	0	0	0	0	7.99E-05	0.000124	0.000618	0.00865265	0.000924	0	0	0.003219	0
A	SO2_RUNEX	9E-05	0.002567	0.00948	0.002976	0.006812	0.006557	0.00948	0.011212041	0.011649	0.010417	0.002076	0.009288	0.013242
A	SO2_STREX	0	0	8.46E-05	0.000628	9.99E-05	6.37E-05	8.46E-05	5.11111E-07	0.000133	1.39E-05	0.000586	5.01E-05	0.000154
A	TOG_DIURN	0.024903	0.046388	0.048996	0.057349	0.001403	0.000642	0.000289	1.32994E-06	0.001062	6.14E-05	1.786807	0.00087	0.347564
A	TOG_HTSK	0.061657	0.093564	0.089096	0.0981	0.054855	0.024352	0.013852	5.78076E-05	0.015622	0.000814	0.631299	0.008304	0.028392
A	TOG_IDLEX	0	0	0	0	0.02413	0.017772	0.025282	0.485180108	0.063906	0	0	0.463821	0
A	TOG_RESTL	0.022934	0.041206	0.048532	0.056738	0.000772	0.000374	0.000168	7.97633E-07	0.000487	3.58E-05	0.946881	0.000414	0.1401
A	TOG_RUNEX	0.004716	0.009483	0.009524	0.009983	0.08579	0.112949	0.014288	0.071682245	0.021563	1.898202	2.666273	0.071678	0.048331
A	TOG_RUNLS	0.170512	0.364405	0.336782	0.340289	0.429696	0.143744	0.071507	0.000284481	0.181965	0.004928	1.487321	0.053902	0.535482
A	TOG_STREX	0.129977	0.168749	0.200041	0.218155	0.047875	0.024915	0.045336	2.48526E-06	0.083906	0.01014	2.04481	0.039442	0.081274

2030 CalEEMod EMFAC2017 Fleet Mix Input

FleetMixLandUseSubType	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
	0.595423	0.053963	0.1714	0.106522	0.021043	0.005556	0.013639	0.023425	0.001443	0.001178	0.00478	0.0009	0.000728

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SANTA CLARA
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLE	NOx_STRE	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_TWP	PM2.5_PMP	PM10_RUP	PM10_IDLI	PM10_STR	PM10_TWP	PM10_PMI	CO2_RUNE	CO2_IDLEX	CO2_STRE	CH4_RUNE	CH4_IDLEX	CH4_STRE	N2O_RUNE	N2O_IDLEX	N2O_STRE	ROG_RUNI	ROG_IDLEX	ROG_STRE	ROG_HOTS	ROG_RUNI	ROG_REST	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STRE	TOG_HOTS	TOG_RUNI	TOG_REST	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
SANTA CLA	2022	HHDT	Aggregate	Aggregate	GAS	4.973172	516.9338	99.50323	3.654204	0	0.338391	0.001236	0	0.000744	0.005	0.02646	0.001344	0	0.00081	0.02	0.06174	1964.961	0	46.86739	0.097725	0	0.00044	0.140899	0	0.010576	0.494672	0	0.002301	0.136891	0.830556	0.033943	0.061166	0.721824	0	0.00252	0.136891	0.830556	0.033943	0.061166	30.00648	0	5.27737	0.019445	0	0.000464
SANTA CLA	2022	HHDT	Aggregate	Aggregate	DSL	8277.463	1011013	88031.26	3.535499	63.08378	2.080194	0.033949	0.03347	0	0.008873	0.026088	0.035484	0.034983	0	0.035494	0.060872	1486.606	11783.13	0	0.003901	0.215524	0	0.233674	1.852143	0	0.08399	4.640183	0	0	0	0.095616	5.282495	0	0	0	0	0	0	0.366847	63.30293	0	0.014045	0.111321	0
SANTA CLA	2022	HHDT	Aggregate	Aggregate	NG	348.7902	14223.14	1360.282	1.755776	21.14752	0	0.004789	0.030991	0	0.009	0.02646	0.005006	0.032392	0	0.036	0.06174	3203.692	4060.116	0	3.511574	1.248503	0	0.653093	0.827681	0	0.161697	0.045805	0	0	0	3.710887	1.306054	0	0	0	0	0	10.70122	21.55662	0	0	0	0
SANTA CLA	2022	LDA	Aggregate	Aggregate	GAS	733557.7	26453304	3456649	0.03872	0	0.197227	0.001299	0	0.001748	0.002	0.01575	0.001413	0	0.001902	0.008	0.03675	259.2126	0	55.39361	0.002345	0	0.054199	0.004449	0	0.026685	0.009015	0	0.243726	0.100881	0.22086	0.178182	0.20337	0.013151	0	0.266848	0.100881	0.22086	0.178182	0.20337	0.63218	0	2.325265	0.002565	0	0.000548
SANTA CLA	2022	LDA	Aggregate	Aggregate	DSL	7146.668	268335.1	33963.02	0.071556	0	0	0.006579	0	0	0.002	0.01575	0.006877	0	0	0.008	0.03675	200.3149	0	0	0.000626	0	0	0.031487	0	0	0.013485	0	0	0	0	0.015352	0	0	0	0	0	0	0.198488	0	0	0.001894	0	0
SANTA CLA	2022	LDA	Aggregate	Aggregate	ELEC	25894.61	943282.8	126428	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
SANTA CLA	2022	LDT1	Aggregate	Aggregate	GAS	73556.92	2443329	340743.8	0.091156	0	0.251292	0.001724	0	0.002226	0.002	0.01575	0.001875	0	0.002421	0.008	0.03675	300.527	0	64.49485	0.004882	0	0.070027	0.007217	0	0.028775	0.021236	0	0.344801	0.173613	0.628849	0.332831	0.420667	0.030964	0	0.377511	0.173613	0.628849	0.332831	0.420667	1.068397	0	2.450832	0.002974	0	0.000638
SANTA CLA	2022	LDT1	Aggregate	Aggregate	DSL	36.8388	667.9121	121.0603	1.185315	0	0	0.157566	0	0	0.002	0.01575	0.164691	0	0	0.008	0.03675	408.3259	0	0	0.009501	0	0	0.064183	0	0	0.204561	0	0	0	0	0.232879	0	0	0	0	0	0	1.159574	0	0	0.00386	0	0
SANTA CLA	2022	LDT1	Aggregate	Aggregate	ELEC	624.8771	24059.07	3099.469	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
SANTA CLA	2022	LDT2	Aggregate	Aggregate	GAS	250455.4	8295824	1167439	0.077278	0	0.299792	0.001307	0	0.001684	0.002	0.01575	0.001421	0	0.001831	0.008	0.03675	327.6413	0	71.42656	0.003665	0	0.072415	0.006473	0	0.033384	0.014906	0	0.339292	0.128171	0.436499	0.281495	0.299507	0.021744	0	0.371482	0.128171	0.436499	0.281495	0.299507	0.860463	0	2.923834	0.003242	0	0.000707
SANTA CLA	2022	LDT2	Aggregate	Aggregate	DSL	1663.513	62652.21	8136.947	0.039252	0	0	0.004754	0	0	0.002	0.01575	0.004969	0	0	0.008	0.03675	275.5741	0	0	0.000647	0	0	0.043316	0	0	0.013935	0	0	0	0	0.015864	0	0	0	0	0	0	0.123161	0	0	0.002605	0	0
SANTA CLA	2022	LDT2	Aggregate	Aggregate	ELEC	2695.96	82111.52	13502.44	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
SANTA CLA	2022	LHDT1	Aggregate	Aggregate	GAS	16536.9	566343.8	246375.2	0.235238	0.038471	0.530556	0.002161	0	0.000388	0.002	0.03276	0.00235	0	0.000422	0.008	0.07644	1006.569	121.1222	18.98971	0.01086	0.121305	0.025473	0.014262	0.003125	0.041267	0.052874	0.440699	0.129054	0.125369	0.861898	0.025267	0.050121	0.077153	0.643067	0.141298	0.125369	0.861898	0.025267	0.050121	0.97349	3.751848	1.764958	0.009961	0.001199	0.000188
SANTA CLA	2022	LHDT1	Aggregate	Aggregate	DSL	11104.44	423266.4	139679.8	1.613919	2.033114	0	0.021273	0.026869	0	0.003	0.03276	0.022235	0.028084	0	0.012	0.07644	544.3042	133.047	0	0.007318	0.005098	0	0.085557	0.020913	0	0.157544	0.10976	0	0	0	0.179353	0.124954	0	0	0	0	0	0.661457	0.909745	0	0.005146	0.001258	0
SANTA CLA	2022	LHDT2	Aggregate	Aggregate	GAS	2253.3	77523.96	33570.81	0.240034	0.037891	0.516259	0.002078	0	0.000346	0.002	0.03822	0.00226	0	0.000377	0.008	0.08918	1147.291	139.0737	21.54397	0.008737	0.120275	0.024583	0.015135	0.003045	0.039911	0.039365	0.434196	0.123837	0.121118	0.819863	0.023133	0.046225	0.057441	0.633578	0.135586	0.121118	0.819863	0.023133	0.046225	0.722025	3.75488	1.776904	0.011353	0.001376	0.000213
SANTA CLA	2022	LHDT2	Aggregate	Aggregate	DSL	4438.985	166319.5	55836.85	1.346918	2.041795	0	0.021771	0.027131	0	0.003	0.03822	0.022756	0.028358	0	0.012	0.08918	612.5422	213.4891	0	0.007003	0.005098	0	0.096283	0.033558	0	0.150761	0.10976	0	0	0	0.171631	0.124954	0	0	0	0	0	0.634383	0.909745	0	0.005791	0.002018	0
SANTA CLA	2022	MCY	Aggregate	Aggregate	GAS	32925.36	241011	65850.71	1.151611	0	0.270649	0.001812	0	0.002978	0.001	0.00504	0.001937	0	0.003161	0.004	0.01176	210.2729	0	61.39967	0.328946	0	0.256691	0.06628	0	0.015352	2.228751	0	1.954835	0.704215	2.060677	0.995009	1.817765	2.753726	0	2.127328	0.704215	2.060677	0.995009	1.817765	19.18808	0	9.0045	0.002081	0	0.000608
SANTA CLA	2022	MDV	Aggregate	Aggregate	GAS	151961.1	4876240	702265.7	0.099589	0	0.371177	0.001397	0	0.001912	0.002	0.01575	0.001519	0	0.002079	0.008	0.03675	396.236	0	86.90417	0.004621	0	0.087878	0.007887	0	0.036541	0.019446	0	0.437645	0.147462	0.472734	0.331376	0.347901	0.028322	0	0.479161	0.147462	0.472734	0.331376	0.347901	0.980018	0	3.406111	0.003921	0	0.00086
SANTA CLA	2022	MDV	Aggregate	Aggregate	DSL	3721.225	135478.8	18101.22	0.038775	0	0	0.004203	0	0	0.002	0.01575	0.004393	0	0	0.008	0.03675	360.3121	0	0	0.000478	0	0	0.056636	0	0	0.010285	0	0	0	0	0.011709	0	0	0	0	0	0	0.184421	0	0	0.003406	0	0
SANTA CLA	2022	MDV	Aggregate	Aggregate	ELEC	1080.167	34834.41	5508.057	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
SANTA CLA	2022	MH	Aggregate	Aggregate	GAS	2891.835	26265.33	289.2991	0.413359	0	0.334516	0.001633	0	0.000362	0.003	0.05586	0.001776	0	0.000394	0.012	0.13034	1756.095	0	25.97914	0.015124	0	0.032419	0.025426	0	0.034963	0.066433	0	0.137518	0.088945	2.156488	0.036513	0.106238	0.096939	0	0.150564	0.088945	2.156488	0.036513	0.106238	1.697423	0	3.037213	0.017378	0	0.000257
SANTA CLA	2022	MH	Aggregate	Aggregate	DSL	1019.353	9712.32	101.9353	4.184918	0	0	0.085576	0	0	0.004	0.05586	0.089445	0	0	0.016	0.13034	1018.587	0	0	0.005027	0	0	0.160108	0	0	0.108225	0	0	0	0	0.123206	0	0	0	0	0	0	0.382773	0	0	0.009629	0	0
SANTA CLA	2022	MHDT	Aggregate	Aggregate	GAS	1456.112	75284.48	29133.88	0.474932	0.088412	0.377896	0.001319	0	0.000449	0.003	0.05586	0.001435	0	0.00051	0.012	0.13034	1722.789	532.6547	39.05903	0.014881	0.262553	0.04023	0.023376	0.007484	0.029181	0.072945	1.011617	0.219187	0.087649	0.506692	0.018903	0.038182	0.106442	1.47615	0.239982	0.087649	0.506692	0.018903	0.038182	1.680953	15.10368	4.939745	0.017048	0.005271	0.000287
SANTA CLA	2022	MHDT	Aggregate	Aggregate	DSL	9430.024	551923.8	94917.85	2.277066	7.413096	1.687822	0.039812	0.015538	0	0.003	0.05586	0.041612	0.01624	0	0.012	0.13034	1050.628	914.98	0	0.004378	0.004667	0	0.165144	0.143822	0	0.094265	0.100481	0	0	0	0.107314	0.11439	0	0	0	0	0	0.32147	2.58681	0	0.009926	0.008644	0
SANTA CLA	2022	OBUS	Aggregate	Aggregate	GAS	501.9655	24150.25	10043.33	0.443255	0.065137	0.32561	0.000952	0	0.000213	0.003	0.05586	0.001035	0	0.000232	0.012	0.13034	1767.375	377.9272	26.38965	0.013022	0.200837	0.030332	0.022732	0.005646	0.026387	0.061436	0.747416	0.156088	0.026802	0.295531	0.015889	0.036065	0.089647	1.090627	0.170897	0.026802	0.295531	0.015889	0.036065	1.365657	5.781487	3.261978	0.01749	0.00374	0.000261
SANTA CLA	2022	OBUS	Aggregate	Aggregate	DSL	762.3964	53839.19	6991.348	2.314382	10.4182	2.005848	0.021086	0.015288	0	0.003	0.05586	0.02204	0.015979	0	0.012	0.13034	1185.916	1892.098	0	0.002538	0.027964	0	0.18641	0.297411	0	0.054653	0.602048	0	0	0	0.062218	0.685386	0	0	0	0	0	0.239321	8.657847	0	0.011204	0.017876	0
SANTA CLA	2022	SBUS	Aggregate	Aggregate	GAS	249.3134	11500.83	997.2534	0.430325	0.924415	0.566946	0.001196	0	0.000498	0.002	0.3192	0.001301	0	0.000541	0.008	0.7448	865.5448	2582.545	48.67377	0.011856	2.442701	0.058309	0.024366	0.088243	0.053528	0.058325	10.61061	0.332747	0.061157	0.415506	0.010413	0.025261	0.085108	15.48298	0.364316	0.061157	0.415506	0.010413	0.025261	1.259002	82.05319	8.624782	0.008565	0.025556	0.000482
SANTA CLA	2022	SBUS	Aggregate	Aggregate	DSL	1014.086	31965.96	11702.42	6.765334	45.00081	0.786274	0.042018	0.05033	0	0.003	0.3192	0.043917	0.052605	0	0.012	0.7448	1145.085	3716.49	0	0.004669	0.013069	0	0.179991	0.584181	0	0.100532	0.281366	0	0	0	0.114448	0.320314	0	0	0	0	0	0.27746	5.867721	0	0.010818	0.035112	0
SANTA CLA	2022	UBUS	Aggregate	Aggregate	GAS	8.419396	1059.849	33.67758	0.491737	0	1.236285	0.000328	0	9.7E-05	0.003	0.05586	0.000356	0	0.000105	0.012	0.13034	2351.817	0	104.599	0.006789	0	0.178596	0.036386	0	0.091633	0.022728	0	0.768536	0.190076	1.35875	0.031079	0.049249	0.033164	0	0.84145	0.190076	1.35875	0.031079	0.049249	0.527722	0	8.852622	0.023273	0	0.001035
SANTA CLA	2022	UBUS	Aggregate	Aggregate	DSL	423.2358	46482.16	1692.943	0.803453	0	0	0.005651	0	0	0.008415	0.029326	0.005907	0	0	0.033661	0.068427	1481.178	0	0	0.077358	0	0	0.232821	0	0	0.001105	0	0	0	0	0.078949	0	0	0	0	0	0	0.131304	0	0	0.014002	0	0
SANTA CLA	2022	UBUS	Aggregate	Aggregate	NG	104.0289	12325.91	416.1154	0.48934	0	0	0.003183	0	0	0.008475	0.029034	0.003327	0	0	0.033899	0.067746	2016.3	0	0	6.413607	0	0	0.411036	0	0	0.091638	0	0	0	0	6.545556	0	0	0	0	0	0	49.80397	0	0	0	0	0

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SANTA CLARA
Calendar Year: 2026
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_TWP	PM2.5_PMP	PM2.5_RUP	PM10_IDLE	PM10_STR	PM10_TWP	PM10_PMP	PM10_RUP	CO2_RUNE	CO2_IDLEX	CO2_STREX	CH4_RUNE	CH4_IDLEX	CH4_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX	ROG_RUNI	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNL	ROG_RESTL	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNL	TOG_RESTL	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
SANTA CLA	2026	HHDT	Aggregate	Aggregate	GAS	5.364051	687.2244	107.3239	2.901553	0	0.123525	0.001111	0	0.000507	0.005	0.02646	0.001208	0	0.000551	0.02	0.06174	1793.744	0	43.34586	0.071804	0	0.000401	0.125752	0	0.004225	0.328519	0	0.002095	0.071383	0.359736	0.017912	0.031562	0.479375	0	0.002294	0.071383	0.359736	0.017912	0.031562	27.34619	0	5.359666	0.017751	0	0.000429
SANTA CLA	2026	HHDT	Aggregate	Aggregate	DSL	8924.437	1100302	95711.65	2.666493	57.09144	2.360255	0.024019	0.024355	0	0.008892	0.026143	0.025105	0.025456	0	0.035569	0.061	1333.335	10856.43	0	0.001103	0.215452	0	0.209582	1.70648	0	0.02374	4.638633	0	0	0	0	0	0.027027	5.28073	0	0	0	0	0	0.240406	67.90439	0	0.012597	0.102566	0
SANTA CLA	2026	HHDT	Aggregate	Aggregate	NG	387.4411	15797.92	1511.02	1.192172	19.8411	0	0.00393	0.021114	0	0.009	0.02646	0.004107	0.022069	0	0.036	0.06174	3065.609	3870.947	0	3.327201	1.212401	0	0.624944	0.789118	0	0.11581	0.034377	0	0	0	0	0	3.473439	1.256776	0	0	0	0	0	10.90096	21.7521	0	0	0	0
SANTA CLA	2026	LDA	Aggregate	Aggregate	GAS	803316.6	27422437	3786948	0.025361	0	0.154822	0.001114	0	0.001523	0.002	0.01575	0.001211	0	0.001657	0.008	0.03675	231.4803	0	49.42279	0.001444	0	0.039822	0.003461	0	0.022774	0.005111	0	0.169499	0.079374	0.196051	0.139366	0.153495	0.493181	0	2.036512	0.002291	0	0.000489
SANTA CLA	2026	LDA	Aggregate	Aggregate	DSL	8761.921	309411.2	41704.47	0.032668	0	0	0.003405	0	0	0.002	0.01575	0.003558	0	0	0.008	0.03675	180.2059	0	0	0.00039	0	0	0.028326	0	0	0.008395	0	0	0	0	0	0	0.009557	0	0	0	0	0	0.1654	0	0	0.001704	0	0
SANTA CLA	2026	LDA	Aggregate	Aggregate	ELEC	36166.94	1348329	174853.1	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
SANTA CLA	2026	LDT1	Aggregate	Aggregate	GAS	81395.88	2557716	377984.9	0.053242	0	0.188746	0.001327	0	0.001762	0.002	0.01575	0.001443	0	0.001916	0.008	0.03675	270.6234	0	57.88564	0.002789	0	0.048967	0.004978	0	0.02436	0.011517	0	0.226362	0.126829	0.481219	0.251831	0.29879	0.016805	0	0.247838	0.126829	0.481219	0.251831	0.29879	0.722924	0	2.115706	0.002678	0	0.000573
SANTA CLA	2026	LDT1	Aggregate	Aggregate	DSL	24.30234	480.229	84.15979	0.751234	0	0	0.097028	0	0	0.002	0.01575	0.101415	0	0	0.008	0.03675	372.5093	0	0	0.005976	0	0	0.058553	0	0	0.128651	0	0	0	0	0	0	0.14646	0	0	0	0	0	0.792282	0	0	0.003522	0	0
SANTA CLA	2026	LDT1	Aggregate	Aggregate	ELEC	1379.343	55720.71	6839.142	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
SANTA CLA	2026	LDT2	Aggregate	Aggregate	GAS	265561.6	8306944	1235817	0.049643	0	0.220704	0.001151	0	0.001529	0.002	0.01575	0.001251	0	0.001663	0.008	0.03675	286.3694	0	62.68706	0.002482	0	0.055421	0.00474	0	0.027321	0.009671	0	0.249939	0.109665	0.398388	0.261316	0.267778	0.014111	0	0.273652	0.109665	0.398388	0.261316	0.267778	0.671341	0	2.592866	0.002834	0	0.00062
SANTA CLA	2026	LDT2	Aggregate	Aggregate	DSL	2179.627	73932.77	10496.07	0.032487	0	0	0.004202	0	0	0.002	0.01575	0.004392	0	0	0.008	0.03675	247.1738	0	0	0.000611	0	0	0.038852	0	0	0.013153	0	0	0	0	0	0	0.014974	0	0	0	0	0	0.127038	0	0	0.002337	0	0
SANTA CLA	2026	LDT2	Aggregate	Aggregate	ELEC	5458.528	152393.5	27053.7	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
SANTA CLA	2026	LHDT1	Aggregate	Aggregate	GAS	16770.98	556033.5	249862.6	0.151754	0.034252	0.4537	0.002099	0	0.000353	0.002	0.03276	0.002282	0	0.000384	0.008	0.07644	952.5009	116.2163	18.24638	0.006932	0.111178	0.019754	0.009676	0.002968	0.037044	0.032329	0.392624	0.098793	0.106906	0.759705	0.022308	0.042351	0.047175	0.572916	0.108166	0.106906	0.759705	0.022308	0.042351	0.625576	3.761779	1.633174	0.009426	0.00115	0.000181
SANTA CLA	2026	LHDT1	Aggregate	Aggregate	DSL	13027.47	469567.8	163869.1	0.916096	1.632082	0	0.01538	0.026486	0	0.003	0.03276	0.016075	0.027684	0	0.012	0.07644	509.3228	125.5551	0	0.006568	0.005098	0	0.080058	0.019736	0	0.141402	0.10976	0	0	0	0	0	0.160976	0.124954	0	0	0	0	0	0.602151	0.909745	0	0.004815	0.001187	0
SANTA CLA	2026	LHDT2	Aggregate	Aggregate	GAS	2384.455	79271.91	35524.83	0.145318	0.033553	0.440969	0.001987	0	0.00031	0.002	0.03822	0.002161	0	0.000337	0.008	0.08918	1083.731	133.0723	20.57258	0.005077	0.109892	0.018805	0.009942	0.002898	0.036006	0.021298	0.384876	0.092353	0.095204	0.589436	0.019579	0.036144	0.031078	0.56161	0.101115	0.095204	0.589436	0.019579	0.036144	0.403421	3.768218	1.582332	0.010724	0.001317	0.000204
SANTA CLA	2026	LHDT2	Aggregate	Aggregate	DSL	5304.447	185191.7	66723.26	0.80174	1.652316	0	0.01903	0.027033	0	0.003	0.03822	0.01989	0.028255	0	0.012	0.08918	574.2945	202.2523	0	0.006455	0.005098	0	0.090271	0.031791	0	0.138973	0.10976	0	0	0	0	0	0.158212	0.124954	0	0	0	0	0	0.59759	0.909745	0	0.005429	0.001912	0
SANTA CLA	2026	MCY	Aggregate	Aggregate	GAS	35953.12	246713	71906.25	1.142407	0	0.270461	0.001924	0	0.002748	0.001	0.00504	0.002061	0	0.002929	0.004	0.01176	209.9417	0	60.16678	0.322636	0	0.251748	0.06583	0	0.015364	2.163162	0	1.911911	0.658739	1.752085	0.964052	1.796069	2.697331	0	2.081516	0.658739	1.752085	0.964052	1.796069	18.16544	0	9.112103	0.002078	0	0.000595
SANTA CLA	2026	MDV	Aggregate	Aggregate	GAS	162018.4	4957363	750433	0.056427	0	0.253115	0.001168	0	0.001607	0.002	0.01575	0.001271	0	0.001748	0.008	0.03675	345.9595	0	75.91844	0.002781	0	0.062361	0.005221	0	0.028648	0.011068	0	0.29528	0.122339	0.415764	0.302987	0.308674	0.016149	0	0.323295	0.122339	0.415764	0.302987	0.308674	0.699315	0	2.804675	0.003424	0	0.000751
SANTA CLA	2026	MDV	Aggregate	Aggregate	DSL	4789.871	158691.3	22971.85	0.025016	0	0	0.003022	0	0	0.002	0.01575	0.003159	0	0	0.008	0.03675	322.1951	0	0	0.000375	0	0	0.050645	0	0	0.008076	0	0	0	0	0	0	0.009194	0	0	0	0	0	0.17154	0	0	0.003046	0	0
SANTA CLA	2026	MDV	Aggregate	Aggregate	ELEC	3176.215	92681.92	15973.91	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0
SANTA CLA	2026	MH	Aggregate	Aggregate	GAS	2786.201	25915.09	278.7315	0.25296	0	0.339641	0.001408	0	0.000312	0.003	0.05586	0.001531	0	0.00034	0.012	0.13034	1639.481	0	24.24107	0.008941	0	0.029975	0.018592	0	0.037661	0.035657	0	0.119443	0.063018	1.433405	0.027247	0.073774	0.05203	0	0.130775	0.063018	1.433405	0.027247	0.073774	0.815894	0	2.636102	0.016224	0	0.00024
SANTA CLA	2026	MH	Aggregate	Aggregate	DSL	1151.648	10425.3	115.1648	3.596484	0	0	0.063829	0	0	0.004	0.05586	0.066715	0	0	0.016	0.13034	964.1862	0	0	0.004499	0	0	0.151557	0	0	0.096864	0	0	0	0	0	0	0.110273	0	0	0	0	0	0.328457	0	0	0.009115	0	0
SANTA CLA	2026	MHDT	Aggregate	Aggregate	GAS	1687.725	86801.44	33768.01	0.226062	0.089038	0.342531	0.00127	0	0.000413	0.003	0.05586	0.001382	0	0.000449	0.012	0.13034	1607.82	503.7098	35.57567	0.007011	0.273723	0.034894	0.013789	0.008178	0.029559	0.032131	1.02093	0.179349	0.064867	0.352453	0.014504	0.026884	0.046886	1.489739	0.196365	0.064867	0.352453	0.014504	0.026884	0.704545	15.21187	3.914871	0.015911	0.004985	0.000352
SANTA CLA	2026	MHDT	Aggregate	Aggregate	DSL	10254.12	577160.2	101941.7	1.628767	5.068172	2.147618	0.007577	0.00351	0	0.003	0.05586	0.007919	0.003668	0	0.012	0.13034	967.4707	838.5754	0	0.00052	0.003382	0	0.152073	0.131812	0	0.011192	0.072819	0	0	0	0	0	0.012741	0.082899	0	0	0	0	0	0.116231	2.729189	0	0.00914	0.007922	0
SANTA CLA	2026	OBUS	Aggregate	Aggregate	GAS	507.9074	22731.23	10162.21	0.292264	0.065184	0.313239	0.001097	0	0.000236	0.003	0.05586	0.001193	0	0.000256	0.012	0.13034	1652.302	361.5422	24.97816	0.008515	0.201911	0.028115	0.016502	0.005795	0.026094	0.039151	0.748116	0.143279	0.027364	0.310267	0.016664	0.036978	0.057129	1.09165	0.156872	0.027364	0.310267	0.016664	0.036978	0.834386	5.785715	2.984205	0.016351	0.003578	0.000247
SANTA CLA	2026	OBUS	Aggregate	Aggregate	DSL	796.7643	52087.07	7352.266	1.959254	8.776183	2.213983	0.009877	0.002762	0	0.003	0.05586	0.010324	0.002887	0	0.012	0.13034	1122.18	1865.346	0	0.000584	0.026755	0	0.176391	0.293206	0	0.012574	0.576038	0	0	0	0	0	0.014314	0.655776	0	0	0	0	0	0.144399	9.689916	0	0.010602	0.017623	0
SANTA CLA	2026	SBUS	Aggregate	Aggregate	GAS	305.0164	13306.38	1220.066	0.347767	0.925925	0.597767	0.00119	0	0.000524	0.002	0.3192	0.001294	0	0.00057	0.008	0.7448	833.8886	2496.465	46.34384	0.008421	2.440565	0.056313	0.021096	0.088976	0.055917	0.041057	10.63268	0.320756	0.065141	0.427694	0.012263	0.026924	0.059911	15.51518	0.351188	0.065141	0.427694	0.012263	0.026924	0.883814	82.1872	7.947598	0.008252	0.024705	0.000459
SANTA CLA	2026	SBUS	Aggregate	Aggregate	DSL	1004.235	31497.44	11588.73	5.783794	41.00653	0.989807	0.036341	0.03731	0	0.003	0.3192	0.037984	0.038997	0	0.012	0.7448	1106.109	3641.859	0	0.004224	0.012401	0	0.173865	0.57245	0	0.090951	0.266981	0	0	0	0	0	0.10354	0.303937	0	0	0	0	0	0.265493	6.63799	0	0.01045	0.034406	0
SANTA CLA	2026	UBUS	Aggregate	Aggregate	GAS	8.434703	1061.776	33.73881	0.23219	0	0.781025	0.002209	0	0.000888	0.003	0.05586	0.002402	0	0.000966	0.012	0.13034	1956.429	0	88.80542	0.006971	0	0.111797	0.02141	0	0.072132	0.022728	0	0.468399	0.016436	0.092409	0.003318	0.006895	0.033164	0	0.512838	0.016436	0.092409	0.003318	0.006895	0.322483	0	8.852622	0.01936	0	0.000879
SANTA CLA	2026	UBUS	Aggregate	Aggregate	DSL	404.8528	43393.97	1619.411	0.799803	0	0	0.005629	0	0	0.008352	0.029636	0.005884	0	0	0.033407	0.06915	1509.977	0	0	0.076902	0	0	0.237347	0	0	0.001099	0	0	0	0	0	0	0.078484	0	0	0	0	0	0.130458	0	0	0.014275	0	0
SANTA CLA	2026	UBUS	Aggregate	Aggregate	NG	123.3704	15521.01	493.4817	0.495108	0	0	0.003218	0	0	0.008639	0.028227	0.003363	0	0	0.034558	0.065863	2036.46	0	0	6.510688	0	0	0.415146	0	0	0.093025	0	0	0	0	0	0	6.644635	0	0	0	0	0	50.63551	0	0	0	0	0

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SANTA CLARA
Calendar Year: 2030
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLEX	NOx_STREX	PM2.5_RU	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PMP	PM2.5_PMP	PM10_RUP	PM10_IDLE	PM10_STR	PM10_PMP	PM10_PMI	CO2_RUNE	CO2_IDLEX	CO2_STREX	CH4_RUNE	CH4_IDLEX	CH4_STREX	N2O_RUNE	N2O_IDLEX	N2O_STREX	ROG_RUNI	ROG_IDLEX	ROG_STREX	ROG_HOTS	ROG_RUNI	ROG_RESTL	ROG_DIURN	TOG_RUNE	TOG_IDLEX	TOG_STREX	TOG_HOTS	TOG_RUNI	TOG_RESTL	TOG_DIURN	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
SANTA CLA	2030	HHDT	Aggregate	Aggregate	GAS	6.644908	846.0095	132.9513	2.895279	0	0.044486	0.001084	0	0.000414	0.005	0.02646	0.001179	0	0.00045	0.02	0.06174	1677.599	0	40.07141	0.06849	0	0.000337	0.127319	0	0.001575	0.302922	0	0.001761	0.044849	0.220711	0.012382	0.020645	0.442024	0	0.001928	0.044849	0.220711	0.012382	0.020645	28.21474	0	5.186707	0.016601	0	0.000397
SANTA CLA	2030	HHDT	Aggregate	Aggregate	DSL	9431.66	1177485	1014553.9	2.539781	56.05241	2.353151	0.023044	0.021785	0	0.008907	0.026186	0.024086	0.02277	0	0.035627	0.061101	1202.821	10016.29	0	0.001063	0.214358	0	0.189067	1.574421	0	0.022896	4.615071	0	0	0	0	0.026066	5.253907	0	0	0	0	0	0	0.238872	67.80499	0	0.011364	0.094629	0
SANTA CLA	2030	HHDT	Aggregate	Aggregate	NG	400.4237	16329.01	1561.653	0.881174	19.09434	0	0.003462	0.015749	0	0.009	0.02646	0.003619	0.016461	0	0.036	0.06174	2899.524	3653.632	0	3.225286	1.19295	0	0.591087	0.744817	0	0.090199	0.028054	0	0	0	0	3.341906	1.230036	0	0	0	0	0	0	11.01311	21.88788	0	0	0	0
SANTA CLA	2030	LDA	Aggregate	Aggregate	GAS	869969.1	28403709	4092414	0.020358	0	0.132956	0.000879	0	0.001249	0.002	0.01575	0.000956	0	0.001359	0.008	0.03675	211.6944	0	44.94162	0.001023	0	0.030835	0.003085	0	0.020493	0.003388	0	0.12606	0.065117	0.180811	0.11416	0.123291	0.43107	0	1.801842	0.002095	0	0.000445
SANTA CLA	2030	LDA	Aggregate	Aggregate	DSL	10023.63	337674.2	47691.27	0.01676	0	0	0.001829	0	0	0.002	0.01575	0.001912	0	0	0.008	0.03675	166.1368	0	0	0.000273	0	0	0.026114	0	0	0.005885	0	0	0	0	0	0.006699	0	0	0	0	0	0	0	0.146966	0	0	0.001571	0	0
SANTA CLA	2030	LDA	Aggregate	Aggregate	ELEC	46172.96	1625146	221619.4	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0	0	0.146966	0	0	0.001571	0	0
SANTA CLA	2030	LDT1	Aggregate	Aggregate	GAS	88972.38	2670256	412660.2	0.034308	0	0.154254	0.000998	0	0.001379	0.002	0.01575	0.001085	0	0.001499	0.008	0.03675	248.8135	0	52.89319	0.001722	0	0.036164	0.003879	0	0.021779	0.00667	0	0.15755	0.095382	0.371981	0.194977	0.219194	0.548445	0	1.868724	0.002462	0	0.000523
SANTA CLA	2030	LDT1	Aggregate	Aggregate	DSL	12.41764	352.1646	54.72798	0.189506	0	0	0.017188	0	0	0.002	0.01575	0.017965	0	0	0.008	0.03675	322.0531	0	0	0.001569	0	0	0.050622	0	0	0.033785	0	0	0	0	0	0.038462	0	0	0	0	0	0	0	0.286183	0	0	0.003045	0	0
SANTA CLA	2030	LDT1	Aggregate	Aggregate	ELEC	2180.044	81488.93	10672.84	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0	0	0	0	0	0	0	0
SANTA CLA	2030	LDT2	Aggregate	Aggregate	GAS	281546.9	8446247	1307139	0.035247	0	0.174198	0.000925	0	0.001282	0.002	0.01575	0.001006	0	0.001394	0.008	0.03675	256.344	0	55.96845	0.00178	0	0.043514	0.003847	0	0.023481	0.006634	0	0.189401	0.09208	0.348635	0.233116	0.234964	0.90968	0	0.20737	0.09208	0.348635	0.233116	0.234964	0.568541	0	2.344012	0.002537	0	0.000554
SANTA CLA	2030	LDT2	Aggregate	Aggregate	DSL	2576.298	81354.46	12261.45	0.02908	0	0	0.003937	0	0	0.002	0.01575	0.004115	0	0	0.008	0.03675	226.4921	0	0	0.000595	0	0	0.035601	0	0	0.01282	0	0	0	0	0	0.014595	0	0	0	0	0	0	0	0.129762	0	0	0.002141	0	0
SANTA CLA	2030	LDT2	Aggregate	Aggregate	ELEC	8320.478	213767.2	40645.17	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0	0	0	0	0	0	0	0
SANTA CLA	2030	LHDT1	Aggregate	Aggregate	GAS	17444.25	563109.1	259893.3	0.098098	0.030587	0.387515	0.002081	0	0.000333	0.002	0.03276	0.002264	0	0.000362	0.008	0.07644	897.5407	110.5325	17.36665	0.004317	0.101968	0.015524	0.006844	0.002802	0.033538	0.018245	0.350811	0.075233	0.094381	0.739315	0.019801	0.035959	0.026623	0.511903	0.082371	0.094381	0.739315	0.019801	0.035959	0.368714	3.768698	1.531971	0.008882	0.001094	0.000172
SANTA CLA	2030	LHDT1	Aggregate	Aggregate	DSL	14887.61	510107.2	187267.4	0.522674	1.343027	0	0.011738	0.026289	0	0.003	0.03276	0.012269	0.027477	0	0.012	0.07644	478.8761	118.3357	0	0.006165	0.005098	0	0.075273	0.018601	0	0.13273	0.10976	0	0	0	0	0.155104	0.124954	0	0	0	0	0	0	0.579164	0.909745	0	0.004527	0.001119	0
SANTA CLA	2030	LHDT2	Aggregate	Aggregate	GAS	2535.293	81915.35	37772.09	0.091162	0.030032	0.379653	0.001975	0	0.000297	0.002	0.03822	0.002148	0	0.000323	0.008	0.08918	1021.816	126.3902	19.57212	0.00327	0.10112	0.014626	0.00699	0.00275	0.032936	0.012455	0.344716	0.06918	0.074032	0.436992	0.016932	0.02908	0.018175	0.503009	0.075743	0.074032	0.436992	0.016932	0.02908	0.249204	3.775612	1.472175	0.010112	0.001251	0.000194
SANTA CLA	2030	LHDT2	Aggregate	Aggregate	DSL	6126.051	201454.9	77058.01	0.503536	1.378592	0	0.017789	0.026933	0	0.003	0.03822	0.018593	0.028151	0	0.012	0.08918	540.7481	191.3797	0	0.006181	0.005098	0	0.084998	0.030082	0	0.133066	0.10976	0	0	0	0	0.151486	0.124954	0	0	0	0	0	0	0.586662	0.909745	0	0.005112	0.001809	0
SANTA CLA	2030	MCY	Aggregate	Aggregate	GAS	38839.87	253703.2	77679.74	1.137409	0	0.270173	0.001994	0	0.002676	0.001	0.00504	0.002138	0	0.002862	0.004	0.01176	209.7572	0	59.22586	0.319087	0	0.24786	0.065566	0	0.015364	2.128511	0	1.877593	0.631299	1.487321	0.946881	1.786807	2.666273	0	2.04481	0.631299	1.487321	0.946881	1.786807	17.60732	0	9.199577	0.002076	0	0.000586
SANTA CLA	2030	MDV	Aggregate	Aggregate	GAS	173606	5113918	803848	0.03715	0	0.190209	0.00093	0	0.001318	0.002	0.01575	0.001012	0	0.001433	0.008	0.03675	309.7804	0	67.68816	0.001872	0	0.04685	0.004005	0	0.024192	0.007071	0	0.21174	0.103941	0.361114	0.278651	0.281249	0.010317	0	0.231829	0.103941	0.361114	0.278651	0.281249	0.571385	0	2.441594	0.003066	0	0.00067
SANTA CLA	2030	MDV	Aggregate	Aggregate	DSL	5652.323	175214.3	26820.46	0.016338	0	0	0.001999	0	0	0.002	0.01575	0.00209	0	0	0.008	0.03675	295.1303	0	0	0.000296	0	0	0.04639	0	0	0.006382	0	0	0	0	0	0.007265	0	0	0	0	0	0	0	0.160558	0	0	0.00279	0	0
SANTA CLA	2030	MDV	Aggregate	Aggregate	ELEC	5412.776	143464.5	26723.4	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0	0	0	0	0	0	0	0	0
SANTA CLA	2030	MH	Aggregate	Aggregate	GAS	2781.183	26082.35	278.2296	0.161957	0	0.344848	0.001294	0	0.000284	0.003	0.05586	0.001408	0	0.000309	0.012	0.13034	1534.746	0	22.64387	0.005412	0	0.028477	0.014768	0	0.039513	0.01789	0	0.108156	0.041368	0.780207	0.020421	0.050661	0.026105	0	0.118417	0.041368	0.780207	0.020421	0.050661	0.321425	0	2.382509	0.015188	0	0.000224
SANTA CLA	2030	MH	Aggregate	Aggregate	DSL	1271.562	11026.54	127.1562	3.194675	0	0	0.048471	0	0	0.004	0.05586	0.050662	0	0	0.016	0.13034	913.8987	0	0	0.004117	0	0	0.143652	0	0	0.088635	0	0	0	0	0	0.100905	0	0	0	0	0	0	0	0.288665	0	0	0.00864	0	0
SANTA CLA	2030	MHDT	Aggregate	Aggregate	GAS	1942.274	96462.8	38861.02	0.137179	0.089333	0.328382	0.001276	0	0.000397	0.003	0.05586	0.001388	0	0.000432	0.012	0.13034	1512.526	477.0555	33.02741	0.004329	0.277482	0.032379	0.010371	0.008413	0.029895	0.018098	1.025296	0.159937	0.053505	0.276198	0.013009	0.02236	0.026409	1.49611	0.175111	0.053505	0.276198	0.013009	0.02236	0.365535	15.26266	3.370143	0.014968	0.004721	0.000327
SANTA CLA	2030	MHDT	Aggregate	Aggregate	DSL	11245.42	599136.6	111242.1	1.636194	4.546441	2.164606	0.007568	0.002068	0	0.003	0.05586	0.00791	0.002162	0	0.012	0.13034	909.8747	786.5238	0	0.000503	0.003226	0	0.14302	0.123631	0	0.010837	0.069445	0	0	0	0	0.012337	0.079058	0	0	0	0	0	0	0.11784	2.775159	0	0.008596	0.007431	0
SANTA CLA	2030	OBUS	Aggregate	Aggregate	GAS	521.2442	22324.56	10429.05	0.201397	0.065222	0.308429	0.001191	0	0.000252	0.003	0.05586	0.001295	0	0.000274	0.012	0.13034	1542.791	344.1269	23.61734	0.005871	0.202191	0.026706	0.012891	0.005853	0.026143	0.025703	0.748687	0.134449	0.027407	0.319238	0.017082	0.037276	0.037506	1.092483	0.147204	0.027407	0.319238	0.017082	0.037276	0.529537	5.789149	2.766701	0.015267	0.003405	0.000234
SANTA CLA	2030	OBUS	Aggregate	Aggregate	DSL	845.8557	51263.29	7867.551	1.991442	9.302951	2.216948	0.010285	0.002947	0	0.003	0.05586	0.01075	0.003081	0	0.012	0.13034	1066.293	1893.973	0	0.000596	0.028932	0	0.167606	0.297706	0	0.012842	0.6229	0	0	0	0	0.01462	0.709124	0	0	0	0	0	0	0.14672	10.36618	0	0.010074	0.017893	0
SANTA CLA	2030	SBUS	Aggregate	Aggregate	GAS	362.3014	15198.78	1449.205	0.285961	0.92653	0.616868	0.001215	0	0.000547	0.002	0.3192	0.001322	0	0.000595	0.008	0.7448	803.9675	2414.339	44.56576	0.00626	2.435971	0.055823	0.018735	0.089714	0.057177	0.030067	10.64152	0.317303	0.073145	0.474779	0.014584	0.030637	0.043873	15.52808	0.347407	0.073145	0.474779	0.014584	0.030637	0.649967	82.24088	7.563743	0.007956	0.023892	0.000441
SANTA CLA	2030	SBUS	Aggregate	Aggregate	DSL	9805.629	30722.11	11315.56	4.472027	34.94152	1.257143	0.029756	0.025511	0	0.003	0.3192	0.031102	0.026664	0	0.012	0.7448	1052.894	3501.127	0	0.003486	0.012263	0	0.1655	0.550328	0	0.075046	0.264022	0	0	0	0	0.085434	0.300569	0	0	0	0	0	0	0.238791	7.720739	0	0.009947	0.033077	0
SANTA CLA	2030	UBUS	Aggregate	Aggregate	GAS	8.45001	1063.703	33.80004	0.336697	0	0.964336	0.002209	0	0.000888	0.003	0.05586	0.002402	0	0.000966	0.012	0.13034	1956.157	0	89.19596	0.006892	0	0.139066	0.027885	0	0.079916	0.022728	0	0.589249	0.05182	0.313542	0.009109	0.015639	0.033164	0	0.645153	0.05182	0.313542	0.009109	0.015639	0.405122	0	8.852622	0.019358	0	0.000883
SANTA CLA	2030	UBUS	Aggregate	Aggregate	DSL	376.8943	42036.62	1507.577	0.804174	0	0	0.005656	0	0	0.008428	0.029265	0.005912	0	0	0.03371	0.068284	1523.264	0	0	0.077448	0	0	0.239436	0	0	0.001107	0	0	0	0	0	0.079041	0	0	0	0	0	0	0	0.131472	0	0	0.0144	0	0
SANTA CLA	2030	UBUS	Aggregate	Aggregate	NG	152.2876	16985.28	609.1502	0.487691	0	0	0.003174	0	0	0.008428	0.029265	0.003317	0	0	0.03371	0.068284	2010.534	0	0	6.385838	0	0	0.40986	0	0	0.091241	0	0	0	0	0	6.517216	0	0	0	0	0	0	0	49.56612	0	0	0	0	0

Option 2 - CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Demolition	3	0	12	0	9	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	129.6	0	180
Site Preparation	10	0	50	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	540	0	0
Grading	18	0	324	0	250	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	3499.2	0	5000
Trenching	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Building Construction	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Paving	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
Architectural Coating	0	0	0	0	0	10.8	7.3	20	LD_Mix	HDT_Mix	HHDT	0	0	0
												0		
						10.8	7.3	20				0		
												0		
												0		

Number of Days Per Year			
2022	5/13/22	6/16/22	35
2023			0
2024			
			35

26 ***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Demolition	2022/05/13	2022/05/18	5	4
Site Preparation	2022/05/18	2022/05/24	5	5
Grading	2022/05/24	6/16/2022	5	18
Trenching	2022/11/10	2023/02/01	0	0
Building Construction	2022/11/10	2023/09/27	0	0
Paving	2023/09/28	2023/10/25	0	0
Architectural Coating	2023/10/26	2023/11/22	0	0

Attachment 4: Project Construction and Operational Emissions and Health Risk Calculations

The Crosswinds, Morgan Hill, CA

DPM Emissions and Modeling Emission Rates - Without Mitigation

Construction Year	Construction Area	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2022	Grading	0.0096	DPM_G	19.2	0.006	7.36E-04	112,445	**6.54E-09**
2022	Phase 1	0.0232	DPM_P1	46.4	0.014	1.78E-03	48,664	**3.66E-08**
2023	Phase 1	0.0041	DPM_P1	8.3	0.003	3.17E-04	48,664	**6.51E-09**
2023	Depaul Extention	0.0022	DPM_DE	4.3	0.001	1.66E-04	7,712	**2.15E-08**
2023	Phase 2	0.0127	DPM_P2	25.4	0.008	9.75E-04	52,075	**1.87E-08**
2024	Phase 2	0.0152	DPM_P2	30.5	0.009	1.17E-03	52,075	**2.24E-08**
2025	Phase 3A	0.0095	DPM_P3A	19.0	0.006	7.27E-04	7,133	**1.02E-07**
2025	Phase 3B	0.0052	DPM_P3B	10.5	0.003	4.01E-04	3,937	**1.02E-07**
		0.0147		29.4	0.009	1.13E-03	11,070	
Total		***0.0965***		***192.9***	***0.0587***	***0.0074***		

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

The Crosswinds, Morgan Hill, CA

PM2.5 Fugitive Dust Emissions for Modeling - Without Mitigation

Construction Year	Construction Area	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Grading	FUG_G	0.0040	8.0	0.0024	3.08E-04	112,445	**2.74E-09**
2022	Phase 1	FUG_P1	0.0054	10.8	0.0033	4.14E-04	48,664	**8.51E-09**
2023	Phase 1	FUG_P1	0.0020	4.0	0.0012	1.55E-04	48,664	**3.19E-09**
2023	Depaul Extention	FUG_DE	0.0007	1.4	0.0004	5.48E-05	7,712	**7.11E-09**
2023	Phase 2	FUG_P2	0.0059	11.8	0.0036	4.52E-04	52,075	**8.68E-09**
2024	Phase 2	FUG_P2	0.0039	7.7	0.0023	2.95E-04	52,075	**5.67E-09**
2025	Phase 3A	FUG_P3A	0.0030	6.0	0.0018	2.28E-04	7,133	**3.20E-08**
2025	Phase 3B	FUG_P3B	0.0016	3.3	0.0010	1.26E-04	3,937	**3.20E-08**
			0.0046	9.2	0.0028	3.54E-04	11,070	
Total			***0.0311***	***62.3***	***0.0190***	***0.0024***		

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

The Crosswinds, Morgan Hill, CA - Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM ($\mu g/m^3$)	Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2022	0.0084	0.0030	1.50	0.002	0.01
2023	0.0106	0.0057	1.75	0.002	0.02
2024	0.0118	0.0035	0.30	0.002	0.02
2025	0.0010	0.0003	0.02	0.0002	0.001
Total	-	-	**3.6**	-	-
Maximum	0.0118	0.0057	**-**	**0.002**	**0.02**

Maximum Impacts at Live Oak High School

Construction Year	Unmitigated Emissions: Maximum Concentrations: Exhaust PM2.5/DPM ($\mu g/m^3$)	Unmitigated Emissions: Maximum Concentrations: Fugitive PM2.5 ($\mu g/m^3$)	Child Cancer Risk (per million)	Hazard Index (-)	Maximum Annual PM2.5 Concentration ($\mu g/m^3$)
2022	0.0006	0.0001	0.04	0.0001	0.001
2023	0.0003	0.0001	0.02	0.0001	0.0004
2024	0.0003	0.0001	0.02	0.0001	0.0003
2025	0.0002	0.00004	0.01	0.00003	0.0002
Total	-	-	**0.1**	-	-
Maximum	0.0006	0.0001	**-**	**0.0001**	**0.001**

The Crosswinds, Morgan Hill, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information						
							Modeled				Maximum		
Exposure Year	Exposure Duration (years)	Age	DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Infant/Child Cancer Risk (per million)	DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age Sensitivity Factor	Adult Cancer Risk (per million)	Hazard Index	Fugitive PM2.5	Total PM2.5
0	0.25	-0.25 - 0*	2022	0.0084	10	0.11	2022	0.0084	-	-			
1	1	0 - 1	2022	0.0084	10	1.38	2022	0.0084	1	0.02	0.0017	0.0030	0.0115
2	1	1 - 2	2023	0.0106	10	1.75	2023	0.0106	1	0.03	0.0021	0.0057	0.0164
3	1	2 - 3	2024	0.0118	3	0.30	2024	0.0118	1	0.03	0.0024	0.0035	0.0152
4	1	3 - 4	2025	0.0010	3	0.02	2025	0.0010	1	0.00	0.0002	0.0003	0.0012
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**3.6**				**0.09**			

* Third trimester of pregnancy

The Crosswinds, Morgan Hill, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Live Oak High School (+13 years old) - 1.5 meters - Child Exposure

Student Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)

Inhalation Dose = C_{air} x SAF x 8-Hr BR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
SAF = Student Adjustment Factor (unitless)
= (24 hrs/9 hrs) x (7 days/5 days) = 3.73
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant	School Child	Adult
Age -->	**0 - <2**	**2 - <16**	**16 - 30**
Parameter			
ASF =	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00
8-Hr BR* =	1200	520	240
A =	1	1	1
EF =	250	250	250
AT =	70	70	70
SAF =	1.00	3.73	1.00

* 95th percentile 8-hr breathing rates for moderate intensity activities

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)
1	1	13 - 14	2022	0.0006	3	0.0
2	1	14 - 15	2023	0.0003	3	0.0
3	1	15 - 16	2024	0.0003	3	0.0
4	1	16 - 17	2025	0.0002	3	0.0
5	1			0.0000	3	0.0
6	1			0.0000	3	0.0
7	1			0.0000	3	0.0
8	1			0.0000	3	0.0
9	1			0.0000	3	0.0
Total Increased Cancer Risk						**0.1**

Maximum Hazard Index	Maximum Fugitive PM2.5	Maximum Total PM2.5
0.0001	0.0001	0.0007
0.0001	0.0001	0.0004
0.0001	0.0001	0.0003
0.0000	0.0000	0.0002

* Children assumed to be 13 years of age or older with 4 years of Construction Exposure

Option 2

The Crosswinds, Morgan Hill, CA

DPM Emissions and Modeling Emission Rates - Without Mitigation

Construction Year	Construction Area	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2022	Grading	0.0122	DPM_G	24.3	0.007	9.33E-04	112,445	**8.30E-09**
2022	Phase 1	0.0232	DPM_P1	46.4	0.014	1.78E-03	48,664	**3.66E-08**
2023	Phase 1	0.0041	DPM_P1	8.3	0.003	3.17E-04	48,664	**6.51E-09**
2023	Depaul Extention	0.0022	DPM_DE	4.3	0.001	1.66E-04	7,712	**2.15E-08**
2023	Phase 2	0.0127	DPM_P2	25.4	0.008	9.75E-04	52,075	**1.87E-08**
2024	Phase 2	0.0152	DPM_P2	30.5	0.009	1.17E-03	52,075	**2.24E-08**
2025	Phase 3A	0.0095	DPM_P3A	19.0	0.006	7.27E-04	7,133	**1.02E-07**
2025	Phase 3B	0.0052	DPM_P3B	10.5	0.003	4.01E-04	3,937	**1.02E-07**
		0.0147		29.4	0.009	1.13E-03	11,070	
Total		***0.0990***		***198.1***	***0.0603***	***0.0076***		

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

The Crosswinds, Morgan Hill, CA

PM2.5 Fugitive Dust Emissions for Modeling - Without Mitigation

Construction Year	Construction Area	Area Source	PM2.5 Emissions (ton/year)	(lb/yr)	(lb/hr)	(g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Grading	FUG_G	0.0039	7.8	0.0024	3.00E-04	112,445	**2.67E-09**
2022	Phase 1	FUG_P1	0.0054	10.8	0.0033	4.14E-04	48,664	**8.51E-09**
2023	Phase 1	FUG_P1	0.0020	4.0	0.0012	1.55E-04	48,664	**3.19E-09**
2023	Depaul Extention	FUG_DE	0.0007	1.4	0.0004	5.48E-05	7,712	**7.11E-09**
2023	Phase 2	FUG_P2	0.0059	11.8	0.0036	4.52E-04	52,075	**8.68E-09**
2024	Phase 2	FUG_P2	0.0039	7.7	0.0023	2.95E-04	52,075	**5.67E-09**
2025	Phase 3A	FUG_P3A	0.0030	6.0	0.0018	2.28E-04	7,133	**3.20E-08**
2025	Phase 3B	FUG_P3B	0.0016	3.3	0.0010	1.26E-04	3,937	**3.20E-08**
			0.0046	9.2	0.0028	3.54E-04	11,070	
Total			***0.0310***	***62.1***	***0.0189***	***0.0024***		

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

The Crosswinds, Morgan Hill, CA - Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations: Exhaust PM10/DPM (µg/m^3)	Maximum Concentrations: Fugitive PM2.5 (µg/m^3)	Cancer Risk (per million) Infant/Child	Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m^3)
2022	0.0096	0.0030	1.70	0.002	0.01
2023	0.0106	0.0057	1.75	0.002	0.02
2024	0.0118	0.0035	0.30	0.002	0.02
2025	0.0010	0.0003	0.02	0.0002	0.001
Total	-	-	**3.8**	-	-
Maximum	0.0118	0.0057	**-**	**0.002**	**0.02**

Maximum Impacts at Live Oak High School

	Unmitigated Emissions				
Construction Year	Maximum Concentrations: Exhaust PM2.5/DPM (µg/m^3)	Maximum Concentrations: Fugitive PM2.5 (µg/m^3)	Child Cancer Risk (per million)	Hazard Index (-)	Maximum Annual PM2.5 Concentration (µg/m^3)
2022	0.0006	0.0001	0.04	0.0001	0.001
2023	0.0003	0.0001	0.02	0.0001	0.0004
2024	0.0003	0.0001	0.02	0.0001	0.0003
2025	0.0002	0.00004	0.01	0.00003	0.0002
Total	-	-	**0.1**	-	-
Maximum	0.0006	0.0001	**-**	**0.0001**	**0.001**

The Crosswinds, Morgan Hill, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information					Maximum	
				DPM Conc (ug/m3)	Age	Infant/Child		Modeled DPM Conc (ug/m3)	Age	Adult			
Exposure Year	**Exposure Duration (years)**	**Age**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Year**	**Annual**	**Sensitivity Factor**	**Cancer Risk (per million)**	**Hazard Index**	**Fugitive PM2.5**	**Total PM2.5**
0	0.25	-0.25 - 0*	2022	0.0096	10	0.13	2022	0.0096	-	-			
1	1	0 - 1	2022	0.0096	10	1.57	2022	0.0096	1	0.03	0.0019	0.0030	0.0125
2	1	1 - 2	2023	0.0106	10	1.75	2023	0.0106	1	0.03	0.0021	0.0057	0.0164
3	1	2 - 3	2024	0.0118	3	0.30	2024	0.0118	1	0.03	0.0024	0.0035	0.0152
4	1	3 - 4	2025	0.0010	3	0.02	2025	0.0010	1	0.00	0.0002	0.0003	0.0012
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**3.8**				**0.09**			

* Third trimester of pregnancy

The Crosswinds, Morgan Hill, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Live Oak High School (+13 years old) - 1.5 meters - Child Exposure

Student Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)

Inhalation Dose = C_{air} x SAF x 8-Hr BR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
SAF = Student Adjustment Factor (unitless)
= (24 hrs/9 hrs) x (7 days/5 days) = 3.73
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant	School Child	Adult
Age -->	**0 - <2**	**2 - <16**	**16 - 30**
Parameter			
ASF =	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00
8-Hr BR* =	1200	520	240
A =	1	1	1
EF =	250	250	250
AT =	70	70	70
SAF =	1.00	3.73	1.00

* 95th percentile 8-hr breathing rates for moderate intensity activities

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)
1	1	13 - 14	2022	0.0006	3	0.04
2	1	14 - 15	2023	0.0003	3	0.02
3	1	15 - 16	2024	0.0003	3	0.02
4	1	16 - 17	2025	0.0002	3	0.01
5	1			0.0000	3	0.0
6	1			0.0000	3	0.0
7	1			0.0000	3	0.0
8	1			0.0000	3	0.0
9	1			0.0000	3	0.0
Total Increased Cancer Risk						**0.1**

Maximum Hazard Index	Maximum Fugitive PM2.5	Maximum Total PM2.5
0.0001	0.0001	0.0007
0.0001	0.0001	0.0004
0.0001	0.0001	0.0003
0.0000	0.0000	0.0002

* Children assumed to be 13 years of age or older with 4 years of Construction Exposure

Attachment 5: Community Risk Modeling Information and Calculations

CT-EMFAC2017 Emissions Factors for Mission View Drive

File Name: Crosswinds - Santa Clara (SF) - 2022 - Annual.EF
CT-EMFAC2017 Version: 1.0.2.27401
Run Date: 2/11/2021 10:45
Area: Santa Clara (SF)
Analysis Year: 2022
Season: Annual

Vehicle Category	VMT Fraction Across Category	Diesel VMT Fraction Within Category	Gas VMT Fraction Within Category
Truck 1	0.015	0.478	0.522
Truck 2	0.02	0.94	0.046
Non-Truck	0.965	0.014	0.961

Road Type: Major/Collector
Silt Loading Factor: CARB 0.032 g/m2
Precipitation Correction: CARB P = 64 days N = 365 days

Fleet Average Running Exhaust Emission Factors (grams/veh-mile)

Pollutant Name	<= 5 mph	10 mph	15 mph	20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50 mph
PM2.5	0.010417	0.006915	0.004735	0.003408	0.002622	0.002145	0.001861	0.001715	0.001672	0.001719
TOG	0.220898	0.145348	0.097291	0.068555	0.051819	0.041294	0.034513	0.030252	0.027821	0.026864
Diesel PM	0.001756	0.001459	0.001108	0.000865	0.000743	0.000683	0.000662	0.000677	0.000727	0.00081

Fleet Average Running Loss Emission Factors (grams/veh-hour)

Pollutant Name	Emission Factor
TOG	1.418515

Fleet Average Tire Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.002108

Fleet Average Brake Wear Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.016811

Fleet Average Road Dust Factors (grams/veh-mile)

Pollutant Name	Emission Factor
PM2.5	0.014871

END

Mission View Drive Traffic Emissions and Health Risk Calculations

Traffic Data Year = ***2030***

	AADT Total
Cumulative + Project Mission View Drive	14,020

Percent of Total Vehicles

Traffic Increase per Year (%) = *1.00%*

The Crosswinds, Morgan Hill, CA - On- and Off-Site Residential
Cumulative Operation - Mission View Drive
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
DPM_NB_MIS	Mission View Drive Northbound	NB	1	762.8	0.47	9.7	31.7	3.4	40	7,010
DPM_SB_MIS	Mission View Drive Southbound	SB	1	763.7	0.47	9.7	31.7	3.4	40	7,010
									Total	14,020

Emission Factors

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.00068			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and DPM Emissions - DPM_NB_MIS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	3.91%	274	2.44E-05	9	6.44%	451	4.02E-05	17	5.52%	387	3.45E-05
2	2.59%	181	1.62E-05	10	7.25%	508	4.53E-05	18	3.34%	234	2.08E-05
3	2.82%	198	1.76E-05	11	6.33%	443	3.95E-05	19	2.42%	169	1.51E-05
4	3.39%	238	2.12E-05	12	6.90%	484	4.31E-05	20	0.92%	64	5.75E-06
5	2.19%	153	1.37E-05	13	6.27%	439	3.92E-05	21	2.99%	210	1.87E-05
6	3.39%	238	2.12E-05	14	6.15%	431	3.84E-05	22	4.14%	290	2.59E-05
7	6.10%	427	3.81E-05	15	5.12%	359	3.20E-05	23	2.47%	173	1.55E-05
8	4.66%	327	2.91E-05	16	3.85%	270	2.41E-05	24	0.86%	60	5.39E-06
								Total		7,010	

2022 Hourly Traffic Volumes Per Direction and DPM Emissions - DPM_SB_MIS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	3.91%	274	2.45E-05	9	6.44%	451	4.03E-05	17	5.52%	387	3.45E-05
2	2.59%	181	1.62E-05	10	7.25%	508	4.53E-05	18	3.34%	234	2.09E-05
3	2.82%	198	1.76E-05	11	6.33%	443	3.96E-05	19	2.42%	169	1.51E-05
4	3.39%	238	2.12E-05	12	6.90%	484	4.32E-05	20	0.92%	64	5.76E-06
5	2.19%	153	1.37E-05	13	6.27%	439	3.92E-05	21	2.99%	210	1.87E-05
6	3.39%	238	2.12E-05	14	6.15%	431	3.85E-05	22	4.14%	290	2.59E-05
7	6.10%	427	3.81E-05	15	5.12%	359	3.20E-05	23	2.47%	173	1.55E-05
8	4.66%	327	2.91E-05	16	3.85%	270	2.41E-05	24	0.86%	60	5.40E-06
								Total		7,010	

The Crosswinds, Morgan Hill, CA - On- and Off-Site Residential
Cumulative Operation - Mission View Drive
PM2.5 Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
PM2.5_NB_MIS	Mission View Drive Northbound	NB	1	762.8	0.47	9.7	32	1.3	40	7,010
PM2.5_SB_MIS	Mission View Drive Southbound	SB	1	763.7	0.47	9.7	32	1.3	40	7,010
									Total	14,020

Emission Factors - PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.001715			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and PM2.5 Emissions - PM2.5_NB_MIS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	81	1.82E-05	9	7.11%	499	1.13E-04	17	7.39%	518	1.17E-04
2	0.42%	29	6.63E-06	10	4.39%	308	6.95E-05	18	8.17%	573	1.29E-04
3	0.41%	29	6.48E-06	11	4.67%	327	7.39E-05	19	5.70%	399	9.01E-05
4	0.27%	19	4.22E-06	12	5.89%	413	9.33E-05	20	4.27%	300	6.76E-05
5	0.50%	35	7.90E-06	13	6.15%	431	9.73E-05	21	3.26%	228	5.16E-05
6	0.91%	64	1.43E-05	14	6.03%	423	9.55E-05	22	3.30%	231	5.22E-05
7	3.79%	266	6.01E-05	15	7.01%	491	1.11E-04	23	2.46%	172	3.89E-05
8	7.76%	544	1.23E-04	16	7.13%	500	1.13E-04	24	1.86%	131	2.95E-05
								Total		7,010	

2022 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - PM2.5_SB_MIS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	81	1.82E-05	9	7.11%	499	1.13E-04	17	7.39%	518	1.17E-04
2	0.42%	29	6.64E-06	10	4.39%	308	6.96E-05	18	8.17%	573	1.29E-04
3	0.41%	29	6.48E-06	11	4.67%	327	7.39E-05	19	5.70%	399	9.03E-05
4	0.27%	19	4.23E-06	12	5.89%	413	9.34E-05	20	4.27%	300	6.77E-05
5	0.50%	35	7.91E-06	13	6.15%	431	9.74E-05	21	3.26%	228	5.16E-05
6	0.91%	64	1.44E-05	14	6.03%	423	9.56E-05	22	3.30%	231	5.23E-05
7	3.79%	266	6.01E-05	15	7.01%	491	1.11E-04	23	2.46%	172	3.89E-05
8	7.76%	544	1.23E-04	16	7.13%	500	1.13E-04	24	1.86%	131	2.95E-05
								Total		7,010	

The Crosswinds, Morgan Hill, CA - On- and Off-Site Residential
Cumulative Operation - Mission View Drive
TOG Exhaust Modeling - Roadway Links, Traffic Volumes, and TOG Exhaust Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEXH_NB_MIS	Mission View Drive Northbound	NB	1	762.8	0.47	9.7	32	1.3	40	7,010
TEXH_SB_MIS	Mission View Drive Southbound	SB	1	763.7	0.47	9.7	32	1.3	40	7,010
									Total	14,020

Emission Factors - TOG Exhaust

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle (g/VMT)	0.03025			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and TOG Exhaust Emissions - TEXH_NB_MIS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	81	3.21E-04	9	7.11%	499	1.99E-03	17	7.39%	518	2.06E-03
2	0.42%	29	1.17E-04	10	4.39%	308	1.23E-03	18	8.17%	573	2.28E-03
3	0.41%	29	1.14E-04	11	4.67%	327	1.30E-03	19	5.70%	399	1.59E-03
4	0.27%	19	7.45E-05	12	5.89%	413	1.65E-03	20	4.27%	300	1.19E-03
5	0.50%	35	1.39E-04	13	6.15%	431	1.72E-03	21	3.26%	228	9.10E-04
6	0.91%	64	2.53E-04	14	6.03%	423	1.68E-03	22	3.30%	231	9.22E-04
7	3.79%	266	1.06E-03	15	7.01%	491	1.96E-03	23	2.46%	172	6.86E-04
8	7.76%	544	2.17E-03	16	7.13%	500	1.99E-03	24	1.86%	131	5.20E-04
								Total		7,010	

2022 Hourly Traffic Volumes Per Direction and TOG Exhaust Emissions - TEXH_SB_MIS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	81	3.22E-04	9	7.11%	499	1.99E-03	17	7.39%	518	2.06E-03
2	0.42%	29	1.17E-04	10	4.39%	308	1.23E-03	18	8.17%	573	2.28E-03
3	0.41%	29	1.14E-04	11	4.67%	327	1.30E-03	19	5.70%	399	1.59E-03
4	0.27%	19	7.46E-05	12	5.89%	413	1.65E-03	20	4.27%	300	1.19E-03
5	0.50%	35	1.40E-04	13	6.15%	431	1.72E-03	21	3.26%	228	9.11E-04
6	0.91%	64	2.53E-04	14	6.03%	423	1.69E-03	22	3.30%	231	9.23E-04
7	3.79%	266	1.06E-03	15	7.01%	491	1.96E-03	23	2.46%	172	6.87E-04
8	7.76%	544	2.17E-03	16	7.13%	500	1.99E-03	24	1.86%	131	5.21E-04
								Total		7,010	

The Crosswinds, Morgan Hill, CA - On- and Off-Site Residential
Cumulative Operation - Mission View Drive
TOG Evaporative Emissions Modeling - Roadway Links, Traffic Volumes, and TOG Evaporative Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
TEVAP_NB_MIS	Mission View Drive Northbound	NB	1	762.8	0.47	9.7	32	1.3	40	7,010
TEVAP_SB_MIS	Mission View Drive Southbound	SB	1	763.7	0.47	9.7	32	1.3	40	7,010
									Total	14,020

Emission Factors - PM2.5 - Evaporative TOG

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Emissions per Vehicle per Hour (g/hour)	1.41852			
Emissions per Vehicle per Mile (g/VMT)	0.03546			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and TOG Evaporative Emissions - TEVAP_NB_MIS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	81	3.77E-04	9	7.11%	499	2.33E-03	17	7.39%	518	2.42E-03
2	0.42%	29	1.37E-04	10	4.39%	308	1.44E-03	18	8.17%	573	2.67E-03
3	0.41%	29	1.34E-04	11	4.67%	327	1.53E-03	19	5.70%	399	1.86E-03
4	0.27%	19	8.73E-05	12	5.89%	413	1.93E-03	20	4.27%	300	1.40E-03
5	0.50%	35	1.63E-04	13	6.15%	431	2.01E-03	21	3.26%	228	1.07E-03
6	0.91%	64	2.97E-04	14	6.03%	423	1.97E-03	22	3.30%	231	1.08E-03
7	3.79%	266	1.24E-03	15	7.01%	491	2.29E-03	23	2.46%	172	8.04E-04
8	7.76%	544	2.54E-03	16	7.13%	500	2.34E-03	24	1.86%	131	6.10E-04
								Total		7,010	

2022 Hourly Traffic Volumes Per Direction and TOG Evaporative Emissions - TEVAP_SB_MIS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	81	3.77E-04	9	7.11%	499	2.33E-03	17	7.39%	518	2.42E-03
2	0.42%	29	1.37E-04	10	4.39%	308	1.44E-03	18	8.17%	573	2.68E-03
3	0.41%	29	1.34E-04	11	4.67%	327	1.53E-03	19	5.70%	399	1.87E-03
4	0.27%	19	8.74E-05	12	5.89%	413	1.93E-03	20	4.27%	300	1.40E-03
5	0.50%	35	1.64E-04	13	6.15%	431	2.01E-03	21	3.26%	228	1.07E-03
6	0.91%	64	2.97E-04	14	6.03%	423	1.98E-03	22	3.30%	231	1.08E-03
7	3.79%	266	1.24E-03	15	7.01%	491	2.30E-03	23	2.46%	172	8.05E-04
8	7.76%	544	2.54E-03	16	7.13%	500	2.34E-03	24	1.86%	131	6.10E-04
								Total		7,010	

The Crosswinds, Morgan Hill, CA - On- and Off-Site Residential
Cumulative Operation - Mission View Drive
Fugitive Road PM2.5 Modeling - Roadway Links, Traffic Volumes, and Fugitive Road PM2.5 Emissions
Year = 2022

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Length (mi)	Link Width (m)	Link Width (ft)	Release Height (m)	Average Speed (mph)	Average Vehicles per Day
FUG_NB_MIS	Mission View Drive Northbound	NB	1	762.8	0.47	9.7	32	1.3	40	7,010
FUG_SB_MIS	Mission View Drive Southbound	SB	1	763.7	0.47	9.7	32	1.3	40	7,010
									Total	14,020

Emission Factors - Fugitive PM2.5

Speed Category	1	2	3	4
Travel Speed (mph)	40			
Tire Wear - Emissions per Vehicle (g/VMT)	0.00211			
Brake Wear - Emissions per Vehicle (g/VMT)	0.01681			
Road Dust - Emissions per Vehicle (g/VMT)	0.01487			
otal Fugitive PM2.5 - Emissions per Vehicle (g/VMT)	0.03379			

Emisson Factors from CT-EMFAC2017

2022 Hourly Traffic Volumes and Fugitive PM2.5 Emissions - FUG_NB_MIS

Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s	Hour	% Per Hour	VPH	g/s
1	1.15%	81	3.59E-04	9	7.11%	499	2.22E-03	17	7.39%	518	2.30E-03
2	0.42%	29	1.31E-04	10	4.39%	308	1.37E-03	18	8.17%	573	2.55E-03
3	0.41%	29	1.28E-04	11	4.67%	327	1.46E-03	19	5.70%	399	1.78E-03
4	0.27%	19	8.32E-05	12	5.89%	413	1.84E-03	20	4.27%	300	1.33E-03
5	0.50%	35	1.56E-04	13	6.15%	431	1.92E-03	21	3.26%	228	1.02E-03
6	0.91%	64	2.83E-04	14	6.03%	423	1.88E-03	22	3.30%	231	1.03E-03
7	3.79%	266	1.18E-03	15	7.01%	491	2.19E-03	23	2.46%	172	7.66E-04
8	7.76%	544	2.42E-03	16	7.13%	500	2.23E-03	24	1.86%	131	5.81E-04
								Total		7,010	

2022 Hourly Traffic Volumes Per Direction and Fugitive PM2.5 Emissions - FUG_SB_MIS

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.15%	81	3.59E-04	9	7.11%	499	2.22E-03	17	7.39%	518	2.31E-03
2	0.42%	29	1.31E-04	10	4.39%	308	1.37E-03	18	8.17%	573	2.55E-03
3	0.41%	29	1.28E-04	11	4.67%	327	1.46E-03	19	5.70%	399	1.78E-03
4	0.27%	19	8.33E-05	12	5.89%	413	1.84E-03	20	4.27%	300	1.33E-03
5	0.50%	35	1.56E-04	13	6.15%	431	1.92E-03	21	3.26%	228	1.02E-03
6	0.91%	64	2.83E-04	14	6.03%	423	1.88E-03	22	3.30%	231	1.03E-03
7	3.79%	266	1.18E-03	15	7.01%	491	2.19E-03	23	2.46%	172	7.67E-04
8	7.76%	544	2.42E-03	16	7.13%	500	2.23E-03	24	1.86%	131	5.82E-04
								Total		7,010	

The Crosswinds, Morgan Hill, CA - Mission View Drive Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations
at Construction Residential MEI Receptor (1.5 meter receptor height)

Emission Year	2022
Receptor Information	Construction Residential MEI receptor
Number of Receptors	1
Receptor Height	1.5 meters
Receptor Distances	At Construction Residential MEI location

Meteorological Conditions	
BAQMD San Martin Airport Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Winf Direction	Variable

Construction Residential MEI Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.00161	0.07345	0.08644

Construction Residential MEI PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.0865	0.08232	0.00418

The Crosswinds, Morgan Hill, CA - Mission View Drive Traffic Cancer Risk
Impacts at Construction Residential MEI - 1.5 meter receptor height
30 Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age –>	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2021	10	0.0016	0.0735	0.0864	0.022	0.006	0.0004	0.03
1	1	0 - 1	2021	10	0.0016	0.0735	0.0864	0.264	0.069	0.0048	0.34
2	1	1 - 2	2022	10	0.0016	0.0735	0.0864	0.264	0.069	0.0048	0.34
3	1	2 - 3	2023	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
4	1	3 - 4	2024	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
5	1	4 - 5	2025	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
6	1	5 - 6	2026	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
7	1	6 - 7	2027	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
8	1	7 - 8	2028	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
9	1	8 - 9	2029	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
10	1	9 - 10	2030	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
11	1	10 - 11	2031	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
12	1	11 - 12	2032	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
13	1	12 - 13	2033	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
14	1	13 - 14	2034	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
15	1	14 - 15	2035	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
16	1	15 - 16	2036	3	0.0016	0.0735	0.0864	0.042	0.011	0.0008	0.05
17	1	16-17	2037	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
18	1	17-18	2038	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
19	1	18-19	2039	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
20	1	19-20	2040	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
21	1	20-21	2041	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
22	1	21-22	2042	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
23	1	22-23	2043	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
24	1	23-24	2044	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
25	1	24-25	2045	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
26	1	25-26	2046	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
27	1	26-27	2047	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
28	1	27-28	2048	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
29	1	28-29	2049	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
30	1	29-30	2050	1	0.0016	0.0735	0.0864	0.005	0.001	0.0001	0.01
Total Increased Cancer Risk								1.20	0.312	0.022	**1.5**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.0003	0.08	0.09

* Third trimester of pregnancy

The Crosswinds, Morgan Hill, CA - Mission View Drive Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations - Without MERV13 Filtration
On-Site 1st Floor Residential Receptors (1.5 meter receptor height)

Emission Year	2022
Receptor Information	Maximum On-Site Receptor
Number of Receptors	514
Receptor Height	1.5 meters
Receptor Distances	12 meter grid spacing

Meteorological Conditions	
BAQMD San Martin Airport Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Winf Direction	Variable

1st Floor Project Cancer Risk Maximum Concentrations

Meteorological Data Years	Concentration (µg/m3)*		
	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.00856	0.46646	0.54862

1st Floor Project PM2.5 Maximum Concentrations

Meteorological Data Years	PM2.5 Concentration (µg/m3)*		
	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.54895	0.52243	0.02652

The Crosswinds, Morgan Hill, CA - Mission View Drive Traffic Cancer Risk
Impacts at On-Site 1st Floor Residential Receptors - 1.5 meter receptor height
30 Year Residential Exposure - Without MERV13 Filtration

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age –>	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2021	10	0.0086	0.4665	0.5486	0.116	0.036	0.0025	0.16
1	1	0 - 1	2021	10	0.0086	0.4665	0.5486	1.406	0.437	0.0303	1.87
2	1	1 - 2	2022	10	0.0086	0.4665	0.5486	1.406	0.437	0.0303	1.87
3	1	2 - 3	2023	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
4	1	3 - 4	2024	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
5	1	4 - 5	2025	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
6	1	5 - 6	2026	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
7	1	6 - 7	2027	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
8	1	7 - 8	2028	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
9	1	8 - 9	2029	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
10	1	9 - 10	2030	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
11	1	10 - 11	2031	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
12	1	11 - 12	2032	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
13	1	12 - 13	2033	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
14	1	13 - 14	2034	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
15	1	14 - 15	2035	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
16	1	15 - 16	2036	3	0.0086	0.4665	0.5486	0.221	0.069	0.0048	0.29
17	1	16-17	2037	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
18	1	17-18	2038	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
19	1	18-19	2039	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
20	1	19-20	2040	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
21	1	20-21	2041	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
22	1	21-22	2042	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
23	1	22-23	2043	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
24	1	23-24	2044	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
25	1	24-25	2045	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
26	1	25-26	2046	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
27	1	26-27	2047	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
28	1	27-28	2048	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
29	1	28-29	2049	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
30	1	29-30	2050	1	0.0086	0.4665	0.5486	0.025	0.008	0.0005	0.03
Total Increased Cancer Risk								6.37	1.982	0.137	**8.5**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.002	0.52	0.55

* Third trimester of pregnancy

The Crosswinds, Morgan Hill, CA - Mission View Drive Traffic - TACs & PM2.5
AERMOD Risk Modeling Parameters and Maximum Concentrations - With MERV13 Filtration
On-Site 1st Floor Residential Receptors (1.5 meter receptor height)

Emission Year	2022
Receptor Information	Maximum On-Site Receptor
Number of Receptors	514
Receptor Height	1.5 meters
Receptor Distances	12 meter grid spacing
Meteorological Conditions	
BAQMD San Martin Airport Met Data	2013-2017
Land Use Classification	Urban
Wind Speed	Variable
Winf Direction	Variable

1st Floor Project Cancer Risk Maximum Concentrations

Meteorological	Concentration (µg/m3)*		
Data Years	DPM	Exhaust TOG	Evaporative TOG
2013-2017	0.002568	0.46646	0.54862

1st Floor Project PM2.5 Maximum Concentrations

Meteorological	PM2.5 Concentration (µg/m3)*		
Data Years	Total PM2.5	Fugitive PM2.5	Vehicle PM2.5
2013-2017	0.164685	0.156729	0.007956

The Crosswinds, Morgan Hill, CA - Mission View Drive Traffic Cancer Risk
Impacts at On-Site 1st Floor Residential Receptors - 1.5 meter receptor height
30 Year Residential Exposure - With MERV13 Filtration

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

Values

	Infant/Child			Adult
Age –>	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Maximum - Exposure Information					Concentration (ug/m3)			Cancer Risk (per million)			TOTAL
Exposure Year	Exposure Duration (years)	Age	Year	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	
0	0.25	-0.25 - 0*	2021	10	0.0026	0.4665	0.5486	0.035	0.036	0.0025	0.07
1	1	0 - 1	2021	10	0.0026	0.4665	0.5486	0.422	0.437	0.0303	0.89
2	1	1 - 2	2022	10	0.0026	0.4665	0.5486	0.422	0.437	0.0303	0.89
3	1	2 - 3	2023	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
4	1	3 - 4	2024	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
5	1	4 - 5	2025	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
6	1	5 - 6	2026	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
7	1	6 - 7	2027	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
8	1	7 - 8	2028	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
9	1	8 - 9	2029	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
10	1	9 - 10	2030	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
11	1	10 - 11	2031	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
12	1	11 - 12	2032	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
13	1	12 - 13	2033	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
14	1	13 - 14	2034	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
15	1	14 - 15	2035	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
16	1	15 - 16	2036	3	0.0026	0.4665	0.5486	0.066	0.069	0.0048	0.14
17	1	16-17	2037	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
18	1	17-18	2038	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
19	1	18-19	2039	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
20	1	19-20	2040	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
21	1	20-21	2041	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
22	1	21-22	2042	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
23	1	22-23	2043	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
24	1	23-24	2044	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
25	1	24-25	2045	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
26	1	25-26	2046	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
27	1	26-27	2047	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
28	1	27-28	2048	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
29	1	28-29	2049	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
30	1	29-30	2050	1	0.0026	0.4665	0.5486	0.007	0.008	0.0005	0.02
Total Increased Cancer Risk								1.91	1.982	0.137	**4.0**

Maximum Hazard Index	Maximum Fugitive PM2.5	Total PM2.5
0.001	0.16	0.16

* Third trimester of pregnancy

Stationary Source Risk & Hazards Screening Report

Area of Interest (AOI) Information

Area : 9,250,182.75 ft²

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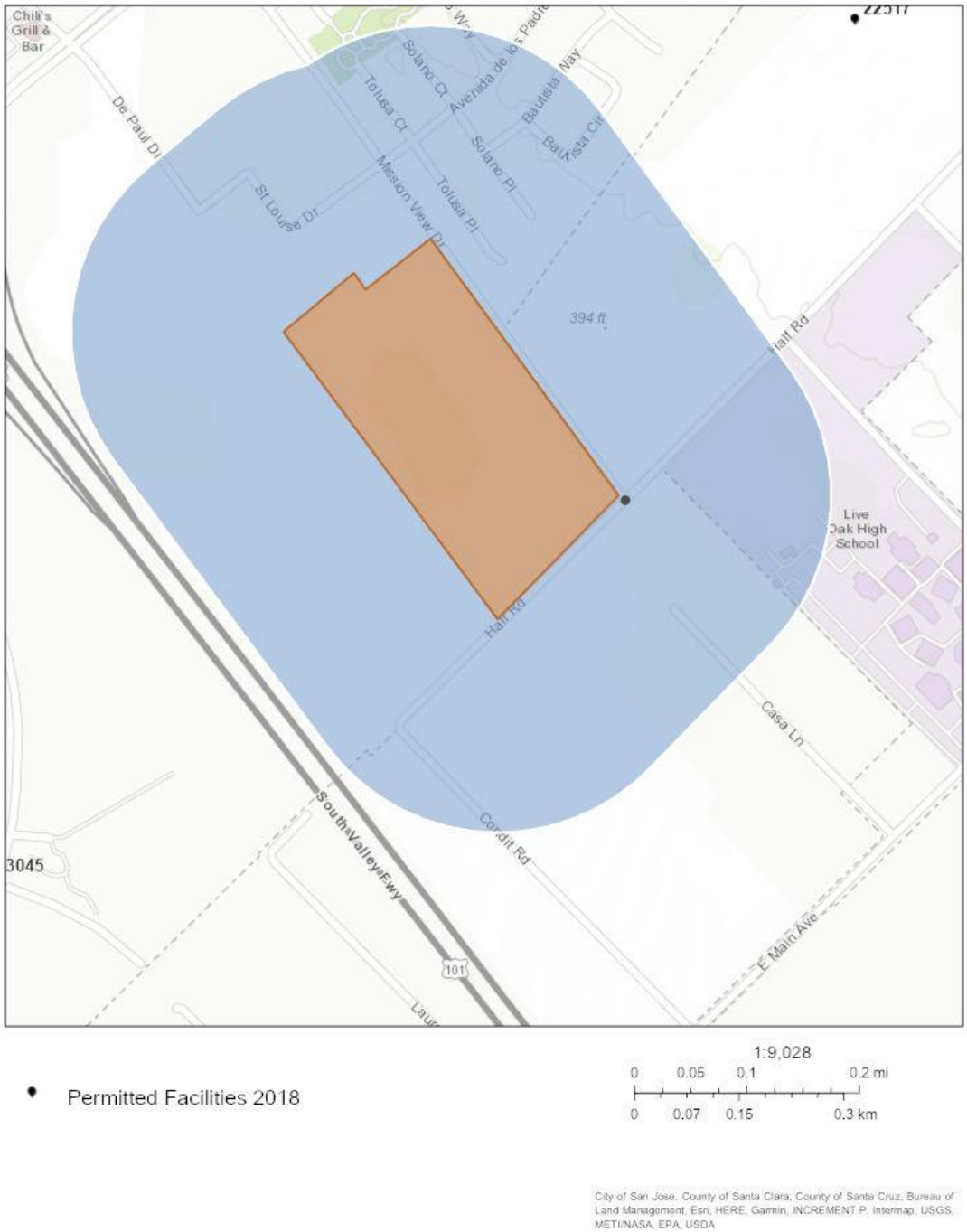

Summary

Name	Count	Area(ft²)	Length(ft)
Permitted Facilities 2018	0	N/A	N/A

Note: The estimated risk and hazard impacts from these sources would be expected to be substantially lower when site specific Health Risk Screening Assessments are conducted.

The screening level map is not recommended for evaluating sensitive land uses such as schools, senior centers, day cares, and health facilities.

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May 26, 2021

Amber Sharpe
Project Manager
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200
San José, CA 95126

Via email: asharpe@davidjpowers.com

Subject: **The Crosswinds Off-Site Sanitary Sewer Installation, Morgan Hill, CA**
Addendum to the Air Quality and Greenhouse Gas Assessment

Dear Amber:

In April 2021, *Illingworth & Rodkin, Inc*. prepared an air quality and greenhouse gas (GHG) assessment for The Crosswinds at Morgan Hill residential project in Morgan Hill, California.[1] The applicant is now also proposing to install a sanitary sewer line that extends from the project site to the existing sewer line on E. Main Avenue. This sewer line installation was not addressed in the original air quality analysis. This addendum letter discusses the potential impact of the construction of the proposed sewer line installation.

Off-Site Sanitary Sewer Line Installation

The proposed off-site sanitary sewer line would extend from DePaul Drive to Half Road to Condit Road, which would connect to the existing sewer line on E. Main Avenue. The length of the off-site sewer improvement would be approximately 2,745 lineal feet. The depth of the off-site trench will vary between 10 and 13 feet and the width would be approximately 2 feet wide. The sewer line construction and installation would begin during the Grading Phase of the original project in May 2022 and take approximately 18 working days to complete.

Construction Criteria Air Pollutants

The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate emissions from the construction activity, construction vehicle trips, and evaporative emissions. The sanitary sewer option land use types and size, and anticipated construction schedule were input

[1] Illingworth & Rodkin, Inc., "The Crosswinds at Morgan Hill Air Quality and Greenhouse Gas Assessment," April 6, 2021.

to CalEEMod. The CARB EMission FACtors 2017 (EMFAC2017) model was used to predict emissions from construction traffic, which includes worker travel, vendor trucks, and haul trucks.[2] The CalEEMod model output along with construction inputs are included in *Attachment 1* and EMFAC2017 vehicle emissions modeling outputs are included in *Attachment 2*.

CalEEMod Inputs

Land Use Inputs

The proposed off-site sanitary sewer use was entered into CalEEMod as described in Table 1.

Table 1. Summary of Sanitary Sewer Land Use Inputs

Project Land Uses	Size	Units	Square Feet (sf)	Acreage
Other Asphalt Surface	5.5	1,000-sf	5,500	1.0
Note: CalEEMod does not have a land use for a sewer treatment facility or sewer pipeline, so other asphalt surface uses were used and sizes were based on provided information.				

Construction Inputs

CalEEMod computes annual emissions for construction that are based on the project type, size, and acreage. The model provides emission estimates for both on-site and off-site construction activities. On-site activities are primarily made up of construction equipment emissions, while off-site activity includes worker, hauling, and vendor traffic. The sanitary sewer construction information was provided by the project applicant, which the grading and paving phases. Within each phase, the quantity of equipment to be used along with the average hours per day and total number of workdays was also provided by the project applicant. The construction schedule assumed that the earliest possible start date would be May 2022 and the sanitary sewer facility would be built out over a period of approximately 1 month, or 18 construction workdays.

Construction Truck Traffic Emissions

The construction traffic information was combined with EMFAC2017 motor vehicle emissions factors. This construction would produce traffic in the form of worker trips and truck traffic. The traffic-related emissions are based on worker and vendor trip estimates produced by CalEEMod and haul trips that were computed based on the provided applicant information of two dump trucks making a dozen trips per day for soil material exported to the site. CalEEMod provides daily estimates of worker and vendor trips for each applicable phase. The total trips for those were computed by multiplying the daily trip rate by the number of days in that phase. On-road emission rates from the years 2022 for Santa Clara County were used. Table 2 provides the traffic inputs that were combined with the EMFAC2017 emission database to compute vehicle emissions.

[2] See CARB's EMFAC2017 Web Database at https://www.arb.ca.gov/emfac/2017/

Table 2. Construction Traffic Data Used for EMFAC2017 Model Runs

CalEEMod Run/Land Uses and Construction Phase	Trips by Trip Type			Notes
	Total Worker[1]	Total Vendor[1]	Total Haul[2]	
Vehicle mix[1]	72% LDA 6% LDT1 22% LDT2	38% MHDT 62% HHDT	100% HHDT	
Trip Length (miles)	10.8	7.3	20.0 (Demo/Soil) 7.3 (Cement/Asphalt)	CalEEMod default distance with 5-min truck idle time.
Grading	10	-	720	360 daily soil hauling truck trips. CalEEMod default worker trips.
Paving	5	-	-	CalEEMod default worker trips.

Notes: [1] Based on 2022 EMFAC2017 light-duty vehicle fleet mix for Santa Clara County.
[2] Includes grading trips estimated by CalEEMod based on amount of material to be removed.

Summary of Computed Construction Period Emissions

Average daily emissions were computed by dividing the total sewer construction emissions by the number of active workdays. Table 3 shows average daily construction emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ fugitive during construction of the project. As indicated in Table 3, predicted construction period emissions would not exceed the BAAQMD significance thresholds.

Table 3. Construction Period Emissions

Year	ROG	NOx	PM_{10} Exhaust	$PM_{2.5}$ Fugitive
Construction Emissions Per Year (Tons)				
2022	0.01	0.13	0.01	<0.01
Average Daily Construction Emissions Per Year (pounds/day)				
2022 (18 construction workdays)	1.10	14.08	0.56	0.42
BAAQMD Thresholds (pounds per day)	*54* lbs./day	*54* lbs./day	*82* lbs./day	*54* lbs./day
Exceed Threshold?	No	No	No	No

These construction activities, particularly during site preparation and grading, would also temporarily generate fugitive dust in the form of PM_{10} and $PM_{2.5}$. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soils. Unless properly controlled, vehicles leaving the site would deposit mud on local streets, which could be an additional source of airborne dust after it dries. The BAAQMD CEQA Air Quality Guidelines consider these impacts to be less-than-significant if best management practices are implemented to reduce these emissions. The application of Mitigation Measure AQ-1 from the original project report would implement BAAQMD-recommended best management practices.

Community Health Risk from Sanitary Sewer Facility Construction

Construction Emissions

The CalEEMod and EMFAC2017 models provided total annual PM_{10} exhaust emissions (assumed to be DPM) for the off-road construction equipment and for exhaust emissions from on-road vehicles, with total emissions from all construction stages as 0.0030 tons (6 pounds). The on-road emissions are a result of haul truck travel during demolition and grading activities, worker travel, and vendor deliveries during construction. A trip length of one mile was used to represent vehicle travel while at or near the construction site. It was assumed that these emissions from on-road vehicles traveling at or near the site would occur at the construction site. Fugitive $PM_{2.5}$ dust emissions were calculated by CalEEMod as 0.0001 tons (0.2 pounds) for the construction period.

Dispersion Modeling

Dispersion modeling for the sanity sewer line construction was conducted using the same methods in the original air quality analysis. These methods included using the U.S. EPA AERMOD dispersion model was used to predict DPM and $PM_{2.5}$ concentrations at nearby sensitive receptors (residences), using area sources for exhaust emissions of DPM and fugitive $PM_{2.5}$ dust emissions, using San Martin Airport meteorological data, and using the same sensitive receptor locations.

Summary of Construction Community Risk Impacts

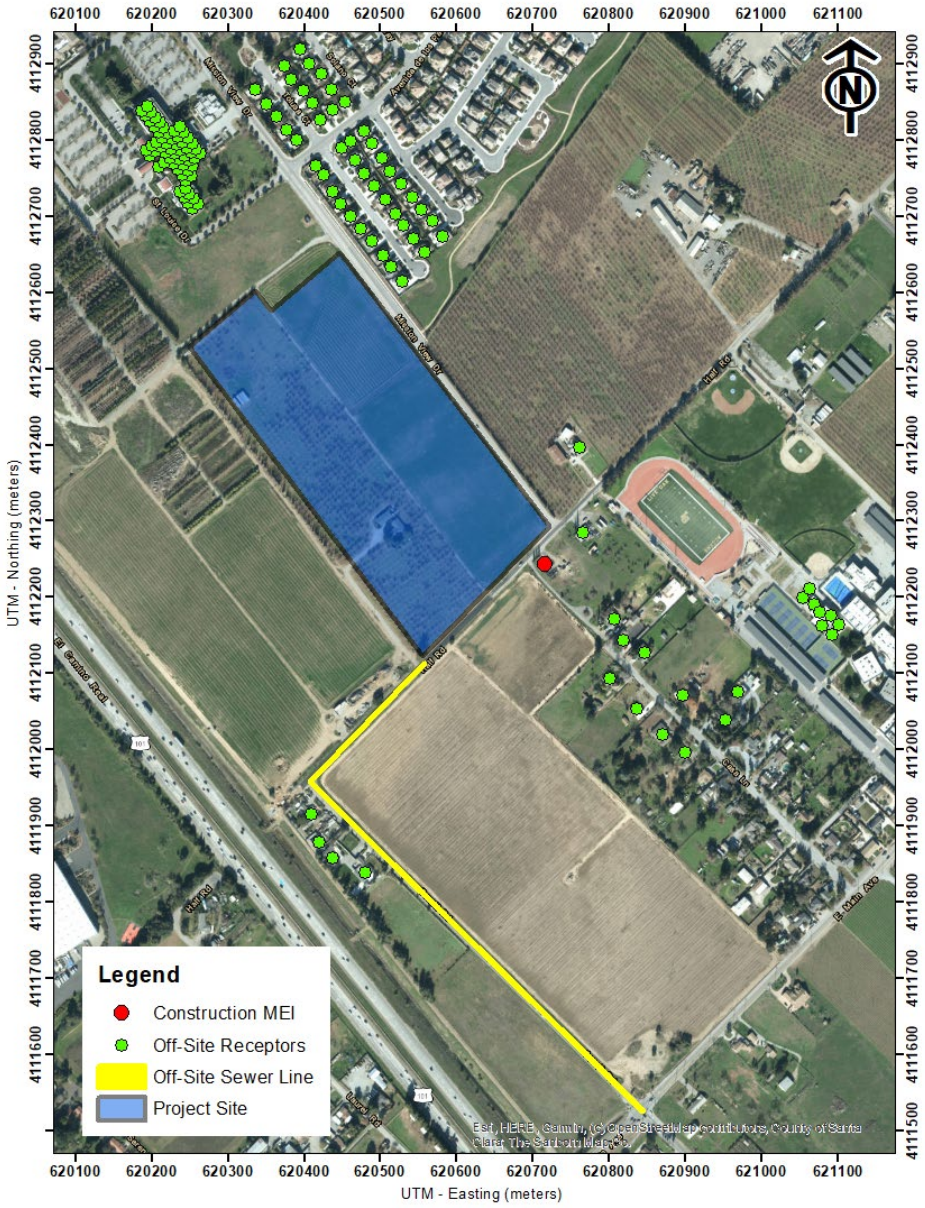
The maximum modeled annual DPM and $PM_{2.5}$ concentrations were identified at nearby sensitive receptors. Results of the sewer line modeling were analyzed specifically at the MEI identified in the original project construction (i.e., a single-family residence to the south of the project site opposite Half Road). This is because the original project MEI would have great health risk impacts from the original project's construction than the sanitary sewer line's construction. The location of the MEI and nearby sensitive receptors are shown in Figure 1. Table 4 lists the community risks from the sewer line construction at the location of the MEI. *Attachment 3* to this report includes the emission calculations used for the construction modeling and the cancer risk calculations.

Additionally, modeling was conducted to predict the cancer risks, non-cancer health hazards, and maximum $PM_{2.5}$ concentrations associated with construction activities at the nearby high school. The maximum increased cancer risks were adjusted using child exposure parameters. The uncontrolled cancer risk, $PM_{2.5}$ concentration, and HI at the nearby high school would not exceed their respective BAAQMD single-source significance thresholds, as shown in Table 4.

Table 4. Construction Risk Impacts at the Offsite Project MEI

Source		Cancer Risk (per million)	Annual $PM_{2.5}$ ($\mu g/m^3$)	Hazard Index
Sewer Construction	Unmitigated	0.02 (infant)	<0.01	<0.01
BAAQMD Single-Source Threshold		***10***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*
Most Affected Nearby Child – Live Oak High School Student Receptors				
Sewer Construction	Unmitigated	<0.01 (child)	<0.01	<0.01
BAAQMD Single-Source Threshold		***10***	***0.3***	***1.0***
Exceed Threshold?	Unmitigated	*No*	*No*	*No*

Figure 2. Off-Site Sanitary Sewer Line Construction Site, Locations of Off-Site Sensitive Receptors, and TAC Impacts



Combined Impact of All TAC Sources on the Off-Site MEI

Table 5 reports both the total project and cumulative community risk impacts at the sensitive receptors most affected by the project with sewer treatment (i.e., the MEI). Without mitigation, the total project's community risk from project construction would not exceed the single-source maximum increased cancer risk, $PM_{2.5}$ concentration, or HI thresholds. In addition, the combined unmitigated cancer risk, $PM_{2.5}$ concentration, and HI values would not exceed their respective cumulative thresholds.

Table 5. Cumulative Community Risk Impacts from Combined TAC Sources at MEI

Source	Cancer Risk (per million)	$PM_{2.5}$ concentration ($\mu g/m^3$)	Hazard Index
Total Project Impacts			
Off-site Sewer Construction Unmitigated	0.02 (infant)	<0.01	<0.01
Project Residential Site Construction	3.6 (infant)	0.02	<0.01
BAAQMD Single-Source Threshold	***10***	***0.3***	***1.0***
Exceed Threshold?	*No*	*No*	*No*
Cumulative Impacts			
Mission View Drive, ADT 14,020	1.5 (infant)	0.09	<0.01
Combined Sources Unmitigated	5.12 (infant)	<0.12	<0.03
BAAQMD Cumulative-Source Threshold	***100***	***0.8***	***10.0***
Exceed Threshold?	*No*	*No*	*No*

♦ ♦ ♦

This concludes the assessment for air quality and health risk impacts due to the construction of an off-site sanitary sewer line for The Crosswinds project. Please feel free to contact us with any questions on the analysis or if we can be of further assistance.

Sincerely,

Casey Divine
Consultant
Illingworth & Rodkin, Inc.

(I&R #20-161)

Supporting Documentation

Attachment 1 includes the CalEEMod output for project construction criteria air pollutant emissions. Also included are any modeling assumptions.

Attachment 2 includes the EMFAC2017 emissions modeling. The input files for these calculations are voluminous and are available upon request in digital format.

Attachment 3 includes the construction health risk assessment. AERMOD dispersion modeling files for this assessment, which are quite voluminous, are available upon request and would be provided in digital format.

Attachment 1: CalEEMod Modeling Inputs and Outputs

Construction Criteria Air Pollutants						
Unmitigated	ROG	NOX	PM10 Exhaust	PM2.5 Exhaust	**CO2e**	
Year	Tons				MT	
Construction Equipment						
2022	0.00802	0.0645	0.00287	0.00264	13.4604	
EMFAC						
2022	0.0019	0.0622	0.0022	0.0011	23.02	
Total Construction Emissions by Year						
2022	0.01	0.13	0.01	0.00	36.48	
	Total Construction Emissions					
Tons	0.01	0.13	0.01	0.00	36.48	
Pounds/Workdays	*Average Daily Emissions*				Workdays	
2022	1.10	14.08	0.56	0.42		**18**
Threshold - lbs/day	**54.0**	**54.0**	**82.0**	**54.0**		

Half Road Construction - Sewer

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	5.50	1000sqft	1.00	5,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2023
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	21	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - SVCE w/som PG&E (10%)

Land Use - 2,745 linear feet, 5,500 sf, approx 1 acre disturb

Construction Phase - Provided construction schedule

Off-road Equipment - Provided const equipment and hours

Off-road Equipment - Provided const equipment and hours

Grading - Approx 1 acre disturbed

Trips and VMT - 0 trips emfac2017, grading = 2 dump trucks 12 trips a day for 15 days - 720 one-way trips

Table Name	Column Name	Default Value	New Value

tblConstructionPhase	NumDays	2.00	15.00
tblConstructionPhase	NumDays	5.00	3.00
tblConstructionPhase	PhaseEndDate	6/9/2022	6/13/2022
tblConstructionPhase	PhaseEndDate	11/3/2022	6/16/2022
tblConstructionPhase	PhaseStartDate	6/8/2022	5/24/2022
tblConstructionPhase	PhaseStartDate	10/28/2022	6/14/2022
tblGrading	AcresOfGrading	0.00	1.00
tblLandUse	LotAcreage	0.13	1.00
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Rubber Tired Loaders
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	7.00	4.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	8.00	4.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	21
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	5.00	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	8.0200e-003	0.0645	0.0802	1.5000e-004	5.3000e-004	2.8700e-003	3.4000e-003	6.0000e-005	2.6400e-003	2.7000e-003	0.0000	13.3524	13.3524	4.3200e-003	0.0000	13.4604
Maximum	**8.0200e-003**	**0.0645**	**0.0802**	**1.5000e-004**	**5.3000e-004**	**2.8700e-003**	**3.4000e-003**	**6.0000e-005**	**2.6400e-003**	**2.7000e-003**	**0.0000**	**13.3524**	**13.3524**	**4.3200e-003**	**0.0000**	**13.4604**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	8.0200e-003	0.0645	0.0802	1.5000e-004	5.3000e-004	2.8700e-003	3.4000e-003	6.0000e-005	2.6400e-003	2.7000e-003	0.0000	13.3524	13.3524	4.3200e-003	0.0000	13.4604
Maximum	**8.0200e-003**	**0.0645**	**0.0802**	**1.5000e-004**	**5.3000e-004**	**2.8700e-003**	**3.4000e-003**	**6.0000e-005**	**2.6400e-003**	**2.7000e-003**	**0.0000**	**13.3524**	**13.3524**	**4.3200e-003**	**0.0000**	**13.4604**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-24-2022	8-23-2022	0.0713	0.0713
		Highest	0.0713	0.0713

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.7000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.7000e-004**	**0.0000**	**5.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.0000**	**1.0000e-004**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.7000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total	4.7000e-004	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Grading	Grading	5/24/2022	6/13/2022	5	15	
2	Paving	Paving	6/14/2022	6/16/2022	5	3	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 1

Acres of Paving: 1

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Grading	Excavators	2	8.00	158	0.38
Paving	Cement and Mortar Mixers	0	0.00	9	0.56
Grading	Rubber Tired Loaders	1	8.00	203	0.36
Paving	Pavers	0	0.00	130	0.42
Paving	Rollers	1	4.00	80	0.38
Grading	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	4.00	97	0.37
Grading	Graders	0	0.00	187	0.41
Paving	Paving Equipment	0	0.00	132	0.36

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Grading	4	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	2	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-004	0.0000	5.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4600e-003	0.0619	0.0771	1.5000e-004		2.7300e-003	2.7300e-003		2.5100e-003	2.5100e-003	0.0000	12.9746	12.9746	4.2000e-003	0.0000	13.0795
Total	**6.4600e-003**	**0.0619**	**0.0771**	**1.5000e-004**	**5.3000e-004**	**2.7300e-003**	**3.2600e-003**	**6.0000e-005**	**2.5100e-003**	**2.5700e-003**	**0.0000**	**12.9746**	**12.9746**	**4.2000e-003**	**0.0000**	**13.0795**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-004	0.0000	5.3000e-004	6.0000e-005	0.0000	6.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4600e-003	0.0619	0.0771	1.5000e-004		2.7300e-003	2.7300e-003		2.5100e-003	2.5100e-003	0.0000	12.9745	12.9745	4.2000e-003	0.0000	13.0795
Total	**6.4600e-003**	**0.0619**	**0.0771**	**1.5000e-004**	**5.3000e-004**	**2.7300e-003**	**3.2600e-003**	**6.0000e-005**	**2.5100e-003**	**2.5700e-003**	**0.0000**	**12.9745**	**12.9745**	**4.2000e-003**	**0.0000**	**13.0795**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5000e-004	2.5500e-003	3.0700e-003	0.0000		1.4000e-004	1.4000e-004		1.3000e-004	1.3000e-004	0.0000	0.3779	0.3779	1.2000e-004	0.0000	0.3809
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5600e-003**	**2.5500e-003**	**3.0700e-003**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.3779**	**0.3779**	**1.2000e-004**	**0.0000**	**0.3809**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.5000e-004	2.5500e-003	3.0700e-003	0.0000		1.4000e-004	1.4000e-004		1.3000e-004	1.3000e-004	0.0000	0.3779	0.3779	1.2000e-004	0.0000	0.3809
Paving	1.3100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**1.5600e-003**	**2.5500e-003**	**3.0700e-003**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.3000e-004**	**1.3000e-004**	**0.0000**	**0.3779**	**0.3779**	**1.2000e-004**	**0.0000**	**0.3809**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.612822	0.036208	0.182365	0.105071	0.013933	0.005011	0.012748	0.021514	0.002168	0.001529	0.005280	0.000629	0.000720

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.7000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Unmitigated	4.7000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Total	**4.7000e-004**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.0000**	**1.0000e-004**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.1000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.6000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Total	**4.7000e-004**	**0.0000**	**5.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.0000e-004**	**1.0000e-004**	**0.0000**	**0.0000**	**1.0000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000

Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Attachment 2: EMFAC2017 Calculations

CalEEMod Construction Inputs

Phase	CalEEMod WORKER TRIPS	CalEEMod VENDOR TRIPS	Total Worker Trips	Total Vendor Trips	CalEEMod HAULING TRIPS	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class	*Worker VMT*	*Vendor VMT*	*Hauling VMT*
Grading	10	0	150	0	720	10.3	7.3	20	LD_Mix	HDT_Mix	HHDT	1545	0	14400
Paving	5	0	15	0	0	10.3	7.3	20	LD_Mix	HDT_Mix	HHDT	154.5	0	0

Number of Days Per Year				
2022	5/24/22	6/16/22	18	
			18	**18** ***Total Workdays***

Phase	Start Date	End Date	Days/Week	Workdays
Grading	5/24/2022	6/13/2022	5	15
Paving	6/14/2022	6/16/2022	5	3

Summary of Construction Traffic Emissions (EMFAC2017)

Pollutants YEAR	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	NBio- CO2
					Tons						*Metric Tons*
Criteria Pollutants											
2022	0.0019	0.0622	0.0148	0.0002	0.0053	0.0022	0.0075	0.0008	0.0011	0.0019	23.0164
Toxic Air Contaminants (1 Mile Trip Length)											
2022	0.0005	0.0092	0.0057	0.0000	0.0003	0.00012	0.0004	0.00004	0.0001	0.0001	1.9377

Adjustment Factors for EMFAC2017 Gasoline Light Duty Vehicles					
Year	NOx Exhaust	TOG Evaporative	TOG Exhaust	PM Exhaust	CO Exhaust
NA	1	1	1	1	1
2021	1.0002	1.0001	1.0002	1.0009	1.0005
2022	1.0004	1.0003	1.0004	1.0018	1.0014
2023	1.0007	1.0006	1.0007	1.0032	1.0027
2024	1.0012	1.0010	1.0011	1.0051	1.0044
2025	1.0018	1.0016	1.0016	1.0074	1.0065
2026	1.0023	1.0022	1.0020	1.0091	1.0083
2027	1.0028	1.0028	1.0024	1.0105	1.0102
2028	1.0034	1.0035	1.0028	1.0117	1.0120
2029	1.0040	1.0042	1.0032	1.0129	1.0138
2030	1.0047	1.0051	1.0037	1.0142	1.0156
2031	1.0054	1.0061	1.0042	1.0155	1.0173
2032	1.0061	1.0072	1.0047	1.0169	1.0189
2033	1.0068	1.0083	1.0052	1.0182	1.0204
2034	1.0075	1.0095	1.0058	1.0196	1.0218
2035	1.0081	1.0108	1.0063	1.0210	1.0232
2036	1.0088	1.0121	1.0069	1.0223	1.0244
2037	1.0094	1.0134	1.0074	1.0236	1.0255
2038	1.0099	1.0148	1.0079	1.0248	1.0265
2039	1.0104	1.0161	1.0085	1.0259	1.0274
2040	1.0109	1.0174	1.0090	1.0270	1.0281
2041	1.0113	1.0186	1.0095	1.0279	1.0288
2042	1.0116	1.0198	1.0099	1.0286	1.0294
2043	1.0119	1.0207	1.0103	1.0293	1.0299
2044	1.0122	1.0216	1.0106	1.0299	1.0303
2045	1.0124	1.0225	1.0109	1.0303	1.0306
2046	1.0125	1.0233	1.0111	1.0308	1.0309
2047	1.0127	1.0240	1.0113	1.0311	1.0311
2048	1.0128	1.0246	1.0115	1.0314	1.0313
2049	1.0128	1.0252	1.0116	1.0316	1.0315
2050	1.0129	1.0257	1.0117	1.0318	1.0316
Enter Year: 2022	**1.0004**	**1.0003**	**1.0004**	**1.0018**	**1.0014**

*PM Exhaust off model factor is only applied to the PM Exhaust emissions not start/idle

The off-model adjustment factors need to be applied only to emissions from gasoline light duty vehicles (LDA, LDT1, LDT2 and MDV). Please note that the adjustment factors are by calendar year and includes all model years.

Enter NA in the date field if adjustments do not apply

EMFAC2017 (v1.0.2) Emission Rates
Region Type: County
Region: SANTA CLARA
Calendar Year: 2022
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN. Note 'day' in the unit is operation day.

Region	Calendar Y	Vehicle Cat	Model Yea	Speed	Fuel	Population	VMT	Trips	NOx_RUNE	NOx_IDLE	NOx_STRE	PM2.5_RU	PM2.5_RU	PM2.5_IDL	PM2.5_STR	PM2.5_PMB	PM2.5_PMT	PM10_RUP	PM10_IDLE	PM10_STR	PM10_PMB	PM10_PMT	CO2_RUNE	CO2_IDLEX	CO2_STRE	CH4_RUNE	CH4_IDLEX	CH4_STRE	N2O_RUNE	N2O_IDLE	N2O_STRE	ROG_RUNI	ROG_IDLE	ROG_STRE	ROG_HOTS	ROG_RUNI	ROG_REST	ROG_DIUR	TOG_RUNE	TOG_IDLEX	TOG_STRE	TOG_HOTS	TOG_RUNI	TOG_REST	TOG_DIUR	CO_RUNEX	CO_IDLEX	CO_STREX	SOx_RUNE	SOx_IDLEX	SOx_STREX
SANTA CLA	2022	HHDT	Aggregate	Aggregate	GAS	4.973172	516.9338	99.50323	3.654204	0	0.338391	0.001236	0	0.000744	0.005	0.02646	0.001344	0	0.00081	0.02	0.06174	1964.961	0	46.86739	0.097725	0	0.00044	0.140899	0	0.010576	0.494672	0	0.002301	0.136891	0.830556	0.033943	0.061166	0.721824	0	0.00252	0.136891	0.830556	0.033943	0.061166	30.00648	0	5.27737	0.019445	0	0.000464
SANTA CLA	2022	HHDT	Aggregate	Aggregate	DSL	8277.463	1011013	88031.26	3.535499	63.08378	2.080194	0.033949	0.03347	0	0.008873	0.026088	0.035484	0.034983	0	0.035494	0.060872	1486.606	11783.13	0	0.003901	0.215524	0	0.233674	1.852143	0	0.08399	4.640183	0	0	0	0.095616	5.282495	0	0	0	0	0	0	0.366847	63.30293	0	0.014045	0.111321	0
SANTA CLA	2022	HHDT	Aggregate	Aggregate	NG	348.7902	14223.14	1360.282	1.755776	21.14752	0	0.004789	0.030991	0	0.009	0.02646	0.005006	0.032392	0	0.036	0.06174	3203.692	4060.116	0	3.511574	1.248503	0	0.653093	0.827681	0	0.161697	0.045805	0	0	0	3.710887	1.306054	0	0	0	0	0	10.70122	21.55662	0	0	0	0
SANTA CLA	2022	LDA	Aggregate	Aggregate	GAS	733557.7	26453304	3456649	0.03872	0	0.197227	0.001299	0	0.001748	0.002	0.01575	0.001413	0	0.001902	0.008	0.03675	259.2126	0	55.39361	0.002345	0	0.054199	0.004449	0	0.026685	0.009015	0	0.243726	0.100881	0.22086	0.178182	0.20337	0.013151	0	0.266848	0.100881	0.22086	0.178182	0.20337	0.63218	0	2.325265	0.002565	0	0.000548
SANTA CLA	2022	LDA	Aggregate	Aggregate	DSL	7146.668	268335.1	33963.02	0.071556	0	0	0.006579	0	0	0.002	0.01575	0.006877	0	0	0.008	0.03675	200.3149	0	0	0.000626	0	0	0.031487	0	0	0.013485	0	0	0	0	0.015352	0	0	0	0	0	0	0.198488	0	0	0.001894	0	0
SANTA CLA	2022	LDA	Aggregate	Aggregate	ELEC	25894.61	943282.8	126428	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0
SANTA CLA	2022	LDT1	Aggregate	Aggregate	GAS	73556.92	2443329	340743.8	0.091156	0	0.251292	0.001724	0	0.002226	0.002	0.01575	0.001875	0	0.002421	0.008	0.03675	300.527	0	64.49485	0.004882	0	0.070027	0.007217	0	0.028775	0.021236	0	0.344801	0.173613	0.628849	0.332831	0.420667	0.030964	0	0.377511	0.173613	0.628849	0.332831	0.420667	1.068397	0	2.450832	0.002974	0	0.000638
SANTA CLA	2022	LDT1	Aggregate	Aggregate	DSL	36.8388	667.9121	121.0603	1.185315	0	0	0.157566	0	0	0.002	0.01575	0.164691	0	0	0.008	0.03675	408.3259	0	0	0.009501	0	0	0.064183	0	0	0.204561	0	0	0	0	0.232879	0	0	0	0	0	0	1.159574	0	0	0.00386	0	0
SANTA CLA	2022	LDT1	Aggregate	Aggregate	ELEC	624.8771	24059.07	3099.469	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0
SANTA CLA	2022	LDT2	Aggregate	Aggregate	GAS	250455.4	8295824	1167439	0.077278	0	0.299792	0.001307	0	0.001684	0.002	0.01575	0.001421	0	0.001831	0.008	0.03675	327.6413	0	71.42656	0.003665	0	0.072415	0.006473	0	0.033384	0.014906	0	0.339292	0.128171	0.436499	0.281495	0.299507	0.021744	0	0.371482	0.128171	0.436499	0.281495	0.299507	0.860463	0	2.923834	0.003242	0	0.000707
SANTA CLA	2022	LDT2	Aggregate	Aggregate	DSL	1663.513	62652.21	8136.947	0.039252	0	0	0.004754	0	0	0.002	0.01575	0.004969	0	0	0.008	0.03675	275.5741	0	0	0.000647	0	0	0.043316	0	0	0.013935	0	0	0	0	0.015864	0	0	0	0	0	0	0.123161	0	0	0.002605	0	0
SANTA CLA	2022	LDT2	Aggregate	Aggregate	ELEC	2695.96	82111.52	13502.44	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0
SANTA CLA	2022	LHDT1	Aggregate	Aggregate	GAS	16536.9	566343.8	246375.2	0.235238	0.038471	0.530556	0.002161	0	0.000388	0.002	0.03276	0.00235	0	0.000422	0.008	0.07644	1006.569	121.1222	18.98971	0.01086	0.121305	0.025473	0.014262	0.003125	0.041267	0.052874	0.440699	0.129054	0.125369	0.861898	0.025267	0.050121	0.077153	0.643067	0.141298	0.125369	0.861898	0.025267	0.050121	0.97349	3.751848	1.764958	0.009961	0.001199	0.000188
SANTA CLA	2022	LHDT1	Aggregate	Aggregate	DSL	11104.44	423266.4	139679.8	1.613919	2.033114	0	0.021273	0.026869	0	0.003	0.03276	0.022235	0.028084	0	0.012	0.07644	544.3042	133.047	0	0.007318	0.005098	0	0.085557	0.020913	0	0.157544	0.10976	0	0	0	0.179353	0.124954	0	0	0	0	0	0.661457	0.909745	0	0.005146	0.001258	0
SANTA CLA	2022	LHDT2	Aggregate	Aggregate	GAS	2253.3	77523.96	33570.81	0.240034	0.037891	0.516259	0.002078	0	0.000346	0.002	0.03822	0.00226	0	0.000377	0.008	0.08918	1147.291	139.0737	21.54397	0.008737	0.120275	0.024583	0.015135	0.003045	0.039911	0.039365	0.434196	0.123837	0.121118	0.819863	0.023133	0.046225	0.057441	0.633578	0.135586	0.121118	0.819863	0.023133	0.046225	0.722025	3.75488	1.776904	0.011353	0.001376	0.000213
SANTA CLA	2022	LHDT2	Aggregate	Aggregate	DSL	4438.985	166319.5	55836.85	1.346918	2.041795	0	0.021771	0.027131	0	0.003	0.03822	0.022756	0.028358	0	0.012	0.08918	612.5422	213.4891	0	0.007003	0.005098	0	0.096283	0.033558	0	0.150761	0.10976	0	0	0	0.171631	0.124954	0	0	0	0	0	0.634383	0.909745	0	0.005791	0.002018	0
SANTA CLA	2022	MCY	Aggregate	Aggregate	GAS	32925.36	241011	65850.71	1.151611	0	0.270649	0.001812	0	0.002978	0.001	0.00504	0.001937	0	0.003161	0.004	0.01176	210.2729	0	61.39967	0.328946	0	0.256691	0.06628	0	0.015352	2.228751	0	1.954835	0.704215	2.060677	0.995009	1.817765	2.753726	0	2.127328	0.704215	2.060677	0.995009	1.817765	19.18808	0	9.0045	0.002081	0	0.000608
SANTA CLA	2022	MDV	Aggregate	Aggregate	GAS	151961.1	4876240	702265.7	0.099589	0	0.371177	0.001397	0	0.001912	0.002	0.01575	0.001519	0	0.002079	0.008	0.03675	396.236	0	86.90417	0.004621	0	0.087878	0.007887	0	0.036541	0.019446	0	0.437645	0.147462	0.472734	0.331376	0.347901	0.028322	0	0.479161	0.147462	0.472734	0.331376	0.347901	0.980018	0	3.406111	0.003921	0	0.00086
SANTA CLA	2022	MDV	Aggregate	Aggregate	DSL	3721.225	135478.8	18101.22	0.038775	0	0	0.004203	0	0	0.002	0.01575	0.004393	0	0	0.008	0.03675	360.3121	0	0	0.000478	0	0	0.056636	0	0	0.010285	0	0	0	0	0.011709	0	0	0	0	0	0	0.184421	0	0	0.003406	0	0
SANTA CLA	2022	MDV	Aggregate	Aggregate	ELEC	1080.167	34834.41	5508.057	0	0	0	0	0	0	0.002	0.01575	0	0	0	0.008	0.03675	0	0	0	0	0	0	0	0	0	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0	0.004888	0	0.00456	0.017501	0	0	0	0
SANTA CLA	2022	MH	Aggregate	Aggregate	GAS	2891.835	26265.33	289.2991	0.413359	0	0.334516	0.001633	0	0.000362	0.003	0.05586	0.001776	0	0.000394	0.012	0.13034	1756.095	0	25.97914	0.015124	0	0.032419	0.025426	0	0.034963	0.066433	0	0.137518	0.088945	2.156488	0.036513	0.106238	0.096939	0	0.150564	0.088945	2.156488	0.036513	0.106238	1.697423	0	3.037213	0.017378	0	0.000257
SANTA CLA	2022	MH	Aggregate	Aggregate	DSL	1019.353	9712.32	101.9353	4.184918	0	0	0.085576	0	0	0.004	0.05586	0.089445	0	0	0.016	0.13034	1018.587	0	0	0.005027	0	0	0.160108	0	0	0.108225	0	0	0	0	0.123206	0	0	0	0	0	0	0.382773	0	0	0.009629	0	0
SANTA CLA	2022	MHDT	Aggregate	Aggregate	GAS	1456.112	75284.48	29133.88	0.474932	0.088412	0.377896	0.001319	0	0.000449	0.003	0.05586	0.001435	0	0.00051	0.012	0.13034	1722.789	532.6547	39.05903	0.014881	0.262553	0.04023	0.023376	0.007484	0.029181	0.072945	1.011617	0.219187	0.087649	0.506692	0.018903	0.038182	0.106442	1.47615	0.239982	0.087649	0.506692	0.018903	0.038182	1.680953	15.10368	4.939745	0.017048	0.005271	0.000287
SANTA CLA	2022	MHDT	Aggregate	Aggregate	DSL	9430.024	551923.8	94917.85	2.277066	7.413096	1.687822	0.039812	0.015538	0	0.003	0.05586	0.041612	0.01624	0	0.012	0.13034	1050.628	914.98	0	0.004378	0.004667	0	0.165144	0.143822	0	0.094265	0.100481	0	0	0	0.107314	0.11439	0	0	0	0	0	0.32147	2.58681	0	0.009926	0.008644	0
SANTA CLA	2022	OBUS	Aggregate	Aggregate	GAS	501.9655	24150.25	10043.33	0.443255	0.065137	0.32561	0.000952	0	0.000213	0.003	0.05586	0.001035	0	0.000232	0.012	0.13034	1767.375	377.9272	26.38965	0.013022	0.200837	0.030332	0.022732	0.005646	0.026387	0.061436	0.747416	0.156088	0.026802	0.295531	0.015889	0.036065	0.089647	1.090627	0.170897	0.026802	0.295531	0.015889	0.036065	1.365657	5.781487	3.261978	0.01749	0.00374	0.000261
SANTA CLA	2022	OBUS	Aggregate	Aggregate	DSL	762.3964	53839.19	6991.348	2.314382	10.4182	2.005848	0.021086	0.015288	0	0.003	0.05586	0.02204	0.015979	0	0.012	0.13034	1185.916	1892.098	0	0.002538	0.027964	0	0.18641	0.297411	0	0.054653	0.602048	0	0	0	0.062218	0.685386	0	0	0	0	0	0.239321	8.657847	0	0.011204	0.017876	0
SANTA CLA	2022	SBUS	Aggregate	Aggregate	GAS	249.3134	11500.83	997.2534	0.430325	0.924415	0.566946	0.001196	0	0.000498	0.002	0.3192	0.001301	0	0.000541	0.008	0.7448	865.5448	2582.545	48.67377	0.011856	2.442701	0.058309	0.024366	0.088243	0.053528	0.058325	10.61061	0.332747	0.061157	0.415506	0.010413	0.025261	0.085108	15.48298	0.364316	0.061157	0.415506	0.010413	0.025261	1.259002	82.05319	8.624782	0.008565	0.025556	0.000482
SANTA CLA	2022	SBUS	Aggregate	Aggregate	DSL	1014.086	31965.96	11702.42	6.765334	45.00081	0.786274	0.042018	0.05033	0	0.003	0.3192	0.043917	0.052605	0	0.012	0.7448	1145.085	3716.49	0	0.004669	0.013069	0	0.179991	0.584181	0	0.100532	0.281366	0	0	0	0.114448	0.320314	0	0	0	0	0	0.27746	5.867721	0	0.010818	0.035112	0
SANTA CLA	2022	UBUS	Aggregate	Aggregate	GAS	8.419396	1059.849	33.67758	0.491737	0	1.236285	0.000328	0	9.7E-05	0.003	0.05586	0.000356	0	0.000105	0.012	0.13034	2351.817	0	104.599	0.006789	0	0.178596	0.036386	0	0.091633	0.022728	0	0.768536	0.190076	1.35875	0.031079	0.049249	0.033164	0	0.84145	0.190076	1.35875	0.031079	0.049249	0.527722	0	8.852622	0.023273	0	0.001035
SANTA CLA	2022	UBUS	Aggregate	Aggregate	DSL	423.2358	46482.16	1692.943	0.803453	0	0	0.005651	0	0	0.008415	0.029326	0.005907	0	0	0.033661	0.068427	1481.178	0	0	0.077358	0	0	0.232821	0	0	0.001105	0	0	0	0	0.078949	0	0	0	0	0	0	0.131304	0	0	0.014002	0	0
SANTA CLA	2022	UBUS	Aggregate	Aggregate	NG	104.0289	12325.91	416.1154	0.48934	0	0	0.003183	0	0	0.008475	0.029034	0.003327	0	0	0.033899	0.067746	2016.3	0	0	6.413607	0	0	0.411036	0	0	0.091638	0	0	0	0	6.545556	0	0	0	0	0	0	49.80397	0	0	0	0	0

Attachment 3: Construction Health Risk Calculations

Off-Site Sewer Line, The Crosswinds, Morgan Hill, CA

DPM Emissions and Modeling Emission Rates - Unmitigated

Construction Year	Activity	DPM (ton/year)	Area Source	DPM Emissions (lb/yr)	DPM Emissions (lb/hr)	DPM Emissions (g/s)	Modeled Area (m^2)	DPM Emission Rate ($g/s/m^2$)
2022	Construction	0.0030	CON_DPM	6.0	0.00182	2.29E-04	931	2.46E-07

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

Off-Site Sewer Line, The Crosswinds, Morgan Hill, CA

PM2.5 Fugitive Dust Emissions for Modeling - Unmitigated

Construction Year	Activity	Area Source	PM2.5 Emissions (ton/year)	PM2.5 Emissions (lb/yr)	PM2.5 Emissions (lb/hr)	PM2.5 Emissions (g/s)	Modeled Area (m^2)	PM2.5 Emission Rate $g/s/m^2$
2022	Construction	CON_FUG	0.0001	0.2	0.00006	7.97E-06	931	8.56E-09

Construction Hours

hr/day =	9	(7am - 4pm)
days/yr =	365	
hours/year =	3285	

Off-Site Sewer Line, The Crosswinds, Morgan Hill, CA
- Construction Health Impact Summary

Maximum Impacts at MEI Location - Without Mitigation

Emissions Year	Maximum Concentrations		Cancer Risk (per million)	Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM10/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	Infant/Child	(-)	($\mu g/m^3$)
2022	0.0001	0.0000	0.02	0.00002	0.0001

Maximum Impacts at Live Oak High School

Construction Year	Unmitigated Emissions				
	Maximum Concentrations		Child Cancer Risk	Hazard Index	Maximum Annual PM2.5 Concentration
	Exhaust PM2.5/DPM ($\mu g/m^3$)	Fugitive PM2.5 ($\mu g/m^3$)	(per million)	(-)	($\mu g/m^3$)
2022	0.00003	0.0000	0.002	0.00001	0.00003

Off-Site Sewer Line, The Crosswinds, Morgan Hill, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Off-Site MEI Location - 1.5 meter receptor height

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant/Child			Adult
Age -->	**3rd Trimester**	**0 - 2**	**2 - 16**	**16 - 30**
Parameter				
ASF =	10	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00	1.10E+00
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates for infants and 80th percentile for children and adults

Construction Cancer Risk by Year - Maximum Impact Receptor Location

			Infant/Child - Exposure Information				Adult - Exposure Information						
						Infant/Child		Modeled		Adult		Maximum	
Exposure	Exposure Duration		DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	DPM Conc (ug/m3)		Age Sensitivity	Cancer Risk	Hazard	Fugitive	Total
Year	(years)	Age	Year	Annual	Factor	(per million)	Year	Annual	Factor	(per million)	Index	PM2.5	PM2.5
0	0.25	-0.25 - 0*	2022	0.0001	10	0.00	2022	0.0001	-	-			
1	1	0 - 1	2022	0.0001	10	0.02	2022	0.0001	1	0.0003	0.00002	0.0000	0.0001
2	1	1 - 2		0.0000	10	0.00		0.0000	1	0.00			
3	1	2 - 3		0.0000	3	0.00		0.0000	1	0.00			
4	1	3 - 4		0.0000	3	0.00		0.0000	1	0.00			
5	1	4 - 5		0.0000	3	0.00		0.0000	1	0.00			
6	1	5 - 6		0.0000	3	0.00		0.0000	1	0.00			
7	1	6 - 7		0.0000	3	0.00		0.0000	1	0.00			
8	1	7 - 8		0.0000	3	0.00		0.0000	1	0.00			
9	1	8 - 9		0.0000	3	0.00		0.0000	1	0.00			
10	1	9 - 10		0.0000	3	0.00		0.0000	1	0.00			
11	1	10 - 11		0.0000	3	0.00		0.0000	1	0.00			
12	1	11 - 12		0.0000	3	0.00		0.0000	1	0.00			
13	1	12 - 13		0.0000	3	0.00		0.0000	1	0.00			
14	1	13 - 14		0.0000	3	0.00		0.0000	1	0.00			
15	1	14 - 15		0.0000	3	0.00		0.0000	1	0.00			
16	1	15 - 16		0.0000	3	0.00		0.0000	1	0.00			
17	1	16-17		0.0000	1	0.00		0.0000	1	0.00			
18	1	17-18		0.0000	1	0.00		0.0000	1	0.00			
19	1	18-19		0.0000	1	0.00		0.0000	1	0.00			
20	1	19-20		0.0000	1	0.00		0.0000	1	0.00			
21	1	20-21		0.0000	1	0.00		0.0000	1	0.00			
22	1	21-22		0.0000	1	0.00		0.0000	1	0.00			
23	1	22-23		0.0000	1	0.00		0.0000	1	0.00			
24	1	23-24		0.0000	1	0.00		0.0000	1	0.00			
25	1	24-25		0.0000	1	0.00		0.0000	1	0.00			
26	1	25-26		0.0000	1	0.00		0.0000	1	0.00			
27	1	26-27		0.0000	1	0.00		0.0000	1	0.00			
28	1	27-28		0.0000	1	0.00		0.0000	1	0.00			
29	1	28-29		0.0000	1	0.00		0.0000	1	0.00			
30	1	29-30		0.0000	1	0.00		0.0000	1	0.00			
Total Increased Cancer Risk						**0.02**				**0.0003**			

* Third trimester of pregnancy

Off-Site Sewer Line, The Crosswinds, Morgan Hill, CA - Construction Impacts - Without Mitigation
Maximum DPM Cancer Risk and PM2.5 Calculations From Construction
Impacts at Live Oak High School (+13 years old) - 1.5 meters - Child Exposure

Student Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)

Inhalation Dose = C_{air} x SAF x 8-Hr BR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
SAF = Student Adjustment Factor (unitless)
= (24 hrs/9 hrs) x (7 days/5 days) = 3.73
8-Hr BR = Eight-hour breathing rate (L/kg body weight-per 8 hrs)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

	Infant	School Child	Adult
Age -->	**0 - <2**	**2 - <16**	**16 - 30**
Parameter			
ASF =	10	3	1
CPF =	1.10E+00	1.10E+00	1.10E+00
8-Hr BR* =	1200	520	240
A =	1	1	1
EF =	250	250	250
AT =	70	70	70
SAF =	1.00	3.73	1.00

* 95th percentile 8-hr breathing rates for moderate intensity activities

Construction Cancer Risk by Year - Maximum Impact Receptor Location

Exposure Year	Exposure Duration (years)	Age	Child - Exposure Information: DPM Conc (ug/m3) Year	DPM Conc (ug/m3) Annual	Age* Sensitivity Factor	Child Cancer Risk (per million)
1	1	13 - 14	2022	0.00003	3	0.002
2	1			0.0000	3	0.0
3	1			0.0000	3	0.0
4	1			0.0000	3	0.0
5	1			0.0000	3	0.0
6	1			0.0000	3	0.0
7	1			0.0000	3	0.0
8	1			0.0000	3	0.0
9	1			0.0000	3	0.0
Total Increased Cancer Risk						**0.002**

* Children assumed to be 13 years of age or older with 1 months of Construction Exposure

Maximum Hazard Index	Maximum Fugitive PM2.5	Maximum Total PM2.5
0.00001	0.0000	0.00003

Appendix C

Arborist Report

ARBORIST REPORT

THE CROSSWINDS AT MORGAN HILL

1105 HALF ROAD

MORGAN HILL, CALIFORNIA

(APNs 728-30-001, -002, -003, -004, -006, -009)

Submitted to:

The Crosswinds at Morgan Hill, LLC
c/o Dividend Homes
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February 12, 2021

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EXHIBITS

EXHIBIT	TITLE
A	TREE INVENTORY TABLE (two sheets)
B	SITE MAP (one sheet)
C	PHOTOGRAPHS (three sheets)

1.0 INTRODUCTION

The Crosswinds at Morgan Hill, LLC (owner) are planning a residential development on vacant land comprised of six parcels located along the northwest side of Half Road, between Mission View Drive and DePaul Drive, Morgan Hill (the APNs are 728-30-001, -002, -003, -004, -006, -009, and the project address is regarded as 1105 Half Road, Morgan Hill). To facilitate development, eight existing trees require removal, and I have been retained by the owner to prepare this *Arborist Report* as part of their planning submittal. Specific tasks assigned to execute are as follows:

- Review the following documents: [1] *Vesting Tentative Map* set, dated 6/8/20, prepared by RJA, and [2] a Tree Removal Permit application, not dated, prepared by the applicant.
- Visit the site on 2/3/21 to identify and photograph the 8 trees.
- Measure each tree's trunk diameter pursuant to the Morgan Hill Municipal Code. Diameters are rounded to the nearest inch, and trees listed with more than diameter one are formed by multiple trunks. Circumferences for Ordinance-size trees are provided on the table in Exhibit B (denoted as "C=" within the 10th column).
- Identify which trees are defined by the Morgan Hill Code as being of Ordinance-size,[1] as well as whether any are defined as being indigenous[2] to the Morgan Hill region.
- Estimate each tree's height and average canopy spread (rounded to the nearest fifth).
- Ascertain each tree's health, structural integrity and form, and assign an overall condition rating (e.g. good, fair, poor or dead).
- Document any health, structure and/or hardscape issues.
- Assign numbers to the trees, and plot each onto the *Conceptual Tree Removal Exhibit*, dated 1/10/20, prepared for the referenced Tree Removal Permit application.
- Nail round metal tags with corresponding, engraved numbers onto each tree (do not confuse with older tags found on 7 and 8).
- Prepare this report, and submit via email as a PDF document.

[1] Section 12.32.020(G) of the Morgan Hill Code defines an Ordinance-size tree as having a single trunk with a diameter of 12.73" (40" circumference) for nonindigenous species, and 5.73" (18" circumference) for indigenous species (see footnote 2 below) measured 54" above ground or immediately below the lowest branch, whichever is lower. Commercial tree farms and nonindigenous trees in residential zones and orchards (including fruit trees) are exempt.

[2] Section 12.32.020(I) of the Morgan Hill Municipal Code defines indigenous trees to the Morgan Hill region as oaks (all types), California bays, madrones, sycamores and alders.

2.0 TREE COUNT AND COMPOSITION

Eight (8) trees of six various species were inventoried for this report. They are sequentially numbered and tagged as 1 thru 8, and the table below identifies their common names, assigned numbers, counts and overall percentages.

NAME	TREE NUMBER(S)	COUNT	% OF TOTAL
California buckeye	1	1	13%
Monterey pine	2	1	13%
Pepper tree	3	1	13%
Carolina laurel cherry	4 & 5	2	25%
Chaste tree	6	1	13%
Ponderosa pine	7 & 8	2	25%
	Total	**8**	**100%**

Specific information regarding each tree is presented within the table in Exhibit A. The trees' numbers and approximate locations can be viewed on the site map in Exhibit B, and photographs are presented in Exhibit C.

Trees #1 thru 6 are situated within the property address of 1105 Half Road, Morgan Hill (APN 728-30-004). Trees #7 and 8 are located adjacent to Half Road, situated immediately northeast of the driveway leading to the 1105 property address. All are within direct conflict with the proposed development and require removal.

All are defined by the Morgan Hill Code as being nonindigenous (i.e. not native to the Morgan Hill region).

Four (4) are defined by the Morgan Hill Code as being of Ordinance-size; they include #2, 3, 7 and 8. Their trunk circumferences are as follows: 82 inches for #2, 138 inches for #3, 79 inches for #7, and 101 inches for #8.

3.0 TREE CONDITIONS

Each tree has been assigned an overall condition rating based on their health and structural condition. These ratings include good, fair, poor or dead, and descriptions and assigned trees are presented below. Regarding those of Ordinance-size, #2 and 3 are regarded as being fair condition, and #7 and 8 poor condition.

Good: Applies to none.

These trees appear relatively healthy and structurally stable; have no apparent, significant health issues or structural defects; present a good potential for contributing long-term to the site; and seemingly require only periodic or regular care and monitoring to maintain their longevity and structural integrity.

Fair: Applies to #2 and 3.

These trees appear in reasonably viable condition, although have health and/or structural issues which may or may not be reasonably addressed and properly mitigated, and frequent care is typically required for their remaining lifespan. They can potentially contribute to the site, but do require regular and more frequent care compared to those appearing in good condition.

Poor: Applies to #1, 6, 7 and 8.

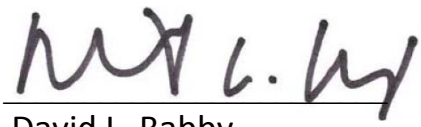
These trees have significant health and/or structural issues expected to worsen regardless of tree care measures employed (i.e. beyond likely recovery). As a general guideline, they are not suitable for incorporating into the future landscape, regardless of future site improvements.

Dead: Applies to #4 and 5.

These two are small ornamental trees which have been dead for some time. They cannot recover and should be removed before the site becomes occupied.

4.0 ASSUMPTIONS AND LIMITING CONDITIONS

- All information presented herein covers only the inventoried trees, and reflects their size, condition, and areas viewed from the ground on 2/3/21.
- The documented condition and suitability ratings of dormant trees are subject to change once the trees can be observed following their seasonal regrowth of leaves.
- Observations were performed visually without probing, coring, dissecting or excavating.
- The assignment pertains solely to trees listed in Exhibit A. I hold no opinion towards other trees on or surrounding the project area.
- I cannot provide a guarantee or warranty, expressed or implied, that deficiencies or problems of any trees or property in question may not arise in the future.
- No assurance can be offered that if all my recommendations and precautionary measures (verbal or in writing) are accepted and followed the desired results may be achieved.
- I cannot guarantee or be responsible for the accuracy of information provided by others.
- I assume no responsibility for the means and methods used by any person or company implementing the recommendations provided in this report.
- Information provided herein represents my opinion. Accordingly, my fee is in no way contingent upon the reporting of a specified finding, conclusion or value.
- Numbers shown on the site map in Exhibit B are solely intended to represent a tree's approximate trunk location and should not be construed as surveyed points.
- This report is proprietary to me and may not be copied or reproduced in whole or part without prior written consent. It has been prepared for the sole and exclusive use of the parties to who submitted for the purpose of contracting services provided by David L. Babby.
- If any part of this report or copy thereof be lost or altered, the entire evaluation shall be invalid.

Prepared By:  Date: February 12, 2021

David L. Babby
Registered Consulting Arborist® #399
Board-Certified Master Arborist® #WE-4001B
CA Licensed Tree Service Contractor #796763 (C61/D49)

EXHIBIT A:

TREE INVENTORY TABLE

(two sheets)

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE			CONDITION				Ordinance-size Tree	Indigenous Tree
		Trunk Diameter (in.)	Height (ft.)	Canopy Spread (ft.)	Health Condition (100%=Best, 0%=Worst)	Structural Integrity (100%=Best, 0%=Worst)	Form (100%=Best, 0%=Worst)	Overall Condition (Good/Fair/Poor/Dead)		
1	California buckeye (*Aesculus californica*)	8, 7, 6, 5, 4	20	30	60%	20%	30%	Poor		

Comments: Dormant. Multiple trunks represent stump sprouts and form weak attachments. Top has been reduced in past at varying heights between 6 to 9'. Grows SW away from existing structure. Asphalt surrounding base is raised and buckled.

2	Monterey pine (*Pinus radiata*)	26	45	50	40%	50%	70%	Fair	X (C=82")	

Comments: Tree is partly surrounded by a treehouse. Large girdling root along the trunk's east side. Minor infestation of red turpentine beetles and pitch moth larvae. Large deadwood throughout. Branch dieback is abundant most likely due to pine pitch canker. Branching begins at 4.5' high. A few older, large limbs/branches were cut from the lower trunk.

3	Pepper tree (*Schinus molle*)	44	40	45	60%	30%	40%	Fair	X (C=138")	

Comments: Structure is formed by three codominant leaders emerging at 10' high. Large deadwood throughout, and has a 17" tall by 6" wide by 2+' deep hollow along the trunk's east side at 4'. Has excessive limb weight and some dieback along canopy's top.

4	Carolina laurel cherry (*Prunus caroliniana*)	6	20	-	0%	0%	0%	Dead		

Comments: Dead.

5	Carolina laurel cherry (*Prunus caroliniana*)	7	20	-	0%	0%	0%	Dead		

Comments: Dead.

TREE INVENTORY TABLE

TREE/ TAG NO.	TREE NAME	SIZE			CONDITION				Ordinance-size Tree	Indigenous Tree
		Trunk Diameter (in.)	Height (ft.)	Canopy Spread (ft.)	Health Condition (100%=Best, 0%=Worst)	Structural Integrity (100%=Best, 0%=Worst)	Form (100%=Best, 0%=Worst)	Overall Condition (Good/Fair/Poor/Dead)		
6	Chaste tree (*Vitex agnus-castus*)	10, 10, 7	30	40	60%	30%	30%	Poor		

Comments: Dormant. Low crown, and the 7" trunk grows horizontal within a few feet above ground. Irregular, asymmetrical and broad form. Bark is missing along the lower sections of all three trunks, some with decay. Grows with a pronounced lean away from the existing home. Ivy grows within the canopy's NE portion.

7	Ponderosa pine (*Pinus ponderosa*)	25	50	30	40%	30%	40%	Poor	X (C=79")	

Comments: Asymmetrical, mostly one-sided canopy away from #8. History of limb failure. Has a very thin, sparse canopy with deadwood and dieback. There is a dead, decaying stump at base (of prior tree). Has an old tag #125.

8	Ponderosa pine (*Pinus ponderosa*)	32	60	35	50%	70%	40%	Poor	X (C=101")	

Comments: Asymmetrical, mostly one-sided canopy away from #7, and its dominant limb structure extends towards SE. Large deadwood and excessive branch weight. Has three competing, multiple tops. Has an old tag #124.

EXHIBIT B:

SITE MAP

(one sheet)

PROPERTY INFORMATION:

APPLICANT/OWNER: THE CROSSWINDS AT MORGAN HILL, 385 WOODVIEW AVENUE, SUITE 100, MORGAN HILL, CA 95037
SUBJECT ASSESSOR PARCEL NUMBERS: 728-30-001, -002, -003, -004, -006, -009

NOTES:

1. THIS EXHIBIT WAS PREPARED BY RJA, IS CONCEPTUAL IN NATURE, AND REPRESENTS GENERAL OBSERVATIONS DURING MULTIPLE SITE VISITS. INFORMATION SHOWN HEREON SHOULD BE CONFIRMED BY A CERTIFIED PROFESSIONAL ARBORIST OR OTHER QUALIFIED PROFESSIONAL.
2. A LICENSED ARBORIST SHALL PROVIDE CITY OF MORGAN HILL WITH THE FOLLOWING INFORMATION:
   - METHOD FOR MARKING THE PROPOSED TREE TO BE REMOVED.
   - DESCRIPTION OF METHOD TO REMOVE THE PROPOSED TREE.
   - GENERAL HEALTH OF PROPOSED TREE TO BE REMOVED.
3. TREE REPLACEMENT OF SIGNIFICANT TREES (ORDINANCE SIZE TREES) SHALL BE REPLACED AT A RATIO OF 2:1 PER CITY OF MORGAN HILL RESIDENTIAL DEVELOPMENT DESIGN AND DEVELOPMENT STANDARDS.
4. THIS EXHIBIT IS A COMPANION TO THE CROSSWINDS VESTING TENTATIVE MAP.
5. PER MORGAN HILL MUNICIPAL CODE CHAPTER 12.32, THREE (3) ORDINANCE SIZED TREES ARE PROPOSED TO BE REMOVED ON-SITE. THE BALANCE OF ON-SITE TREES ARE EXEMPT FROM THE TREE REMOVAL ORDINANCE (BEING ORCHARD TREES, BOXED NURSERY TREES, AND/OR NON-INDIGENOUS TREES).
6. AERIAL IMAGE PREPARED BY TETRATECH ON DECEMBER 23, 2019.

NOTES

#1: California buckeye (8, 7, 6, 5, 4")
#2: Monterey pine (26"), Ordinance-size
#3: Pepper tree (44"), Ordinance-size
#4 & 5: Carolina cherry trees (6 & 7", respectively)
#6: Chaste tree (10, 10, 7")
#7: Ponderosa pine (25"), Ordinance-size
#8: Ponderosa pine (32"), Ordinance-size

0 60 120 180
SCALE IN FEET: 1"= 60

RUGGERI-JENSEN-AZAR
ENGINEERS • PLANNERS • SURVEYORS
8050 CAMINO ARROYO, GILROY, CA 95020
PHONE: (408) 848-0300 FAX: (408) 848-0302

DIVIDEND
385 WOODVIEW AVE, SUITE 100
MORGAN HILL, CA 95037

CONCEPTUAL TREE REMOVAL EXHIBIT
THE CROSSWINDS
MORGAN HILL, CALIFORNIA

SCALE: AS SHOWN
DATE: JAN 10, 2020
BY | CK
SHEET REVISIONS
DATE | MK
PROGRESS SET JAN 10, 2020

SHEET 1 OF 1 SHEETS
JOB NO 182032-2001

W:\JOBS 18\182032 DEPAUL_COCHRANE\DRAWINGS\PRELIM\APPLICATIONS\2020 TENTATIVE MAP\1 - TREE REMOVAL EXHIBIT.DWG

EXHIBIT C:

PHOTOGRAPHS

(three sheets)

Photo Index

Page C-1: Trees #1 and 2

Page C-2: Trees #3 thru 6

Page C-3: Trees #7 and 8

#1

#1

#2

#3

#5
#4

#3

#6

#6

#7
#8

#7

Appendix D

Historic Evaluation Report

State of California ♉ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code
Other Listings
Review Code Reviewer Date

Page 1 **of** 16 ***Resource Name or #:** (Assigned by recorder) 1105 Half Road, Morgan Hill
P1. Other Identifier:

*P2. **Location:** ☐ **Not for Publication** ☒ **Unrestricted**
***a. County** Santa Clara **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** **Date** **T** ; **R** ; ☐ **of** ☐ **of Sec** ; **B.M.**
c. Address 1105 Half Road City Morgan Hill Zip 95037
d. UTM: (Give more than one for large and/or linear resources) Zone 10S, 620522.24 mE/ 41, 12283.48 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
APN 728-30-004

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The site is a rural setting within an orchard. The terrain is flat with the developed area containing a c. 1957 Ranch Style house, a barn, tanks, and sheds.
The single-story house is an eclectic variation of the California Ranch Style in an "L" form. The horizontal front façade has a band of windows above a concrete block wall, a slightly recessed covered front porch with the entry door, and side lights. The remainder of the front wall has high windows and is behind a screen. The roof extends beyond the building to cover a patio/carport. A second parking area is behind a concrete block wall at the end of the building. The rear facade is flat with metal sliding style windows.(bedrooms).

***P3b. Resource Attributes:** (List attributes and codes) HP2
***P4. Resources Present:** ✠ Building ✠Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)
P5b. Description of Photo: (view, date, accession #) Front Façade, May 2019
***P6. Date Constructed/Age and Source** X Historic ☐ Prehistoric ☐ Both
1957 -Assessor's Records
.Owner and Address:
Llagas LLC
600 E. Brokaw Road
San Jose CA 95112
***P8. Recorded by:** (Name, affiliation, and address) Bonnie Bamburg
Urban Programmers
10710 Ridgeview Ave.
San Jose CA 95127

***P9.Date Recorded:** June 1, 2019
***P10. Survey Type:** (Describe) Project Specific
***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") None
***Attachments:** ☐NONE ☐Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

P.3 Description continued:
The side rear façade has a recessed porch with French doors. The roof extends with exposed eaves behind a facia board. The stucco surface is smooth texture with no details. The building is common economical type construction without artistic style.

Across a parking area from the front of the house is a utility barn. The single-story, rectangular form is constructed of vertical board and batt on wood frame. The structure hs a pitched roof and concrete foundation. The division of space indicates it was used as a packing shed and for equipment storage. The remains of a covered area at the end indicate the space was likely also used for sorting and packing fruit.

Contemporary and temporary tanks are behind the barn.

There is no formal landscape plan and no natural features beyond the flat terrain. The house and barn are vacant and in poor condition.

Photographs: the photographs were taken on June 1, 2019 using digital format.

Photograph 2 1105 Half Road, Morgan Hill – Main house
View: Front entry porch and front door. Concrete block veneer on the front wall (right). “T-111” Manufactured board siding on the rest of the wall.

Photograph 2 1105 Half Road, Morgan Hill – Main house
View: Front façade, covered concrete porch. Concrete block veneer on the front wall (right). "T-111" Manufactured board siding on the rest of the building.

Photograph 3 1105 Half Road, Morgan Hill – Main house
View: End and rear facades. "T-111" Manufactured board siding, broad eaves and planter against wall. Concrete porch/patio

CONTINUATION SHEET

Photograph 4 1105 Half Road, Morgan Hill – Main house
View: Rear porch with French doors (replacement), concrete block planter and veneer on the left side. "T-111" Manufactured board siding on the facade.

Photograph 5 1105 Half Road, Morgan Hill – Main house
View: Rear wall'

CONTINUATION SHEET

Photograph 6 1105 Half Road, Morgan Hill – Main house
View: Bedroom wind (rear end of the building. "T-111" Manufactured board siding on the rest of the building.

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) 1105 Half Road, Morgan Hill CA ***NRHP Status Code** 6Z
Page 8 **of** 16

B1. Historic Name: Sakai Ranch
B2. Common Name: None
B3. Original Use: Rural Residential B4. Present Use: Vacant
***B5. Architectural Style:** California Ranch (variation)
***B6. Construction History:** (Construction date, alterations, and date of alterations)

Constructed in 1957. Remodel of rear porch area c. 1970.

***B7. Moved?** ☒No ☐Yes ☐Unknown **Date:** **Original Location:**
***B8. Related Features:**

Orchard trees and barn – related but not significant to the house

B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance: Theme** Residential Architecture **Area** Morgan Hill

Period of Significance 1957-2000 **Property Type** house **Applicable Criteria** NA
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The property is not significant to the history, heritage, or architecture of Morgan Hill and does not qualify for listing in the California Register of Historical Resources or under the Morgan Hill Historic Preservation Ordinance. The property is not associated with persons or events of significance and is not an artistic or important variation of the California Ranch style.

The history of Morgan Hill has been published in scholarly works; this brief summary is to show the context for the subject property in the history of Morgan Hill and Santa Clara County in the mid-century 1950-2000.

11. Additional Resource Attributes: (List attributes and codes)
***B12. References:**

Page 15

B13. Remarks:

(Sk

***B14. Evaluator:** Bonnie Bamburg
***Date of Evaluation:** 6/1/2019

(This space reserved for official comments.)

At the turn of the century, 1900, agriculture was the primary industry in South Santa Clara County. Acres of orchards and farmland were tended and owned by Americans and immigrants who came from Europe, Asia, Canada, and Mexico. By the first decades of the 1900s, there were many ranchers and farmers with less than 200 planted acres who supplied the canneries and fruit dryers located along the length of the County. Canneries were established, and communities grew in relation as a result of the agricultural expansion. Box factories, can factories, shipping centers, paper mills, and label makers were all part of the strongest growth industry in Santa Clara County between the years 1900-1936 - with prunes at the top of the list for the export market. While there were economic and over-production cycles, nothing was as devastating to prune growers as the boycott of California Prunes and dried fruit by Germany and its allies in 1936. The European market was a large part of the industry, and the world glut of prunes that resulted from the boycott caused financial ruin for many ranchers. Those who could hold onto their land, replanted orchards to take advantage of improved shipping for fresh fruit and those fruits that canned well. Some turned to vineyards and some to row crop farming. Amid this economic turmoil, all growers and processors were helped by the advent of WWII and the federal government contracts to provide food supplies to the troops. At the end of WWII and the end of the lucrative federal contracts, the industry entered another challenge, frozen and prepared foods. Strawberries were the first locally frozen crops to come from South County. While the rest of Santa Clara County experienced a shift from an agricultural basis in the 1950s to subdivisions and high tech, South County remained primarily agricultural into the 1970s when the spread of population from the industrial centers of Silicon Valley extended to South County. As it had to the north, the demand for housing spurred the redevelopment of agricultural land to residential and commercial subdivisions. Initially, the subdivisions tended to be along the west side and Monterey Road. With the completion of Highway 101, development patterns moved to the eastern side, leaving the center of the valley in agriculture and the last to be subdivided for development.

1105 Half Road

The agricultural property was owned by William Pierce in 1912 when it was sold to Fernand Kraft. Kraft was from Germany, and his wife, Elin, was from Sweden; both became naturalized citizens. Kraft farmed the land and then planted fruit trees, likely prunes.[1] In the mid-1930s, his occupation listed in the county voter rolls and City Directories changed to farmer. This appears to be due to the boycott on dried fruit going to Germany and the Axis countries in 1936. He remained a farmer until the land was sold to Harry M. Sakai, Yukino Sakai, and Freddie Sakai.

[1] The Santa Clara County Voters rolls list Fernand Kraft as an orchardist until the late 1930s when he is listed as a farmer.

The sale was recorded on January 28, 1955. The Sakai family planted cherry trees on part of the acreage and built a house and barn in 1957. The house and barn were constructed for Harry Sakai who lived on the property with his wife, Margie, at RD 2 Box 489 until selling the land in the late 1970s and moving to 779 Via del Castille in Morgan Hill. The next owners were Charles L. and Patricia A. Hann. Charles operated CL Hann Industries, a machine shop on Chestnut Street in San Jose, before purchasing the land and moving to Morgan Hill. The Hanns continued the agricultural use and lived in the house surrounded by fruit trees. In 1996, the property was transferred to Patricia A. Hann, and then sold by her to Llagas LLC on April 6, 2000. For the last several years, the house has not been occupied by the owner; however, the orchard has been maintained.

Evaluation of Significance

The evaluation considers the criteria adopted by the City of Morgan Hill in the Zoning Code Chapter 18.60 Cultural Resources Preservation, Section 18.60.050 Cultural resource designation – Criteria. To comply with the California Environmental Quality Act – Guidelines, the evaluation considers the criteria of the California Register of Historical Resources and the National Register of Historic Places

Morgan Hill Cultural Resources Designation- Criteria

For purposes of this Chapter, an improvement may be designated a cultural resource by the planning commission, and any area within the city may be designated as a historic district by the commission pursuant to Section 2.36.040 if it meets one or more of the following criteria.

A. Historical, Cultural Importance.

1. *Has significant character, interest, or value, as a part of the development, heritage, or cultural characteristics of the city, county, state or nation; or is associated with the life of a person(s) significant in the past,*

   The owners of the property, Kraft and Sakai were part of the agricultural community. Research did not find unique historical importance associated with the owners. Both families were immigrants, and both were fruit ranchers in a community that had many immigrants and fruit ranchers.

2. *is the site of a historic event with a significant effect upon society*,

   The site is not associate with a significant historical event.

3. *Exemplifies the cultural, political, economic, social, or historical heritage of the community;*

   The orchard and operations/storage area of the parcel are typical of the rural orchard properties in South County. It is, or was, part of the broader economic heritage of Santa Clara County.

   The property is not associated with the lives of people significant in the past. No historic event was found to have occurred on the property. The site was of a broad pattern yet does not individually exemplify the cultural, political, economic, social, or historical heritage of the community.

B. *Architectural, engineering Importance:*

1. *Portrays the environments in an era of history characterized by a distinctive architectural style.*

   The ancillary buildings and structures are utilitarian, used for storage and as such are part of a broad pattern of agricultural use in the Morgan Hill area but do not exhibit significant character, interest, or value in communicating the cultural characteristics of the city, county, or region. The house, a variation of the Mid-century Ranch Style is not an artistic or well-designed Mid-century Ranch Style.

2. *Embodies those distinguishing characteristics of an architectural type or engineering specimen*.

   The house shows characteristics of Mid-century Ranch Style architecture; however, the combination of elements is not artistic or unique.

3. *Is the work of a designer or master builder whose individual work has significantly influenced the development of Morgan Hill.*

   The design of the house does not represent the work of a master builder.

4. *Contains elements of design, detail, materials, or craftsmanship which represent a significant innovation; or*

   As stated above, the house - the main building on the property - is an economical version of the Mid-century Ranch style, while the structures are primarily storage sheds c. 1960s-70s that lack distinctive architecture or engineering qualities.

C. *Geographic Importance:*

1. *By being part of or related to a square, park, or other distinctive area, it should be developed or preserved according to a plan based on a historic, cultural, or architectural motif.*

   The site is part of an agricultural area. Agriculture is and was an important economic industry in Morgan Hill. This parcel is not individually distinctive.

2. *Owing to its unique location or singular physical characteristics, it represents an established and familiar visual feature of a neighborhood, community, community, or city*.

   The subject property is not associated with a square, park, or other distinctive area. The orchard land was part of larger ranches that were divided, and do not relate to the previous ranches or owners. The orchards have been replanted, and none of the structures or buildings on the property are distinctive.

   The property is in an area of rural parcels redeveloping to residential uses and is not a unique location.

D. Archaeological Importance:

1. *Has yielded, or may be likely to yield information in pre-history. Ord. 1111 N.S, Section 50 (part), 1992; ord; N.S. Section 50 (part), 1992: Ord 980 N.S. Section 3 (part), 1990)*

   The site has been disturbed by agricultural use for over 100 years, in addition to the construction of buildings. It is unlikely to yield information important in the study of pre-history. Should areological materials be found during any phase of future construction, local, county, and state law must be observed.

California Register of Historical Resources - Eligibility Statement

The criteria for listing historical resources in the California Register are consistent with those developed by the National Park Service for listing resources in the National Register of Historic Places but have been modified for state use in order to include a range of historical resources which better reflect the history of California. A historical resource must be significant at the local, state, or national level under one or more of the following four criteria;

1. *It is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United*

States.

2. *It is associated with the lives of persons important to local, California, or national history;*
3. *It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or*
4. *It has yielded, or is likely to yield, information important to the prehistory or history of the local area, California, or the nation*.

In addition, the resource must retain enough of its historic character or appearance to be recognizable as a historic property and to convey the reason for its significance.

Research did not uncover information showing that the subject property was associated with individuals or events that have made a significant contribution to the broad patterns of local or regional history, or to the cultural heritage of Morgan Hill, Santa Clara County, California, or the United States. The Kraft family immigrated to Santa Clara County and began business in San Jose before moving to Morgan Hill and tending fruit trees. The Sakai family arrived from Japan in 1908, locating in Washington State where their children, Harry, Freddy, and Yukino, were born. After being interred in Wyoming, the family came to the Santa Clara Valley and purchased property to farm and raise cherries. They had a Mid-century Ranch house constructed along with vernacular agricultural structures on the property. None of the buildings or structures possess distinctive characteristics. When the property was evaluated as a rural unit, it was concluded that it did not meet the criteria because the utilitarian structures and buildings are not distinctive or artistic and do not show unique engineering. Thus, it was concluded that the property is not eligible for listing in the California Register.

National Register of Historic Places – Standards (Criteria)

The National Register of Historic Places has established standards for evaluating the significance of resources that are important in the heritage of the nation. Historic resources may be considered important at the local level, state level, or national level. To apply the standards, the resource must be considered within significant historical contexts. The standards, age, and integrity statements follow;

1. *A property must be fifty years old*
2. *The resource must retain architectural and historical integrity.*
3. *The resources must meet at least one of the following criteria*

a. *are associated with events that have made a significant contribution to the broad patterns of our history; or*
b. *are associated with the lives of persons significant in our past; or*
c. *embody the distinctive characteristics of a type, period, or method that possess high artistic values, or that represents a significant and distinguishable entity whose components may* lack individual distinction; or
d. have yielded, or may be likely to yield, information important in prehistory or history.

Research did not uncover information that the subject property was associated with individuals or events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States. The structure's lack of significant historical associations and common design are the factors in determining that the property is not eligible for listing in the National Register of Historic Places.

Property that is not eligible for listing in the California Register of Historical Resources is not considered to be significant under the criteria of the National Register of Historic Places and is not eligible for listing.

Based upon the lack of significant architecture, or significant historical associations), the subject property is not eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, or consideration under the Morgan Hill Zoning Ordinance 18.60.050.

California Environmental Quality Act (CEQA)

CEQA defines a historical resource as a resource that meets one or more of the following criteria; (1) listed in, or determined eligible for listing in, the California Register of Historical Resources, (2) listed in a local register of historical resources as defined in PRC Section 5020.1 (k), (3) identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g), or (4) determined to be a historical resource by a project's lead agency (PRC Section 21084.1 and CEQA Guidelines Section 15064.5 (a). A historic resource consists of;

> "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational social, political, military, or

cultural annals of California." Generally, a resource shall be considered "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources"[2]

A literature search showed that the subject property is not listed in the Historic Properties Directory for Santa Clara County (2011) or the Morgan Hill Historic Resources Inventory. This study and evaluation of the attributes of the property found the property does not meet the criteria of the California Register of Historical Resources or the City of Morgan Hill's Historic Preservation Zoning criteria. Thus, the property does not meet the criteria of any register as a "historical resource" under CEQA.

B.12 Sources consulted:

List of Repositories Consulted

City of Morgan Hill Building Permits Morgan Hill Historical Museum Santa Clara County Assessor's Office

Santa Clara County Official Records: County Recorder's Office:

References

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[2] CEQA Guidelines Section 15064.5(a)(3).

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State of California ♁ The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
PRIMARY RECORD

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NRHP Status Code
Other Listings
Review Code Reviewer Date

Page 1 **of** 18 ***Resource Name or #:** (Assigned by recorder) APN 728-31-014, Morgan Hill
P1. Other Identifier: South side of Cochran Road west of De Paul Drive

*P2. **Location:** ☐ **Not for Publication** ☒ **Unrestricted**
***a. County** Santa Clara **and** (P2c, P2e, and P2b or P2d. Attach a Location Map as necessary.)
***b. USGS 7.5' Quad** **Date** **T** ; **R** ; ☐ **of** ☐ **of Sec** ; **B.M.**
c. Address NA City Morgan Hill Zip 95037
d. UTM: (Give more than one for large and/or linear resources) Zone 10S, 619416.79 mE/ 41123862.53 mN
e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, decimal degrees, etc., as appropriate)
APN 728-31-014 (north/east corner of parcel)

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
The site is a rural setting within a tree farm. The terrain is flat with the developed area containing a c.1900 building converted to a house, and sheds.
The single-story building is an eclectic style of additions and alterations in a "L" form formed by a cross gable plan.. The building appears to have been moved to the site based upon the type of foundations. The simple wood building exhibits evidence of tall narrow windows (filled in) and the front façade appears an addition. The current fenestration is primarily contemporary vinyl sliding styles. The front façade has a flush wood door between two windows. A rustic frame with deteriorated a corrugated cover extends across the front. The sides

***P3b. Resource Attributes:** (List attributes and codes) HP2
***P4. Resources Present:** ✠ Building ✠Structure ☐ Object ☐ Site ☐ District ☐ Element of District ☐ Other (Isolates, etc.)
P5b. Description of Photo: (view, date, accession #) Front Façade, May 2019
***P6. Date Constructed/Age and SourceX** Historic ☐ Prehistoric ☐ Both
1957 -Assessor's Records
***P7. Owner and Address:**
Llagas LLC
600 E. Brokow Road
San Jose CA 95112
***P8. Recorded by:** (Name, affiliation, and address) Bonnie Banburg
Urban Programmers
10710 Ridgeview Ave.
San Jose CA 95127

***P9.Date Recorded:** June 1, 2019
***P10. Survey Type:** (Describe) Project Specific
***P11. Report Citation:** (Cite survey report and other sources, or enter "none.") None
***Attachments:** ☐NONE ☐Location Map ☒Continuation Sheet ☒Building, Structure, and Object Record
☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record
☐Artifact Record ☐Photograph Record ☐ Other (List):

and rear are punctuated with the replacement windows. The siding is dropped horizontal board on the rear and west side, with a change to . vertical board and bat for the front addition. The building appears to have started with a c. 1900 rectangular form and added a large section to create a residential style with a low-pitched roof and side wing c. 1955. Later alterations include removing the original windows from both sections. The building does not have a defined style.
There is no landscaping, a shed and fencing are the other features close to the building on the property. The primary purpose of the site is for large trees in wood boxes- tree storage more than a tree farm.

Photographs:

Photograph 2 Cochran Road west of De Paul Avenue.
View: side façade board and bat on the left and dropped horizontal siding right of the white door.

Photograph 2 Cochran Road west of De Paul Avenue.
View: West side of the building. This wall exhibits the horizontal siding and the juncture with the board and bar addition.

CONTINUATION SHEET

Photograph 3 Cochran Road west of De Paul Avenue.
View: Section of the east wall showing evidence of the original windows.

BUILDING, STRUCTURE, AND OBJECT RECORD

***Resource Name or #** (Assigned by recorder) APN 728-31-014 ***NRHP Status Code** 6Z
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B1. Historic Name: Kraft Ranch
B2. Common Name: none
B3. Original Use: agriculture B4. Present Use: tree storage
***B5. Architectural Style:** No defined style – Residence on the property
***B6. Construction History:** (Construction date, alterations, and date of alterations)
Residence on the property:
Rear section constructed c1900. Front section added c. 1955 Alterations continuing.

***B7. Moved?** No ☐Yes ✠Unknown **Date:** **Original Location:**
***B8. Related Features:**

Tree storage

B9a. Architect: Unknown b. Builder: Unknown
***B10. Significance:** **Theme** Residential Architecture **Area** Morgan Hill

Period of Significance 1900-2000 **Property Type** house **Applicable Criteria** NA
(Discuss importance in terms of historical or architectural context as defined by theme, period, and geographic scope. Also address integrity.)

The property is not significant to the history, heritage or architecture of Morgan Hill and does not qualify for listing in the California Register of Historic Resources or under the Morgan Hill Historic Preservation Ordinance. The property is not associated with persons or events of significance and is not an artistic or important variation of a defined style.

The history of Morgan Hill has been published in scholarly works, this brief summary is to show the context for evaluating the subject property within the twentieth century history of Morgan Hill and Santa Clara. This appears to be when the early part was constructed and newer section of the building was added and the building was transformed to residential use, . (Continued)

B11. Additional Resource Attributes: (List attributes and codes)
***B12. References:**

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B13. Remarks:

***B14. Evaluator:** Bonnie Bamburg
***Date of Evaluation:** June 1, 2019

(This space reserved for official comments.)

(Sketch Map with north arrow required.)

At the turn of the century, 1900, agriculture was the primary industry in South Santa Clara County. Acres of orchards and farmland were tended and owned by Americans and the immigrants who came from Europe, Asia, Canada, and Mexico. By the first decades of the 1900s, there were many ranchers and farmers with less than 200 planted acres who supplied the canneries and fruit dryers located along the length of the County. Canneries were established, and communities grew in relation as a result of the agricultural expansion. Box factories, can factories, shipping centers, paper mills, and label makers were all part of the strongest growth industry in Santa Clara County between the years 1900-1936 - with prunes at the top of the list for the export market. While there were economic and over-production cycles, nothing was as devastating to prune growers as the boycott of California Prunes and dried fruit by Germany and its allies in 1936. The European market was a large part of the industry, and the world glut of prunes that resulted from the boycott caused financial ruin for many ranchers. Those who could hold onto their land, replanted orchards to take advantage of improved shipping for fresh fruit and those fruits that canned well. Some turned to vineyards and some to row crop farming. Amid this economic turmoil, all growers and processors were helped by the advent of WWII and the federal government contracts to provide food supplies to the troops. At the end of WWII and the end of the lucrative federal contracts, the industry entered another challenge, frozen and prepared foods. Strawberries were the first locally frozen crops to come from South County. While the rest of Santa Clara County experienced a shift from an agricultural basis in the 1950s to subdivisions and high tech, South County remained primarily agricultural into the 1970s when the spread of population from the industrial centers of Silicon Valley extended to South County. As it had to the north, the demand for housing spurred the redevelopment of agricultural land to residential and commercial subdivisions. Initially, the subdivisions tended to be along the west side and Monterey Road. With the completion of Highway 101, development patterns moved to the eastern side, leaving the center of the valley in agriculture and the last to be subdivided for development.

Cochran Road West of De Paul Ave.

The agricultural property was owned by William Pierce in 1912 when it was sold to Fernand Kraft. Kraft was from Germany, and his wife, Elin, was from Sweden; both became naturalized citizens. Over a period of several years Kraft purchased several adjoiningr parcels. Kraft farmed the land and then planted fruit trees, likely prunes.[1] In the mid-1930s, his occupation listed in the county voter rolls and City Directories changed from orchards to farmer. This appears to be

[1] The Santa Clara County Voters rolls list Fernand Kraft as an orchardist until the late 1930s when he is listed as a farmer.

due to the boycott on dried fruit going to Germany and the Axis countries in 1936. He remained a farmer until the land was sold to Harry M. Sakai, Yukino Sakai, and Freddie Sakai. The sale was recorded on January 28, 1955. The Sakai family planted cherry trees. According to the aerial photographs from the USGS library, the property remained, planted in orchards when it was sold in 1963 to Lawrence and Helen Chew and Francis and Beatriz Mar. Both L:awrence and Helen worked at the Giant Thrift Pharmacy. The Lawrence & Helen Chew Trust sold the parcel in 2004 to Llagas LLC. During this time, the land was cleared of the fruit trees and then rented to Michael Bonfonte , Bonfonte Nursery, for tree storage. Mature trees with their roots systems in wood boxes trees were stored on the property in neat rows.[2] In January 2019, the land was sold to Morgan Hill Ventures LLC. . The tree storage continued and was the major use of the land in 2019..[3] The boxed trees appear to have been stored for future use in a golf course or other large project. Eventually tress filled most of the 14 acres and included several species.

Michael Bonfante and Bonfonte Nursery

John Bonfante began the Nob Hill Foods markets in 1934, named after a knoll in Morgan Hill the business grew to 9 markets before John died in 1977. Son Michael became the executive along with his sister. Under their leadership, the regional chain grew to 27 markets before it was sold in 1997 to Railey's foods, also a family owned business. While running the family business, Michael purchased a nursery in the early 1980s and began exhibiting his interested in the science and beauty of trees. It was the Scott's Valley, Circus Tress grown by Axel Erlandson that fascinated Bonfante. In 1983, he acquired the Circus Trees, moving them to Bonfante Nursery on Hecker Pass Road in Gilroy. The tree park initially opened as Nob Hill Family Park- for the company employees, then Hecker Pass Gardens- other corporate use, and after receiving the funds from the sale of Nob Hill Foods the park became Bonfante Gardens a fully developed horticultural themed amusement park. The concept was to entertain children while giving then lessons about the environment, and trees in particular. After a turn in the economy of parks, the property was sold to the City of Gilroy and became Gilroy Gardens.[4] [5]By this time Bonfante had acquired additional trees and storage became an issue. Trees from Bonfante Nursery in

[2] USGA Aerial photograph c. 2000
[3] Phone Interview with Angel long time employee at Western Tree Nursery in Gilroy
[4] https://johnbyrd.org/html/bonfantegardens/vision.htm
[5] https://www.centralcoast-tourism.com/blog/the-man-who-loved-trees/

Gilroy were moved to Morgan Hill and stored on the subject property in the 1990s.[6] Associated with the storage of the trees is a caretaker who lives on site.

Evaluation of Significance

The evaluation considers the criteria adopted by the City of Morgan Hill in the Zoning Code Chapter 18.60 Cultural Resources Preservation, Section 18.60.050 Cultural resource designation – Criteria. To comply with the California Environmental Quality Act – Guidelines, the evaluation considers the criteria of the California Register of Historical Resources and the National Register of Historic Places

Morgan Hill Cultural Resources Designation- Criteria

For purposes of this Chapter, an improvement may be designated a cultural resource by the planning commission, and any area within the city may be designated as a historic district by the commission pursuant to Section 2.36.040 if it meets one or more of the following criteria.

A. *Historical, Cultural Importance.*

1. *Has significant character, interest, or value, as a part of the development, heritage, or cultural characteristics of the city, county, state or nation; or is associated with the life of a person(s) significant in the past,*

   The owners of the property did not live on the property. They were part of the agricultural community, including the tree storage. Research did not find unique historical importance associating this property with the owners. Storing trees for Bonfonte Nursery is not a direct association to Michael Bonfante. The building on the property does not have significant character or interest associated with the owners or occupants.

2. *Is the site of a historic event with a significant effect upon society*,

   The site is not associate with a significant historical event.

3. *Exemplifies the cultural, political, economic, social, or historical heritage of the community;*

   There is no remains of the orchard or row crop use. The tree storage is an unusual agricultural use although it does not exemplify the heritage of the

[6] Telephone interview with Angle at Western Tree Nursery

community.. It is and was, part of the broader economic heritage of Santa Clara County.

The property is not associated with the lives of people significant in the past. No historic event was found to have occurred on the property. The site was part of a broad agricultural pattern yet does not individually exemplify the cultural, political, economic, social, or historical heritage of the community.

B. Architectural, engineering Importance:

1. *Portrays the environments in an era of history characterized by a distinctive architectural style.*

   The main building is a dramatically enlarged and remodeled building c. 1900 with the addition and alterations c. 1955-2000. The hodgepodge of building does not portray a distinctive architectural style

2. *Embodies those distinguishing characteristics of an architectural type or engineering specimen*.

   The building does not exhibit a defined style of architecture and the wood frame is not an important engineering specimen.

3. *Is the work of a designer or master builder whose individual work has significantly influenced the development of Morgan Hill.*

   The design of the building does not represent the work of a master designer or builder.

4. *Contains elements of design, detail, materials, or craftsmanship which represent a significant innovation; or*

   As stated above, the main building on the property - is a hodgepodge of construction elements and does not represent significant innovation.

C. Geographic Importance:

1. *By being part of or related to a square, park, or other distinctive area, it should be developed or preserved according to a plan based on a historic, cultural, or architectural motif.*

   The site is part of an agricultural area. Agriculture is and was an important economic industry in Morgan Hill. This parcel is not individually distinctive.

2. *Owing to its unique location or singular physical characteristics, it represents an established and familiar visual feature of a neighborhood, community, community, or city*.

   The subject property is not associated with a square, park, or other distinctive area. The tree storage land was part of larger ranches that were divided, and does not relate to the previous ranches or owners. None of the structures or buildings on the property are distinctive.

   The property is in an area of rural parcels where several of the agricultural parcels have been redeveloped to residential uses..

D. Archaeological Importance:

1. *Has yielded, or may be likely to yield information in pre-history. Ord. 1111 N.S, Section 50 (part), 1992; ord; N.S. Section 50 (part), 1992: Ord 980 N.S. Section 3 (part), 1990)*

   The site has been disturbed by agricultural use for over 100 years, in addition to the construction of buildings (no longer extant). It is unlikely to yield information important in the study of pre-history. Should areological materials be found during any phase of future construction, local, county, and state law must be observed.

California Register of Historical Resources - Eligibility Statement

The criteria for listing historical resources in the California Register are consistent with those developed by the National Park Service for listing resources in the National Register of Historic Places but have been modified for state use in order to include a range of historical resources which better reflect the history of California. A historical resource must be significant at the local, state, or national level under one or more of the following four criteria;

1. *It is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States.*
2. *It is associated with the lives of persons important to local, California, or national history;*
3. *It embodies the distinctive characteristics of a type, period, region, or method of*

construction, or represents the work of a master or possesses high artistic values; or

4. *It has yielded, or is likely to yield, information important to the prehistory or history of the local area, California, or the nation*.

In addition, the resource must retain enough of its historic character or appearance to be recognizable as a historic property and to convey the reason for its significance.

Research did not uncover information showing that the subject property was directly associated with individuals or events that have made a significant contribution to the broad patterns of local or regional history, or to the cultural heritage of Morgan Hill, Santa Clara County, California, or the United States. The building on the property appears to have been moved to the current site and both enlarged and altered in ways that destroy to architectural integrity of a c. 1900 rectangular building. When the property was evaluated as a rural unit, it was concluded that it did not meet the criteria because the buildings and use are not distinctive. Thus, it was concluded that the property is not eligible for listing in the California Register.

National Register of Historic Places – Standards (Criteria)

The National Register of Historic Places has established standards for evaluating the significance of resources that are important in the heritage of the nation. Historic resources may be considered important at the local level, state level, or national level. To apply the standards, the resource must be considered within significant historical contexts. The standards, age, and integrity statements follow;

1. *A property must be fifty years old*
2. *The resource must retain architectural and historical integrity.*
3. *The resources must meet at least one of the following criteria*
   a. *are associated with events that have made a significant contribution to the broad patterns of our history; or*
   b. *are associated with the lives of persons significant in our past; or*
   c. *embody the distinctive characteristics of a type, period, or method that possess high artistic values, or that represents a significant and distinguishable entity whose components may* lack individual distinction; or
   d. have yielded, or may be likely to yield, information important in prehistory or history.

Research did not uncover information that the subject property was associated with individuals or events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States. The structure's lack of significant historical associations and common design are the factors in determining that the property is not eligible for listing in the National Register of Historic Places.

Property that is not eligible for listing in the California Register of Historical Resources is not considered to be significant under the criteria of the National Register of Historic Places and is not eligible for listing.

Based upon the lack of significant architecture, or significant historical associations), the subject property is not eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, or consideration under the Morgan Hill Zoning Ordinance 18.60.050.

California Environmental Quality Act (CEQA)

CEQA defines a historical resource as a resource that meets one or more of the following criteria; (1) listed in, or determined eligible for listing in, the California Register of Historical Resources, (2) listed in a local register of historical resources as defined in PRC Section 5020.1 (k), (3) identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g), or (4) determined to be a historical resource by a project's lead agency (PRC Section 21084.1 and CEQA Guidelines Section 15064.5 (a). A historic resource consists of;

> "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational social, political, military, or cultural annals of California." Generally, a resource shall be considered "historically significant" if the resource meets the criteria for listing in the California Register of Historical Resources"[7]

A literature search showed that the subject property is not listed in the Historic Properties Directory for Santa Clara County (2011) or the Morgan Hill Historic Resources Inventory. This

[7] CEQA Guidelines Section 15064.5(a)(3).

study and evaluation of the attributes of the property found the property does not meet the criteria of the California Register of Historical Resources or the City of Morgan Hill's Historic Preservation Zoning criteria. Thus, the property does not meet the criteria of any register as a "historical resource" under CEQA.

B.12 Sources consulted:

List of Repositories Consulted

City of Morgan Hill Building Permits Morgan Hill Historical Museum Santa Clara County Assessor's Office

Santa Clara County Official Records: County Recorder's Office:

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Appendix E

Phase I Environmental Site Assessment

July 16, 2019

Mr. Josh Vrotsos
Director of Acquisitions
Mission View Investors, LLC
385 Woodview Avenue, Suite 100
Morgan Hill, California 95037

Project No. 25019-019069.00

Subject: **Phase I Environmental Site Assessment**
Fry Property
1105 Half Road
Morgan Hill, California

Dear Mr. Vrotsos:

Apex Companies, LLC (formerly Bureau Veritas North America) is pleased to present our Phase I Environmental Site Assessment report for the above-referenced subject property.

We appreciate the opportunity to be of service. If you have any questions, please contact Shannon Gillespie at 714-431-4133 or Shannon.gillespie@us.bureauveritas.com.

Sincerely,

Apex Companies, LLC
Health, Safety and Environmental Services

Shannon Gillespie, REPA
Manager, Due Diligence and Regulated Building Materials
Los Angeles Regional Office

Phase I Environmental Site Assessment

Fry Property
1105 Half Road
Morgan Hill, California

July 16, 2019
Project Number 25019-019069.00

Prepared for:
Mission View Investors, LLC
c/o The Crosswinds at Morgan Hill LLC
385 Woodview Avenue, Suite 100
Morgan Hill, California 95037

Prepared by:

Apex Companies, LLC
Los Angeles Regional Office

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EXECUTIVE SUMMARY

Mission View Investors, LLC retained Apex Companies, LLC (formerly Bureau Veritas North America) to conduct a Phase I Environmental Site Assessment ("ESA" or "Assessment") of Fry Property located at 1105 Half Road in Morgan Hill, Santa Clara County, California (the "subject property"). The objective of the Assessment was to provide an independent, professional opinion regarding *recognized environmental conditions*, as defined by ASTM, associated with the subject property. This Assessment was requested in association with the potential purchase of the subject property. The planned use for the subject property is redevelopment with residential units.

This Assessment was performed under the conditions of, and in accordance with the Proposal Number 2019-06-21-27381, dated June 21, 2019, and ASTM International Practice E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. Any exceptions to, additions to, or deletions from the ASTM Practice are described in the report. Details of the work performed, sources of information, and findings are presented in the report. Limitations of the Assessment are described in Sections 1.2 and 1.3.

The subject property was assessed on foot. At the time of the walkthrough, the subject property was developed with one single-family residential building and a garage. Additionally, four storage trailers were observed in the northern portion of the subject property. All buildings were vacant during the site walk. The remainder of the property was either undeveloped (eastern portion) or developed with an overgrown cherry orchard (western portion). Access can be gained from Mission View Drive to the northeast and Half Road to the south.

The subject property has been developed as agricultural land by at least 1939. The existing residence and garage on the southern portion of the subject property was developed circa 1968.

The adjoining properties were developed as agricultural land by at least 1939. Residences were developed on the south and southwest adjoining properties circa 1968. By 1998, the residences on the southwest adjoining property were demolished and the north adjoining property was no longer in agricultural use. The existing residences on northern portion of the northeast adjoining property were developed by 2016. The remaining portions of the adjoining properties continue to be in agricultural uses.

Based on available information, it is Apex's opinion there are no *recognized environmental conditions*, as defined by ASTM, in connection with the subject property, except for the following:

- **Lead Impacted Soil –** Soil sampling activities conducted in 2018 found lead impacted soil to the north of the garage on the subject property. Lead was detected in the soil samples collected between 0.87 milligram per kilogram (mg/kg) and 350 mg/kg. Several of these samples exceeded the residential ESL of 80 mg/kg. Additionally, soil samples analyzed for Soluble Threshold Limit Concentration (STLC) lead analysis were detected above the hazardous waste criteria of 5.0 milligram per liter (mg/L). Since the impacted soil remains onsite, this is considered a *recognized environmental condition*.

The following environmental conditions that are not considered recognized environmental conditions were identified during this Assessment:

- **Agricultural Use -** The subject property has been in agricultural use from at least 1939. Soil samples were taken from the subject property during 2018 sampling activities and analyzed for organochlorine pesticides. Chlordane, a-chlordane, g-chlordane, p,p-dichlorodiphenyldichloroethane (p,p-DDD), p,p-dichlorodiphenyldichloroethylene (p,p-DDE), p,p-dichlorodiphenyltrichloroethane (p,p-DDT), and dieldrin were detected above their respective laboratory detection limits. However, the concentrations

detected were below their respective residential environmental screening level (ESL). No other organochlorine pesticides were detected above their laboratory detection limits. Based on the results, this is not considered a *recognized environmental condition*.

- **Water Well and Septic System –** A water well and septic system are currently located near the residence onsite. Further information regarding the well and septic system could not be found. This does not represent a *recognized environmental condition* to the subject property.

Apex recommends that the lead impacted soil be excavated from the subject property and properly disposed. Additionally, the water well and septic system should be properly abandoned before development of the subject property.

1.0 INTRODUCTION

Mission View Investors, LLC retained Apex Companies, LLC (formerly Bureau Veritas North America) to conduct a Phase I Environmental Site Assessment ("ESA" or "Assessment") of Fry Property located at 1105 Half Road in Morgan Hill, Santa Clara County, California (the "subject property"). The planned use for the subject property is redevelopment with residential units.

1.1 PURPOSE

The purpose the assessment is to follow ASTM International Practice E1527-13 (practice), which defines good commercial and customary practice in the United States of America for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and petroleum products. As such, this practice is intended to permit a user to satisfy one of the requirements to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser limitation on CERCLA liability (the landowner liability protections or LLPs); that is, the practice that constitutes all appropriate inquiries into the previous ownership and uses of the property consistent with good commercial and customary practice as defined at 42 U.S.C. 9601(35)(B). The term *recognized environmental conditions* is defined as the presence or likely presence of any hazardous substances or petroleum products in, on, or at the property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. D*e minimis* conditions are not *recognized environmental conditions*.

1.2 METHODOLOGY

This Assessment was performed under the conditions of, and in accordance with the Proposal Number 2019-06-21-27381, dated June 21, 2019, and ASTM International Practice E1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. The United States Environmental Protection Agency (USEPA) has determined that the ASTM E1527-13 standard is consistent with the requirements for conducting All Appropriate Inquiry (AAI) and may be used to comply with the AAI regulations (40 Code of Federal Regulations [CFR] Part 312). The methods and terms are as defined in the ASTM standard and AAI regulations.

The Assessment included the following components:

- Review information provided by the client. This includes that information required by the Standard with respect to "User Responsibilities" as well as other information provided (e.g., Environmental Liens, Activity and Use Limitations [AULs], Specialized Knowledge).
- Review selected information on general geology and topography of the subject property, local groundwater conditions, and proximity to ecologically sensitive receptors, such as streams, that might be impacted by *recognized environmental conditions*.
- Investigate historical use of the subject property through reasonably ascertainable ASTM Standard Historical Sources for evidence of prior land use that could have led to *recognized environmental conditions*. These Standard Historical Sources may include: aerial photography, United States Geological Survey (USGS) topographic maps, fire insurance maps, local street

directories, property tax files, building department records and zoning/land use records. Unless otherwise specified by the client/proposal this did not include a review of recorded land title records.

- Review of environmental records available from the client, property owner or site contact for evidence of *recognized environmental conditions* and AULs. This includes helpful documents such as regulatory agency reports, permits, registrations, previous assessments, etc.
- Review a commercial database summary of ASTM Standard Federal, State, and Tribal regulatory agency records pertinent to the subject property and offsite facilities located within ASTM-specified search distances from the subject property.
- Review of reasonably ascertainable Federal, State, Tribal and Local environmental agency case files for onsite facilities and adjoining properties identified in the database summary report and/or during the site reconnaissance that have the potential to adversely impact the subject property.
- Conduct an interview with at least one staff member of any one of the following: local fire department, local health department, local building department, or State/Local environmental agency. This individual was asked about their personal knowledge of the subject property, with the questioning directed to identifying *recognized environmental conditions*. For example, if the site includes a known leaking underground storage tank (LUST) incident, the State agency LUST Program Project Manager for the facility may be the person interviewed under this portion of the scope of services.
- Conduct interviews with the subject property owner (or their designated *Key Site Manager*) and occupants regarding current and previous uses of the subject property, particularly with respect to activities involving hazardous substances and petroleum products. Past owners, operators and occupants were also interviewed to the extent they were identified and their information was not likely to be duplicative. In cases of abandoned properties, where there is evidence of uncontrolled access, this included interviews with Owners/Occupants of one or more neighboring properties (subject to availability).
- Conduct an onsite reconnaissance of the subject property for visual evidence of *recognized environmental conditions*, including, but not limited to: existing or potential soil and water contamination, as evidenced by soil or pavement staining or discoloration, unnaturally stressed vegetation, or indications of waste dumping or burial; pits, ponds, or lagoons; containers of hazardous substances or petroleum products; electrical and hydraulic equipment that may contain polychlorinated biphenyls (PCBs), such as electrical transformers and hydraulic hoists; underground and aboveground storage tanks (USTs and ASTs, respectively); etc.
- A determination of the sources of water, power, and sewer service at the subject property.
- Perform a subject property line visual reconnaissance of adjacent properties for evidence of potential offsite environmental conditions that may affect the subject property.
- Evaluate information gathered during the Assessment to reach conclusions concerning *recognized environmental conditions* and prepare this report.

This Assessment did not include considerations of “Non-ASTM” issues (e.g., asbestos-containing building materials, radon, lead-based paint).

This Assessment did not include sampling or analysis of soil, groundwater or other materials.

An Apex representative, Ms. Jennifer Woods, Consultant from Apex's Los Angeles Regional Office, conducted the site walkthrough portion of the Assessment on July 8, 2019, unaccompanied. This Assessment was performed by (or under the responsible charge of) an *Environmental Professional* as defined in §312.10 of 40 CFR 312 (see Section 11.0).

Copies of selected relevant documents and supporting information are included in the applicable appendices. See the Table of Contents for a list of Appendices. Resumes for assessors and *Environmental Professionals* involved in this Assessment are included in the Appendices. Photographs taken at the time of the walkthrough are included behind the *Photographs* Tab.

1.3 EXCEPTIONS & LIMITING CONDITIONS OF ASSESSMENT

Information for the Assessment was obtained from the sources listed in the Appendices. This information, to the extent it was relied on to form our opinion, is assumed to be correct and complete. Apex is not responsible for the quality or content of information from these sources.

1.3.1 Unavailable Documentation

Requested documentation regarding the subject property was made available for review.

1.3.2 Lack of Access/Reconnaissance Limitations

Apex did not encounter significant access or reconnaissance limitations at the subject property.

1.3.3 Data Gaps

The ASTM Standard requires that the report identify the following: 1) *obvious* uses of the subject property since 1940 or first development, whichever is *earlier;* and 2) significant "data gaps" which affect the ability of the Environmental Professional to identify *recognized environmental conditions.* The report is also to include information on the sources consulted to address the data gaps.

Historical subject property ownership and/or use information was obtained for the time period 1939 to present. Based on this information, Apex has not established the history of *obvious* uses of the subject property since 1940 or first development, whichever is *earlier*. No significant data gaps (or other data gaps warranting discussion) were encountered during this Assessment, except for the following:

Data Gap:	Data Failure – pre 1939, a type of data gap as defined by ASTM
Does this data gap affect the EP's ability to identify RECs?	No
Rationale	Use of the subject property has been established since 1939. Prior use was likely the same (agricultural).
Information sources consulted	Apex obtained and reviewed the following reasonably ascertainable records/information: 1) ASTM Standard Historical Sources (except recorded land title records), 2) selected local environmental records sources, 3) interviewed local government agency personnel, 4) interviewed the current owner, and 5) ASTM Standard Environmental Records Sources (through a commercially available database). Contact information for the

previous owner was not provided and the scope of service did not include obtaining a chain-of-title.

1.4 RELIANCE

The information and opinions rendered in this report are exclusively for use by Mission View Investors LLC and The Crosswinds at Morgan Hill LLC. Apex will not distribute or publish this report without consent except as required by law or court order. The information and opinions expressed in this report are given in response to a limited assignment and should be considered and implemented only in light of that assignment. The services provided by Apex in completing this project were consistent with normal standards of the profession. No other warranty, expressed or implied, is made.

2.0 USER PROVIDED INFORMATION

ASTM E1527-13 defines "*User*" as the party seeking to use Practice E1527 to complete an environmental site assessment of the subject property. Apex understands that Mission View Investors LLC and The Crosswinds at Morgan Hill LLC are the *Users* as defined by ASTM E1527-13. ASTM E1527-13 specifies that certain tasks associated with identifying potential *recognized environmental conditions* at the subject property should be performed by the *User* and provided to the Environmental Professional (i.e., *User Responsibilities*). Accordingly, Apex provided the *User* a questionnaire, requesting specific information (see Appendices).

The User Questionnaire included requests for information on the following: environmental liens and AULs that are filed or recorded against the property; "specialized knowledge" of the *User*; relationship of the purchase price to the fair market value of the property if it were not contaminated; commonly known or reasonable ascertainable information; the degree of obviousness of the presence of likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation; the presence of *Proceedings Involving the Property* (e.g., litigation, regulatory agency rulings, violations); and the reason for performing the Phase I ESA, and other information/documents (e.g., site plan, ALTA survey).

Based on Apex's review of the *User* provided information, no readily apparent evidence of potential *recognized environmental conditions* at the subject property was noted.

Apex understands that the *User* intends to purchase the subject property.

3.0 SUBJECT PROPERTY DESCRIPTION

3.1 LOCATION

The subject property is located at 1105 Half Road, Morgan Hill, California (Figure 1, *Figures* Tab). The subject property is approximately 29 acres. The subject property can be accessed from Half Road to the south.

3.2 CURRENT USE OF SUBJECT PROPERTY

A description of the current uses and improvement(s) (if any) at the subject property is presented in the following table(s):

Parcel/Street Address (including known historic address[es])	1105 Half Road, Morgan Hill, California APN: 728-30-001, -002, -003, and -004
Owner:	Llagas LLC
Number and Size of Buildings:	One single-story residence and garage
Construction Date(s):	Circa 1968
Tenants:	None
Current Usage:	Vacant Residence and Orchards
Areas Inspected:	All areas of the subject property were inspected.

3.3 CURRENT USES OF ADJOINING/NEARBY PROPERTIES

The area surrounding the subject property consists of residential development. Adjoining and nearby properties were observed (from the subject property or from public access areas) for evidence of potential *recognized environmental conditions* and their potential to pose an environmental concern to the subject property (Figure 2, *Figures* Tab). The uses and features of adjoining properties are described below (by relative compass direction and across adjoining roadways):

Northeast		
Company/Facility Name	**Address**	**Type/Relevant Observations (if any)**
Agricultural & Single-Family Residences	1345 Half Road, 18201-18241 Tolusa Place	Agricultural & Residential/None noted

North		
Company/Facility Name	**Address**	**Type/Relevant Observations (if any)**
Undeveloped Land	Unaddressed Parcel	Undeveloped/None noted

South		
Company/Facility Name	**Address**	**Type/Relevant Observations (if any)**
Agricultural and Single-Family Residence	1400 Half Road	Agricultural & Residential/None noted

Southwest		
Company/Facility Name	**Address**	**Type/Relevant Observations (if any)**
Agricultural	1040-1045 Cochrane Road	Residential/None noted

Information regarding historical or other documented uses of nearby properties that may pose an environmental concern to the subject property is discussed in Sections 4.0 and 6.0, respectively.

3.4 PHYSICAL SETTING

The "physical setting" of the subject property was assessed through a review of the following: USGS Topographic Map, visual observations at the subject and nearby properties, and selected additional documentation (e.g., soil survey, geotechnical reports, previous Phase II assessment, interviews with local personnel, etc.). General information on the topography, surface water, soils, bedrock and groundwater in the vicinity of the subject property is as follows:

Soil Type	Arbuckle gravelly loam, which is well drained and has moderately low runoff potential (ERIS, 2019).
Bedrock (Type and Depth)	Quaternary alluvium and marine deposits (ERIS, 2019).
Nearby Surface Water/Drainage Features	Anderson Reservoir is located approximately 1.45 miles northeast of the subject property boundary (Google image).
Estimated Depth Shallow Groundwater:	Groundwater was measured to be between 19 and 46 feet below ground surface (bgs) in the vicinity of the subject property (www.geotracker.waterboards.ca.gov).
Estimated Shallow Groundwater Flow Direction	South-southeast (www.geotracker.waterboards.ca.gov).

The subsurface conditions under the subject property are interpreted from available data and may vary. Estimated groundwater flow direction is based on topography and nearby water features unless otherwise noted. Topography is not always a reliable basis for predicting groundwater flow direction. The local groundwater gradient under the subject property may be influenced naturally by zones of higher or lower permeability, or artificially by nearby pumping or recharge, and may deviate from the regional trend.

4.0 HISTORICAL REVIEW

The following Sections detail Apex's review of available historical and related information. This includes a review of ASTM Standard Historical Sources, Agency/Department records/personnel interviews and other documents. The historical summary also incorporates information obtained from interviews and other components of the Assessment process.

4.1 SUMMARY OF HISTORICAL REVIEW

The historical research presented in this Assessment has established the *obvious* uses of the subject property since 1939. In addition, information on historic uses of adjoining properties was also obtained. A chronological summary of the historic use of the subject and adjoining/nearby properties is presented below. Please refer to Section 1.3.3 for a summary of significant data gaps (if any).

The subject property has been developed as agricultural land by at least 1939. The existing residence and garage on the southern portion of the subject property was developed circa 1968.

The adjoining properties were developed as agricultural land by at least 1939. Residences were developed on the south and southwest adjoining properties circa 1968. By 1998, the residences on the southwest adjoining property were demolished and the north adjoining property was no longer in agricultural use. The existing residences on northern portion of the northeast adjoining property were developed by 2016. The remaining portions of the adjoining properties continue to be in agricultural uses.

4.2 AERIAL PHOTOGRAPHS

Aerial photographs, including the subject and adjoining properties, were obtained from ERIS for the years 1939, 1953, 1968, 1971, 1982, 1987, 1998, 2005, 2009, 2010, 2012, 2014, 2016, and 2018, which are included in the Appendices. Photographs reviewed are summarized as follows:

Date	Scale	Comments
1939 1953	1" = 500'	The subject and adjoining properties were developed as agricultural land.
1968 1971 1982 1987	1" = 500'	One residence was developed on the southern portion of the subject property. Several small residence-like buildings were developed on the southern portion of the southwest adjoining property. Two residence-like buildings were developed on the eastern portion of the south adjoining property. No further changes were noted.
1998 2005 2006 2009 2010 2012 2014	1" = 500'	The buildings on the southwest adjoining property were demolished. The north adjoining property was no longer in agricultural use. No further changes were noted.
2016 2018	1" = 500'	There were no significant changes from the 2014 photograph, except that residences were developed on the northern portion of the northeast adjoining property.

No readily apparent evidence of potential *recognized environmental conditions* at the subject or adjoining properties was noted on the aerial photographs reviewed, except for the following:

- The subject property has been developed as agricultural land since at least 1939.

4.3 USGS TOPOGRAPHIC MAPS

Topographic maps for the subject property and vicinity were obtained from ERIS for the years 1917, 1939, 1955, 1968, 1973, 1980, and 2015, which are included in the Appendices. Topographic maps reviewed are summarized as follows:

Date	Comments
1917	No structures or improvements were depicted on the subject and adjoining properties.
1939 1955 1968 1973 1980	The subject and adjoining properties were depicted as agricultural land.
2015	No structures or improvements were depicted on the subject and adjoining properties.

No readily apparent evidence of potential *recognized environmental conditions* at the subject or adjoining properties was noted on the topographic maps reviewed, except for the following:

- The subject property was depicted as agricultural land between 1939 and 1980.

4.4 FIRE INSURANCE MAPS

Sanborn fire insurance maps for the subject property and vicinity were requested and not available from ERIS for the subject and adjoining properties. A copy of the “No Coverage” letter is included in the Appendices.

4.5 CITY DIRECTORIES

City directories covering the subject property and adjoining properties were obtained from ERIS for the period between 1962 and 2018, which are included in the Appendices. A summary of the listings for the subject property and selected adjoining/nearby properties is shown below.

- The subject property was listed as various residential owners from 1971 to 1990.
- The northeast adjoining property was listed as various residential owners from 1971 to 2006 and as Tri-City Tile in 1990.
- The south adjoining property was listed as a residence in 2001.
- The remaining adjoining properties were not listed in the city directories reviewed.

No readily apparent evidence of potential *recognized environmental conditions* at the subject or adjoining properties was noted on the city directories reviewed.

4.6 RECORDED LAND TITLE RECORDS

As part of this assessment, Apex obtained reasonably ascertainable lien records that are filed under federal, state, tribal, or local law on behalf of Mission View Investors LLC. This work was subcontracted to ERIS and was limited to a review of these records for the presence of environmental liens and AULs.

According to the ERIS Environmental Lien Report, no records of environmental liens or AULs were identified.

According to the lien search, the subject property has been owned by LLagas LLC since 2000-2001.

No readily apparent evidence of potential *recognized environmental conditions* at the subject property was noted in lien search reviewed.

4.7 AGENCY CONTACTS

Apex contacted various government offices to request information on the subject property. Information was requested with respect to historic use and various environmental-related issues, such as: permits, use of or complaints/spills/violations involving hazardous substance and petroleum products, USTs, ASTs, etc. In addition, interviews were also conducted with available agency personnel. Interviews requested relevant *personal* knowledge regarding the past history of use of, and/or potential *recognized environmental conditions* associated with, the subject property. The government offices and local officials contacted are presented below, along with the relevant information (if any) they provided.

Agency: **BUILDING, PLANNING AND/OR ZONING DEPARTMENTS**

Permits/Comments: The Morgan Hill City Clerk was contacted on June 21, 2019 to obtain historical use information for the subject property. According to the Morgan Hill City Clerk on July 1, 2019, there are no records on file for the subject property.

Agency: **BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

Permits/Comments: The Bay Area Air Quality Management District (BAAQMD) was contacted on June 21, 2019 to obtain information regarding environmental concerns or violations at the subject property. According to the BAAQMD on June 21, 2019, no records were on file for the subject property.

Agency: **SANTA CLARA COUNTY ENVIRONMENTAL HEALTH DEPARTMENT**

Permits/Comments: The Santa Clara County Environmental Health Department (SCCEHD) was contacted on June 21, 2019 to obtain information regarding environmental concerns or violations at the subject property. According to the SCCEHD on June 24, 2019, no records were on file for the subject property.

Agency: **REGIONAL WATER QUALITY CONTROL BOARD**

Permits/Comments: The Regional Water Quality Control Board (RWQCB) was contacted on June 21, 2019 to obtain information regarding environmental concerns or violations at the subject property. According to the RWQCB as of July 1, 2019, no records were on file for the subject property.

4.8 PREVIOUS ENVIRONMENTAL REPORTS OR OTHER DOCUMENTS

Apex made requests to the client and the current property owner/site contact regarding the presence of previous environmental reports or other relevant documents for the subject property (e.g., previous Phase I or Phase II ESA, geotechnical report, MSDS, etc.). The following reports were available for review:

***Phase I Environmental Site Assessment, 1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, Santa Clara County, California,* dated June 6, 2018, prepared by AEI Consultants, prepared for Llagas, LLC.**

This Phase I ESA was prepared for a larger site comprised of approximately 87.6 acres that included the subject property. At the time of the walk through, the site was developed as a tree farm, cherry orchard (subject property), hay cultivation, and as construction staging for the Santa Clara Valley Water District. Small amounts of maintenance related materials and propane were observed in a shed on the northwest side of the property. No staining was observed in the vicinity of these materials. Additionally, three irrigation wells and two septic systems were located on the property. The septic systems were reportedly only for domestic use from the residences onsite. No further information regarding the wells or septic systems was provided.

No evidence of recognized environmental conditions were identified during the assessment. The following environmental conditions were noted:

- The property had been in agricultural use since approximately 1939 so there was a potential that pesticides, herbicides, and fertilizers used onsite have impacted the subject property. Soil sampling was recommended prior to redevelopment.
- It was recommended that asbestos and lead sampling be conducted for the buildings onsite prior to demolition.

***Limited Phase II Agricultural Investigation, 1040-1045 Cochrane Road, Morgan Hill, California*, dated September 20, 2018, prepared by AEI Consultants, prepared for Trumark Homes LLC.**

This Phase II was conducted in order to determine if shallow soils had been impacted by organochlorine pesticides, arsenic, and lead for the total 87.6 acre site. This involved the following soil sampling locations and analysis:

- Fifteen, four-point composite soil samples (SS-1 COMP through SS-15 COMP) were collected from the property in a grid pattern between zero and one foot bgs. These samples were analyzed for organchlorine pesticides using EPA Method 8081A. Additionally soil samples SS-1A through SS-15A were analyzed for arsenic and lead using EPA Method 6020.
- Eight discrete soil samples (SS-R-16A-D through SS-R-17A-D) were collected near the two residential buildings between zero and one foot bgs. These samples were analyzed for lead using EPA Method 6020.

The following results were found from the soil samples collected:

- Chlordane, a-chlordane, g-chlordane, p,p-dichlorodiphenyldichloroethane (p,p-DDD), p,p-dichlorodiphenyldichloroethylene (p,p-DDE), p,p-dichlorodiphenyltrichloroethane (p,p-DDT), and dieldrin were detected above their respective laboratory detection limits. However, the concentrations detected were below their respective residential environmental screening level (ESL). No other organochlorine pesticides were detected above their laboratory detection limits.

- Arsenic was detected in all samples analyzed between 0.91 milligram per kilogram (mg/kg) and 10 mg/kg. These concentrations exceed the direct contact residential ESL of 0.067 mg/kg; however, the concentrations are within the background levels of between 6.0-8.4 mg/kg.
- Lead was detected in all samples analyzed between 0.87 mg/kg and 200 mg/kg. Three of the samples (SS-R-16A, SS-R-16D, and SS-R-17B) exceeded the residential ESL of 80 mg/kg but were below the commercial ESL of 320 mg/kg.

It was recommended that further soil sampling be conducted around the residences to delineate any lead contamination found. If necessary, removal of impacted soil is also recommended.

***Additional Investigation of Lead in Soil, 1040-1045 Cochrane Road, Morgan Hill, California 95037*, dated October 30, 2018, prepared by AEI Consultants, prepared for Trumark Homes LLC.**

This investigation was conducted to further assess the lead contamination found around the residences. The investigation involved collecting 34 soil samples between 0 and 2.5 feet bgs in the areas previously found to contain lead. All of the soil samples were analyzed for lead using EPA Method 6020B and two soil samples were analyzed for Soluble Threshold Limit Concentration (STLC) lead analysis using EPA Method 6020B. Lead was detected between 5.1 mg/kg and 350 mg/kg. Out of the detections, 11 soil samples were detected above the residential ESL for lead. Additionally, the samples analyzed for STLC found soluble lead at 15 milligram per liter (mg/L) and 13 mg/L, which is above the hazardous waste criteria of 5.0 mg/L.

It was recommended that excavation of the lead-impacted soils be completed. On the subject property, this includes the area directly north of the residence onsite. Additionally, further soil profiling was recommended for any excavated lead impacted soil prior to offsite disposal since if may be classified as hazardous waste.

***CARB 435 Testing, Fry's Property, 1040-1045 Cohcrane Road and 1065-1105 Half Road, Morgan Hill, California*, dated November 12, 2018, prepared by Berlogar Stevens & Associates, prepared for Trumark Homes.**

This investigation involved excavating 20 test pits of serpentine fill material and collecting one sample per pit to determine the asbestos content of the serpentine rock. Based on a previous geotechnical investigation, the serpentine fill material was estimated to be approximately 65,000 to 70,000 cubic yards. Asbestos was detected between 0.25% and 1.75% chyrsotile in all of the samples collected. All of the test pits were backfilled with the excavated material. The serpentine fill material was not found on the subject property, it is only located in the northwest corner of the west adjoining property.

5.0 INTERVIEWS

Apex interviewed selected individuals associated with the subject property. The purpose of the interview(s) was to obtain additional information related to 1) the current and past operations at the subject and/or adjoining properties that may result in *recognized environmental conditions*, and 2) the presence of *Proceedings Involving the Property* (e.g., litigation, regulatory agency rulings, violations, etc.).

This included interviews with the current property Owner(s) and/or their "*Key Site Manager(s)*" and major Operators/Occupants. The "*Key Site Manager*" is that individual designated by the Property Owner that possesses good knowledge of the uses and physical characteristics of the property. Past owners, operators and occupants were also interviewed if 1) they were identified, 2) contact information was obtained, and 3) the information was not likely to be duplicative of that obtained from other sources. Information (if any) obtained from interviews with local Agency personnel is included in Section 4.7. In

addition, in the event the subject property currently appears “abandoned” with evidence of potentially unauthorized uses or uncontrolled access, one or more owners/occupants of adjoining properties were interviewed.

5.1 INTERVIEW WITH OWNER

See Section 2.0 for additional information provided by the site owner.

Mr. Rick Singer, the Manager with LLagas LLC, was interviewed via email on July 9, 2019. Mr. Singer has been associated with the subject property for approximately 20 years and was forthcoming with information of which he had knowledge. Mr. Singer was not aware of any hazardous materials or USTs currently located onsite. Mr. Singer was aware that a septic system was onsite; however, he was not aware of its exact location.

Mr. Singer was asked if he was aware of any of the following:

Any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property.	Yes		No	**X**
Any pending, threatened or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property.	Yes		No	**X**
Any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products.	Yes		No	**X**

Previous owners were not interviewed during this assessment, because sufficient information was obtained from other sources.

6.0 STANDARD ENVIRONMENTAL RECORD SOURCES: FEDERAL, STATE, AND TRIBAL

Available government database information prepared by ERIS was reviewed to evaluate both the subject property and listed sites within ASTM-recommended search distances (Appendix J). This included ASTM Standard Federal, State, and Tribal databases and may also include other types of records, subject to availability (e.g., local lists).

The regulatory database report also included an Unmappable Sites Section. Unmappable sites are sites that cannot be plotted with confidence, but can be located by zip code or city name. In general, a site cannot be geocoded due to inaccurate or missing information in the environmental database record provided by its applicable agency. Unmappable sites that were identified by Apex are included, as applicable, within the following paragraphs.

The subject property was not identified in the databases reviewed.

A total of 19 listed sites and one unmappable site were identified in the databases reviewed.

The following adjoining facilities and/or other nearby facilities of potential concern were noted.

Facility	Database	Orientation from Subject Property (miles)	Environmental Concern/Reason
St. Louise Hospital & Health Center/De Paul Medical Center 18500 St. Louise Drive	Delisted TNK, RCRA SQG, UST, CERS Tank, Santa Clara CUPA, RCRA NonGen	Approximately 304 feet north, upgradient	No, the site is listed only with no evidence of a release.
Mariani Orchards 1515 Half Road	RCRA NonGen	Approximately 902 feet northeast, crossgradient	No, the site is listed only with no evidence of a release.

The database information reviewed did indicate the presence of facilities within ASTM-recommended search distances of the subject property. It is Apex's opinion that most of the sites do not present an environmental concern to the subject property because they hold only an operating permit (which does not imply a release), require no further action, or based upon Apex's review, are too distant and/or topographically downgradient or crossgradient relative to the subject property to reasonably affect it.

7.0 TIER 1 VAPOR ENCROACHMENT SCREEN (VES)

Apex conducted a Tier 1 VES during the Phase I ESA. The VES was conducted in accordance with ASTM E2600-15, *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions*. A VES is often conducted in conjunction with a Phase I Assessment as much of the information utilized is common to both processes. The methods and terms are as defined in the ASTM standard.

The goal of a VES is to identify a *vapor encroachment condition* (VEC) at a subject property. A VEC is defined as the presence or likely presence of *chemicals of concern* (COC) vapors in the subsurface of a subject property caused by the release of vapors from contaminated soil or groundwater either on or near the subject property.

In accordance with the Standard, Apex requested that the *User* provide information on the subject property, with respect to the following: "specialized knowledge" of the *User*; and commonly known or reasonable ascertainable information.

Based on Apex's review of the *User* provided information, no readily apparent evidence of potential *vapor encroachment conditions* at the subject property was noted.

7.1 TIER 1 SCREENING INFORMATION

A Tier 1 VES includes obtaining and reviewing information on the subject property and adjoining properties. This includes information on the following: user provided information; physical setting information; existing/planned use of the subject property; types of structures/existing or planned on the subject property; surrounding area description; selected Federal, State, Local and Tribal environmental records sources; historical records related to the past use of the subject property and adjoining properties

within the *area of concern* (AOC), 1/3 to 1/10 mile; the likely chemicals of concern (COC); and the presence of significant natural or man-made conduits that can serve as preferential pathways, such as utility corridors, sewers, storm drains, etc. (Note: These "preferential pathways" may provide for a more direct route for vapors to encroach upon the subject property).

As stated previously, most of this information was obtained as part of the standard Phase I assessment process and has already been discussed in the applicable sections of this report. Additional information was also obtained with respect to the following: planned additional structures; and significant natural or man-made "preferential pathways" of potential vapor migration. This information is summarized below:

- The planned use of the subject property is development with new residential units.

7.2 TIER 1 SCREENING EVALUATION

An evaluation of that information includes two tests: 1) a search distance test to evaluate the proximity of the target property to known or suspected "*contaminated properties*", and 2) a chemicals of concern test to determine the likely presence of COCs at the subject or properties within the AOC. In evaluating the data, the distance and proximity to potentially contaminated offsite properties must be evaluated, including whether they are up-, cross-, or down-gradient relative to the subject property. A brief summary of relevant information considered for the Tier 1 screening follows:

Use of Property: Vacant Residence and Cherry Orchards

Soil Characteristics Arbuckle gravelly loam

Depth to groundwater: Between 19 and 46 feet bgs

Preferential Pathways: Utilities likely exist onsite

Location of Known or Suspect Contaminated Properties	**Type of COC**	**Orientation from Subject Property (Distance/Direction/Gradient)**	**Cleanup "Status" Or Comments**
St. Louise Hospital & Health Center/De Paul Medical Center 18500 St. Louise Drive	Petroleum Hyrocarbons	Approximately 304 feet north, upgradient	The site is listed only with no evidence of a release. VEC does not exist.

The *vapor encroachment screen* process has been completed in accordance with the Standard. Based on the previous uses of the subject property, a *vapor encroachment condition* does not exist.

8.0 SITE RECONNAISSANCE

8.1 GENERAL OBSERVATIONS

The subject property was assessed on foot. At the time of the walkthrough, the subject property was developed with one single-family residential building and a garage. Additionally, four storage trailers were observed in the northern portion of the subject property. All buildings were vacant during the site walk. The remainder of the property was either undeveloped (eastern portion) or developed with an overgrown

cherry orchard (western portion). Access can be gained from Mission View Drive to the northeast and Half Road to the south.

The following information was obtained regarding subject property utilities:

- Electricity: Pacific Gas & Electric Company
- Natural Gas: Pacific Gas & Electric Company
- Water: Santa Clara Valley Water District

8.2 CURRENT SITE CONDITIONS

Stained Soil/Surface	**Yes**		**No**	**XX**
Distressed Vegetation	**Yes**		**No**	**XX**
Odors	**Yes**		**No**	**XX**
Chemical/Hazardous Materials Storage	**Yes**		**No**	**XX**
Drums/Unidentified Substance Containers	**Yes**		**No**	**XX**
Wastewater/Stormwater	**Yes**	**XX**	**No**	

Comments (types, amount, location): Wastewater does not currently originate at the subject property. The storm water runoff from the subject property percolates naturally into the ground.

Sumps/Floor Drains	**Yes**		**No**	**XX**
Leachfields/Septic Tank	**Yes**	**XX**	**No**	

Comments (types, amount, location): According to the previous 2018 Phase I ESA conducted by AEI, one septic system is located near the residence. No evidence of the septic system was observed during the site walk.

Pits/Ponds/Lagoons/Pools of Liquids	**Yes**		**No**	**XX**

Source of Fuel for Heating: Natural Gas

Wells	**Yes**	**XX**	**No**	

Comments (types, amount, location): One water well with an associated 5,000-gallon water AST was observed to the northeast of the residence. No further information was provided regarding the well.

Waste Handling and Disposal:

Comments (types, amount, location): Waste is currently not generated onsite.

Potential PCB-Containing Equipment	**Yes**		**No**	**XX**
Aboveground Storage Tanks (ASTs)	**Yes**	**XX**	**No**	

Comments (types, amount, location): One 5,000-gallon plastic AST containing water was observed to the northeast of the residence. The AST is associated with the water well onsite. The AST appeared to be in good condition. No leaks or staining were observed.

Underground Storage Tanks (USTs)	**Yes**		**No**	**XX**

9.0 NON-ASTM ISSUES

The scope of services for this Assessment did not include an evaluation of “Non-ASTM” issues (e.g., asbestos-containing building materials, radon, lead-based paint, lead in drinking water, wetlands, etc.).

10.0 FINDINGS AND OPINIONS

This section presents a summary of available information on known or suspected *recognized environmental conditions, controlled recognized environmental conditions, historical recognized environmental condition, vapor encroachment conditions,* and *de minimis conditions* (if any) at the subject property. It also includes Apex’s opinion and rationale for concluding that a condition is, or is not, currently a *recognized environmental condition.* Based on a review of the information presented in this Assessment, Apex presents the following relevant findings and opinions:

- **Lead Impacted Soil –** Soil sampling activities conducted in 2018 found lead impacted soil to the north of the garage on the subject property. Lead was detected in the soil samples collected between 0.87 mg/kg and 350 mg/kg. Several of these samples exceeded the residential ESL of 80 mg/kg. Additionally, soil samples analyzed for STLC lead analysis were detected above the hazardous waste criteria of 5.0 mg/L. Since the impacted soil remains onsite, this is considered a *recognized environmental condition*.
- **Agricultural Use -** The subject property has been in agricultural use from at least 1939. Soil samples were taken from the subject property during 2018 sampling activities and analyzed for organochlorine pesticides. Chlordane, a-chlordane, g-chlordane, p,p-DDD, p,p- p,p-DDE, p,p- p,p-DDT, and dieldrin were detected above their respective laboratory detection limits. However, the concentrations detected were below their respective ESLs. No other organochlorine pesticides were detected above their laboratory detection limits. Based on the results, this is not considered a *recognized environmental condition*.
- **Water Well and Septic System –** A water well and septic system are currently located near the residence onsite. Further information regarding the well and septic system could not be found. This does not represent a *recognized environmental condition* to the subject property.
- **Tier 1 Vapor Encroachment Screen** – Apex has conducted a Tier 1 Vapor Encroachment Screen, in accordance with ASTM Standard E2600-15. Based on Apex's review of available information, a *vapor encroachment condition* at the subject property does not exist.

11.0 CONCLUSIONS AND RECOMMENDATIONS

Apex has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-0513 of the Fry Property located at 1105 Half Road, Morgan Hill, Santa Clara County, California (the "subject property"). Any exceptions to, or deletions from, this practice are described in Sections 1.2 and 1.3 of this report.

Based on available information, it is Apex's opinion there are no *recognized environmental conditions*, as defined by ASTM, in connection with the subject property, except for the following:

- **Lead Impacted Soil**

The following environmental conditions that are not considered recognized environmental conditions were identified during this Assessment:

- **Agricultural Use**
- **Water Well**

Apex recommends that the lead impacted soil be excavated from the subject property and properly disposed. Additionally, the water well and septic system should be properly abandoned before development of the subject property.

12.0 SIGNATURES

This report was prepared, under the responsible charge of the Environmental Professional noted below, by:

Jennifer Woods
Consultant III
Health, Safety and Environmental Services
Los Angeles Regional Office
Apex Companies, LLC

Environmental Professional's Certification:

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

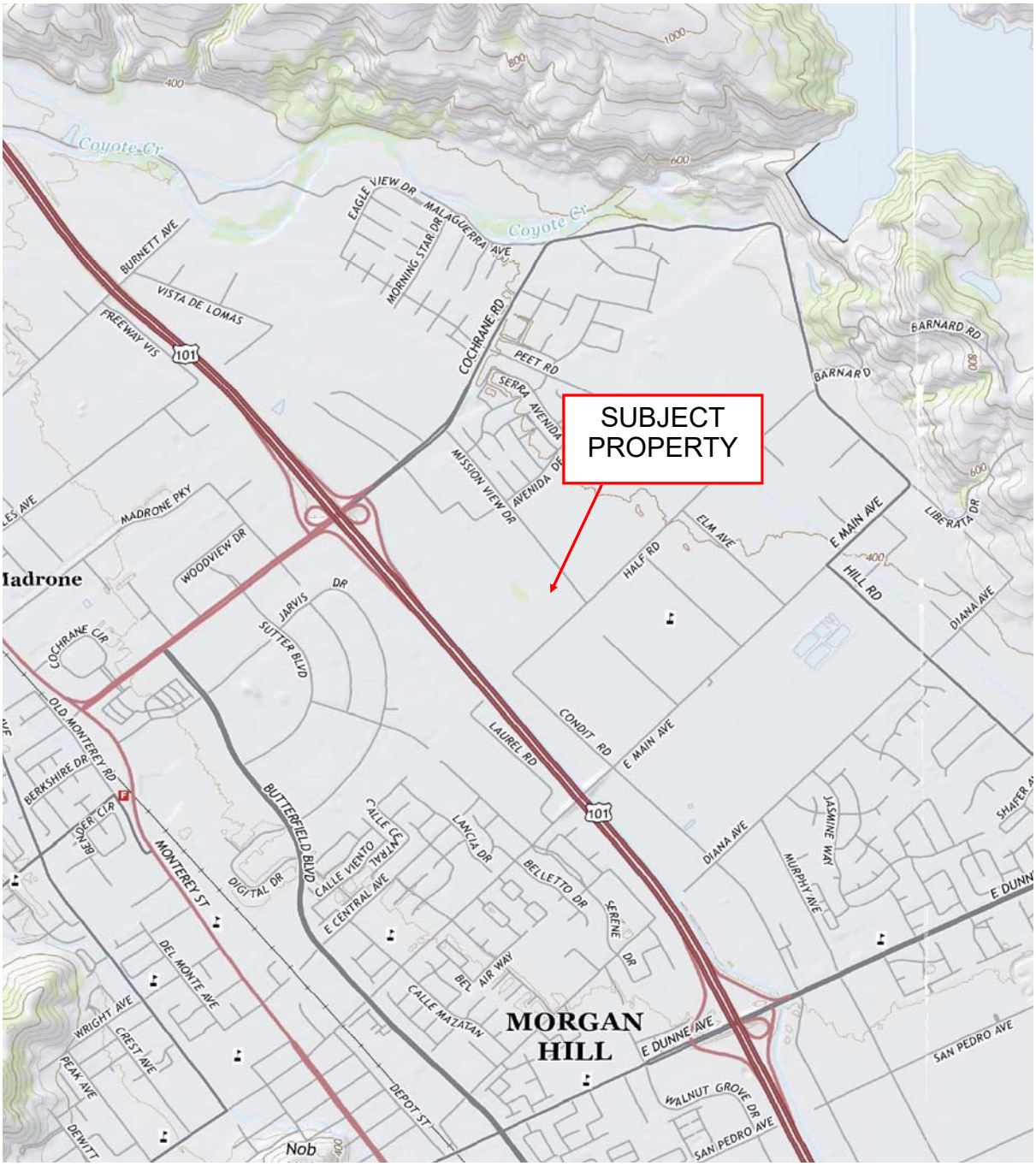
Shannon Gillespie, REPA
Program Manager
Health, Safety and Environmental Services
Los Angeles Regional Office
Apex Companies, LLC

July 16, 2019

Phase I Environmental Site Assessment
Fry Property
1105 Half Road
Morgan Hill, California

Project No. 25019-019069.00

FIGURES



PORTION OF 7.5-MINUTE
(TOPOGRAPHIC) MAP
UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

MORGAN HILL QUADRANGLE
(2015)

N

SCALE 1 : 24,000	SITE LOCATION FRY PROPERTY 1105 HALF ROAD MORGAN HILL, CALIFORNIA	APEX	FIGURE 1
DATE JULY 9, 2019			
PRJ NO. 25019-019069.00			

LEGEND

SUBJECT PROPERTY BOUNDARY

N

SCALE 1 : 24,000	SITE VICINITY FRY PROPERTY 1105 HALF ROAD MORGAN HILL, CALIFORNIA	APEX	FIGURE 2
DATE JULY 9, 2019			
PRJ NO. 25019-019069.00			

PHOTOGRAPHS

SITE: Fry Property **PROJECT No:** 25019-019069.00

LOCATION: 1105 Half Road, Morgan Hill, California **DATE:** July 8, 2019

1

View of the subject property residence facing east.

2

View of the subject property garage facing north.

SITE:	Fry Property	**PROJECT No:**	25019-019069.00
LOCATION:	1105 Half Road, Morgan Hill, California	**DATE:**	July 8, 2019

3

View of the water well and associated AST facing northeast.

4

View of the orchards facing east.

SITE:	Fry Property	**PROJECT No:**	25019-019069.00
LOCATION:	1105 Half Road, Morgan Hill, California	**DATE:**	July 8, 2019

5

View of the trailers onsite facing east.

6

View of the undeveloped portion of the subject property facing southeast.

SITE:	Fry Property	**PROJECT No:**	25019-019069.00
LOCATION:	1105 Half Road, Morgan Hill, California	**DATE:**	July 8, 2019

7

View of the north adjoining property facing north.

8

View of the southwest adjoining property facing west.

SITE:	Fry Property	**PROJECT No:**	25019-019069.00
LOCATION:	1105 Half Road, Morgan Hill, California	**DATE:**	July 8, 2019

9

View of the south adjoining property facing south.

10

View of the northeast adjoining residences facing east.

APPENDIX A

RESUMES

Jennifer Woods

CONSULTANT III

Ms. Woods conducts Phase I Environmental Site Assessments (ESAs) for various financial, real estate, industrial, and commercial clients. Using American Society for Testing Materials (ASTM) standard practices as a guideline, Ms. Woods has conducted Phase I ESAs of industrials sites, commercial buildings, and undeveloped land throughout California, Arizona, Washington, Oregon, Nevada, Idaho, Montana, Colorado, Hawaii, and Texas. These have included performing historical research, interviewing owners, occupants, and local government officials, and generating reports. Ms. Woods also has participating in all phases of asbestos and lead projects. In addition, to assessing potential environmental conditions, Ms. Woods participates in Phase II investigative activities, including soil sampling, groundwater sampling, and soil vapor sampling.

Education

BS, Environmental Science, University of California, San Diego (2015)

Professional Registrations/Certification/Training

- Asbestos Hazard Emergency Response Act (AHERA) Building Inspector (6N10515)
- Asbestos Contractor/Supervisor (5N12392)
- Asbestos Certified Site Surveillance Technician (17-6101)
- Certified Lead Sampling Technician (28050)
- 40-Hour OSHA Hazwoper Trained

General Experience

2019 – Present **Consultant III • Apex Companies, LLC**

2015 – 2019 Consultant III • Bureau Veritas North America, Inc.

Project Experience

Phase I Environmental Site Assessment (ESAs)

Ms. Woods has conducted various Phase I ESAs throughout California, Arizona, Nevada, Oregon, Washington, Colorado, Hawaii, and Texas to satisfy due diligence investigations for real estate transactions, banks, real estate investment companies, developers, and property owners. Ms. Woods has conducted site inspections and investigated surrounding property usage; reviewed relevant regulatory files for investigations at the site or in the immediate area; and surveyed past site and surrounding property uses using aerial photographs, city directories, fire insurance maps, and government records.

Phase II Subsurface Investigations

Ms. Woods has conducted a variety of activities associated with Phase II Subsurface Investigations including field soil, groundwater, and soil vapor sample collection and lithology description, data quality control, and generating reports.

Asbestos and Lead Surveys

Ms. Woods has conducted a variety of asbestos and lead related services. Asbestos services include demolition to limited surveys of suspect asbestos-containing materials and air monitoring/oversight for asbestos abatement. Lead services include surveys for suspect lead paints by paint chip collection and XRF analyzer for direct readings of lead content.

National Environmental Policy Act (NEPA)

Ms. Woods has conducted environmental assessments in Southern California in compliance with the National Environmental Protection Act (NEPA) for national telecommunication clients. Ms. Woods' research includes consultation with several bureaus within the United States Department of Interior such as National Park Services (NPS), United States Fish & Wildlife Services and Bureau of Land Management (BLM). In addition, Ms. Woods contacts state and local agencies, federally and non-federally recognized Native American Tribes concerning religious areas, and the California Historic Preservation Office. Ms. Woods has investigated potential wildlife and wilderness preserves, wetlands, endangered or threatened species and habitats and Native American religious areas. Ms. Woods has knowledge of the Federal Communications Commission's (FCC) Nationwide Programmatic Agreement (NPA).

Shannon Gillespie

PROJECT MANAGER

Ms. Gillespie has over 20 years of technical experience in conducting environmental assessments. Ms. Gillespie supervises staff responsible for conducting Phase I Environmental Assessments and subsequent subsurface investigations and has final review of project deliverables. She interacts with clients and is responsible for assuring report timeliness and maintaining project budgets. She prepares Phase I and subsurface investigation proposals and conducts business development.

Ms. Gillespie has coordinated, managed, and conducted Phase I Environmental Assessments of commercial and industrial properties as part of real estate transactions for due diligence investigations. The Phase I assessments include site visits to inspect current site and vicinity usage, review of relevant regulatory files for investigations at the site or in the area, personnel interviews, reviews of hazardous material and waste handling practices, identifying potential sources of contamination and asbestos-containing materials, and surveys of past site and vicinity usage.

Ms. Gillespie also reviews environmental assessment reports for financial institutions to assess business risk and assists clients in the preparation of Hazardous Materials Business Plans. Additionally, she conducts Phase II and Phase III assessments to locate and determine the extent of soil and groundwater contamination. Her responsibilities include soil boring installation, developing site-specific work plans and health and safety plans, interpreting analytical results, estimating volumes of impacted soil and groundwater, estimating remediation costs and report preparation.

Education

BS, Chemistry, Arizona State University (1986)

Professional Registrations/Certification/Training

- California Registered Environmental Assessor (REA-03582)
- Certified Environmental Specialist (13564)
- OSHA 40-Hour Hazwoper

General Experience

2019 – Present	**Project Manager • Apex Companies, LLC**
1989 – 2019	Project Manager • Bureau Veritas North America, Inc.
1988-1989	Rollins Chempak, Inc.
1987-1988	Disposal Control Service
1987	Maricopa County Landfill Department
1985	Salt River Project

Project Experience

CERCLA Preliminary Assessment – State of California Real Estate Division

Ms. Gillespie prepared a CERCLA preliminary assessment for a 1,300-acre Department of Defense and California Army National Guard installation (Los Alamitos Armed Forces Reserve Center). The assessment included: a review of available files, personnel interviews, onsite and offsite reconnaissance, historical aerial photograph review and survey of potential sources of past and current contamination and contaminant sources. The preliminary assessment indicated that past and

present operations at the installation had involved in use, storage, treatment, spillage, leakage, and disposal of materials and/or wastes that are now considered hazardous. These materials and wastes were used in a variety of aircraft and vehicle maintenance, fuel storage, landfilling, aircraft-washing, and other facility activities and operations. Based on this information, potential areas of concern at the installation requiring site investigation activities were identified. The Preliminary Assessment was conducted using guidelines developed by the U.S. Environmental Protection Agency (EPA), Waste Management Division, Region IX and California Department of Toxic Substances (DTSC).

The SI included twelve potential areas of concern identified in the Preliminary Assessment. The areas included two landfills, a flight line area, revetments, fuel tank farms, former rifle ranges, clarifiers, munitions bunkers, agricultural areas and a wastewater treatment plant. Investigation included the collection of air, surface water, groundwater, soil and soil vapor samples to assess the presence of various contaminants that were identified in the previous assessments. Ms. Gillespie was an integral member of the team in the evaluation of data collected during the SI and generation of the remedial investigation work plan, health and safety plan, quality assurance project plan, and field sampling plan.

Phase I Environmental Site Assessment (ESAs) – Lending Institute

Ms. Gillespie supervised the completion of a 45-site portfolio for a major lending institute to satisfy due diligence. The sites were located in California, Texas, and Arizona and required the coordination of staff from three other offices. All field work and written reports had to be completed within a four week period of time and within a tight budget. Ms. Gillespie solely maintained client contact and reviewed all deliverables prior to submittal to client. Some of the projects required subsequent Phase II investigations based on findings during the Phase I.

Phase I Environmental Site Assessment (ESAs) – Auto Manufacturing Company

Ms. Gillespie conducting a Phase I ESA of a previously industrial buildings and adjacent agricultural field prior to the client purchasing properties. Based on the findings of the site inspection, a subsurface investigation was conducted simultaneous to the completion of the Phase I. The subsurface investigation had to be completed within five days and included 34 boreholes using direct push methods and over 160 samples. One report was submitted to the client that included both the Phase I and subsurface investigation.

Phase I Environmental Site Assessment (ESAs) – Cellular Communications Company

Ms. Gillespie managed the completion of over 700 assessments for a cellular communications company to satisfy due diligence. Completion of the project, which included Phase I ESAs and NEPA work, required the coordination of staff from five other offices. All fieldwork and written reports had to be completed within a quick turnaround and within a tight budget. Ms. Gillespie solely maintained client contact and reviewed all deliverables prior to submittal to client.

APPENDIX B

SOURCES AND REFERENCES

LIST OF SOURCES/REFERENCES

Sources of Information

- ASTM International, "*Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*," ASTM Designation E1527-13
- ASTM International, "*Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transaction," ASTM Designation E2600-10*

Persons/Agencies Contacted

- Mr. Josh Vrotsos, the User, June 21, 2019
- Mr. Rick Singer, Subject Property Manager, July 9, 2019
- Santa Clara County Environmental Health District, June 21, 2019
- Bay Area Air Quality Management District, June 21, 2019
- Morgan Hill City Clerk, June 21, 2019
- Regional Water Quality Control Board, June 21, 2019

Documents Reviewed

- Aerial photographs, obtained from ERIS: 1939, 1953, 1968, 1971, 1982, 1987, 1998, 2005, 2009, 2010, 2012, 2014, 2016, and 2018
- Historic topographic maps, obtained from ERIS: 1917, 1939, 1955, 1968, 1973, 1980, and 2015
- Fire insurance maps, not available from ERIS
- City Directories, obtained from ERIS: 1962 through 2018
- Radius Map Report, ERIS, Inc.

Previous Reports

***Phase I Environmental Site Assessment, 1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, Santa Clara County, California,* dated June 6, 2018, prepared by AEI Consultants, prepared for Llagas, LLC.**

***Limited Phase II Agricultural Investigation, 1040-1045 Cochrane Road, Morgan Hill, California*, dated September 20, 2018, prepared by AEI Consultants, prepared for Trumark Homes LLC.**

***Additional Investigation of Lead in Soil, 1040-1045 Cochrane Road, Morgan Hill, California 95037*, dated October 30, 2018, prepared by AEI Consultants, prepared for Trumark Homes LLC.**

***CARB 435 Testing, Fry's Property, 1040-1045 Cohcrane Road and 1065-1105 Half Road, Morgan Hill, California*, dated November 12, 2018, prepared by Berlogar Stevens & Associates, prepared for Trumark Homes.**

APPENDIX C

USER QUESTIONNAIRE
AND
OTHER DOCUMENTS

June 21, 2019

Mr. Joshua Vrotsos
Director of Acquisitions
Mission View Investors LLC
385 Woodview Avenue, Suite 100
Morgan Hill, California 95037

BVNA Proposal No. 2019-06-21-27381

RE: Phase I Environmental Site Assessment Proposal
Fry Property
1105 Half Road
Morgan Hill, California

Dear Mr. Vrotsas:

Bureau Veritas North America, Inc. (BVNA) is pleased to submit this proposal to conduct a Phase I Environmental Site Assessment (ESA) for the above-referenced property consisting of approximately 29 acres (the "site" or "subject property"). BVNA understands that the site is currently residentially and agriculturally developed. Furthermore, BVNA understands this ESA is being performed in association with a real estate transaction.

BVNA will use the ASTM International Standard Practice E 1527-13, *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process,* as a guideline. The United States Environmental Protection Agency has determined that the ASTM E1527-13 standard is consistent with the requirements for conducting "all appropriate inquiry (AAI) into the previous ownership and uses of a property consistent with good commercial or customary practice" as defined in 42 U.S.C. §9601(35)(B). This practice also permits the user to satisfy **one** of the requirements to qualify for "landowner liability protections (LLPs)" under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

In addition to describing tasks to be performed by BVNA, Practice E 1527-13 describes tasks that are the responsibility of the *User*, defined as the party seeking to use E 1527-13 to complete an ESA. The tasks to be performed by BVNA and the tasks to be performed by the User are described in the following sections. Methods and terms are as defined in the ASTM Standard and AAI regulations.

BVNA'S SCOPE OF SERVICES

The Phase I ESA will be conducted to provide an independent, professional opinion regarding *recognized environmental conditions*, as defined by ASTM, associated with the site. The term *recognized environmental conditions* is defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis*

Bureau Veritas North America, Inc.
Health, Safety and Environmental
1940 East Deere Street, Suite 210
Santa Ana, CA 92705
m : 714.431.4100
f : 714.825.0685
www.us.bureauveritas.com

conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. Conditions determined to be *de minimis* are not *recognized environmental conditions*.

Accordingly, BVNA proposes to perform the following:

- Review of information provided by the client. This includes that information required by the Standard with respect to "User Responsibilities" as well as other information provided. Please refer to the attached Questionnaire for a discussion of Recorded Land Title Records, including Environmental Liens or Activity and Use Limitations (AULs), and other User provided information (e.g., Specialized Knowledge). Examples of Helpful Documents are provided as an Attachment (see Attachment 1).
- Review selected information on general geology and topography of the site, local groundwater conditions, and proximity to ecologically sensitive receptors, such as streams, that might be impacted by *recognized environmental conditions*. Identify sources of water, power, and sewer service at the subject property.
- Investigate historical use of the site through reasonably ascertainable ASTM Standard Historical Sources for evidence of prior land use that could have led to *recognized environmental conditions*. These Standard Historical Sources may include: aerial photography, United States Geological Survey (USGS) topographic maps, fire insurance maps, local street directories, property tax files, building department records and zoning/land use records.
- Review of a commercial database summary of ASTM Standard Federal, State, and Tribal regulatory agency records pertinent to the site and offsite facilities located within ASTM-specified search distances from the site.
- Perform a Tier 1 Screening as per ASTM E 2600-15 (no sampling) to identify whether or not a potential exists for subsurface vapor encroachment onto the subject property.
- Review reasonably ascertainable Federal, State, Tribal and Local environmental agency case files for onsite and adjoining facilities identified in the database summary report (and/or during site reconnaissance) that have the potential to adversely impact the site. However, it should be noted that access and retrieval of any federal, state, or local documents related to the scope of work is limited to the availability of records upon request from governmental agencies or commercial sources within the time frame allocated for this effort. BVNA will make reasonable efforts to obtain such information. Furthermore, depending on the availability and number of records to be reviewed, additional charges may apply.
- A reasonable attempt will be made to interview at least one staff member of any <u>one</u> of the following: local fire department, local health department, local building department, or State/Local environmental agency. This individual will be asked about their personal knowledge of the subject property, with the questioning directed to identifying *recognized environmental conditions*. For example, if the site includes a known leaking underground storage tank (LUST) incident, the State Agency LUST Program Project Manager for the facility may be the person interviewed under this portion of the scope of services.
- Review environmental records available from the property owner or site contact including regulatory agency reports, permits, registrations, and consultant reports for evidence of

recognized environmental conditions and AULs. Examples of Helpful Documents are provided as an Attachment (see Attachment 1).

- Interview the site owner (or their designated *Key Site Manager*) and *Occupants* regarding current and previous uses of the property, particularly activities involving hazardous substances and petroleum products. Past owners, operators and occupants will also be interviewed to the extent they are identified and their information will not likely be duplicative. In cases of *abandoned properties*, where there is evidence of uncontrolled access, interviews with Owners/Occupants of one or more neighboring properties may be performed.
- Conduct an onsite reconnaissance of the site for visual evidence of r*ecognized environmental conditions*, including, but not limited to:
  - -- Existing or potential soil and water contamination, as evidenced by soil or pavement staining or discoloration, stressed vegetation, or indications of waste dumping or burial
  - -- Pits, ponds, or lagoons
  - -- Containers of hazardous substances or petroleum products
  - -- Electrical and hydraulic equipment that may contain polychlorinated biphenyls (PCBs), such as electrical transformers and hydraulic hoists
  - -- Underground and aboveground storage tanks (USTs and ASTs, respectively)

  During the site walkthrough, if BVNA‘s access to buildings is limited or safety concerns prohibit entry, or if direct observation of the site is restricted, such as by dense vegetation, BVNA will make an effort to contact you for further direction.
- Perform a site property line visual assessment of adjacent properties for evidence of potential offsite environmental conditions that may affect the site.

The scope of services does not include considerations of “Non-ASTM” issues (e.g., asbestos-containing building materials, radon, lead-based paint).

The scope of services for the Phase I ESA does not include any sampling and/or analysis of air, soil, groundwater or other materials.

Following completion of the above noted Phase I ESA activities, BVNA will evaluate the data and prepare the final report. This report will conclude with BVNA‘s opinion regarding the presence of *recognized environmental conditions* at the site. The report will include recommendations for additional assessment/investigation, as warranted, based on the findings of the report. Activities performed by BVNA under this scope of services will be conducted under the responsible charge of an *Environmental Professional,* as defined in ASTM Practice E 1527-13.

Depending on the findings of the Phase I, it may be warranted to perform Phase II-type testing or analyses to further evaluate *recognized environmental conditions*. The scope of services and attendant fees for this work will be presented in a separate proposal, as needed.

BVNA will provide these services described above using its commercially reasonable best efforts consistent with the level and skill ordinarily exercised by members of the profession currently practicing under similar conditions.

USER'S RESPONSIBILITIES

The ASTM Standard outlines increased obligations on the part of the property purchaser (i.e., the "User"). Section 6, *User's Responsibilities,* of ASTM Practice E 1527-13 describes specific tasks to be performed by the User of the Phase I ESA, which include the development of information to be provided to BVNA. We have summarized these requirements in the Questionnaire contained in Attachment 2.

In order to facilitate project completion, the Questionnaire should be completed and returned to BVNA at the same time this proposal is authorized. This Questionnaire will be included in the Phase I ESA report, and will assist in satisfying the "User Responsibilities" portion of the Standard. Incomplete or missing information could be considered a *significant data gap* and could result in a determination that AAI is not complete.

As an option and on your behalf, BVNA can obtain and review the required "Recorded Land Title Records for Environmental Liens or AULs" for an additional fee as specified in the Fees Section.

To effectively use available resources, BVNA also requests that the client provide the following:

1. Accurate information on the size and location of the site (ALTA Survey if available), number of parcels and corresponding ID numbers, and the name and contact information for the current owner of the site.
2. If you are aware of other addresses historically associated with the site, please provide them to BVNA within five days of commencement of this project. If other addresses are found during completion of the Phase I ESA that were not provided to BVNA, then a revision in the fee for this project may be necessary.
3. Timely access to the site, BVNA will coordinate the site visit with you and/or designated site contacts.
4. BVNA will review related documents (e.g., Helpful Documents in Attachment 1), provided you or your representatives make them available to us within five days of project commencement.
5. Any specialized knowledge or experience of the client that is material to identifying *recognized environmental conditions,* any information regarding the presence of environmental liens or activity or land use limitations, as well as any information regarding a significantly lower purchase price than comparable properties that may suggest an environmental concern.

SCHEDULE

BVNA will schedule the fieldwork for this project within one week following receipt of your written authorization to proceed and the name of the site owner/site contact. BVNA will provide an electronic copy of the draft report within three weeks following receipt of your written authorization. This schedule is subject to the presence of *significant data gaps* and/or delays in receipt of requested information from outside sources, and may be delayed if either of these occurs.

FEES

Based on the information you provided for this proposal, BVNA will complete the work for the Phase I ESA for a lump sum price of $3,500, which includes the Tier I Vapor Encroachment Screening. Payment can be made by credit card by completing the information requested on the

"Proposal Authorization Form" or by check made payable to BVNA and referencing our proposal number.

Optional AUL/Lien Search – BVNA can obtain and review the required Recorded Land Title Records for the presence of Environmental Liens or AULs for an additional fee of $250.00 for the first parcel number. This work will be subcontracted and does not include a title search, rather just a review to determine if there are environmental liens (and/or AULs). Note that additional fees for the above will be required in the event of multiple parcels and the specific cost will be dependent on the title history of the parcels. If this service is desired, please initial the appropriate location on the Proposal Acceptance Agreement. Please note that this is not a formal chain-of title report.BVNA can provide reliance to additional entities, as needed, at an additional cost.

TERMS & CONDITIONS

Attached to this proposal is a copy of our standard Terms and Conditions dated July 2017 (see Attachment 3).

Any unexpected conditions or concerns that become apparent during the project, such as deviation from the assumptions outlined herein, may require a revision in the project scope, schedule, and fees. This proposal assumes availability of files/documents within the noted time constraints of the project and that the amount of files to be reviewed does not exceed 500 pages. *Depending on the availability and number of provided records to be reviewed, additional charges may apply*. This proposal also assumes that the personnel to be interviewed are available and provide responses to requests for information within the noted time constraints of the project. If s*ignificant data gaps,* as defined by ASTM, are encountered during the performance of this Phase I, a revision in the fees may be required in order to further evaluate the data gap(s). BVNA will promptly notify you of necessary changes in project scope and fees, and obtain written confirmation of such changes. If BVNA's work is encumbered or stopped by your actions, such as failure to arrange site access, you will be charged additional fees according to our fee schedule. Should additional environmental work be performed, you will be billed on a time and materials basis according to our fee schedule.

This proposal will remain valid for 60 days. We will invoice upon completion of the field work with net payment expected in 30 days.

AUTHORIZATION

For your convenience, this proposal is presented in a form that can be accepted as an agreement. To accept this proposal, please sign both below and at the final page of the attached Terms and Conditions and return a copy to me via fax or email. Your signature represents your acceptance of this proposal and its terms.

BVNA appreciates the opportunity to submit this proposal and looks forward to working with you on this project. If you have questions or comments regarding the information in this proposal or if we can be of further assistance, please do not hesitate to contact Shannon Gillespie at 714-343-7559 or Shannon.gillespie@us.bureauveritas.com.

Sincerely,

Bureau Veritas North America, Inc.
Health, Safety and Environmental Services

Jennifer Woods
Consultant
Los Angeles Regional Office

Shannon Gillespie
Manager, Due Diligence
Los Angeles Regional Office

Attachments
Attachment 1: Helpful Documents
Attachment 2: User Questionnaire
Attachment 3: Terms and Conditions, dated July 2017

PROPOSAL AUTHORIZATION/ACCEPTANCE AGREEMENT

In response to your request, Bureau Veritas North America, Inc. (BVNA) is pleased to present this proposal to conduct a Phase I Environmental Site Assessment (ESA) of the Fry Property located at 1105 Half Road in Morgan Hill, California as identified in our Proposal No. 2019-06-21-27381, dated June 21, 2019.

Description of Services: **Phase I ESA**

Project Location: Fry Property, 1105 Half Road, Morgan Hill, California

BVNA Proposal #: 2019-06-21-27381 **Fixed Fee:** **$3,500**

PROPOSAL ACCEPTED BY: Josh Vrotsos

TITLE: Land Acquisitions

DATE ACCEPTED: June 21, 2019

Optional AUL/Lien Search – BVNA can obtain and review the required Recorded Land Title Records for the presence of Environmental Liens or AULs for an additional fee of **$250.00** for the ***first*** parcel number. This work will be subcontracted and does not include a title search, rather just a review to determine if there are environmental liens (and/or AULs). Note that additional fees for the above will be required in the event of multiple parcels and the specific cost will be dependent on the title history of the parcels. If this service is desired, please initial the appropriate location on the Proposal Acceptance Agreement. Please note that this is not a formal chain-of title report.

OPTION ACCEPTED BY: Josh Vrotsos

TITLE: Land Acquisitions

DATE ACCEPTED: 6/21/19

By signing this document I am authorizing Bureau Veritas North America, Inc. (BVNA) to begin performing this project per the scope of services referenced above. My signature represents a commitment to reimburse BVNA for all charges incurred per the fee schedule on this project up to the time I request work to stop. The work stoppage date shall be issued in writing.

Please note that BVNA reserves the right to withhold all reports until such time as we receive a signed Proposal Acceptance Agreement or other written authorization referencing this AGREEMENT in its entirety.

This AGREEMENT together with BVNA's proposal, Unit Fee Schedule, and following Terms and Conditions constitute the entire agreement between the client and BVNA and supersedes all prior written or oral understandings:

☒ *BVNA Standard Terms and Conditions – July 2017*

Credit Card Charge Request Form

Name: Josh Vrotsos

Company: Mission View Investors LLC

Address: 496 Wraight Avenue
Los Gatos, CA 95032

Phone #: 408-762-7108 Fax #: _____

Card #: 4147342007670153 Expiration Date: 05/21

☐ American Express ☑ Visa ☐ Master Card

For Office Use:

Service is for:
Request #: _____

Business Unit #: _____

Invoice #: _____

Invoice Date: _____

Amount to be billed: $ _____

Requestor: _____ Phone #: _____

All information pertinent to this credit card transaction are kept confidential.
Credit Card information will not be kept on file, each payment will require a new submission.

ATTACHMENT 1

HELPFUL DOCUMENTS

HELPFUL DOCUMENTS

It is your obligation to provide current or historical documents regarding environmental conditions at the site. Listed below are some examples of the types of documents that will help us complete the ESA:

- Recorded Environmental Liens (required)
- Recorded Activity and Use Limitations (required)
- Prior Phase I ESA reports
- Transaction Screen reports
- Phase II ESA reports, including subsurface investigations
- Phase III Cleanup or Remediation documentation
- Risk Assessment reports
- Geotechnical Investigation reports
- Environmental Compliance Audit reports
- Maps showing property boundary, assessors' parcel number, and major subject property features (including ALTA Survey or Plat of Survey)
- Legal description
- Aerial photographs and fire insurance maps
- Underground/Aboveground Storage Tank (UST/AST) registrations, installation dates, construction type, capacity, location, etc.
- Documentation for other underground equipment such as associated UST piping, sumps, cisterns, clarifiers, oil/water separators, catch basins, wells (including dry wells), and underground injection systems
- Agency inspection records and violation history
- Notices or other correspondence from local, state, and federal regulatory agencies relating to past or current violations of environmental laws
- Spill/Release reports
- SARA 313 (Form R) reports
- Hazardous waste generator notices
- Hazardous waste manifests
- Environmental permits and registrations, including:
  - Solid waste and/or hazardous waste disposal
  - Wastewater discharge permits with local sewer districts and/or NPDES
  - Hazardous waste treatment, including Permit-By-Rule, Conditional Authorization, or Conditional Exemption
  - Air emission permits, including boilers, paint booths, etc.
  - Underground injection systems
- Safety plans, preparedness and prevention plans, spill prevention, countermeasure and control plans, etc., including:
  - Risk Management Plan
  - Storm Water Pollution Prevention Plan
  - Hazardous Materials Management/Business Plan
  - Material Safety Data Sheets
  - Hazardous Communications Training Program
- Community right-to-know plans
- Other environmental documents (e.g., asbestos containing materials, polychlorinated biphenyls, lead-based paint, lead in drinking water, radon, indoor air quality, mold).

ATTACHMENT 2

USER QUESTIONNAIRE

ASTM PRACTICE E 1527-13 USER/CLIENT QUESTIONNAIRE
To be returned to BVNA with the authorized proposal

This Questionnaire is required to be completed by **the User/Client.**

GENERAL INFORMATION

User/Client Name(s):	Mission View Investors LLC
Property Name and Address (Include known current and former address[es] and parcel no.):	Fry Property- Residential Portion
Property Acreage:	Approximately 29 Acres
Current Property Type (Designate property type and list current tenants [business name and type of operation]):	Residential: XX, Commercial: __ Industrial: __ Other: __
Type of Property Transaction with respect to User (Designate one):	Purchase: XX Lease: __ Other (provide further information): __
Reason Phase I is Required (Check all that apply):	*Landowner Liability Protections* (e.g. Innocent Landowner Defense): XX Evaluation of Business Risk: __ Other (list): XX Purchase & Financing of the property. (Note: If no reason is given it is assumed that this assessment is being performed to satisfy one of the requirements for *Landowner Liability Protections* to *CERCLA* liability.
Site Owner/ Contact(s) (Name and phone number):	Rick Singer 408-390-0323 Manager- LLagas, LLC -- Seller's rep ricksinger36@gmail.com

Please provide the above information as well as a site plan (ALTA Survey, if available) which clearly designates the boundaries of the subject property for purposes of this Phase I ESA. A list of other Helpful Documents is included with the proposal.

Providing the following information (if available) to the *environmental professional* (BVNA) is one of the requirements to qualify for one of the *Landowner Liability Protections (LLPs)* offered under CERCLA. Missing or incomplete information could result in a determination that "*all appropriate inquiry*" is not complete. If further information is desired regarding these issues, BVNA recommends you consult with an Environmental Attorney.

REQUIRED INFORMATION

The citation at the end of each item (e.g., 40 CFR 312.XX) is the section of EPA's November 1, 2005 AAI Final Rule which discusses that item. The ASTM Standard requires that reasonably ascertainable recorded land title records that are filed under federal, tribal, state and local law should be reviewed to determine the presence of Environmental Liens and Activity and Use Limitations (AULs) that are currently recorded against the property. This should also include a review of Environmental Liens and AULs that are imposed by judicial authorities and recorded/filed in judicial records. The Standard recommends that the User retain a title company or title professional to undertake a review of recorded land title records. Furthermore, the User is to provide any actual knowledge on Environmental Liens and AULs, as well as other selected information regarding *recognized environmental conditions,* to the *environmental professional.*

1. Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25). Given the above requirement, are you aware of any environmental cleanup liens against the *property* that are filed or recorded under federal, tribal, state or local law? (Check One)
No: XX Yes (If "Yes" provide further information): __
(Note: If you desire that BVNA retain a title company/title professional on your behalf to review reasonably ascertainable recorded land title records for the presence of environmental cleanup liens and AULs currently recorded against the property please designate such on the Proposal Acceptance Agreement)

2. Activity and land use limitations (AULs) that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26). Given the above requirement, are you aware of any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law? (Check One)
No: XX Yes (If "Yes" provide further information): __

3. Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).
As the *user* of this *ESA* do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an adjoining *property* so that you would have specialized knowledge of the chemicals and processes used by this type of business? (Check One)

No: XX

Yes (If "Yes" provide further information): __

4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).
Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the *property*?

Yes: XX

No (If "No" provide further information): __

Not Applicable (e.g., transaction is a lease): __

5. Commonly known or *reasonably ascertainable* information about the *property* (40 CFR 312.30).
Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases?

No: xx. We've no knowledge other than what's provided in the reports given to us.

Yes (If "Yes" provide further information): __

For example, as *user*,
(a.) Do you know the past uses of the *property*?

No: xx. We've no knowledge other than what's provided in the reports given to us..

Yes (If "Yes" provide further information): __

(b.) Do you know of specific chemicals that are present or once were present at the *property*?

No: xx. We've no knowledge other than what's provided in the reports given to us.

Yes (If "Yes" provide further information): __

(c.) Do you know of spills or other chemical releases that have taken place at the *property*?

No: xx.

Yes (If "Yes" provide further information): __

(d.) Do you know of any environmental cleanups that have taken place at the *property*?

No: xx. We've no knowledge other than what's provided in the reports given to us.

Yes (If "Yes" provide further information): __

6. The degree of obviousness of the presence or likely presence of contamination at the *property* and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).
As the *user* of this *ESA*, based on your knowledge and experience related to the *property* are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property*?

No: xx. We've no knowledge other than what's provided in the reports given to us.

Yes (If "Yes" provide further information): __

7. Proceedings involving the *property* (ASTM E 1527-13 § 10.9).
Are you aware of any of the following:

(a.) Any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property?

No: XX

Yes (If "Yes" provide further information): __

(b.) Any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property?

No: XX

Yes (If "Yes" provide further information): __

(c.) Any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?

No: XX

Yes (If "Yes" provide further information): __

SIGNATURE

It is understood that the information presented in this form is an integral part of the Phase I ESA process and that BVNA will evaluate and rely on this information in the development of the final Phase I ESA report.
Questionnaire Prepared By: Josh Vrotsos Josh Vrotsos
Print/Type Name: Josh Vrotsos
Title: Land Acquisitions
Company: Mission View Investors LLC
Date: June 21, 2019

ATTACHMENT 3

TERMS AND CONDITIONS

BUREAU VERITAS NORTH AMERICA, INC.'S CONSULTING AGREEMENT

This Agreement is made and entered into by and between Dividend Homes Inc. ("Client") and Bureau Veritas North America, Inc., hereinafter ("BVNA"). These Terms and Conditions govern the work to be performed by Bureau Veritas North America, Inc. ("BVNA"), as specified in the proposal prepared by BVNA of which these Terms and Conditions are a part thereof. The term of this Agreement shall be for one year from the effective date of this Agreement, and shall renew for successive one year periods unless terminated by written notice to the other party at least thirty (30) days prior to the annual renewal date. Fees may be adjusted annually.

RECITALS

WHEREAS, BVNA is trained, experienced and competent to perform the services which will be required by this Agreement;

WHEREAS, BVNA is willing to render the professional services described herein on the following terms and conditions;

WHEREAS, All services will be conducted in accordance with the proposal and these attached terms and conditions.

NOW, THEREFORE, the parties agree as follows:

AGREEMENT

1. **Scope of Services:** BVNA shall provide its services at the time, place, and in the manner specified in the proposal. BVNA's employees shall not be retained as expert witnesses except by separate written agreement. Client agrees to pay BVNA's legal expenses, administrative costs and fees pursuant to BVNA's then current fee schedule for BVNA to respond to any subpoena**.**

2. **Time of Performance:** The services of BVNA are to commence upon execution of this Agreement and shall continue until all authorized work is completed. BVNA shall use commercially reasonable best efforts in performing services under these Terms and Conditions, and the Companion Documents ("Agreement"). Companion Documents shall mean any documents accompanying BVNA's Proposal, including but not limited to the Scope of Work, Fee Schedules or any other Exhibits specific to the project. BVNA shall not be responsible for failure to perform its services if i) there is a failure or delay by Client or its contractors in providing BVNA with the necessary access to properties, documentation, information, or materials; ii) Client or its contractors fail to approve or disapprove BVNA's work; or iii) if Client causes delays in any way whatsoever. In any of these events, BVNA's time for completion of its service shall be extended accordingly. BVNA shall not be responsible for failure to perform if such failure is due to any act of God, labor trouble, fire, inclement weather, act of governmental authority, failure of transportation, accident, power failure or interruption, or any other cause reasonably beyond BVNA's control. In any of these events, BVNA's time for completion of its services shall be extended accordingly.

3. **Safety Responsibilities:** If BVNA provides a safety and health officer at the Site where the work is to be done, BVNA will advise Client regarding deficiencies with respect to specifications and applicable regulations. BVNA is not responsible for the failure of Client or its agents to follow the recommendations of BVNA's personnel. Where BVNA provides a safety and health officer it shall be authorized to take measures on behalf of Client that, in BVNA's opinion, will maintain generally accepted health and safety standards for personnel at the Site.

4. **Site Conditions:** It is understood and agreed that (i) BVNA is not, and has no responsibility as an owner, handler, generator, operator, treater, storer, arranger, transporter or disposer of hazardous or toxic substances found or identified at the Site; and (ii) Client shall undertake to arrange for the handling, removal, treatment, storage, transportation, and disposal of hazardous substances or constituents found or identified at the Site. Client understands and acknowledges that (i) Client may be requesting BVNA to undertake services or work for the benefit of Client involving the presence or potential presence of hazardous substances; and (ii) BVNA may be exposed to claims arising out of, or involving actual, alleged, or threatened discharge, disposal or release or escape of hazardous or potentially hazardous pollutants including, but not limited to, solid, liquid, gaseous or thermal irritants or contaminants including smoke, water, vapor, soot, fumes, acids, alkalies, chemicals, wastes, and waste materials, and Client understands and agrees that BVNA shall only be responsible for losses which directly result from BVNA's negligence. Client will grant to, or obtain for, BVNA unimpeded access to the Project site for all equipment and personnel necessary for the performance of the Services, and (if requested by BVNA) necessary for BVNA's personnel to photograph the Project site. As required to effectuate such access, Client will notify all owners, lessees, contractors, subcontractors, and other possessors of the Project site that BVNA must be allowed free access to the site. While BVNA agrees to take reasonable precautions to minimize damage to the site, Client understands that, in the normal course of performing the Services, some damage may occur, and further understands that BVNA is not responsible for the correction of any such damage unless so specified in the Proposal. Client is responsible for the accuracy of locations for all subterranean structures and utilities. BVNA will take reasonable precautions to avoid known subterranean structures and utilities, and Client waives any claim against BVNA, and agrees to defend, indemnify, and hold BVNA harmless from any claim or liability for injury or loss of any party, including costs of defense, arising from damage done to subterranean structures and utilities not identified or accurately located. In addition, Client agrees to compensate BVNA for any time spent or expenses incurred by BVNA in defense of any such claim with compensation to be based upon BVNA's prevailing fee schedule and expense reimbursement policy.

5. **Contamination:** Client acknowledges that it is impossible for BVNA to know the exact composition of a site's subsurface, even after conducting a comprehensive exploratory program. As a result, there is a risk that drilling and sampling may result in contamination of certain subsurface areas. Although BVNA will take reasonable precautions to avoid such an occurrence, Client waives any claim against, and agrees to defend, indemnify and save BVNA harmless from any claim or liability for injury or loss which may arise as a result of subsurface contamination caused by drilling, sampling, or monitoring well installation. Client also agrees to adequately compensate BVNA for any time spent and expenses incurred in defense of any such claim.

6. **Compensation:** Compensation to be paid to BVNA shall be in accordance with the Schedule of Fees set forth in the BVNA proposal associated with the specific assignment.

7. **Method of Payment:** Dependent on the duration of the project, BVNA reserves the right to submit monthly billings to Client describing the work performed during the preceding month. Client shall pay BVNA no later than thirty (30) days after receipt of the monthly invoice by Client's staff. Client may be liable to BVNA for a late charge accruing from the date of such invoice to the date of payment at the lower of eighteen (18) percent per annum or the maximum rate allowed by law. Further, if the invoice is not paid within such period, BVNA may, at any time, and without waiving any other rights or claims against Client and without thereby incurring any liability to Client, elect to terminate performance of services immediately following written notice from BVNA to Client. Notwithstanding any such termination of services, Client shall pay BVNA for all services rendered by BVNA up to the date of termination of services plus all interest, termination costs and expenses incurred by BVNA. Client shall

reimburse BVNA for all costs and expenses of collection, including reasonable attorney's fees.

8. **Ownership of Documents:** All plans, studies, documents and other writings prepared by BVNA, its officers, employees and agents and subcontractors in the course of implementing this Agreement shall remain the property of BVNA, until full payment of services is received. The Client acknowledges that all intellectual property rights related to the performance of the Agreement, including but not limited to the names, service marks, trademarks, inventions, logos and copyrights of BVNA and its affiliates, (collectively, the "**Rights**") are and shall remain the sole property of BVNA or its affiliates and shall not be used by the Client, except solely to the extent that the Client obtains the prior written approval of BVNA and then only in the manner prescribed by BVNA. If BVNA terminates the Agreement in accordance with the provisions of Article 32 below, any such license granted by BVNA to the Client, prior to termination and payment of fees, shall continue.

BVNA may, however, retain one archival copy of all reports delivered to Client and of all working papers necessary to support BVNAs analysis, conclusions, or recommendations.

9. **Use of Data or Services:** BVNA shall not be responsible for any loss, liability, damage, expense or cost arising from any use of BVNA's analyses, reports, certifications, advice or reliance upon BVNA's services, which is contrary to, or inconsistent with, or beyond the provisions and purposes set forth therein or included in these Terms and Conditions, or in the Companion Documents. Client understands and agrees that BVNA's analyses, reports, certifications and services shall be used solely by the Client, and only Client is allowed to rely on such work product.

10. **Independent Contractor:** It is understood that BVNA, in the performance of the work and services agreed to be performed, shall act as and be an independent contractor and shall not act as an agent or employee of the Client. BVNA shall obtain no rights to retirement benefits or other benefits which accrue to Client's employees, and BVNA hereby expressly waives any claim it may have to any such rights.

11. **Standard of Care: BVNA REPRESENTS THAT THE SERVICES, FINDINGS, RECOMMENDATIONS AND/OR ADVICE PROVIDED TO CLIENT WILL BE PREPARED, PERFORMED, AND RENDERED IN ACCORDANCE WITH PROCEDURES, PROTOCOLS AND PRACTICES ORDINARILY EXERCISED BY PROFESSIONALS IN BVNA'S PROFESSION FOR USE IN SIMILAR ASSIGNMENTS, AND PREPARED UNDER SIMILAR CONDITIONS AT THE SAME TIME AND LOCALITY. CLIENT ACKNOWLEDGES AND AGREES THAT BVNA HAS MADE NO OTHER IMPLIED OR EXPRESSED REPRESENTATION, WARRANTY OR CONDITION WITH RESPECT TO THE SERVICES, FINDINGS, RECOMMENDATIONS OR ADVICE TO BE PROVIDED BY BVNA PURSUANT TO THIS AGREEMENT.**

12. **Indemnity:** Subject to the Limitation of Liability included in this Agreement, BVNA shall indemnify and hold harmless Client from and against losses, liabilities, and reasonable costs and expenses (for property damage and bodily injury, including reasonable attorney's fees), to the extent directly and proximately arising from BVNA's negligent performance of services or material breach under this Agreement. BVNA shall not be obligated to defend the Client until there is an actual finding of negligence or if the parties agree otherwise. Client shall defend, indemnify and hold harmless BVNA, its employees, directors, officers, and agents, from and against claims, losses, liabilities, and reasonable costs and expenses (including reasonable attorney's fees) that are: i) related to, or caused by the negligence or willful misconduct of Client, its employees, or agents; ii) related to this Agreement or the work to be performed by BVNA for which BVNA is not expressly responsible; or iii) the expressed responsibility of the Client under this Agreement.

13. **Limitation of Liability:** To the fullest extent permitted by law and notwithstanding anything else in this Agreement to the contrary, the total aggregate liability of BVNA, its affiliates, employees, officers, directors and agents (Collectively referred to in this paragraph as "BVNA") for all claims for negligent professional acts, errors or omissions arising out of this Agreement is limited to five times the fees paid within the previous 12 months.

In the event liability is shared by the parties to this Agreement, each Party shall contribute in the amount of its proportionate share for all actions, claims, liability, damages, losses, expenses or judgments. BVNA's indemnification obligation including any defense obligation shall not arise until an actual finding of negligence or if the parties agree prior to an actual finding of negligence.

14. **Insurance:** BVNA, at BVNA's own cost and expense, shall procure and maintain, for the duration of the contract, the following insurance policies with insurers possessing a Best's rating of no less than A:VII:

a. **Workers' Compensation Coverage:** BVNA shall maintain Workers' Compensation and Employer's Liability Insurance for its employees in accordance with the laws of the state where the services are being performed. Any notice of cancellation or non-renewal of all Workers' Compensation policies will be sent to the Client in accordance with the policy provisions.

b. **General Liability Coverage:** BVNA shall maintain Commercial General Liability insurance in an amount not less than one million dollars ($1,000,000) per occurrence for bodily injury, personal injury and property damage.

c. **Automobile Liability Coverage:** BVNA shall maintain Automobile Liability insurance covering bodily injury and property damage for activities of BVNA employee arising out of or in connection with the work to be performed under this Agreement, including coverage for owned, hired and non-owned vehicles, in an amount not less than one million dollars ($1,000,000) combined single limit for each occurrence.

d. **Professional Liability Coverage:** BVNA shall maintain Professional Errors and Omissions Liability for protection against claims alleging negligent acts, errors or omissions which may arise from BVNA's services under this Agreement. The amount of this insurance shall not be less than one million dollars ($1,000,000) on a claims-made annual aggregate basis.

BVNA shall name Client as additional insured and other parties that it deems appropriate to be additionally insured under BVNA's Commercial General Liability policy and Automobile Liability policy, if requested to do so by Client. The Client, on its own behalf and on the behalf of any others that are named as additionally insured at Client's request, agrees that providing such insurance or the additional insured endorsement shall in no way be construed as an assumption by BVNA of any liability for the negligence or willful misconduct or any wrongful behavior on the part of Client or others that are named additionally insured. In the event of insurance cancellation, notice will be delivered in accordance with the policy provisions.

15. **Consequential and Punitive Damages:** Neither BVNA nor Client shall be liable under any circumstances for loss of profits, loss of product, consequential damages of any kind, indirect damages of any kind or special damages of any kind to the other party, or to any third party. No punitive or exemplary

damages of any kind shall be recoverable against either party under any circumstances.

16. **Cause of Action:** If Client makes a claim against BVNA, for any alleged error, omission, or other act arising out of the performance of its professional services and to the extent the Client fails to prove such claim, then the Client shall pay all costs including attorney's fees incurred by BVNA in defending the claim. Any cause of action brought against BVNA shall be brought within one (1) year of the work or services performed under this Agreement.

17. **Compliance with Laws:** BVNA shall use the standard of care in its profession to comply with all applicable federal, state and local laws, codes, ordinance and regulations in effect as of the date services are provided.

18. **Resolution of Disputes:** All claims, disputes, controversies or matters in question arising out of, or relating to, this Agreement or any breach thereof, including but not limited to disputes arising out of alleged design defects, breaches of contract, errors, omissions, or acts of professional negligence, except those disputes which arise out of or are related to collection matters or fees alone under this Agreement, (collectively "Disputes") shall be submitted to mediation before and as a condition precedent to pursuing any other remedy. Upon written request by either party to this Agreement for mediation of any dispute, Client and BVNA shall select a neutral mediator by mutual agreement. Such selection shall be made within ten (10) calendar days of the date of receipt by the other party of the written request for mediation. In the event of failure to reach such agreement or in any instance when the selected mediator is unable or unwilling to serve and a replacement mediator cannot be agreed upon by Client and BVNA within ten (10) calendar days, a mediator shall be chosen as specified in the Mediation Rules of the American Arbitration Association then in effect, or any other appropriate rules upon which the parties may agree.

Should either party to this Agreement commence any legal action against the other party arising out of this Agreement, the prevailing party shall be entitled to recover its reasonable litigation expenses, including court costs, expert witness fees, discovery expenses, and attorney's fees.

19. **Governing Law:** This Agreement shall be governed by and construed in accordance with the laws of the state where the BVNA office originating the work or proposal is located.

20. **Releases:** All lien releases will be limited to payment issues; no additional terms and conditions may be added to a release of lien.

21. **Waiver of Jury Trial:** Each party waives its right to a jury trial in any court action arising between the parties, whether under this Agreement or otherwise related to the work being performed under this Agreement.

22. **Third Party Beneficiary:** It is expressly understood and agreed that the enforcement of these terms and conditions shall be reserved to the Client and BVNA. Nothing contained in the Agreement shall give or allow any claim or right of action whatsoever by any third person. It is the express intent of the Client and BVNA that any such person or entity, other than Client or BVNA, receiving services or benefits under this Agreement shall be deemed an incidental beneficiary.

Third Party Rights: Client agrees that all work product shall be used solely by it and only Client is allowed to rely on such work product. If a third party relies on the work product without BVNA's written permission, then Client agrees to indemnify and hold BVNA harmless for any claims or actions brought as a result of such reliance.

23. **Written Notification:** Any notice, demand, request, consent, approval or communication that either party desires or is required to give to the other party shall be in writing and either served personally or sent prepaid, first class mail. Any such notice, demand, etc., shall be addressed to the other party at the address set forth in the proposal. Either party may change its address by notifying the other party of the change of address. Notice shall be deemed communicated within 48 hours from the time of mailing if mailed as provided in this section.

To Client:	Dividend Homes Inc. 385 Woodview Avenue, Suite 100 Morgan Hill, California 95037
To BVNA:	Robert Lieckfield, Jr. Vice President, HSE Division 22345 Roethel Novi, MI 48375
With cc to:	Bureau Veritas North America, Inc. Attention: Legal Department 1601 Sawgrass Corporate Parkway, Suite 400 Fort Lauderdale, FL 33323

24. **Confidential Information:** Neither party shall disclose information identified as confidential to anyone except those individuals who need such information to perform the Services; nor should either party use such confidential information, except in connection with the Work, the performance of the Services or as authorized by the other party in writing. Regardless of the term of this Agreement, each party shall be bound by this obligation until such time as the confidential information shall become part of the public domain. Confidential information shall not include information which is either: (i) known to the public; (ii) was known to the receiving party prior to its disclosure; or (iii) received in good faith from a third party. If either party is required to produce information by valid subpoena or Court order, parties agree to first provide prompt notice to other party in order to allow the party to seek a protective order or other appropriate remedy. This shall not prevent either party from disclosing information to the extent reasonably necessary to substantiate a claim or defense in any adjudicatory proceeding. Client agrees that BVNA shall be permitted to use Client's name and logos in BVNA's marketing materials unless advised or prohibited against it by the Client in writing. The technical and pricing information contained in any proposal or other documents submitted to Client by BVNA is to be considered confidential and proprietary and shall not be released or disclosed to a third party without BVNA's written consent.

25. **Assignment:** Neither party may assign this Agreement or any right or obligation hereunder without the prior written consent of the other party, which shall not be unreasonably withheld or delayed; provided, however, that no consent shall be necessary in the event of an assignment to a successor entity resulting from a merger, acquisition or consolidation by either party or an assignment to an Affiliate of either party if such successor or Affiliate assumes all obligations under this Agreement. Any attempted assignment, which requires consent hereunder, shall be void and shall constitute a material breach of this Agreement if such consent is not obtained.

Disputes: In all disputes arising under this Agreement, the parties agree that the prevailing party shall be entitled to recover its reasonable attorney's fees (including, if applicable, charges for in-house counsel), court costs and other legal expenses from the other party.

26. **Non-Solicitation / Hiring of Employees:**

To promote an optimum working relationship, the Parties agree in good faith not to directly or indirectly employ or otherwise engage any employee or any person employed by the other Party within the prior six month period without the prior written consent of the Party. This restriction shall apply during the term of and for a period of one (1) year after the termination of this Agreement. The Parties further agree that loss of any such employee would involve considerable financial loss of an amount that could not be readily established. Therefore, in the event that a Party should breach this provision and without limiting any other remedy that may be available the breaching Party shall pay a sum equal to the employee's current annual salary plus 12 additional months of the employee's current annual salary for training of a new employee as liquidated damages. . For the avoidance of doubt, newspaper, periodical or Internet-based listings of employment opportunities by a party shall not be considered solicitation of an employee of the other party.

27. **Prevailing Wage:** This Agreement and any proposals hereunder specifically exclude compliance with any project labor agreement or other union or apprenticeship requirements. In addition, unless explicitly agreed to in the body of the proposal, this Agreement and any proposals hereunder specifically exclude compliance with any State or Federal prevailing wage law or associated requirements, including the Davis Bacon Act. Due to the professional nature of its services BVNA is generally exempt from the Davis Bacon Act and other prevailing wage schemes. It is agreed that no applicable prevailing wage classification or wage rate has been provided to BVNA, and that all wages and cost estimates contained herein are based solely upon standard, no-prevailing wage rates. Should it later be determined by the Client or any applicable agency that in fact prevailing wage applies, then it is agreed that the contract value of this agreement shall be equitably adjusted to account for such changed circumstance. These exclusions shall survive the completion of the project and shall be merged into any subsequently executed documents between the parties, regardless of the terms of such agreement. Client will reimburse, defend, indemnify and hold harmless BVNA from any liability resulting from a subsequent determination that prevailing wage regulations cover the Projects, including all costs, fines and reasonable attorney's fees.

28. **Waiver:** No failure on the part of either party to exercise any right or remedy hereunder shall operate as a waiver of any other right or remedy that party may have hereunder.

29. **Amendments:** This Agreement may be modified or amended only by a written document executed by both BVNA and Client.

30. **Entire Agreement:** This Agreement constitutes the complete and exclusive statement of Agreement between the Client and BVNA. All prior written and oral communications, including correspondence, drafts, memoranda, and representations, are superseded in total by this Agreement.

31. **Document Precedence:** Any pre-printed forms including, but not limited to: purchase orders, shipping instructions, or sales acknowledgment forms of either Party containing terms or conditions at variance with or in addition to those set forth herein shall not in any event be deemed to modify or vary the terms of this Agreement.

32. **Termination:** This Agreement may be terminated immediately for cause or by either party without cause upon fifteen (15) days written notice of termination. Upon termination, BVNA shall be entitled to compensation for services performed up to the effective date of termination.

33. **Interpretation of Agreement:** This Agreement shall be interpreted as though prepared by all parties and shall not be construed unfavorably against either party.

34. **Severability of Agreement:** If any provision or provisions of this Agreement shall be held to be invalid, illegal, unenforceable or in conflict with the laws of any jurisdiction, the validity, legality and enforceability of the remaining provisions shall not in any way be effected and shall remain in full force and effect.

CLIENT: Mission View Investors LLC			**Bureau Veritas North America, Inc.**	
By:	Josh Vrotsos		By:	
Print Name:	Josh Vrotsos		Print Name:	Robert Lieckfield, Jr.
Title:	Land Acquisitions		Title:	Vice President, HSE Contracts
Date:	June 21, 2019		Date:	

Owner Representative/Property Manager Questionnaire

*Please explain all 'yes' answers and mark N/A if you do not know the answer or it doesn't apply

Name	Rick Singer
Title	Manager
Company	Llagas, LLC.
How long have you been associated with the site?	20 years
What is the address of the site?	Multiple... Cochrane Rd, Hatfield, Dewitt, Morgan Hill
Who is the owner of the property?	Llagas, LLC.
When were the buildings onsite (if any) constructed?	?
Do you know the previous use of the site?	Some farming
What companies supply utilities to the subject property? Gas Electricity Water Sewer	1) PG&E for gas + electricity. 2) Santa Clara Valley Water Dist. for water
What company picks up trash and how often?	N/A
Do you know if any environmental work has been done at the property? If so, please describe.	N/A
Do you know if any hazardous materials are currently or previously stored onsite or if hazardous waste was generated onsite? If so, please provide details.	Fertilizer only, maybe for the trees. Not onsite currently, maybe in the past
Do you know of any underground storage tanks previously associated with this site? If so, please provide details in next column:	How many? Capacity? Contents? N/A Construction Material? When were they installed? If removed, when were they removed and by what company?

	Were soil samples collected? Was an agency there to witness?
Do you know of any aboveground storage tanks associated with this site, past or present? If so, please provide details in next column:	How many? 2 Location? Near barn Capacity? ? 5,000 gal. Contents? Water Construction Material? ? When were they installed? No idea When were they removed? Haven't
Do you know of any sumps, clarifiers, or grease interceptors associated with this site, past or present? If so, please provide details in next column:	Time frame located onsite (when installed/removed)? Location? What used for? Capacity? Who serviced and how often? N/A What company removed? Were soil samples collected? Was there regulatory agency oversight of removal?
Do you know of any septic systems currently or formerly located onsite? If so, please provide details in next column:	Time frame located onsite? Could be Location? → near the house Removal procedures if any? None
Do you know of any in-ground hydraulic equipment associated with this site, past or present? If so, please provide details in next column:	How many? Location? Time frame located onsite (when installed/removed)? N/A What company removed them? Were samples collected from soil? Was there local agency oversight of removal?
Are you aware of any wells ever onsite (for example: Irrigation, groundwater,	When installed? ~~4~~ ? How many? 1

groundwater monitoring, soil vapor extraction)? If so, please provide details in next column:	Where located? Near the house Currently operating? No Abandoned? If so, when? And was it in accordance with agency? Which one? ?

Are you aware of any of the following?

Any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property. No

Any pending, threatened or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property. No

Any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products. No

If you answered yes to any of the above three questions, will you please provide an explanation:

APPENDIX D

AERIAL PHOTOGRAPHS

ENVIRONMENTAL RISK INFORMATION SERVICES

HISTORICAL AERIALS

Project Property:	*Fry Property* *1105 Half Road* *Morgan Hill, CA 95037*
Project No:	*25019-019069.00*
Requested By:	*Bureau Veritas North America, Inc.*
Order No:	*20190624041*
Date Completed:	*June 25, 2019*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

Search Results Summary

Year	Source	Scale	Comment
2018	**NAIP** - National Agriculture Information Program	1"=500'	
2016	**NAIP** - National Agriculture Information Program	1"=500'	
2014	**NAIP** - National Agriculture Information Program	1"=500'	
2012	**NAIP** - National Agriculture Information Program	1"=500'	
2010	**NAIP** - National Agriculture Information Program	1"=500'	
2009	**NAIP** - National Agriculture Information Program	1"=500'	
2006	**NAIP** - National Agriculture Information Program	1"=500'	
2005	**NAIP** - National Agriculture Information Program	1"=500'	
1998	**USGS** - US Geological Survey	1"=500'	
1987	**NAPP** - National Aerial Photography Program	1"=500'	*BEST COPY AVAILABLE*
1982	**NHAP** - National High Altitude Photography	1"=500'	
1971	**USGS** - US Geological Survey	1"=500'	
1968	**USGS** - US Geological Survey	1"=500'	
1953	**USGS** - US Geological Survey	1"=500'	
1939	**ASCS** - Agriculture and Soil Conservation Service	1"=500'	

Order No: 20190624041

Year: **2018**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Year: **2016**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

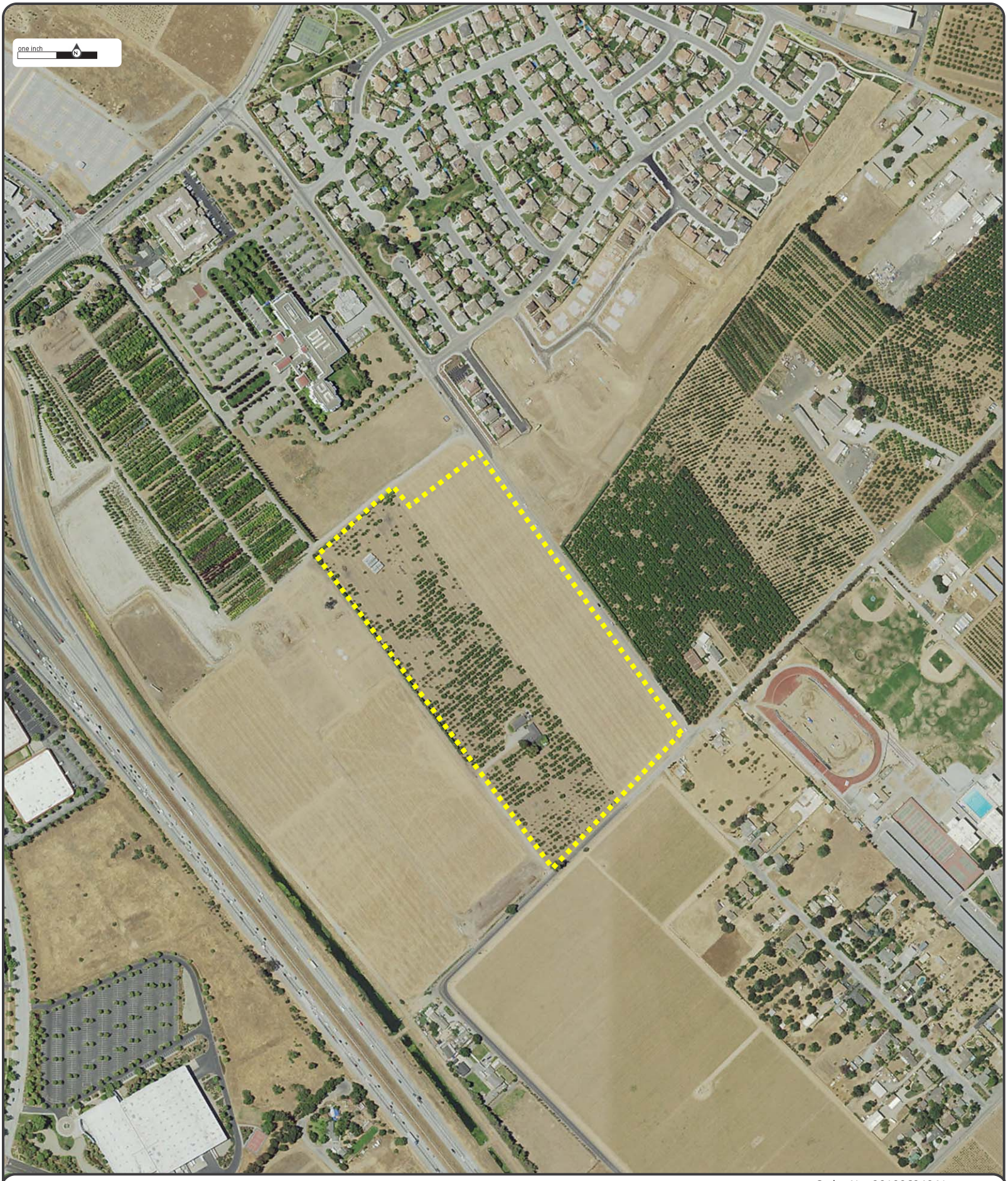
Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

Order No: 20190624041

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204



Order No: 20190624041

Year: **2014**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Year: **2012**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

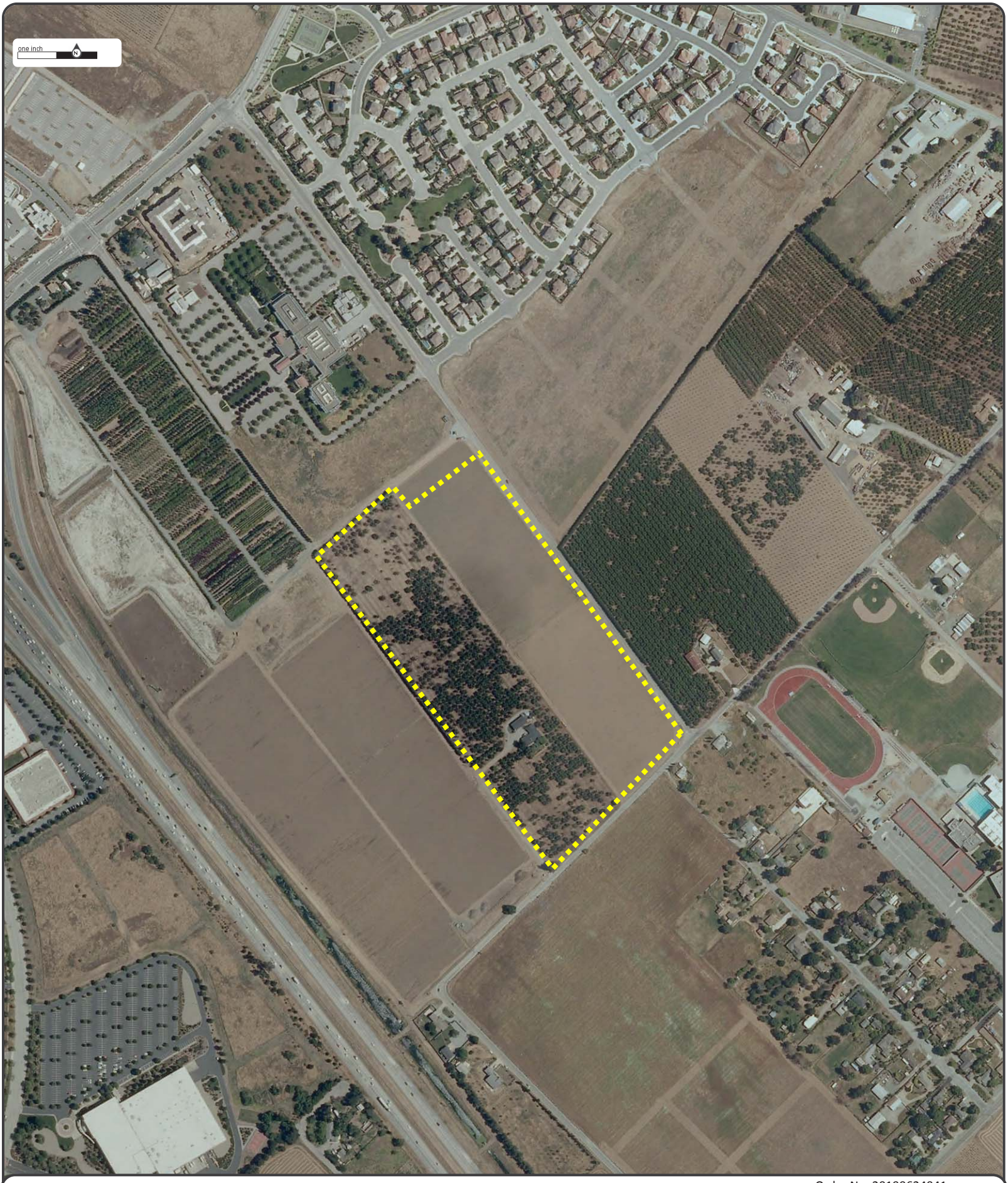
Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

Order No: 20190624041

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204



Year: **2010**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

Order No: 20190624041

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Year: **2009**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

Order No: 20190624041

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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Order No: 20190624041

Year: **2006**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Order No: 20190624041

Year: **2005**
Source: **NAIP**
Scale: **1" to 500'**
Comments:

Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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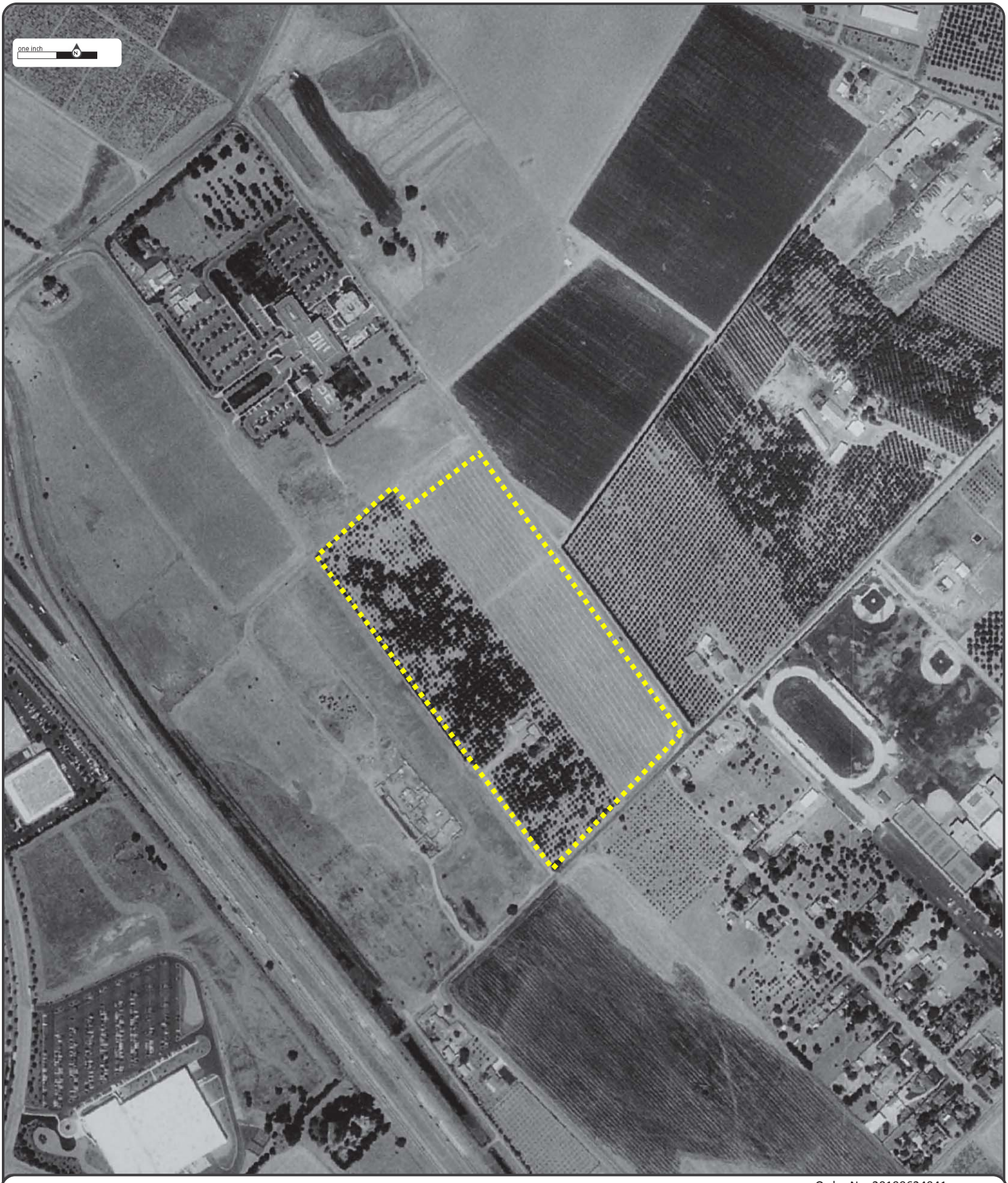


Year: **1998**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

Order No: 20190624041

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Year: **1987**
Source: **NAPP**
Scale: **1" to 500'**
Comments: *BEST COPY AVAILABLE*

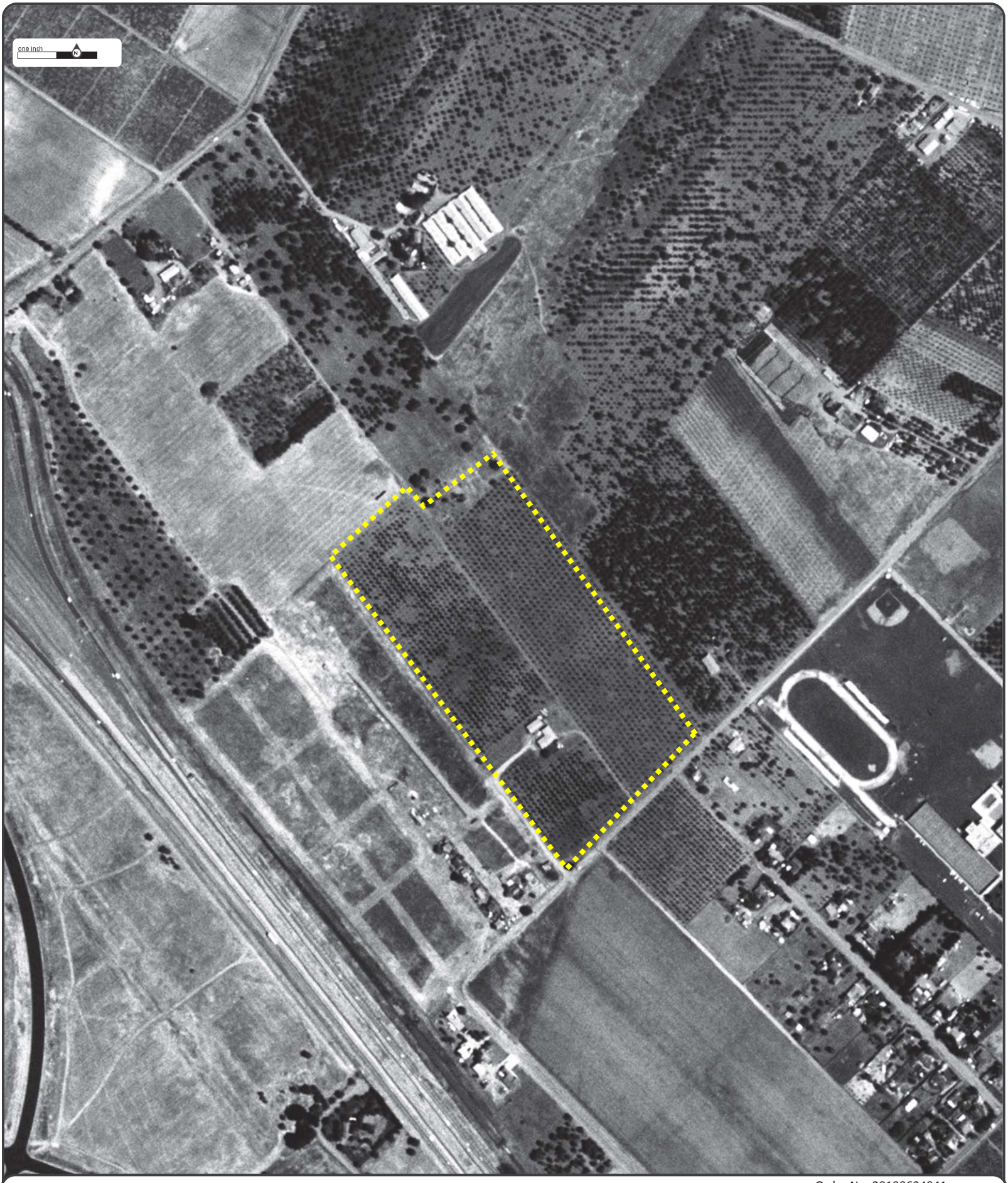
Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

Order No: 20190624041

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204



Order No: 20190624041

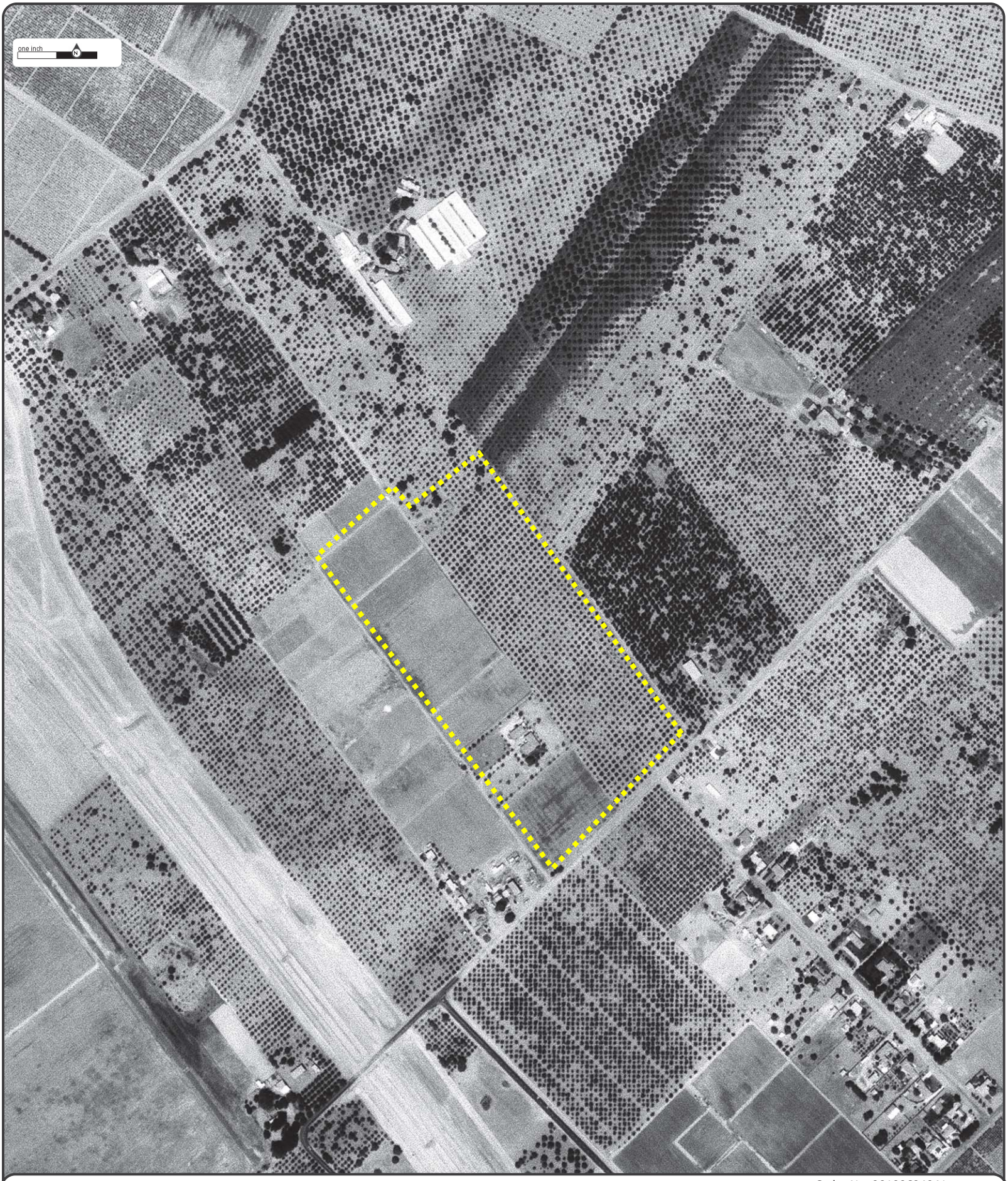
Year: **1982**
Source: **NHAP**
Scale: **1" to 500'**
Comments:

Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204



Year: **1971**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

Order No: 20190624041

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Year: **1968**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

Order No: 20190624041

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Year: **1953**
Source: **USGS**
Scale: **1" to 500'**
Comments:

Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

Order No: 20190624041

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

www.erisinfo.com | 1.866.517.5204

Year: **1939**
Source: **ASCS**
Scale: **1" to 500'**
Comments:

Site Address: 1105 Half Road Morgan Hill CA
Approx Center: 37.15018 / -121.6432

N

Order No: 20190624041

ERIS
ENVIRONMENTAL RISK INFORMATION SERVICES

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APPENDIX E

USGS TOPOGRAPHIC MAPS

ENVIRONMENTAL RISK INFORMATION SERVICES

TOPOGRAPHIC MAPS

Project Property:	Fry Property 1105 Half Road Morgan Hill CA 95037
Requested By:	25019-019069.00
Order No:	20190624041
Date Completed:	June 25, 2019

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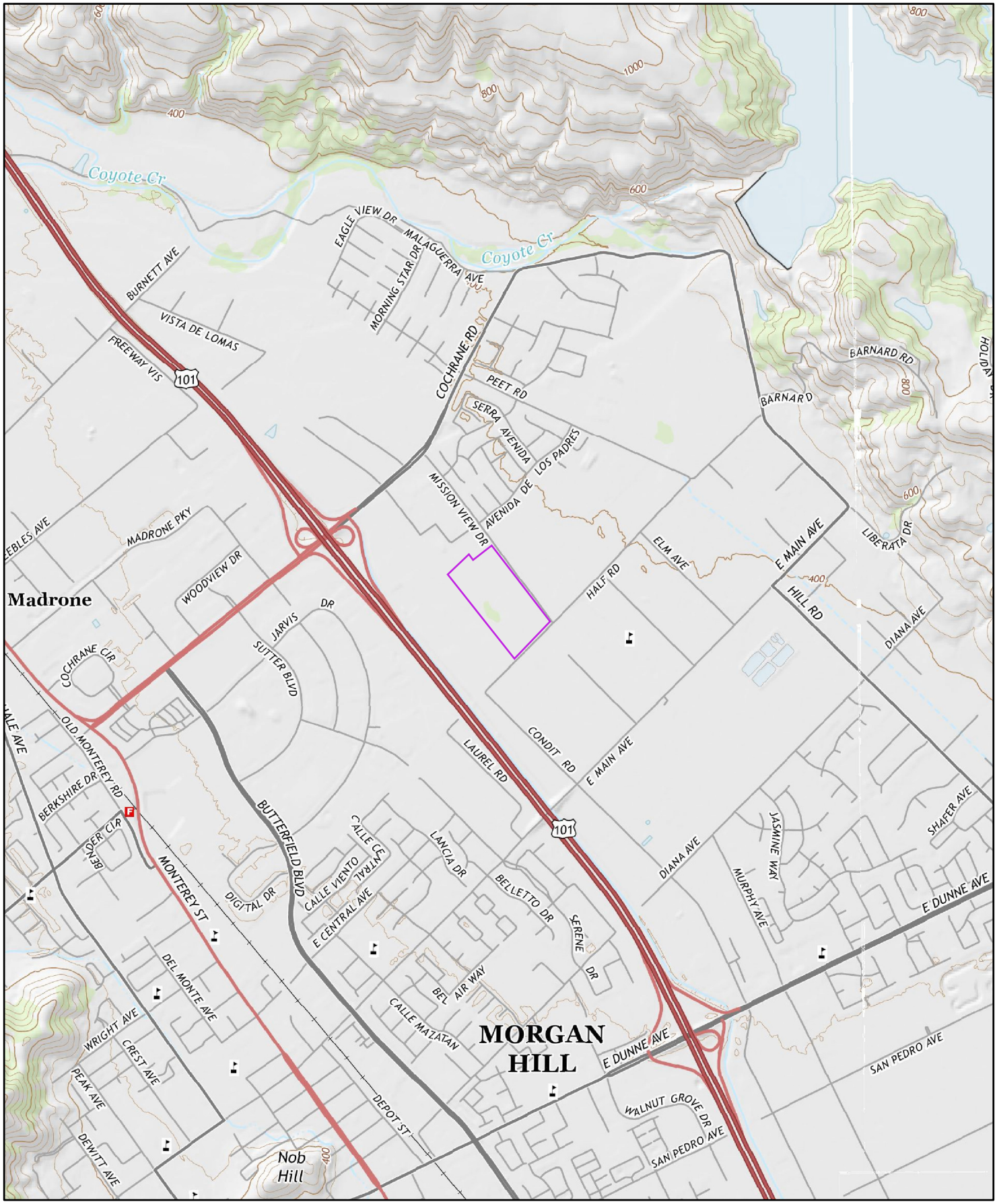
We have searched USGS collections of current topographic maps and historical topographic maps for the project property. Below is a list of maps found for the project property and adjacent area. Maps are from 7.5 and 15 minute topographic map series, if available.

Year	Map Series
2015	7.5
1980	7.5
1973	7.5
1968	7.5
1955	7.5
1939	15
1917	15

Topographic Maps included in this report are produced by the USGS and are to be used for research purposes including a phase I report. Maps are not to be resold as commercial property.
No warranty of Accuracy or Liability for ERIS: The information contained in this report has been produced by ERIS Information Inc.(in the US) and ERIS Information Limited Partnership (in Canada), both doing business as 'ERIS', using Topographic Maps produced by the USGS. This maps contained herein does not purport to be and does not constitute a guarantee of the accuracy of the information contained herein. Although ERIS has endeavored to present you with information that is accurate, ERIS disclaims, any and all liability for any errors, omissions, or inaccuracies in such information and data, whether attributable to inadvertence, negligence or otherwise, and for any consequences arising therefrom. Liability on the part of ERIS is limited to the monetary value paid for this report.



2015

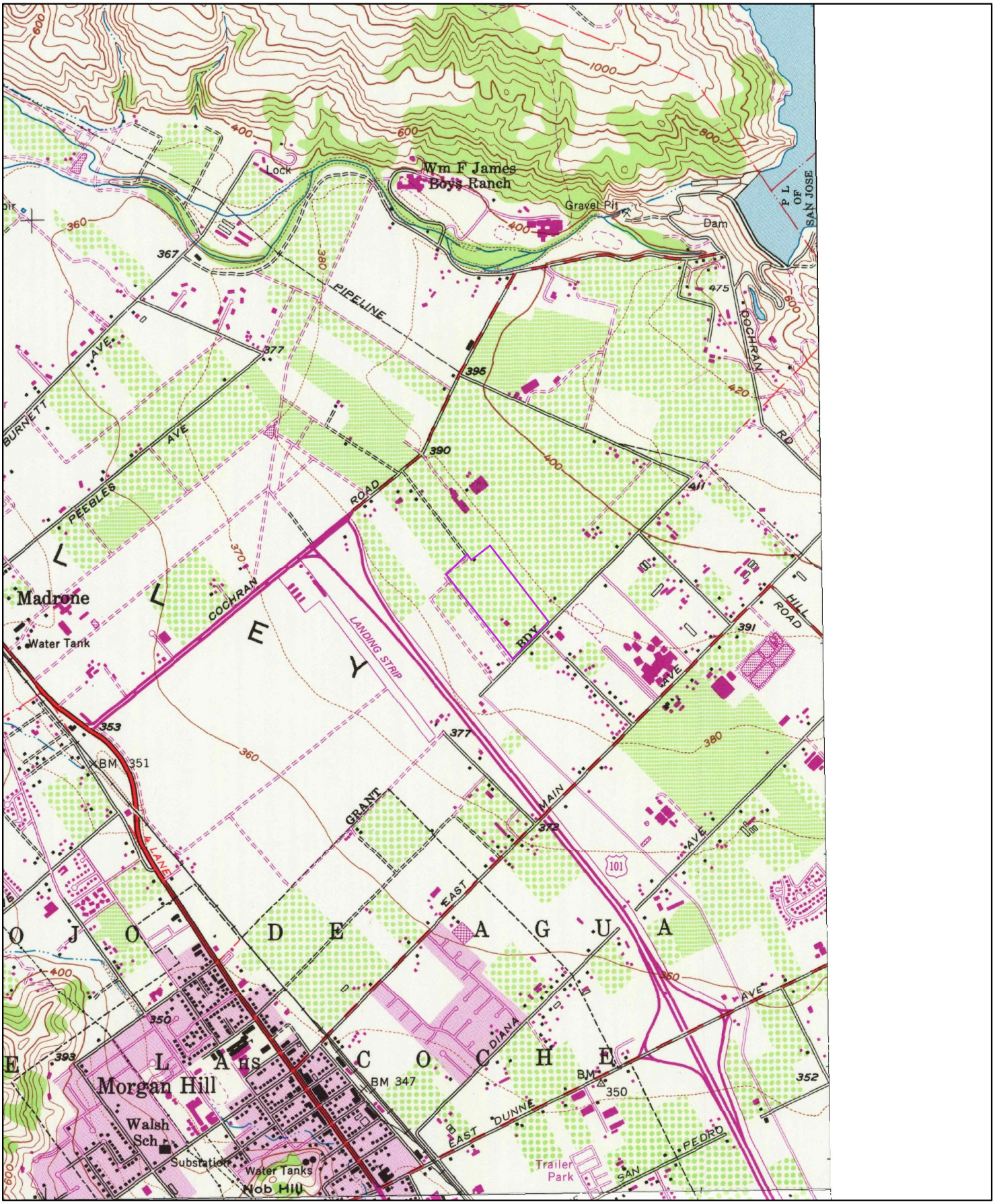
0 0.2 0.4 0.8 Miles

Order No. 20190624041

Quadrangle(s): Morgan Hill,CA

Source: USGS 7.5 Minute Topographic Map

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES



1980

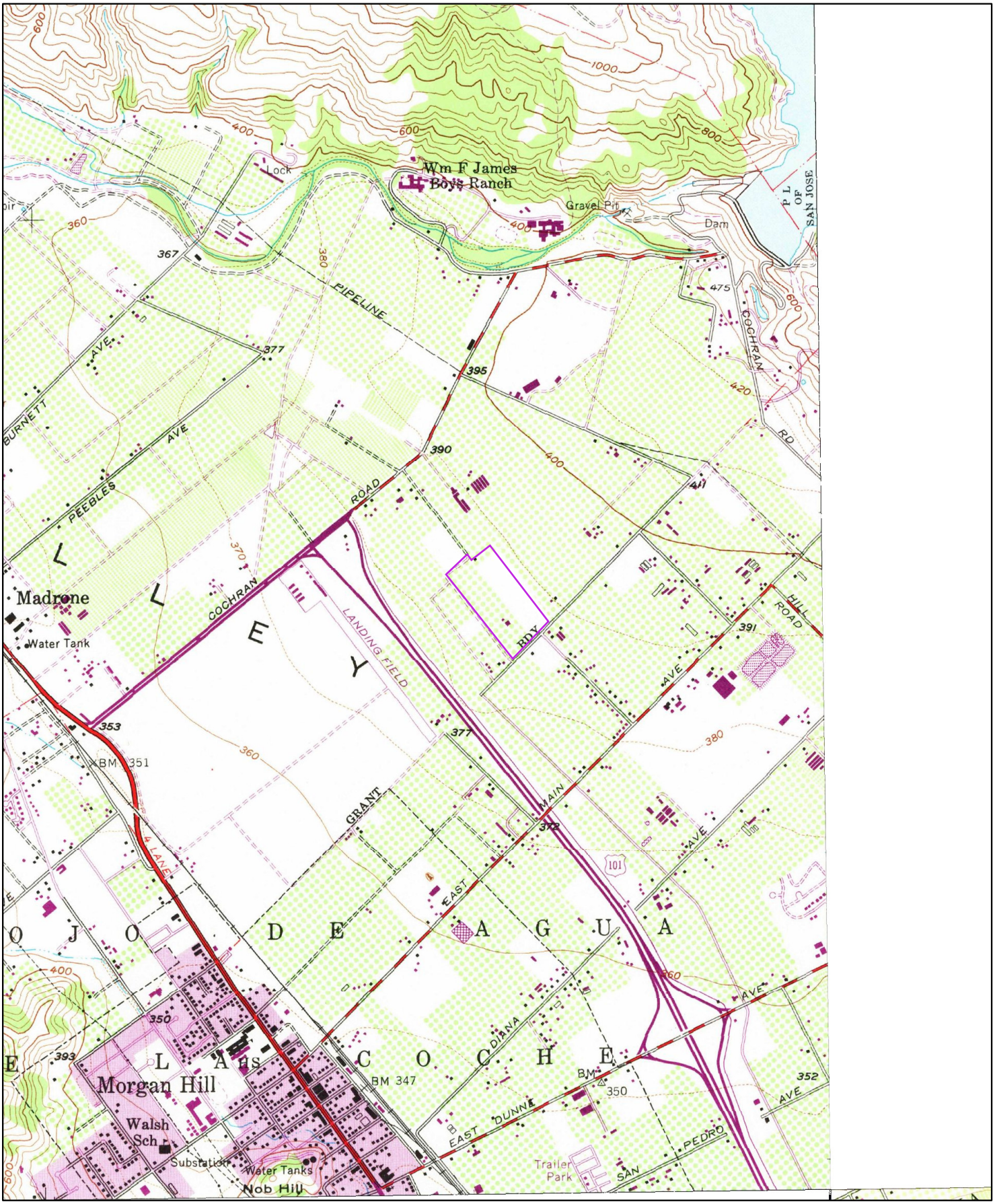
0 0.2 0.4 0.8 Miles

Order No. 20190624041

Quadrangle(s): Morgan Hill,CA

Source: USGS 7.5 Minute Topographic Map

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES



1973

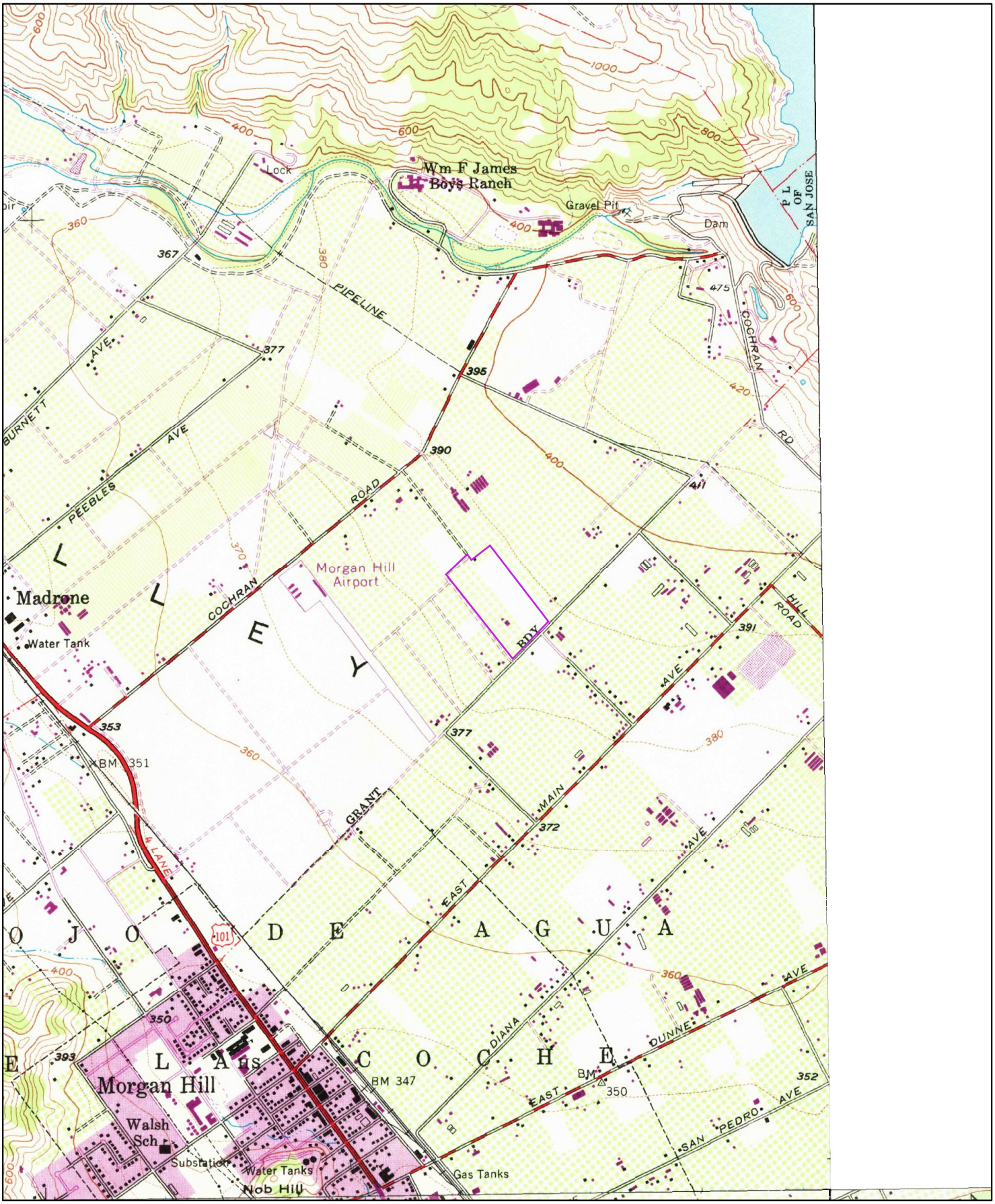
0 0.2 0.4 0.8 Miles

Order No. 20190624041

Quadrangle(s): Morgan Hill,CA

Source: USGS 7.5 Minute Topographic Map

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES



1968

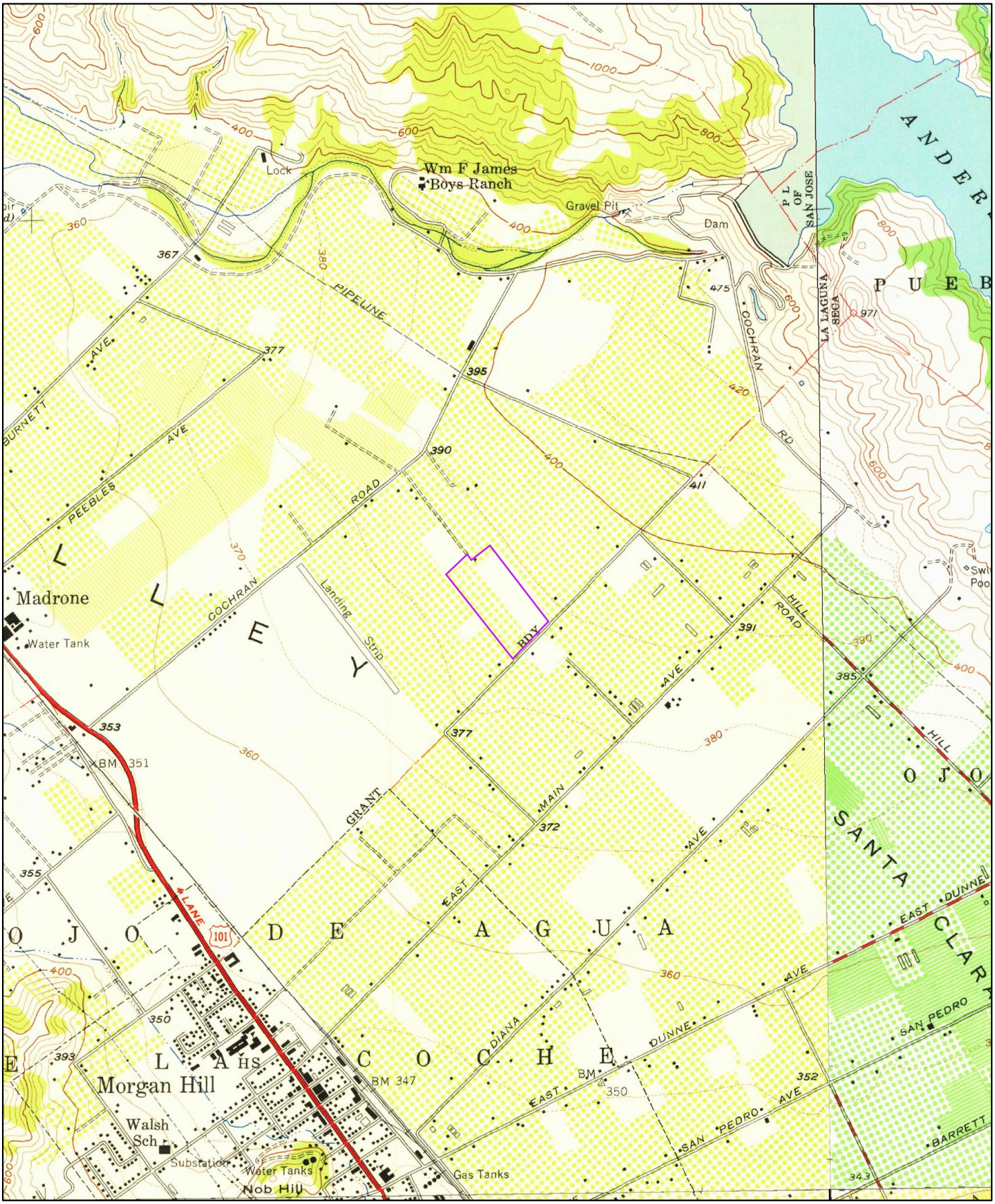
0 0.2 0.4 0.8 Miles

Order No. 20190624041

Quadrangle(s): Morgan Hill,CA

Source: USGS 7.5 Minute Topographic Map

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES



1955

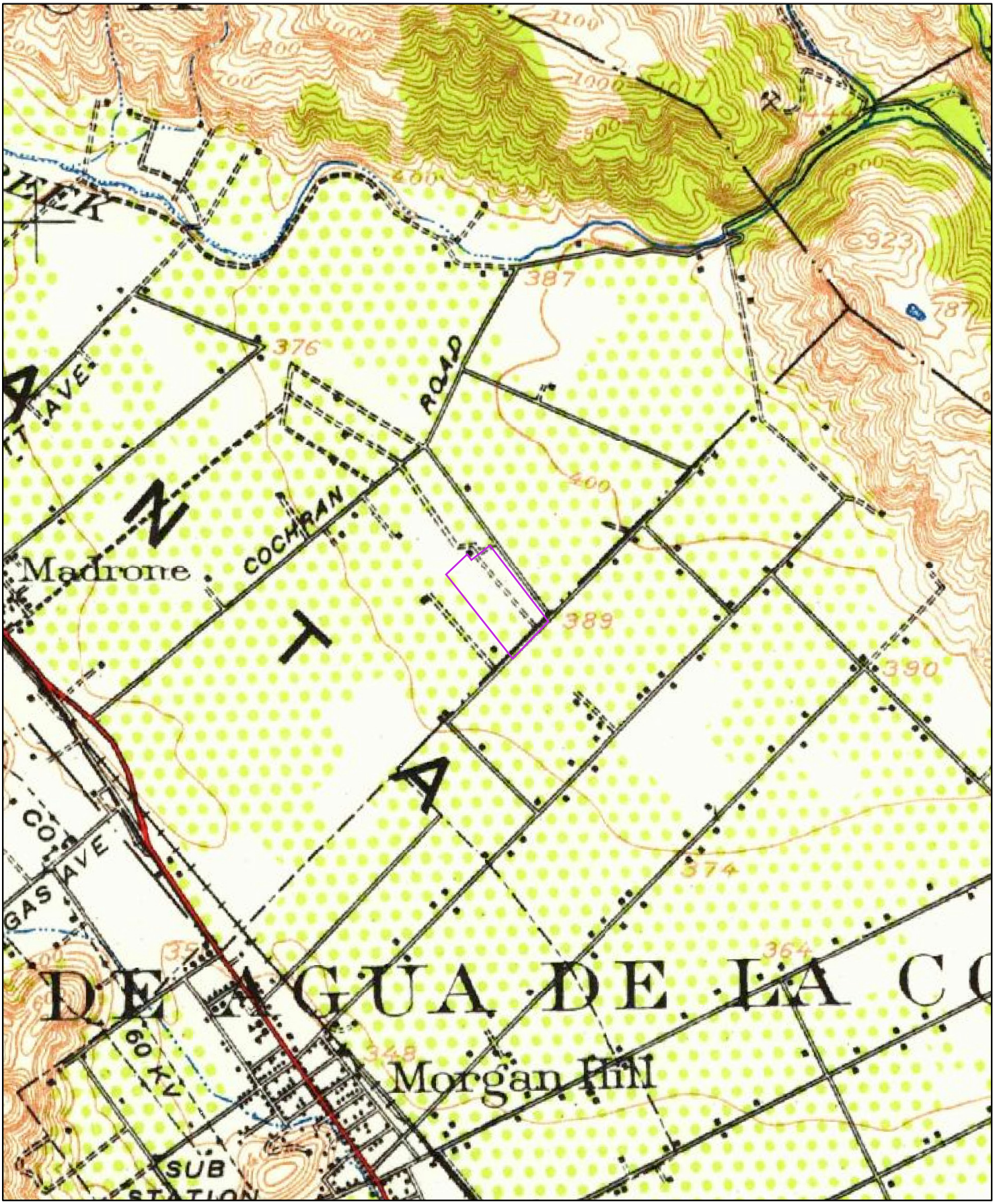
0 0.2 0.4 0.8 Miles

Order No. 20190624041

Quadrangle(s): Morgan Hill,CA

Source: USGS 7.5 Minute Topographic Map

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES



1939

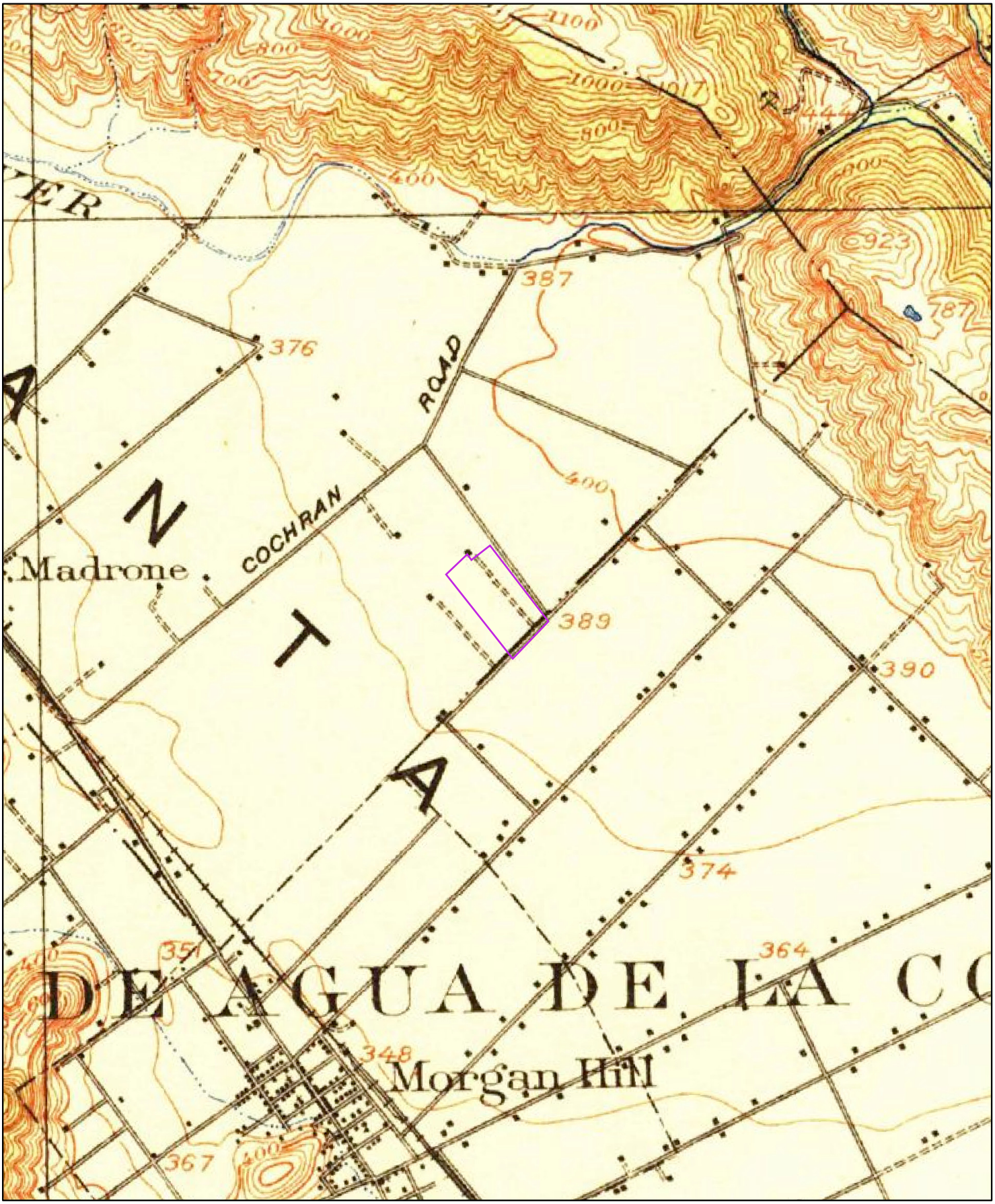
0 0.2 0.4 0.8 Miles

Order No. 20190624041

Quadrangle(s): Morgan Hill,CA

Source: USGS 15 Minute Topographic Map

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES



1917

0 0.2 0.4 0.8 Miles

Order No. 20190624041

Quadrangle(s): Morgan Hill,CA

Source: USGS 15 Minute Topographic Map

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES

APPENDIX F

FIRE INSURANCE MAPS

ENVIRONMENTAL RISK INFORMATION SERVICES

FIRE INSURANCE MAPS

Project Property:	Fry Property 1105 Half Road Morgan Hill CA 95037
Requested By:	25019-019069.00
Order No:	20190624041
Date Completed:	June 25, 2019

Please note that no information was found for your site or adjacent properties.

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APPENDIX G

CITY DIRECTORIES

ENVIRONMENTAL RISK INFORMATION SERVICES

CITY DIRECTORY

Project Property:	*Fry Property* *1105 Half Road* *Morgan Hill, CA 95037*
Project No:	*25019-019069.00*
Requested By:	*Bureau Veritas North America, Inc.*
Order No:	*20190624041*
Date Completed:	*June 26, 2019*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

June 26, 2019
RE: CITY DIRECTORY RESEARCH
Fry Property
1105 Half Road Morgan Hill, CA

Thank you for contacting ERIS for an City Directory Search for the site described above. Our staff has conducted a reverse listing City Directory search to determine prior occupants of the subject site and adjacent properties. We have provided the nearest addresses(s) when adjacent addresses are not listed. If we have searched a range of addresses, all addresses in that range found in the Directory are included.

Note: Reverse Listing Directories generally are focused on more highly developed areas. Newly developed areas may be covered in the more recent years, but the older directories will tend to cover only the "central" parts of the city. To complete the search, we have either utilized the ACPL, Library of Congress, State Archives, and/or a regional library or history center as well as multiple digitized directories. These do not claim to be a complete collection of all reverse listing city directories produced.

ERIS has made every effort to provide accurate and complete information but shall not be held liable for missing, incomplete or inaccurate information. To complete this search we used the general range(s) below to search for relevant findings. If you believe there are additional addresses or streets that require searching please contact us at 866-517-5204.

Search Criteria:
1000-1400 of Half Road
All of Mission View Drive

Search Results Summary

Date	Source	Comment
2018	DIGITAL BUSINESS DIRECTORY	
2012	DIGITAL BUSINESS DIRECTORY	
2006	HAINES	
2001-02	HAINES	
1995-96	HAINES	
1990-91	HAINES	
1987	HAINES	
1981	HAINES	
1976	HAINES	
1971	HAINES	
1965	POLKS	
1962	POLKS	

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

HALF ROAD

NO LISTING FOUND FOR THIS YEAR...

2018
SOURCE: DIGITAL BUSINESS DIRECTORY

MISSION VIEW DRIVE

18511 **BJURMAN, JODI W**...*Dietitians*
18511 **CHIRALA RE GROUP LLC**...*Medical Groups<*
18511 **CHIRALA, ANURADHA MD**...*Physicians & Su*
18511 **SOUTH BAY CARDIOVASCULAR CTR**...*Physici*
18511 **SU, CATHERINE K MD**...*Physicians & Surg*

2012
SOURCE: DIGITAL BUSINESS DIRECTORY

HALF ROAD

NO LISTING FOUND FOR THIS YEAR...

2012
SOURCE: DIGITAL BUSINESS DIRECTORY

MISSION VIEW DRIVE

18511 **BJURMAN, JODI W**...*Dietitians*
18511 **CHIRALA, ANURADHA MD**...*Physicians & Su*
18511 **KRAUT JR, JOSEPH W MD**...*Physicians & S*
18511 **MITTAL, GUNJAN MD**...*Physicians & Surge*
18511 **MOTEZA DOWLATSHAHL**...*Physicians & Surg*
18511 **SOUTH BAY CARDIOVASCULAR CTR**...*Physici*
18511 **ST LOUISE CANCER CTR**...*Physicians & Su*

2006
SOURCE: HAINES

HALF ROAD

HALF RD 95037
MORGAN HILL

WEALTH CODE 9

X SAINT LOUISE DR

1280	XXXX	OO	
1320	XXXX	OO	
1345	● CORTEZ Robert	OO	
1420	XXXX	OO	

X ELM RD

1605	○ YANEZ-QUEZADA Jose	408-778-5162	4
1615	★ ANDY'S ORCHARD	408-782-7600	4
	GONZALEZ Antolin	408-779-8472	0
	★ MARIANI ANDREW	408-782-7600	4
1685	★ MARIANI ORCHARDS	408-779-5467 ●	

2006
SOURCE: HAINES

MISSION VIEW DRIVE

MISSION VIEW DR
95037 MORGAN HILL

WEALTH CODE 9

X COCHRANE RD

18511	★ AMER CANCER SOCIETY	408-776-1615	4
	★ KRAUT JOSEPH JR MD	408-779-7696	9
	★ ST LOUISE CANCER CENTER	408-778-9104	

X MISSION AVE

★ 3 BUS 0 RES 0 NEW

HALF RD 95037
MORGAN HILL

WEALTH CODE 8.0

1035	XXXX	OO	
1065	XXXX	OO	
1280	GODSEY Gregory	408-778-6962	+1
1320	XXXX	OO	

HALF RD 95037 CONT.

1345	●CORTEZ Robert	OO	9
1400	●TOMACCI Helen	OO	9
1490	XXXX	OO	
X	ELM RD		
1605	XXXX	OO	
1615	GONZALEZ Anicilin	408-779-8472	0
	● MARIANI ORCHARDS	408-779-5467	
1685	XXXX	OO	
X	PEET RD		

2001-02 MISSION VIEW DRIVE
SOURCE: HAINES

MISSION VIEW DR 95037
MORGAN HILL

WEALTH CODE 8.0

18509	XXXX	OO	
18511	★KRAUT JOSEPH JR MD	408-779-7696	9
	★ST LOUISE CANCER CT	408-778-6104	

★ 2 BUS 1 RES 0 NEW

1995-96 HALF ROAD
SOURCE: HAINES

HALF RD 95037
MORGAN HILL

WEALTH CODE 8.0

1035	XXXX	00
1065	LANGWORTHY W	779-4023
1105	XXXX	00
1280	XXXX	00
1320	XXXX	00
1345	XXXX	00
1615	★MARIANI ORCHARDS	779-5467
1685	XXXX	00

1995-96 MISSION VIEW DRIVE
SOURCE: HAINES

MISSION VIEW DR (91)
95037 MORGAN HILL

18509	★MORGN HL MRI	776-0272	4
18511	★AMER CANCER SOCIETY	776-1615	2
	★KRAUT JOS W MD	778-9104	1
	★SCATES STEVEN M MD	778-5069	3
	★SCHNEIDER MICHL MD	778-9104	
	★ST LOUISE CANCER CT	778-9104	

★ 6 BUS 0 RES 0 NEW

1990-91 HALF ROAD
SOURCE: HAINES

HALF RD 95037
MORGAN HILL

1035	LOPEZ Angelina	778-0397	9
1065	LANGWORTHY W	779-4023	4
1105	ROUSE B F	779-5908	8
1280	XXXX	00	
1320	XXXX	00	
1345	★TRI CITY TILE	779-8472	+0
1490	XXXX	00	
1605	XXXX	00	
1615	★MARIANI ORCHARDS	779-5467	
	MARIANI Sima	779-3369	
1685	XXXX	00	

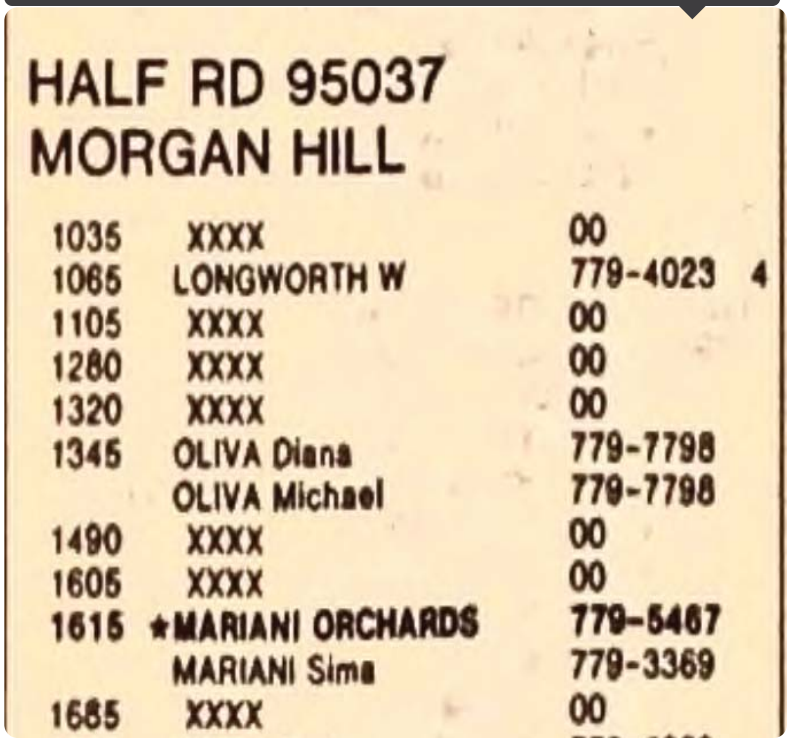
1990-91
SOURCE: HAINES

MISSION VIEW DRIVE

STREET NOT LISTED

1987
SOURCE: HAINES

HALF ROAD



HALF RD 95037
MORGAN HILL

1035	XXXX	00
1065	LONGWORTH W	779-4023 4
1105	XXXX	00
1280	XXXX	00
1320	XXXX	00
1345	OLIVA Diana	779-7798
	OLIVA Michael	779-7798
1490	XXXX	00
1605	XXXX	00
1615	★MARIANI ORCHARDS	779-5467
	MARIANI Sima	779-3369
1685	XXXX	00

1987 *SOURCE: HAINES*

MISSION VIEW DRIVE

STREET NOT LISTED

1981 *SOURCE: HAINES*

HALF ROAD

HALF RD 95037
MORGAN HILL

905	XXXX	00	
1035	IVEY IRBY	779-4393	2
	LONGWORTH W	779-4023	9
1065	CONNER OWEN W JR	779-1689	9
	RAMON GABRIEL	778-2309	+1
1105	HANN CHARLES L	779-7068	5
1280	XXXX	00	
1320	XXXX	00	
1345	XXXX	00	
1490	XXXX	00	
1605	GUNTER CLARENCE V	779-9040	
1615	MARIANI MITCHELL	779-5467	6
	MARIANI SIMA	779-3369	4
1685	XXXX	00	
1710	HIKIDA RAY	779-5839	3
1720	SCOTT RICHARD C	779-3915	7
1780	MATTEIS ERNEST J	779-0370	0
1790	MOORE DONALD E	779-2326	8
1800	ZAUCHA DAVID	779-6484	
	ZAUCHA DEBBIE	779-6484	8
	ZAUCHA JOHN C	779-3664	9
*	0 BUS 21 RES	1 NEW	

1981 *SOURCE: HAINES*

MISSION VIEW DRIVE

STREET NOT LISTED

1976 *SOURCE: HAINES*

HALF ROAD

HALF RD 95037 MORGAN HILL

905	SHEHAN JUDITH A	779-9513 5
1035	LEDFORD FLOYD R	779-5682+6
B	IVEY IRBY	779-4393 2
1065	BAUMERT K	779-4651+6
	DIAZ PEDRO RUBIO	779-2675+6
	EASTES RUTH	779-2895
	LITTLEFIELD N V	779-9460 4
1105	HANN CHARLES L	779-7068 5
1280	MOLICA PAUL J	779-7516 5
1320	XXXX	00
1345	LEONTI JOE	779-2207
1490	XXXX	00
1605	GUNTER CLARENCE V	779-9040
1615	AIELLO JOE	779-5467+6
	MARIANI MITCHELL	779-5467+6
	MARIANI SIMA	779-3369 4
1685	XXXX	00
1710	HIKIDA RAY	779-5839 3
1720	LONG BENNY C	779-5622 4
1790	STEED FRED	779-2325 5
1800	ZAUCHA JOHN	779-3664 4
*	0 BUS 21 RES	5 NEW

1976 *SOURCE: HAINES*

MISSION VIEW DRIVE

STREET NOT LISTED

1971 *SOURCE: HAINES*

HALF ROAD

HALF RD 95037 MORGAN HILL

905	SHIVERS R E	779-2792
1065	EASTES RUTH	779-2895
	LITTLEFIELD C R	779-9460
1105	SNOW H L	227-4729+1
1280	GUTIERREZ ROSE	779-3964
1345	LEONTI JOE	779-2207
1605	GUNTER CLARENCE V	779-9040
1615	*MARIANI ORCHARDS	779-9637
1685	HORNBECK JAS MRS	779-2868
1790	DEMELE FREDERICK E	779-2654
NO #	IVEY IRBY	779-4393
NO #	MARIANI JOE	779-3369

* 1 BUS 11 RES 1 NEW

1971 *SOURCE: HAINES*

MISSION VIEW DRIVE

STREET NOT LISTED

1965 *SOURCE: POLKS*

HALF ROAD

STREET NOT LISTED

1965 MISSION VIEW DRIVE
SOURCE: POLKS

STREET NOT LISTED

1962 HALF ROAD
SOURCE: POLKS

STREET NOT LISTED

1962 MISSION VIEW DRIVE

SOURCE: POLKS

STREET NOT LISTED

--- END REPORT ---

APPENDIX H

RECORDED LAND TITLE DOCUMENTS

ENVIRONMENTAL RISK INFORMATION SERVICES

ENVIRONMENTAL LIEN SEARCH

Project Property: *1105 HALF ROAD*
MORGAN HILL, CA 95037
Order No: *20190624041-1*
Date Completed: *07/09/2019*

The following is the current property legal description (See deed for full legal description):

LOT C

Assessor's Parcel Number(s): 728-30-001

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

ENVIRONMENTAL LIEN REPORT

Order No: *20190624041-1*

The ERIS Environmental Lien Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied property information to:

- Search for parcel information and / or legal description
- Search for ownership information
- Research official land title documents recorded at jurisdictional agencies such as recorder's' office, registries of deeds, county clerks' offices, etc.
- Access a copy of the deed
- Search for environmental encumbrance(s) associate with the deed
- Provide a copy of any environmental encumbrance(s) based upon a review of keywords in the instrument(s) (title, parties involved and description)
- Provide a copy of the deed or cite documents reviewed

Thank You for Your Business
Please contact ERIS at **416-510-5204** or **info@erisinfo.com**
with any questions or comments

LIMITATION

This report is neither a guarantee of title, a commitment to insure, or a policy of title insurance. ERIS – Environmental Risk Information Services does not guarantee nor include any warranty of any kind whether expressed or implied, about the validity of all information included in this report since this information is retrieved as it is recorded from various agencies that make it available. The total liability is limited to the fee paid for this report.

ENVIRONMENTAL LIEN REPORT

Order No: *20190624041-1*

The ERIS Environmental Lien Search Report is intended to assist in the search for environmental liens filed in land title records.

TARGET PROPERTY INFORMATION

ADDRESS

1105 HALF ROAD
MORGAN HILL, CA 95037

RESEARCH SOURCE

SANTA CLARA COUNTY RECORDER'S OFFICE
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEED INFORMATION

Type of Instrument:	GRANT DEED
Grantor:	EICHI HIGASHI, AKA EIICHI HIGASHI, TETSUO HIGASHI; MICHIKO TOMITA; SUMIYE HIGASHI; YOSHIKO MATSUMOTO; AND DICK M. OHYE , AND KIMI OHYE, AS TRUSTEES OF THE DICK M. OHYE AND KIMI OHYE REVOCABLE TRUST CREATED UNDER DOCUMENT DATED MARCH 2, 1999
Grantee:	LLAGAS LLC
Deed Dated:	03/06/2001
Deed Recorded:	03/12/2001
Instrument:	15589300

LEGAL DESCRIPTION

LOT C

Assessor's Parcel Number (s): 728-30-001

ENVIRONMENTAL LIEN REPORT

Order No: *20190624041-1*

ENVIRONMENTAL LIEN

Environmental Lien: Found X Not Found

If Found Describe:

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AULs: Found X Not Found

If Found Describe:

LEASES

Lessor: NONE IDENTIFIED
Lessee:
Lease Date:
Recorded Date:
Instrument #:
Lease Type:
Comments:

RECORDING REQUESTED BY
First American Title Guaranty Company
Order No.
Escrow No. 519080
Loan No.
WHEN RECORDED MAIL TO:

Llagas, LLC
440 North First St. #200
San Jose, CA 95112

DOCUMENT: 15589300

0015589300

Titles: 1 / Pages: 4
Fees 46.00
Taxes ... ** Conf **
Copies ..
AMT PAID 46.00

BRENDA DAVIS
SANTA CLARA COUNTY RECORDER
Recorded at the request of
First American Title Company

RDE # 002
3/12/2001
2:38 PM

SPACE ABOVE THIS LINE FOR RECORDER'S USE

MAIL TAX STATEMENTS TO:

Same as above

The undersigned grantor(s) declare(s):
CITY TRANSFER TAX $ N/A
DOCUMENTARY TRANSFER TAX $ Not disclosed
SURVEY MONUMENT FEE $
Computed on the consideration or value of property conveyed; OR
Computed on the consideration or value less liens or encumbrances remaining at time of sale.

APN 728-30-001

GRANT DEED

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

Eichi Higashi, aka Eiichi Higashi; Tetsuo Higashi; Michiko Tomita; Sumiye Higashi; Yoshiko Matsumoto; and, Dick M. Ohye and Kimi Ohye, as Trustees of the Dick M. Ohye and Kimi Ohye Revocable Trust created under Document dated March 2, 1999.

hereby GRANT(S) to

Llagas, LLC, a California limited liability company

the real property in the City of **Morgan Hill**
County of **Santa Clara** , State of California, described as

SEE LEGAL DESCRIPTION ATTACHED HERETO AND MADE A PART HEREOF

Dated March 6, 2001

STATE OF CALIFORNIA)
)ss.
COUNTY OF _____)

SIGNATURE PAGE ATTACHED

On _____
before me, _____, personally
appeared _____
_____,
personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.
WITNESS my hand and official seal.

Signature _____

SALE.GD (Rev 3/99)

MAIL TAX STATEMENTS AS SHOWN ABOVE

(This area for official notarial seal)

SIGNATURE TO GRANT DEED

Eichi Higashi

Tetsuo Higashi

Michiko Tomita

Sumiye Higashi

Yoshiko Matsumoto

Dick M. Ohye, as Trustee of the Dick M. Ohye and Kimi Ohye Revocable Trust created under Document dated March 2, 1999

Kimi Ohye, as Trustee of the Dick M. Ohye and Kimi Ohye Revocable Trust created under Document dated March 2, 1999

NOTARY ACKNOWLEDGMENT

STATE OF CALIFORNIA }ss
COUNTY OF Santa Clara }

On **March 6, 2001**, before me, **Helen M. Gagnon**, a Notary Public in and for said State, personally appeared **Eichi Higashi, aka Elichi Higashi; Tetsuo Higashi; Michiko Tomita; Sumiye Higashi; Yoshiko Matsumoto; and, Dick M. Ohye and Kimi Ohye**, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature _____

HELEN M. GAGNON
Commission # 1272639
Notary Public - California
Santa Clara County
My Comm. Expires Aug 15, 2004

(This area for official notarial seal)

EXHIBIT A

REAL PROPERTY in the City of Morgan Hill, County of Santa Clara, State of California, described as follows:

Parcel C, as shown on that certain Lot Line Adjustment Parcel Map filed for record in the Office of the Recorder of the County of Santa Clara, State of California on December 5, 1988 in Book 594 of Maps, page(s) 7 and 8.

APN: 728-30-001
ARB: 727-12-10.05, 10.02.03

ENVIRONMENTAL RISK INFORMATION SERVICES

ENVIRONMENTAL LIEN SEARCH

Project Property: *HALF ROAD*
MORGAN HILL, CA 95037
Order No: *20190624041-2*
Date Completed: *07/09/2019*

The following is the current property legal description (See deed for full legal description):

LOT 2, AS SHOWN ON PARCEL MAP FILED OCTOBER 14, 1981

Assessor's Parcel Number(s): 728-30-002

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

ENVIRONMENTAL LIEN REPORT

Order No: *20190624041-2*

The ERIS Environmental Lien Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied property information to:

- Search for parcel information and / or legal description
- Search for ownership information
- Research official land title documents recorded at jurisdictional agencies such as recorder's' office, registries of deeds, county clerks' offices, etc.
- Access a copy of the deed
- Search for environmental encumbrance(s) associate with the deed
- Provide a copy of any environmental encumbrance(s) based upon a review of keywords in the instrument(s) (title, parties involved and description)
- Provide a copy of the deed or cite documents reviewed

Thank You for Your Business
Please contact ERIS at **416-510-5204** or **info@erisinfo.com**
with any questions or comments

LIMITATION

This report is neither a guarantee of title, a commitment to insure, or a policy of title insurance. ERIS – Environmental Risk Information Services does not guarantee nor include any warranty of any kind whether expressed or implied, about the validity of all information included in this report since this information is retrieved as it is recorded from various agencies that make it available. The total liability is limited to the fee paid for this report.

ENVIRONMENTAL LIEN REPORT

Order No: *20190624041-2*

The ERIS Environmental Lien Search Report is intended to assist in the search for environmental liens filed in land title records.

TARGET PROPERTY INFORMATION

ADDRESS

HALF ROAD
MORGAN HILL, CA 95037

RESEARCH SOURCE

SANTA CLARA COUNTY RECORDER'S OFFICE
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEED INFORMATION

Type of Instrument:	GRANT DEED
Grantor:	UNITED FRIENDSHIP AND INVESTMENTS ASSOCIATION
Grantee:	LLAGAS, LLC
Deed Dated:	05/24/2000
Deed Recorded:	05/26/2000
Instrument:	15261480

LEGAL DESCRIPTION

LOT 2, AS SHOWN ON PARCEL MAP FILED OCTOBER 14, 1981

Assessor's Parcel Number (s): 728-30-002

ENVIRONMENTAL LIEN REPORT

Order No: *20190624041-2*

ENVIRONMENTAL LIEN

Environmental Lien: Found X Not Found

If Found Describe:

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AULs: Found X Not Found

If Found Describe:

LEASES

Lessor: NONE IDENTIFIED
Lessee:
Lease Date:
Recorded Date:
Instrument #:
Lease Type:
Comments:

RECORDING REQUESTED BY:
Fidelity National Title Company - Cupertino
Escrow No. 4001103-DP
Title Order No. 04001103 LD MR

When Recorded Mail Document and Tax Statement To:
LLAGAS, LLC
152 NORTH THIRD ST #201
San Jose, CA 95138

DOCUMENT: 15261480
0015261480

Titles: 1 / Pages 2
Fees 20 00
Taxes •• Conf ••
Copies
AMT PAID 20 00

BRENDA DAVIS
SANTA CLARA COUNTY RECORDER
Recorded at the request of
Fidelity National Title Ins

RDE # 011
5/26/2000
8:00 AM

APN: 728-30-002

GRANT DEED

SPACE ABOVE THIS LINE FOR RECORDER'S USE

ARB 727-12-010

The undersigned grantor(s) declare(s)
Documentary transfer tax is
[X] computed on full value of property conveyed, or
[ ] computed on full value less value of liens or encumbrances remaining at time of sale,
[ ] Unincorporated Area City of Morgan Hill

FILOR REQUESTS
DO NOT RECORD STAMP VALUE

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged, United Friendship and Investments Association, a limited partnership

hereby GRANT(S) to Llagas, LLC, a Ltd. Liability Co.

the following described real property in the City of Morgan Hill
County of Santa Clara, **State of** California:
SEE EXHIBIT ONE ATTACHED HERETO AND MADE A PART HEREOF

DATED: May 24, 2000

STATE OF CALIFORNIA
COUNTY OF Santa Clara
ON 5/24/00 before me,
D. PATRICK personally appeared
PAK-SOON CHAN

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

Witness my hand and official seal.

Signature D. Patrick

United Friendship and Investments Association, a limited partnership

By: PAK-SOON CHAN

D. PATRICK
Comm. # 1194801
NOTARY PUBLIC-CALIFORNIA
Santa Clara County
My Comm. Expires Sept. 6, 2002

MAIL TAX STATEMENTS AS DIRECTED ABOVE

Escrow No. 4001103-DP
Title Order No. 04001103

EXHIBIT ONE

Parcel One:

PARCEL 2, as shown on Parcel Map filed October 14, 1981 in Book 491 of Maps, at page 10, Santa Clara County Records.

Parcel Two:

An easement for a well site, together the right to take 1/2 of the water therefrom, described as follows:

Being a portion of parcel 1 as shown on parcel map filed in Book 491 of maps at Page 10, Santa Clara County records and more particularly a well site 10 feet square described as follows:

Beginning at a point which is North 36°21' West 509.00 feet and South 53°39'West, 64.00 feet from the Southeasterly corner of Parcel 1 in the Southwesterly line of Peet Lane as Shown on said map and running thence South 36°21' East 5.00 Feet, South 53° 39' West 10.00 feet, North 36°21'West, 10.00 feet and North 53°39' East 10.00 feet and South 36°21' East, 5.00 feet to the point of beginning and together with an easement 20.00 feet wife for the construction and maintenance of a water line, the Northeasterly and the Northwesterly line of which is described as follows:

Beginning at the Southeasterly corner of Parcel 1 in the Southwesterly line of Peet Lane as shown on said Map and running thence along the Northeasterly Line of Parcel 1 North 36°21' West 519.00 Feet; thence 53°39'West 64.00 feet.

ENVIRONMENTAL RISK INFORMATION SERVICES

ENVIRONMENTAL LIEN SEARCH

Project Property: *1105 HALF ROAD*
MORGAN HILL, CA 95037
Order No: *20190624041-3*
Date Completed: *07/09/2019*

The following is the current property legal description (See deed for full legal description):

LOT 1

Assessor's Parcel Number(s): 728-30-003

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

ENVIRONMENTAL LIEN REPORT

Order No: *20190624041-3*

The ERIS Environmental Lien Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied property information to:

- Search for parcel information and / or legal description
- Search for ownership information
- Research official land title documents recorded at jurisdictional agencies such as recorder's' office, registries of deeds, county clerks' offices, etc.
- Access a copy of the deed
- Search for environmental encumbrance(s) associate with the deed
- Provide a copy of any environmental encumbrance(s) based upon a review of keywords in the instrument(s) (title, parties involved and description)
- Provide a copy of the deed or cite documents reviewed

Thank You for Your Business
Please contact ERIS at **416-510-5204** or **info@erisinfo.com**
with any questions or comments

LIMITATION

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ENVIRONMENTAL LIEN REPORT

Order No: *20190624041-3*

The ERIS Environmental Lien Search Report is intended to assist in the search for environmental liens filed in land title records.

TARGET PROPERTY INFORMATION

ADDRESS

1105 HALF ROAD
MORGAN HILL, CA 95037

RESEARCH SOURCE

SANTA CLARA COUNTY RECORDER'S OFFICE
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEED INFORMATION

Type of Instrument:	GRANT DEED
Grantor:	PATRICIA A. HANN, TRUSTEE AND CHARLES L. HANN, TRUSTEE OF THE CHARLES L. HANN FAMILY TRUST DATED JUNE 5, 1995 AND METADYNE INCORPORATED , AND PATRICIA A. HANN, AN UNMARRIED WOMAN
Grantee:	LLAGAS LLC
Deed Dated:	03/24/2000
Deed Recorded:	04/06/2000
Instrument:	15205019

LEGAL DESCRIPTION

LOT 1

Assessor's Parcel Number (s): 728-30-003

ENVIRONMENTAL LIEN REPORT

Order No: *20190624041-3*

ENVIRONMENTAL LIEN

Environmental Lien: Found X Not Found

If Found Describe:

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AULs: Found X Not Found

If Found Describe:

LEASES

Lessor: NONE IDENTIFIED
Lessee:
Lease Date:
Recorded Date:
Instrument #:
Lease Type:
Comments:

RECORDING REQUESTED BY
CHICAGO TITLE COMPANY
AND WHEN RECORDED MAIL TO

Mr. Daviod Frey
Attorney at Law
3675 Mt Diablo Blvd
Suite 250
Lafayette, California 94549

INSURED BY CHICAGO TITLE

DOCUMENT: 15205019

Titles 1 / Pages 4

Fees	46 00
Taxes	5665 00
Copies	
AMT PAID	5711 00

BRENDA DAVIS
SANTA CLARA COUNTY RECORDER
Recorded at the request of
Chicago Title

RDE # 005
4/06/2000
8 00 AM

Escrow No. 839519 - JH
Order No. 839519 - LH

SPACE ABOVE THIS LINE FOR RECORDER'S USE

GRANT DEED

APN: 728-30-003 & 004

THE UNDERSIGNED GRANTOR(S) DECLARE(S)
DOCUMENTARY TRANSFER TAX IS $5665.00
☐ unincorporated area ☒ City of Morgan Hill
☒ computed on the full value of the interest or property conveyed, or is
☐ computed on the full value less the value of liens or encumbrances remaining at time of sale, and

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,
Patricia A. Hann, trustee and Charles L. Hann, trustee of the Charles L. Hann Family Trust dated June 5, 1995, and Metadyne Incorporated, a California Corporation and Patricia A. Hann, an unmarried woman

hereby GRANT(S) to LLACAS LLC, A LIMITED LIABILITY COMPANY

the following described real property in the City of Morgan Hill
County of Santa Clara, State of California:

LEGAL DESCRIPTION ATTACHED HERETO AND MADE A PART HEREOF BY REFERENCE

Dated March 24, 2000

Patricia A. Hann

Patricia A. Hann, trustee

Charles L. Hann, trustee

John Hohmann, President
Metadyne Inc.

STATE OF CALIFORNIA
COUNTY OF Santa Clara) SS.
On March 29, 2000 before me,
JANET K. WALLACE
a Notary Public in and for said County and State, personally appeared
PATRICIA A HANN

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted executed the instrument.

WITNESS my hand and official seal.

JANET K. WALLACE
Comm. # 1144384
NOTARY PUBLIC - CALIFORNIA
County of Santa Clara
My Comm. Expires July 23, 2001

Signature of Notary

7-23-2001
Date My Commission Expires

FOR NOTARY SEAL OR STAMP

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE. IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

Name | Street Address | City, State & Zip

GD1 -03/30/97b4

STATE OF CALIFORNIA)
)
COUNTY OF Santa Clara

On March 30, 2000 before me, Janet K. Wallace a Notary Public in and for said State, personally appeared Charles L. Hann and John Hohmann, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/she/they ~~executed~~ the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of ~~which~~ the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signed Janet K. Wallace

JANET K. WALLACE
Comm. # 1144384
NOTARY PUBLIC CALIFORNIA
Santa Clara
My Comm. Expires July 23 2001

LEGAL DESCRIPTION EXHIBIT

All that certain Real Property in the City of Morgan Hill, County of Santa Clara, State of California, described as follows:

PARCEL ONE

All of Parcel 1, as shown upon that certain Parcel Map of a portion of the Rancho Laguna Seca, which Map was filed for record in the Office of the Recorder of the County of Santa Clara, State of California, on August 15, 1969, in Book 258 of Maps, at Page 3.

PARCEL TWO

A non-exclusive easement for the installation and maintenance of water pipe lines, along the Northeasterly 15.00 feet of the following described Parcel of Land:

Beginning at the most Southerly corner of that certain 32.824 Acre Parcel of Land shown on that certain record of survey recorded in Book 70 of Maps, at Page 52 in the Office of the Recorder of Santa Clara County; thence from said Point of Beginning North 36 deg 22' 20" West, 354.96 feet to the True Point of Beginning of this description; thence from said True Point of Beginning along the following course and distances; North 36 deg 22' 20" West, 270.81 feet; South 50 deg 54' 33" West, 386.11 feet; South 36 deg 21' 30" East, 270.81 feet, North 50 deg 54' 34" East, 386.17 feet; to the True Point of Beginning of this description.

PARCEL THREE

All of Parcel 2, as shown upon that certain Parcel Map of a portion of the Rancho Laguna Seca, which Map was filed for record in the Office of the Recorder of the County of Santa Clara, State of California, on August 15, 1969 in Book 258 of Maps, at Page 3.

PARCEL FOUR

A non-exclusive easement for Ingress and Egress and for the installation and maintenance of public utilities appurtenant to the above-described Parcel One over a strip of land 40.00 feet in width, the Northeasterly line of which is described as follows:

Beginning at an iron pipe set at the Southernmost corner of that certain 32.83 Acre Tract of Land described in the Deed from Thomas Nom, et ux, to Der Sang, dated July 26, 1945, recorded October 18, 1945, in Book 1298 Official Records, Page 253, Santa Clara County Records, in the Northwesterly line of Half Road, as said Road is shown upon that certain Map entitled, "Record of Survey Part of Rancho Laguna Seca", which Map was filed for record inthe Office of the Recorder of the County of Santa Clara, State of California, on July 2, 1956 in Book 70 of Maps, at Page 52; thence from said Point of Beginning, North 45 deg 23' East along said Northwesterly line of Half Road for a distance of 40.42 feet to the True Point of Beginning of the easement to be described; thence from said True Point of Beginning North 36 deg 21' 30" West and parallel with the Southwesterly line of said 32.83 Acre Tract for a distance of 663.36 feet more or less to the terminus of said easement.

PARCEL FIVE

LEGAL DESCRIPTION EXHIBIT

A non-exclusive easement for the installation and maintenance of water pipe lines appurtenant to the above-described Parcel One, over a strip of land 15.00 feet in width, the center line of which is described as follows:

Beginning at the most Northeasterly corner of that certain 16.275 Acre Parcel of Land conveyed to Anthony and Prudy Alberti from C. P. Alberti and shown on that certain Record of Survey recorded in Book 70 of Maps, at Page 52 in the Office of the Recorder of Santa Clara County; thence from said Point of Beginning South 50 deg 41' West 7.50 feet to the True Point of Beginning of this description; thence from said True Point of Beginning along the following courses and distances; South 36 deg 22' 20" East 1298.30 feet; South 50 deg 54' 34" West 378.67 feet to the terminus point of easement.

ENVIRONMENTAL RISK INFORMATION SERVICES

ENVIRONMENTAL LIEN SEARCH

Project Property: *1105 HALF ROAD*
MORGAN HILL, CA 95037
Order No: *20190624041-4*
Date Completed: *07/09/2019*

The following is the current property legal description (See deed for full legal description):

LOT 2

Assessor's Parcel Number(s): 728-30-004

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

ENVIRONMENTAL LIEN REPORT

Order No: *20190624041-4*

The ERIS Environmental Lien Search Report provides results from a search of available current land title records for environmental cleanup liens and other activity and use limitations, such as engineering and institutional controls.

A network of professional, trained researchers, following established procedures, uses client supplied property information to:

- Search for parcel information and / or legal description
- Search for ownership information
- Research official land title documents recorded at jurisdictional agencies such as recorder's' office, registries of deeds, county clerks' offices, etc.
- Access a copy of the deed
- Search for environmental encumbrance(s) associate with the deed
- Provide a copy of any environmental encumbrance(s) based upon a review of keywords in the instrument(s) (title, parties involved and description)
- Provide a copy of the deed or cite documents reviewed

Thank You for Your Business
Please contact ERIS at **416-510-5204** or **info@erisinfo.com**
with any questions or comments

LIMITATION

This report is neither a guarantee of title, a commitment to insure, or a policy of title insurance. ERIS – Environmental Risk Information Services does not guarantee nor include any warranty of any kind whether expressed or implied, about the validity of all information included in this report since this information is retrieved as it is recorded from various agencies that make it available. The total liability is limited to the fee paid for this report.

ENVIRONMENTAL LIEN REPORT

Order No: *20190624041-4*

The ERIS Environmental Lien Search Report is intended to assist in the search for environmental liens filed in land title records.

TARGET PROPERTY INFORMATION

ADDRESS

1105 HALF ROAD
MORGAN HILL, CA 95037

RESEARCH SOURCE

SANTA CLARA COUNTY RECORDER'S OFFICE
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DEED INFORMATION

Type of Instrument:	GRANT DEED
Grantor:	PATRICIA A. HANN, TRUSTEE AND CHARLES L. HANN, TRUSTEE OF THE CHARLES L. HANN FAMILY TRUST DATED JUNE 5, 1995, METADYNE INCORPORATED, , PATRICIA A. HANN, AN UNMARRIED WOMAN
Grantee:	LLAGAS LLC
Deed Dated:	03/24/2000
Deed Recorded:	04/06/2000
Instrument:	15205019

LEGAL DESCRIPTION

LOT 2

Assessor's Parcel Number (s): 728-30-004

ENVIRONMENTAL LIEN REPORT

Order No: *20190624041-4*

ENVIRONMENTAL LIEN

Environmental Lien: Found X Not Found

If Found Describe:

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

Other AULs: Found X Not Found

If Found Describe:

LEASES

Lessor: NONE IDENTIFIED
Lessee:
Lease Date:
Recorded Date:
Instrument #:
Lease Type:
Comments:

RECORDING REQUESTED BY
CHICAGO TITLE COMPANY
AND WHEN RECORDED MAIL TO

Mr. Daviod Frey
Attorney at Law
3675 Mt Diablo Blvd
Suite 250
Lafayette, California 94549

INSURED BY CHICAGO TITLE

DOCUMENT: 15205019

Titles 1 / Pages 4

Fees	46 00
Taxes	5665 00
Copies	
AMT PAID	5711 00

BRENDA DAVIS
SANTA CLARA COUNTY RECORDER
Recorded at the request of
Chicago Title

RDE # 005
4/06/2000
8 00 AM

Escrow No. 839519 - JH
Order No. 839519 - LH

SPACE ABOVE THIS LINE FOR RECORDER'S USE

GRANT DEED

APN: 728-30-003 & 004

THE UNDERSIGNED GRANTOR(S) DECLARE(S)
DOCUMENTARY TRANSFER TAX IS $5665.00
☐ unincorporated area ☒ City of Morgan Hill
☒ computed on the full value of the interest or property conveyed, or is
☐ computed on the full value less the value of liens or encumbrances remaining at time of sale, and

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,
Patricia A. Hann, trustee and Charles L. Hann, trustee of the Charles L. Hann Family Trust dated June 5, 1995, and Metadyne Incorporated, a California Corporation and Patricia A. Hann, an unmarried woman

hereby GRANT(S) to LLACAS LLC, A LIMITED LIABILITY COMPANY

the following described real property in the City of Morgan Hill
County of Santa Clara, State of California:

LEGAL DESCRIPTION ATTACHED HERETO AND MADE A PART HEREOF BY REFERENCE

Dated March 24, 2000

Patricia A. Hann

Patricia A. Hann, trustee

Charles L. Hann, trustee

John Hohmann, President
Metadyne Inc.

STATE OF CALIFORNIA
COUNTY OF Santa Clara) SS.
On March 29, 2000 before me,
JANET K. WALLACE
a Notary Public in and for said County and State, personally appeared
PATRICIA A HANN

personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted executed the instrument.

WITNESS my hand and official seal.

JANET K. WALLACE
Comm. # 1144384
NOTARY PUBLIC - CALIFORNIA
County of Santa Clara
My Comm. Expires July 23, 2001

Signature of Notary

7-23-2001
Date My Commission Expires

FOR NOTARY SEAL OR STAMP

MAIL TAX STATEMENTS TO PARTY SHOWN ON FOLLOWING LINE. IF NO PARTY SO SHOWN, MAIL AS DIRECTED ABOVE

Name | Street Address | City, State & Zip

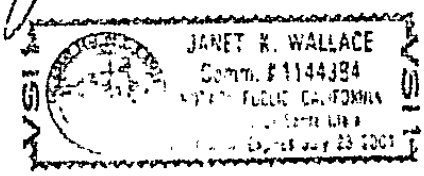
GD1 -03/30/97b4

STATE OF CALIFORNIA)
)
COUNTY OF Santa Clara

On March 30, 2000 before me, Janet K. Wallace a Notary Public in and for said State, personally appeared Charles L. Hann and John Hohmann, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person(s) whose name(s) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/she/they executed ~~the~~ same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of ~~which~~ the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signed Janet K. Wallace



Escrow No. 839519 -JW

LEGAL DESCRIPTION EXHIBIT

All that certain Real Property in the City of Morgan Hill, County of Santa Clara, State of California, described as follows:

PARCEL ONE

All of Parcel 1, as shown upon that certain Parcel Map of a portion of the Rancho Laguna Seca, which Map was filed for record in the Office of the Recorder of the County of Santa Clara, State of California, on August 15, 1969, in Book 258 of Maps, at Page 3.

PARCEL TWO

A non-exclusive easement for the installation and maintenance of water pipe lines, along the Northeasterly 15.00 feet of the following described Parcel of Land:

Beginning at the most Southerly corner of that certain 32.824 Acre Parcel of Land shown on that certain record of survey recorded in Book 70 of Maps, at Page 52 in the Office of the Recorder of Santa Clara County; thence from said Point of Beginning North 36 deg 22' 20" West, 354.96 feet to the True Point of Beginning of this description; thence from said True Point of Beginning along the following course and distances; North 36 deg 22' 20" West, 270.81 feet; South 50 deg 54' 33" West, 386.11 feet; South 36 deg 21' 30" East, 270.81 feet, North 50 deg 54' 34" East, 386.17 feet; to the True Point of Beginning of this description.

PARCEL THREE

All of Parcel 2, as shown upon that certain Parcel Map of a portion of the Rancho Laguna Seca, which Map was filed for record in the Office of the Recorder of the County of Santa Clara, State of California, on August 15, 1969 in Book 258 of Maps, at Page 3.

PARCEL FOUR

A non-exclusive easement for Ingress and Egress and for the installation and maintenance of public utilities appurtenant to the above-described Parcel One over a strip of land 40.00 feet in width, the Northeasterly line of which is described as follows:

Beginning at an iron pipe set at the Southernmost corner of that certain 32.83 Acre Tract of Land described in the Deed from Thomas Nom, et ux, to Der Sang, dated July 26, 1945, recorded October 18, 1945, in Book 1298 Official Records, Page 253, Santa Clara County Records, in the Northwesterly line of Half Road, as said Road is shown upon that certain Map entitled, "Record of Survey Part of Rancho Laguna Seca", which Map was filed for record inthe Office of the Recorder of the County of Santa Clara, State of California, on July 2, 1956 in Book 70 of Maps, at Page 52; thence from said Point of Beginning, North 45 deg 23' East along said Northwesterly line of Half Road for a distance of 40.42 feet to the True Point of Beginning of the easement to be described; thence from said True Point of Beginning North 36 deg 21' 30" West and parallel with the Southwesterly line of said 32.83 Acre Tract for a distance of 663.36 feet more or less to the terminus of said easement.

PARCEL FIVE

LEGAL DESCRIPTION EXHIBIT

A non-exclusive easement for the installation and maintenance of water pipe lines appurtenant to the above-described Parcel One, over a strip of land 15.00 feet in width, the center line of which is described as follows:

Beginning at the most Northeasterly corner of that certain 16.275 Acre Parcel of Land conveyed to Anthony and Prudy Alberti from C. P. Alberti and shown on that certain Record of Survey recorded in Book 70 of Maps, at Page 52 in the Office of the Recorder of Santa Clara County; thence from said Point of Beginning South 50 deg 41' West 7.50 feet to the True Point of Beginning of this description; thence from said True Point of Beginning along the following courses and distances; South 36 deg 22' 20" East 1298.30 feet; South 50 deg 54' 34" West 378.67 feet to the terminus point of easement.

APPENDIX I

PREVIOUS REPORTS/
MISCELLANEOUS DOCUMENTS

BERLOGAR STEVENS & ASSOCIATES

Via E-Mail Only

November 12, 2018
Job No. 3985.102

Mr. Robin Miller
Trumark Homes
3001 Bishop Drive, Suite 100
San Ramon, California 94584

Subject: *DRAFT*
CARB 435 Testing
Fry's Property
1040-1045 Cochrane Road and 1065-1105 Half Road
Morgan Hill, California

Dear Mr. Miller:

This presents the results of our CARB 435 testing at Fry's Property in Morgan Hill, California.

Our scope of services consisted of the following:

1. Excavating 20 test pits of the serpentine derived fill (October 22 & 23, 2018).
2. Visually classifying and logging the material encountered in the test pits.
3. Collecting one representative sample of the serpentine derived fill from each test pit (20 total samples).
4. The test pits were backfilled using the excavated material and wheel rolled.
5. Performed CARB Test Method 435 – Determination of Asbestos Content of Serpentine Rock on each of the samples.

SAMPLING PROCESS

The sampling process consisted of the following:

1. Excavated through the serpentine derived fill to expose the native soils.
2. Using the excavator, a single uniform scoop was collected along the exposed face of the serpentine derived fill.
3. The serpentine derived fill collected in the bucket was mixed in the excavator bucket and placed into a sample bag.
4. The sample was transported to our laboratory where it was run through a sample splitter.
5. After being run through the sample splitter, approximately 300 grams of serpentine derived fill was placed in bags and submitted for testing.

QUANTITY –SERPENTINE DERIVED FILL

Adjacent to Highway 101 on the northwestern portion of the site there is serpentine derived fill. We previously drilled two borings in this area and encountered 9 feet and 5 feet of serpentine derived fill. The 20 test pits we excavated for CARB 435 testing encountered between 2 to 7 feet

of serpentine derived fill with an average of approximately 5 feet. Based on our test pits and borings, we estimate the volume of serpentine derived fill to be approximately 65,000 to 70,000 cubic yards.

The attached Site Plan (Plate) presents the locations of our borings and test pits, depth of fill encountered in the borings and test pits and delineates the areas of existing fills.

CARB TEST METHOD 435 RESULTS

Each of the 20 samples tested positive for containing chrysotile asbestos fibers. The percent detected ranged from 0.25 percent to 1.75 percent with an average of approximately 1.0 percent. The test results are as follows:

Sample ID	Depth Interval (ft.)	Asbestos Detected (%)
TP 1	0 -2	0.75 CH
TP 2	0 -2.5	1.25 CH
TP 3	0 -3	1.25 CH
TP 4	0 -5	0.50 CH
TP 5	0 - 4	1.25 CH
TP 6	0 - 6	0.75 CH
TP 7	0 - 3.5	1.50 CH
TP 8	0 - 4	1.50 CH
TP 9	0 - 6	1.25 CH
TP 10	0 - 5.5	0.75 CH
TP 11	0 - 6	1.25 CH
TP 12	0 - 4	1.25 CH
TP 13	0 - 3.75	1.25 CH
TP 14	0 - 6	0.75 CH
TP 15	0 - 4.5	0.50 CH
TP 16	0 - 5.5	0.75 CH
TP 17	0 - 5	0.75 CH
TP 18	0 - 7	1.00 CH
TP 19	0 - 5	0.25 CH
TP 20	0 - 4.5	1.75 CH

CH= Chrysotile Asbestos Fibers

The Laboratory Report for the CARB 435 testing is presented in Appendix B.

An environmental consultant with specialized expertise in naturally occurring asbestos (NOA) should be consulted as there are likely differences in the requirements for controlling long-term exposure risks on residential, commercial and industrial sites.

We trust that this letter provides the necessary information. If you have any questions regarding the contents of this report, please contact our office at (925) 484-0220.

Respectfully submitted,

BERLOGAR STEVENS & ASSOCIATES

DRAFT

Nicholas Cardanini
Project Engineer
C88765

DRAFT

Frank Berlogar
RCE 20383

NC/FB:as

Attachments:
Plate – Site Plan
Appendix A – Test Pit Logs
Appendix B – CARB 435 Test Results

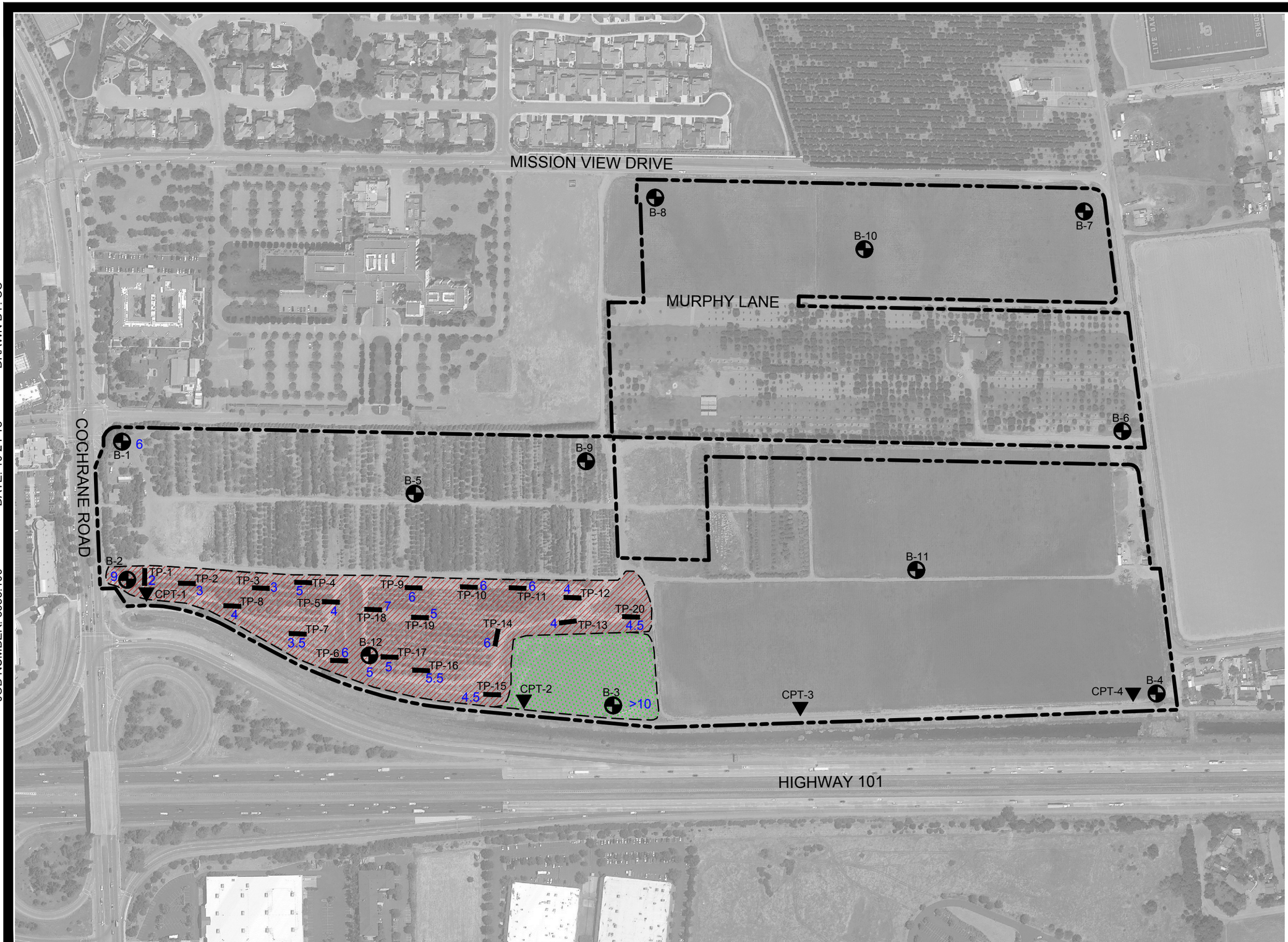
Copies: Addressee
Trumark Homes
Mr. Trevor Brown

U:\@@@Public\1-Pleasanton\3985 Fry's Property\102\Carb 435 Testing Summary-30871.doc

DRAWN BY: CC

DATE: 10-24-18

JOB NUMBER: 3985.100



EXPLANATION

- PROJECT BOUNDARY
- B-12 — BORING LOCATIONS
- CPT-4 — CPT LOCATIONS
- TP-20 — TEST PIT LOCATIONS
- 9 — DEPTH OF FILL IN FEET ENCOUNTERED IN BORING
- APPROXIMATE LIMITS OF SERPENTINE FILL
- AREA OF FILL APPROXIMATELY 10 FEET DEEP

SITE PLAN

FRY'S PROPERTY

COCHRANE ROAD

MORGAN HILL, CALIFORNIA

FOR

TRUMARK HOMES, LLC

Berlogar Stevens & Associates

SOIL ENGINEERS * ENGINEERING GEOLOGISTS

BASE: GOOGLE EARTH IMAGE DATED: 5-9-18

PLATE 2

APPENDIX A

Test Pit Logs

Test Pit Logs

October 22, 2018 – October 23, 2018

TP-1

0.0' – 1.0' Sandy Clay, mottled light gray-brown and light green-gray, dry, very stiff, fine to coarse grained sand, trace gravel (Fill)

1.0' – 2.0' Silty Clay, medium to dark gray-brown, dry, very stiff, some fine to coarse grained sand, trace gravel (Fill)

2.0' – 3.0' Sandy Silt, medium brown, dry to moist, stiff, fine grained sand (Native)

No groundwater encountered.

TP-2

0.0' – 0.5' Silty Clay, dark gray-brown, moist, stiff, trace fine to coarse grained sand (Fill) (CL)

0.5' – 2.5' Clayey Sand, light gray-green, moist, medium dense (Fill)

2.5' – 3.0' Silty Clay, dark gray-brown, moist, stiff (Native)

3.0' – 4.0' Sandy Silt, medium brown, moist, medium stiff, fine grained sand (Native)

No groundwater encountered.

TP-3

0.0' – 2.0' Clayey Sand, light gray-green, dry to moist, medium dense, fine to coarse grained sand, trace fine to coarse gravel and cobbles (Fill)

2.0' – 3.0' Silty Clay, dark gray-brown, moist, stiff, trace fine to coarse grained sand, and angular rock fragments up to 3" in diameter, light gray green mottling (Fill)

3.0' – 4.0' Clayey Silt, red-brown, moist, medium stiff, trace fine to medium grained sand (Native)

No groundwater encountered.

TP-4

0.0' – 4.0' Clayey Sand, light gray-green, dry to moist, medium dense, fine to coarse grained sand, some fine to coarse gravel, trace cobbles and boulders (Fill)

4.0' – 5.0' Sandy Clay, dark gray-brown, moist, stiff, minor gray-green mottling (Fill)

5.0' – 6.0' Sandy Silt, medium to dark red-brown, dry to moist, medium stiff, fine to coarse grained sand, trace fine to coarse gravel (Native)

No groundwater encountered.

TP-5

0.0' – 3.0' Silty Sand, light gray-green, dry, medium dense, fine to coarse grained sand, some fine to coarse gravel and trace cobbles (Fill)

3.0' – 4.0' Sandy Clay, dark gray-brown, dry to moist, stiff to very stiff, light gray-brown and light gray-green mottling (Fill)

4.0' – 5.0' Clayey Silt, red-brown, dry, medium stiff, trace fine to medium grained sand (Native)

No groundwater encountered.

TP-6

0.0' – 5.0' Silty Sand with Clay, light green-gray, dry to moist, medium dense, fine to coarse grained sand, some fine to coarse gravel, trace cobbles and occasional boulders (Fill)

5.0' – 6.0' Silty Clay, gray-brown, dry to moist, medium stiff, some fine to coarse grained sand, trace fine to coarse gravel, minor gray-green mottling (Fill)

6.0' – 7.0' Sandy Silt, medium to dark red-brown, dry to moist, medium dense, fine to medium grained sand (Native)

No groundwater encountered.

TP-7

0.0' – 2.5'	Clayey Sand, light gray-green, dry to moist, medium dense, fine to coarse grained sand, some fine to coarse gravel, trace cobbles (Fill)
2.5' – 3.5'	Sandy Clay, dark gray-brown, dry to moist, stiff, fine to coarse grained sand, trace fine to coarse gravel, minor light gray-green mottling (Fill?)
3.5' – 4.0'	Sandy Silt, red-brown, dry, medium stiff, fine to coarse grained sand (Native)

No groundwater encountered.

TP-8

0.0' – 3.0'	Clayey Sand, light green-gray, dry, dense, fine to coarse grained sand, some fine to coarse gravel, trace cobbles (Fill)
3.0' – 4.0'	Silty Clay, mottled dark gray-brown and light gray-brown and light green-gray (Fill)
4.0' – 5.0'	Sandy Silt, red-brown, dry to moist, medium stiff, fine to medium grained sand (Native)

No groundwater encountered.

TP-9

0.0' – 6.0'	Clayey Sand, light gray-green, dry to moist, medium dense, fine to coarse grained sand, some fine to coarse gravel, trace cobbles, occasional boulders up to 24" in diameter (Fill)
6.0' – 7.0'	Sandy Silt, light to medium red-brown, moist to wet, medium stiff, fine to medium grained sand (Native)

TP-10

0.0' – 1.0' Mixed Sandy Clay and Clayey Sand, mottled dark gray-brown and light green-gray and light gray-brown, dry to moist, stiff/medium dense, fine to coarse grained sand, some fine to coarse gravel, trace cobbles and occasional boulders (Fill)

1.0' – 5.5' Clayey Sand, mottled light green-gray and light to medium brown-green, dry to moist, medium dense, fine to coarse grained sand, some fine to coarse gravel, trace boulders (Fill)

5.5' – 6.0' Silty Clay, dark gray-brown, moist, stiff, trace fine to medium grained sand (Native)

6.0' – 7.0' Clayey Silt, light to medium red-brown, moist, stiff, trace fine to medium grained sand (Native)

No groundwater encountered.

TP-11

0.0' – 6.0' Clayey Sand, light gray-green, dry to moist, medium dense, fine to coarse grained sand, some fine to coarse gravel, occasional cobbles, top 3' limonite stains (Fill)

6.0' – 7.0' Silty Clay, light to medium red-brown, moist, stiff, trace fine grained sand (Native)

No groundwater encountered.

TP-12

0.0' – 4.0' Clayey Sand, light gray-green, dry to moist, medium dense, fine to coarse grained sand, some fine to coarse gravel, occasional cobbles, sporadic limonite stains (Fill)

4.0' – 5.0' Sandy Silt, red-brown, moist, medium stiff, fine grained sand (Native)

No groundwater encountered.

TP-13

0.0' – 3.75' Clayey Sand, light gray-green, dry to moist, medium dense, fine to coarse grained sand, some fine to coarse gravel, occasional cobbles (Fill)

3.75' – 5.0' Sandy Silt, red-brown, dry to moist, medium stiff, fine to medium grained sand (Native)

No groundwater encountered.

TP-14

0.0' – 1.5' Clayey Sand, light gray-brown, dry to moist, medium dense, fine to coarse grained sand, trace fine to coarse gravel (Fill)

1.5' – 2.5' Clayey Sand, mottled gray-brown and light to medium red-brown and light gray-green, dry to moist, medium dense, fine to coarse grained sand, wood and metal debris (Fill)

2.5' – 6.0' Clayey Sand, light to medium green-brown, dry to moist, medium dense, fine to coarse grained sand, trace fine to medium gravel (Fill)

6.0' – 7.0' Silty Clay, light to medium brown, moist, medium stiff, trace fine grained sand (Native)

No groundwater encountered.

TP-15

0.0' – 3.0' Silty Sand, light green-gray, dry, medium dense, fine to coarse grained sand, trace fine to coarse gravel and cobbles (Fill)

3.0' – 4.5' Clayey Sand, light green-brown, dry, medium dense, fine to coarse grained sand, trace fine to coarse gravel, occasional cobbles and boulders (Fill)

4.5' – 6.0' Sandy Silt, red-brown, moist, medium stiff, fine to medium grained sand (Native)

No groundwater encountered.

TP-16

0.0' – 2.0' Sandy Clay, light to medium gray-brown, dry to moist, medium stiff, fine to coarse grained sand, trace fine to coarse gravel, minor AC-debris (Fill)

2.0' – 5.5' Clayey Sand, light gray-green, dry to moist, medium dense, fine to coarse grained sand, trace fine to coarse gravel, occasional cobbles and boulders (Fill)

5.5' – 6.5' Silty Clay, light to medium red-brown, moist, stiff, trace fine to medium grained sand (Native)

No groundwater encountered.

TP-17

0.0' – 2.0' Sandy Clay, gray-brown, dry, stiff, fine to coarse grained sand, trace fine to coarse gravel (Fill)

2.0' – 3.5' Clayey Sand, light gray-green, dry to moist, medium dense, fine to coarse grained sand, trace fine to coarse gravel, occasional cobbles and boulders (Fill)

3.5' – 5.0' Silty Sand, light gray-brown, moist, medium dense, trace clay, fine to coarse grained sand, trace fine to coarse gravel, minor AC-debris (Fill)

No groundwater encountered.

TP-18

0.0' – 3.0' Sandy Clay/Clayey Sand, light green-brown, dry to moist, dense/very stiff, fine to coarse grained sand, some fine to coarse gravel, occasional cobbles and boulders (Fill)

3.0' – 6.0' Clayey Sand, light gray-green, dry to moist, medium dense, fine to coarse grained sand, trace fine to coarse gravel and cobbles (Fill)

6.0' – 7.0' Sandy Clay, dark gray-brown, dry to moist, very stiff, fine to coarse grained sand, trace fine gravel, light gray-green mottling (Fill)

7.0' – 7.5' Clayey Silt, light red-brown, moist, medium stiff, trace fine to medium grained sand (Native)

No groundwater encountered.

TP-19

0.0' – 5.0' Clayey Sand, light green-gray, dry to moist, dense, fine to coarse grained sand, some fine to coarse gravel, trace cobbles, occasional boulders (Fill)

5.0' – 10.0' Gravelly Sand, gray-brown, dry to moist, dense, fine to coarse grained sand, fine to coarse gravel, trace silt (Native)

No groundwater encountered.

TP-20

0.0' – 4.5' Clayey Sand, light gray-green, dry to moist, medium dense, fine to coarse grained sand, trace fine to coarse gravel, occasional cobbles (Fill)

4.5' – 5.5' Sandy Silt, red-brown, moist to dry, medium stiff, fine to medium grained sand (Native)

No groundwater encountered.

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APPENDIX B

CARB 435 Test Results

RJ Lee Group, Inc.
350 Hochberg Road, Monroeville, PA 15146
Tel: 724-325-1776 | Fax: 724-733-1799

Laboratory Report

Berlogar Stevens & Associates
5587 Sunol Boulevard
Pleasanton, CA 94566
United States
Attention: Nicholas Cardanini
Telephone: 925-484-0220

Report Date	11/08/2018
Sample Receipt Date	10/26/2018
RJ Lee Group Job No.	AOH1051791-0
Authorization/P.O. No.	
Client Job No./Name	3985.102

Analysis: Determination of Asbestos Content of Serpentine Aggregate by Point Count
Method: CARB 435

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
10455113.HPL	TP-1 0-2'	Yes	1	0.75 CH		99.25	CA, OP, M	BW-11/07/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								
10455114.HPL	TP-2 0-2.5'	Yes	1	1.25 CH		98.75	CA, OP, M	BW-11/07/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								
10455115.HPL	TP-3 0-3'	Yes	1	1.25 CH		98.75	CA, OP, M	BW-11/07/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								

Client Job No./Name: 3985.102 RJ Lee Group Job No: AOH1051791-0

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
10455116.HPL	TP-4 0-5'	Yes	1	0.50 CH		99.50	Q, CA, OP, M	BW-11/08/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								
10455117.HPL	TP-5 0-4'	Yes	1	1.25 CH		98.75	Q, CA, OP, M	BW-11/08/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								
10455118.HPL	TP-6 0-6'	Yes	1	0.75 CH		99.25	Q, CA, OP, M	BW-11/08/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								
10455119.HPL	TP-7 0-3.5'	Yes	1	1.50 CH		98.50	Q, CA, OP, M	BW-11/08/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								
10455120.HPL	TP-8 0-4'	Yes	1	1.50 CH		98.50	Q, CA, OP, M	BW-11/08/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								
10455121.HPL	TP-9 0-6'	Yes	1	1.25 CH		98.75	Q, CA, OP, M	BW-11/08/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								

Client Job No./Name: 3985.102 RJ Lee Group Job No: AOH1051791-0

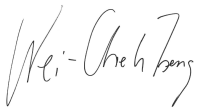
RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
10455122.HPL	TP-10 0-5 1/2'	Yes	1	0.75 CH		99.25	Q, CA, OP, M	BW-11/08/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								
10455123.HPL	TP-11 0-6'	Yes	1	1.25 CH		98.75	Q, CA, OP, M	BW-11/08/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								
10455124.HPL	TP-12 0-4'	Yes	1	1.25 CH		98.75	Q, CA, OP, M	BW-11/08/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								
10455125.HPL	TP-13 0-3 3/4'	Yes	1	1.25 CH		98.75	Q, CA, OP, M	BW-11/08/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								
10455126.HPL	TP-14 0-6'	Yes	1	0.75 CH		99.25	Q, CA, OP, M	BW-11/08/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								
10455127.HPL	TP-15 0-4 1/2'	Yes	1	0.50 CH		99.50	Q, CA, OP, M	BW-11/08/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								

Client Job No./Name: 3985.102 RJ Lee Group Job No: AOH1051791-0

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date
10455128.HPL	TP-16 0-5 1/2'	Yes	1	0.75 CH		99.25	Q, CA, M	BW-11/08/2018
Description:	Tan Crushed Rock 400 Points Counted Limit of Detection 0.25%							
Weight Loss: 0.0%								
10455129.HPL	TP-17 0-5'	Yes	1	0.75 CH		99.25	Q, CA, OP, M	WT-11/08/2018
Description:	Gray Crushed Rock. 400 Points Counted. Detection Limit=0.25%.							
Weight Loss: 0.0%								
10455130.HPL	TP-18 0-7'	Yes	1	1.00 CH		99.00	Q, CA, OP, M	WT-11/07/2018
Description:	Beige Crushed Rock. 400 Points Counted. Detection Limit=0.25%.							
Weight Loss: 0.0%								
10455131.HPL	TP-19 0-5'	Yes	1	0.25 CH		99.75	Q, CA, OP, M	WT-11/07/2018
Description:	Beige Crushed Rock. 400 Points Counted. Detection Limit=0.25%.							
Weight Loss: 0.0%								
10455132.HPL	TP-20 0-4.5'	Yes	1	1.75 CH		98.25	Q, CA, OP, M	WT-11/07/2018
Description:	Beige Crushed Rock. 400 Points Counted. Detection Limit=0.25%.							
Weight Loss: 0.0%								

Client Job No./Name: 3985.102 RJ Lee Group Job No: AOH1051791-0

RJLG Sample Number	Client Sample Number	Homogeneous	# of Layers	Asbestos Detected(%)	Non-Asbestos Fibers(%)	Non-Fibrous Materials(%)	Matrix Material	Analyst - Analysis Date

Authorized Signature: 

Wei Tseng, Microscopist

ASBESTOS

AM = Amosite
AC = Actinolite
AN = Anthophyllite
CH = Chrysotile
CR = Crocidolite
TR = Tremolite

NON-ASBESTOS

CE = Cellulose
MW = Mineral Wool
FG = Fibrous Glass
SF = Synthetic Fibers
H = Hair
W = Wollastonite
OF = Other Fibers

NON-FIBROUS MATERIALS

AM = Amphibole
B = Binder
CA = Carbonates
CL = Clay
F = Feldspar
G = Gypsum
HY = Hydromagnesite
M = Miscellaneous
MI = Mica
OP = Opaque
OR = Organic
P = Perlite
Q = Quartz
T = Tar
V = Vermiculite

DISCLAIMER NOTES

· "ND" indicates no asbestos was detected; the method detection limit is 0.25%.
· "Trace" or "<" indicates asbestos was identified in the sample, but the concentration is less than the method quantitation limit. PLM coefficients of variance range from approximately 1.8 at the quantitation limit of 0.25% to 0.32 at high fiber concentrations.
· Samples are archived for three months following analysis and are then properly discarded.
· These results are submitted pursuant to RJ Lee Group's current terms and conditions of sale, including the company's standard warranty and limitation of liability provisions. No responsibility or liability is assumed for the manner in which these results are used or interpreted.
· This test report relates to the items tested.
· This report is not valid unless it bears the name of a NVLAP Lab Code 101208-0 approved signatory.
· Any reproduction of this document must be in full in order for the report to be valid.
· This report may not be used to claim product endorsement by NVLAP Lab Code 101208-0, any agency of the U.S. Government or any other laboratory accrediting agency.
· Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar nonfriable organically bound materials. Quantitative transmission electron microscopy is currently the only method that can be used to determine if this material can be considered or treated as "non-asbestos-containing."
· Sample(s) for this project were analyzed at our: Monroeville, PA (AIHA #100364, NY ELAP #10884) facility.
· If RJ Lee Group, Inc. did not collect the samples analyzed, the verifiability of the laboratorys results are limited to the reported values.
· ((100-A)/B)*C = Asbestos Detected (%), where A=weight loss, B=total # of points counted, and C=total # of asbestos fibers counted.

October 30, 2018

ADDITIONAL INVESTIGATION OF LEAD IN SOIL

Property Identification:
1040-1045 Cochrane Road
Morgan Hill, California 95037

AEI Project No. 393757

Prepared for:
Robin Miller
Trumark Homes LLC
3001 Bishop Drive, Suite 100
San Ramon, California 94583

Prepared by:
AEI Consultants
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Walnut Creek, California 94597
925-746-6000

Environmental Due Diligence

Building Assessments

Site Investigation & Remediation

Energy Performance & Benchmarking

Industrial Hygiene

Construction Risk Management

Zoning Analysis Reports & ALTA Surveys

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Appendix B Naturally Occurring Asbestos Serpentine Import Fill Report by Berlogar Stevens & Associates (PENDING)

AEI Consultants

October 30, 2018

Ms. Robin Miller
Trumark Homes LLC
3001 Bishop Drive, Suite 100
San Ramon, California 94583

Subject: Additional Investigation of Lead in Soil
1040-1045 Cochrane Road
Morgan Hill, California 95037
AEI Project No. 393757

Dear Ms. Miller:

AEI Consultants (AEI) is pleased to provide this report which describes the activities and results of the Additional Investigation of Lead in Soil performed at 1040-1045 Cochrane Road (the "Site") in Morgan Hill, California (Figures 1 and 2). This investigation was completed in general accordance with the scope of services outlined in AEI's proposal number 60545.

1.0 SITE DESCRIPTION

The Site is located southwest of Highway 101 and between Cochrane Road and Half Road in Morgan Hill, California. The Site is comprised of approximately 87.6-acres of land, which is currently and historically used for agricultural purposes. The Site is identified by three Santa Clara County's County Assessor's Parcel Numbers: 728-31-14, 728-30-1, 728-30-4, 728-30-6, and 728-30-9.

According to information obtained from the United States Geological Survey (USGS) mapping database, the Site is underlain by alluvial gravel, and valley sand and clay deposits. Based on AEI's review of groundwater monitoring data obtained from the State of California Geotracker database for a nearby site indicates that the depth to groundwater in the area is estimated at 156 below ground surface (bgs). Regional topographic conditions suggest that the direction of groundwater is to the southwest.

2.0 BACKGROUND

A Draft Phase I Environmental Site Assessment (ESA) was performed by AEI as detailed in a report dated June 6, 2018. Based on a review of the ESA, the Site was identified to have been used for agricultural purposes from as early as 1939 to present. There is a potential that agricultural chemicals, such as pesticides, herbicides and fertilizers, used onsite have in impacted the Site. Based on this, there is a potential that organochlorine pesticides (OCPs) or arsenic have been used on-site that could have impacted shallow surface soils.

A Phase II Limited Agricultural Investigation (Phase II) was performed by AEI as detailed in a report dated September 20, 2018. The Phase II consisted of near-surface soil samples were collected at sixty-eight (68) locations throughout the Site, designated as SS-1A-D through SS-15A-D, SS-R-16A-D and SS-R-17A-D. Samples SS-1A-D through SS-15A-D were composited by the laboratory into fifteen (15) four-point composite samples (S1-S15 COMP), for the analysis of OCPs. One sample from each composite (SS-1A through SS-15A) was set aside for discrete analysis of arsenic and lead. Samples SS-R-16A-D and SS-R-17A-D were analyzed for arsenic and lead.

No OCPs analyzed exceeded their corresponding ESLs for residential or commercial direct contact scenarios. In addition, arsenic was detected at concentrations ranging from 0.91 mg/kg to 10 mg/kg, which is consistent with typical background concentrations (6.0 – 8.4 mg/kg) for the Morgan Hill area. Lead was found in concentrations above its corresponding residential ESL in three samples SS-R-16A, SS-R-16D, and SS-R-17B. Each of the sample locations with lead concentrations above the residential ESL were collected in the vicinity of the former residence, which is typically associated with the use of lead paint.

AEI understands that the Site is slated for residential redevelopment. Consequently, AEI recommended to collect soil samples in the vicinity SS-R-16A, SS-R-16D, and SS-R-17B to further characterize the nature and extent of elevated lead concentrations in soil.

3.0 INVESTIGATION EFFORTS

AEI performed an additional investigation on October 15, 2018, including the collection of soil samples, to evaluate if the elevated lead concentrations had adversely impacted the property. The completed activities are summarized below, and sample locations are presented on Figure 3:

- Collection of thirty-four (34) soil samples in the vicinity of SS-R-16A, SS-R-16D, and SS-R-17B at a depth between 0 and 2.5 feet below ground surface (bgs) to evaluate shallow soil conditions near the two buildings on the Site to further characterize the nature and extent of elevated lead concentrations from current residential structures.

3.1 Health and Safety Plan

A site-specific health and safety plan was prepared, reviewed by onsite personnel, and kept onsite for the duration of the fieldwork.

3.2 Soil Sampling

A shallow soil sampling program was completed which was consistent with the protocol outlined in the State of California Department of Toxic Substances Control (DTSC) *Interim Guidance for Sampling Agricultural Properties (Third Revision)* dated August 7, 2008.

At the time of the soil sampling, AEI observed the Site as agricultural land. Near-surface soil samples were collected by AEI at seventeen (17) locations throughout the Site, designated as SS-R-16A, SS-R-16A-S1, SS-R-16A-S2, SS-R-16A-W1, SS-R-16A-W2, SS-R-16D, SS-R-16D-E1, SS-R-16D-E2, SS-R-16D-N1, SS-R-16D-N2, SS-R-17B, SS-R-17B-E1, SS-R-17B-E2, SS-R-17B-N1, SS-R-17B-N2, SS-R-17B-W1, and SS-R-17B-W2. At each sampling location two samples were taken at

0.5 feet bgs and 2.5 feet bgs, with the exception of SS-R-17B-E1, SS-R-17B-E2, SS-R-17B-W1, and SS-R-17B-W2. Sample locations SS-R-17B-E1, SS-R-17B-E2, SS-R-17B-W1, and SS-R-17B-W2 could not be advanced to 2.5 feet bgs due to dense soil conditions. Only 0.5-foot bgs samples were collected from each, with the exception of locations SS-R-17B-E2 and SS-R-17B-W2, samples were collected at 1.0 feet bgs. The step out sample locations were 1 foot and 4 feet from the original boring location sampled from AEI's Phase II investigation. The approximate sample locations are shown on Figure 3.

Prior to sampling, loose vegetation and soil was cleared from the ground surface at each sample location and a small hole was dug to a depth of approximately 0.5 foot with a shovel. A hand shovel was then used to scrape soil from the sides of the hole at a depth of between three and six inches and transfer the soil to a clean, laboratory-supplied, 4-ounce glass jars. A hand auger was used to reach a maximum depth of 2.5 feet and transferred the soil to a clean, laboratory-supplied, 4-ounce glass jars.

Upon collection, each sample was labeled with the project name, project number, and the sampling date and time. After labeling, each sample was placed into an insulated, chilled ice chest containing ice for transport to the analytical laboratory. Chain-of-custody documentation was completed and accompanied the soil samples to State of California-certified laboratory.

Upon completion of sample collection, the shallow holes were backfilled with excavated and surrounding surficial soils.

3.3 Equipment Decontamination and Investigation-Derived Waste

The hand sampling equipment and hand auger was decontaminated prior to and/or after collecting each soil sample. The equipment was cleaned using a triple-rinse method, which consisted of an initial wash containing an Alconox detergent and water solution, followed by two (2) potable water rinses.

No investigation derived waste was produced.

4.0 LABORATORY ANALYSES

The soil samples were transferred under appropriate chain-of-custody documentation to a State of California-certified analytical laboratory, McCampbell Analytical, Inc, of Pittsburg, California. All soil samples were analyzed for lead using US EPA Testing Method 6020B. Two of the soil samples were analyzed for Soluble Threshold Limit Concentration (STLC) lead analysis using US EPA Testing Method 6020B (SS-R-16A-S1-0.5 and SS-R-16A-S2-0.5) for waste disposal characterization.

Laboratory analytical documentation is provided in Appendix A.

5.0 ANALYTICAL RESULTS

For the purpose of providing context to the data obtained during this investigation, analytical results are compared to available regulatory screening levels. The San Francisco Bay Regional

Water Quality Control Boards (RWQCB) Environmental Screening Levels (ESLs) for Direct Contact were used for comparison values under a residential land use scenario for this investigation. The ESLs are considered to be conservative. Under most circumstances, and within the limitations described in the ESLs, the presence of a chemical in soil at concentrations below the corresponding ESL and soil criteria may be assumed to not pose a significant threat to human health and the environment.

Table 1 presents a summary of the soil sample analytical results, and laboratory analytical documentation is provided in Appendix A. The results can be summarized as follows:

- Lead concentrations range from 5.1 mg/kg to 350 mg/kg. Lead concentrations from SS-R-16A-0.5 (260 mg/kg), SS-R-16A-S1-0.5 (350 mg/kg), and SS-R-16A-S1-2.5 (110 mg/kg), SS-R-16A-S2-0.5 (350 mg/kg), SS-R-W1-0.5 (300 mg/kg), SS-R-16D-0.5 (120 mg/kg), SS-R-16D-E1-0.5 (180 mg/kg), SS-R-17B-0.5 (150 mg/kg), SS-R-17B-E1-0.5 (120 mg/kg), SS-R-17B-E2-0.5 (240 mg/kg), and SS-R-17B-W2-0.5 (96 mg/kg) exceeded their applicable residential ESL of 80 mg/kg. Additionally, lead concentrations from SS-R-16A-S1-0.5 (350 mg/kg), and SS-R-16A-S2-0.5 (350 mg/kg) exceeded their commercial ESL of 320 mg/kg.

- Two samples were additionally analyzed (SS-R-16A-S1-0.5 and SS-R-16A-S2-0.5) by STLC for lead. Soluble lead was detected above laboratory reporting limits in each of the samples analyzed, at concentrations of 15 and 13 mg/L which is above the hazardous waste criteria for lead of 5.0 mg/L.

6.0 SUMMARY AND CONCLUSIONS

AEI has completed an Additional Investigation of Lead in Soil at the Site to evaluate if the elevated lead concentrations had adversely impacted the property. Near-surface soil samples were collected by AEI at seventeen (17) locations throughout the Site. At each location two samples were taken at 0.5 feet bgs and 2.5 feet bgs, with the exception of SS-R-17B-E1, SS-R-17B-E2, SS-R-17B-W1, and SS-R-17B-W2 due to dense soil conditions.

Lead was found in concentrations above its corresponding residential ESL in ten samples (nine in 0.5 feet bgs and one in 2.5 feet bgs). Each of the sample locations with lead concentrations above the residential ESL were collected in the vicinity of the former residence, which is typically associated with the use of lead paint.

The horizontal and vertical extent of lead in soil exceeding its residential ESL in the vicinity of SS-R-16A, SS-R-16D, and SS-R-17B is defined on Figures 4 and 5 along with the recommended limited remediation area of the source material in the vicinity of the former residences.

Soluble lead was detected above laboratory reporting limits in each of the samples analyzed, at concentrations of 15 and 13 mg/L. This is above the hazardous waste criteria for lead of 5.0 mg/L, should the soil be excavated and disposed off-site. Additional soil profiling is recommended for any excavated lead containing soil prior to off-haul and disposal as it may be classified as hazardous waste. Additional analysis of STLC and Toxicity Characteristic Leaching Procedure

(TCLP) of stockpiled soil is recommended to determine waste disposal requirements prior to disposal of excavated soil.

Naturally Occurring Asbestos (NOA) containing Serpentine fill was identified during a Geotechnical Investigation of the site conducted by Berlogar Stevens & Associates. The limits of the Serpentine fill are delineated on the Site Plan included in the Naturally Occurring Asbestos Serpentine Import Fill report (Appendix B). According to Berlogar Stevens & Associates the estimated quantity of serpentine fill could be as much as 65,000 to 70,000 cubic yards. The NOA content of 12 samples ranged from Non-Detect to 3.5 percent. It is recommended the NOA containing serpentine fill be buried on site and be overlain with a cap of non-NOA soil not less than 3 feet in thickness. A non-NOA soil cap of 7 to 10 feet in thickness is recommended in areas where the excavation for pipelines and foundations (including depressed loading docks) could exceed 3 feet to avoid exposure of the serpentine fill due to utility installation or repairs.

7.0 REFERENCES

AEI Consultants, 2018, *Phase I Environmental Site Assessment*, *1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, Santa Clara County, California 95037,* technical report prepared for Llagas, LLC., dated June 6, 2018.

AEI Consultants, 2018, *Limited Agricultural Investigation*, *1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, Santa Clara County, California 95037,* technical report prepared for Llagas, LLC., dated September 20, 2018.

San Francisco Bay Regional Water Quality Control Board, 2016, *Environmental Screening Levels* (ESLs), February 2016, revision 3.

Cutis & Tompkins, Ltd., 2013, *Hazardous Waste Characterization*, September 2013.

8.0 REPORT LIMITATIONS AND RELIANCE

This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide the requested information, subject to scope of work for which AEI was retained and limitations inherent in this type of work, but it cannot be assumed that they are representative of areas not sampled. This report should not be regarded as a guarantee that no further contamination beyond that which could have been detected within the scope of this investigation is present beneath the subject property. Undocumented, unauthorized releases of hazardous material, the remains of which are not readily identifiable by visual inspection and are of different chemical constituents, are difficult and often impossible to detect within the scope of a chemical specific investigation.

Any conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document. These services were performed in accordance with generally

accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work. No other warranty, either expressed or implied, has been made.

This investigation was prepared for the sole use and benefit of Trumark Homes LLC. All reports, both verbal and written, whether in draft or final, are for the benefit of Trumark Homes LLC. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of AEI. Either verbally or in writing, third parties may come into possession of this report or all or part of the information generated as a result of this work. In the absence of a written agreement with AEI granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against AEI, its officers, employees, vendors, successors or assigns. Reliance is provided in accordance with AEI's Proposal and Standard Terms & Conditions executed by Trumark Homes LLC. The limitation of liability defined in the Terms and Conditions is the aggregate limit of AEI's liability to the client and all relying parties.

If there are any questions regarding our investigation, please do not hesitate to contact AEI at 925-746-6000.

Sincerely,
AEI Consultants

DRAFT

Shalom Marquardt, P.G. 8901
Senior Geologist

Ariel Kittredge
Staff Geologist

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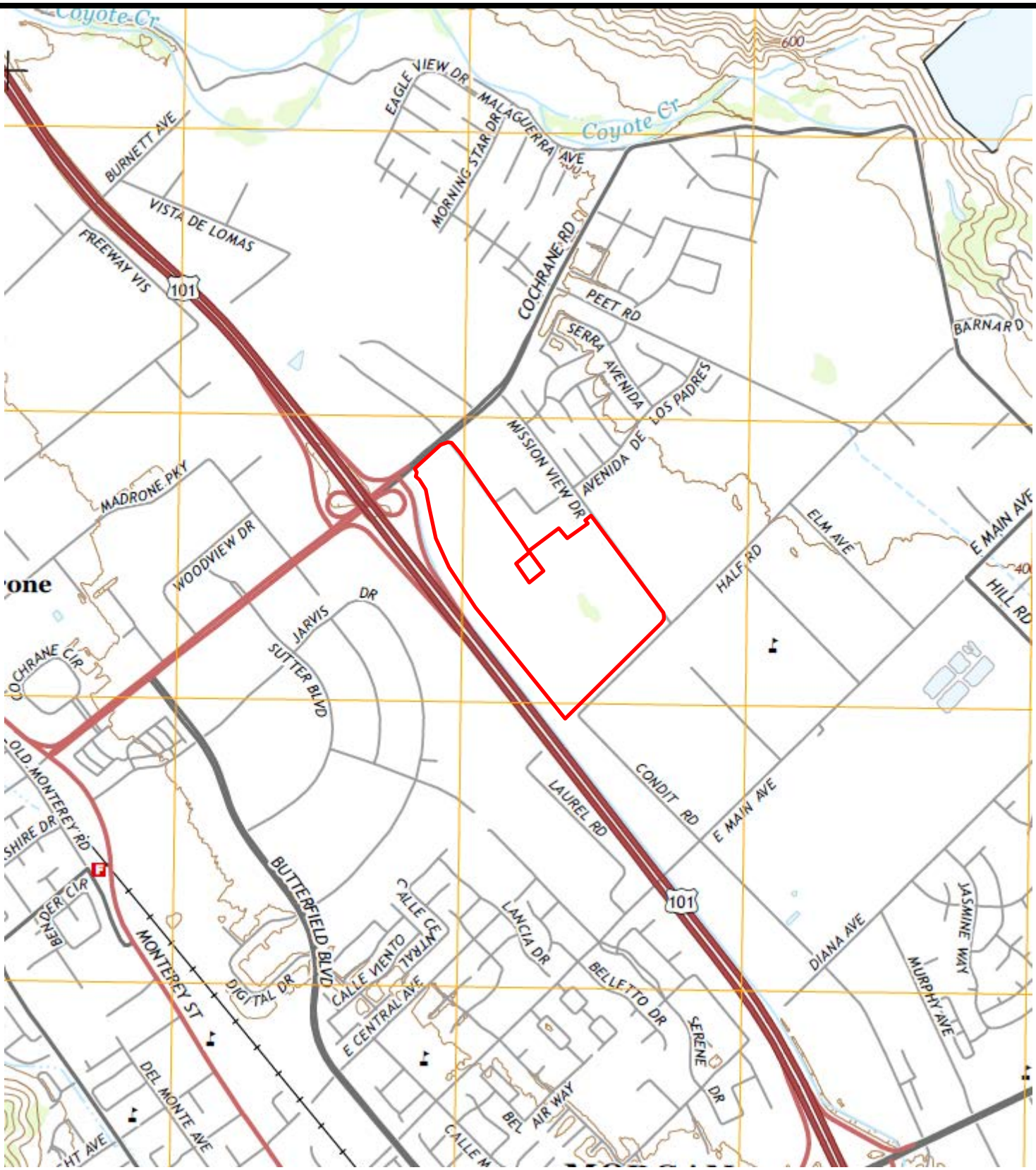
DRAFT

FIGURES



Legend

Approximate Property Boundary

Source: USGS Topographic Map *Morgan Hill, California* (2015)

N

Figure 1: TOPOGRAPHIC MAP

1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, California 95037

Project Number: 393757

AEI Consultants

LEGEND

- Approximate Property Boundary
- Location of Plates A & B (Figure 3)

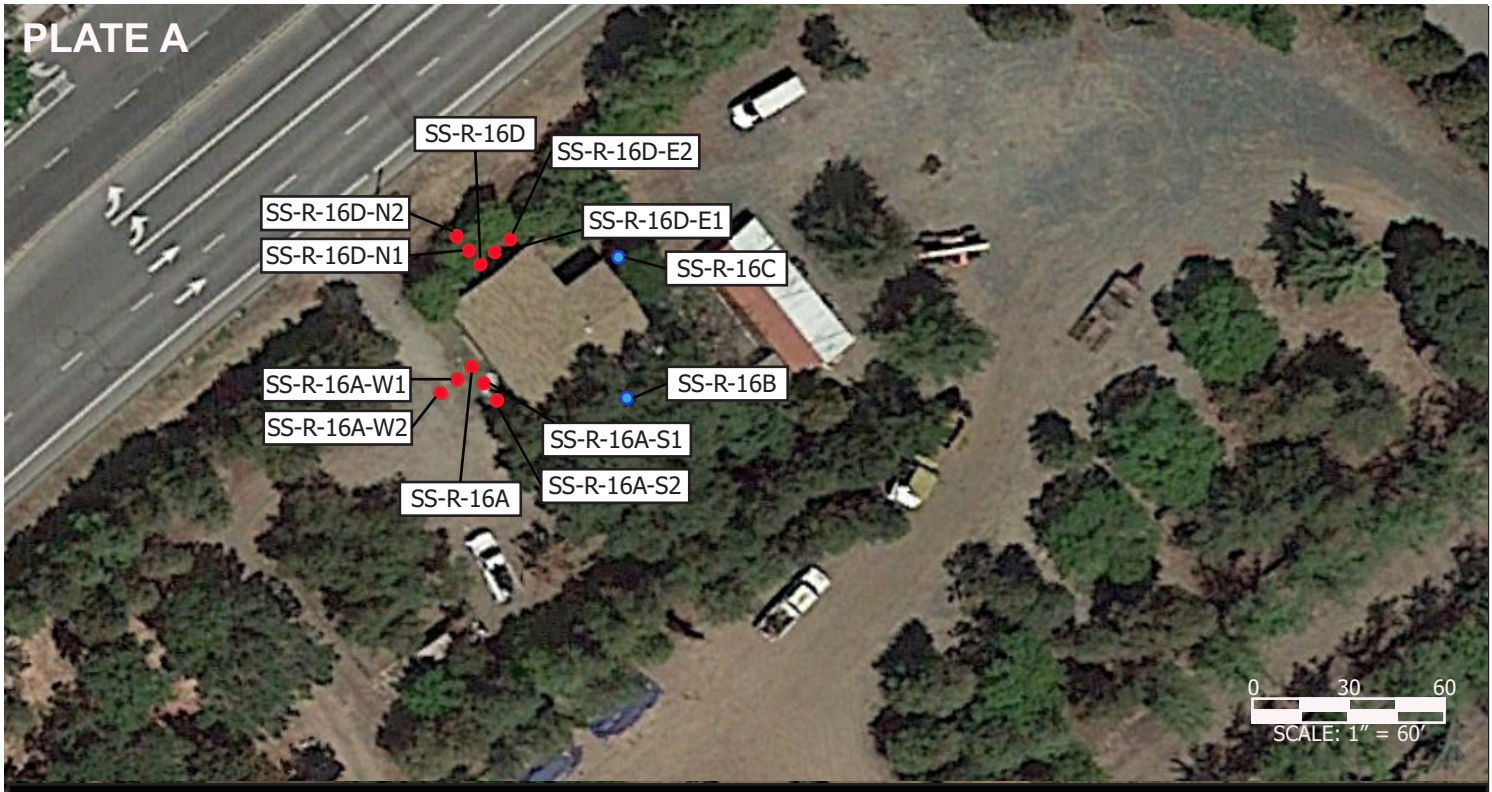
0 250 500
SCALE: 1" = 500'

AEI Consultants
2500 Camino Diablo, Walnut Creek, California

SITE MAP

1040 - 1045 Cochrane Road
Morgan Hill, California

FIGURE 2
Project No. 393757



LEGEND

- Additional Shallow Soil Samples for Lead Analysis (10/15/2018)
- Previous Investigation Shallow Soil Samples (9/10/2018)

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SOIL SAMPLE LOCATION MAP
IN VICINITY OF RESIDENCES

1040 - 1045 Cochrane Road
Morgan Hill, California

FIGURE 3
Project No. 393757

LEGEND

- Additional Shallow Soil Samples for Lead Analysis (10/15/2018)
- Previous Investigation Shallow Soil Samples (9/10/2018)
- Recommended Area of Excavation (<2.5 feet bgs)

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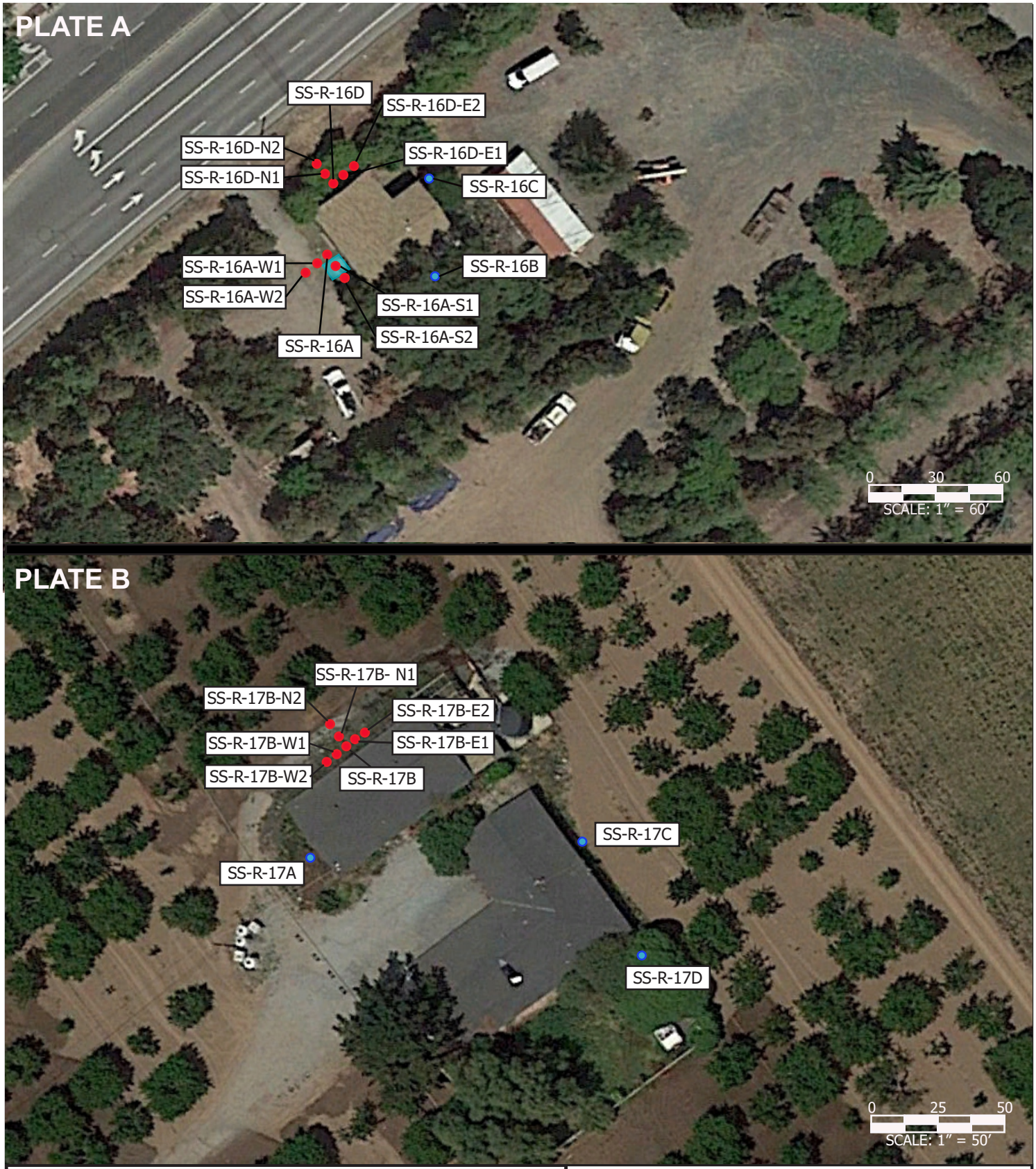
Recommended Areas of Excavation (<2.5 feet)

1040 - 1045 Cochrane Road
Morgan Hill, California

FIGURE 4
Project No. 393757



LEGEND

- Additional Shallow Soil Samples for Lead Analysis (10/15/2018)
- Previous Investigation Shallow Soil Samples (9/10/2018)
- Recommended Area of Excavation (<5.0 feet bgs)

AEI Consultants
2500 Camino Diablo, Walnut Creek, California

Recommended Areas of Excavation
(<5.0 feet)

1040 - 1045 Cochrane Road
Morgan Hill, California

FIGURE 5
Project No. 393757

TABLES

TABLE 1: SOIL SAMPLE DATA SUMMARY - Lead
1040 - 1045 Cochrane Road, Morgan Hill, California 95037

Location ID	Date	Depth (feet bgs)	Lead (mg/kg)	Lead (STLC) (mg/L)
SS-R-16A-0.5	10/15/2018	0.5	**260**	-
SS-R-16A-2.5	10/15/2018	2.5	24	-
SS-R-16A-S1-0.5	10/15/2018	0.5	**350**	**15**
SS-R-16A-S1-2.5	10/15/2018	2.5	**110**	-
SS-R-16A-S2-0.5	10/15/2018	0.5	**350**	**13**
SS-R-16A-S2-2.5	10/15/2018	2.5	9.1	-
SS-R-16A-W1-0.5	10/15/2018	0.5	**300**	-
SS-R-16A-W1-2.5	10/15/2018	2.5	8.1	-
SS-R-16A-W2-0.5	10/15/2018	0.5	57	-
SS-R-16A-W2-2.5	10/15/2018	2.5	10	-
SS-R-16D-0.5	10/15/2018	0.5	**120**	-
SS-R-16D-2.5	10/15/2018	2.5	8.1	-
SS-R-16D-E1-0.5	10/15/2018	0.5	**180**	-
SS-R-16D-E1-2.5	10/15/2018	2.5	8.5	-
SS-R-16D-E2-0.5	10/15/2018	0.5	40	-
SS-R-16D-E2-2.5	10/15/2018	2.5	8.0	-
SS-R-16D-N1-0.5	10/15/2018	0.5	64	-
SS-R-16D-N1-2.5	10/15/2018	2.5	5.1	-
SS-R-16D-N2-0.5	10/15/2018	0.5	21	-
SS-R-16D-N2-2.5	10/15/2018	2.5	8.8	-
SS-R-17B-0.5	10/15/2018	0.5	**150**	-
SS-R-17B-2.5	10/15/2018	2.5	14	-
SS-R-17B-E1-0.5	10/15/2018	0.5	**120**	-
SS-R-17B-E2-0.5	10/15/2018	0.5	**240**	-
SS-R-17B-E2-1.0	10/15/2018	1.0	27	-
SS-R-17B-N1-0.5	10/15/2018	0.5	55	-
SS-R-17B-N1-2.5	10/15/2018	2.5	12	-
SS-R-17B-N2-0.5	10/15/2018	0.5	30	-
SS-R-17B-W1-0.5	10/15/2018	0.5	49	-
SS-R-17B-W2-0.5	10/15/2018	0.5	**96**	-
SS-R-17B-W2-1.0	10/15/2018	1.0	12	-
Comparison Values:				
STLC (mg/L)			NA	**5.0**
ESL - Residential Shallow Soil			**80**	NE

Notes:

mg/L	milligrams per liter
mg/kg	milligrams per kilogram
<RL	less than the laboratory reporting limit
bgs	below ground surface
Bold	Result exceeds a regulatory screening
NE	No established comparison value
-	Not analyzed
NA	Not applicable

Comparison Values:

ESL Tier 1: Tier 1 Environmental Screening Levels (ESLs) from February 2016 (Rev. 3) ESL Summary Control Board

STLC: Soluable Threshold Limit Concentraton

ESL Direct Contact: Direct Exposure Human Health for Residential Shallow Soil Exposure; Environmental Screening Levels (ESLs) from February 2016 (Rev. 3) ESL Summary Tables, prepared by the San Francisco Bay Regional Water Quality Control Board

APPENDIX A

LABORATORY ANALYTICAL DATA

McCampbell Analytical, Inc.
"When Quality Counts"

Analytical Report

WorkOrder: 1810832

Report Created for: AEI Consultants

2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597

Project Contact: Shalom Marquardt
Project P.O.: 175550
Project: 393757; 1040-1045 Cochrane Road

Project Received: 10/16/2018

Analytical Report reviewed & approved for release on 10/18/2018 by:

Yen Cao
Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
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http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: AEI Consultants
Project: 393757; 1040-1045 Cochrane Road
WorkOrder: 1810832

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1810832
Date Received:	10/16/18 15:30	**Extraction Method:**	SW3050B
Date Prepared:	10/16/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Road	**Unit:**	mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16A-0.5	1810832-001A	Soil	10/15/2018 07:32	ICP-MS1 042SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**260**	0.50	1	10/17/2018 19:32

Surrogates	REC (%)	Limits	
Terbium	94	70-130	10/17/2018 19:32

Analyst(s): ND

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16A-2.5	1810832-002A	Soil	10/15/2018 07:52	ICP-MS1 171SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**24**	0.50	1	10/18/2018 08:51

Surrogates	REC (%)	Limits	
Terbium	95	70-130	10/18/2018 08:51

Analyst(s): ND

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16A-S1-0.5	1810832-003A	Soil	10/15/2018 07:39	ICP-MS1 043SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**350**	0.50	1	10/17/2018 19:38

Surrogates	REC (%)	Limits	
Terbium	100	70-130	10/17/2018 19:38

Analyst(s): ND

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16A-S1-2.5	1810832-004A	Soil	10/15/2018 09:02	ICP-MS1 044SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**110**	0.50	1	10/17/2018 19:44

Surrogates	REC (%)	Limits	
Terbium	94	70-130	10/17/2018 19:44

Analyst(s): ND

(Cont.)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1810832
Date Received:	10/16/18 15:30	**Extraction Method:**	SW3050B
Date Prepared:	10/16/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Road	**Unit:**	mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16A-S2-0.5	1810832-005A	Soil	10/15/2018 07:56	ICP-MS1 045SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**350**	0.50	1	10/17/2018 19:50

Surrogates	REC (%)	Limits	
Terbium	96	70-130	10/17/2018 19:50

Analyst(s): ND

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16A-S2-2.5	1810832-006A	Soil	10/15/2018 09:14	ICP-MS1 046SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**9.1**	0.50	1	10/17/2018 19:56

Surrogates	REC (%)	Limits	
Terbium	104	70-130	10/17/2018 19:56

Analyst(s): ND

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16A-W1-0.5	1810832-007A	Soil	10/15/2018 07:36	ICP-MS1 047SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**300**	0.50	1	10/17/2018 20:03

Surrogates	REC (%)	Limits	
Terbium	92	70-130	10/17/2018 20:03

Analyst(s): ND

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16A-W1-2.5	1810832-008A	Soil	10/15/2018 08:04	ICP-MS1 172SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**8.1**	0.50	1	10/18/2018 08:57

Surrogates	REC (%)	Limits	
Terbium	100	70-130	10/18/2018 08:57

Analyst(s): ND

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1810832
Date Received:	10/16/18 15:30	**Extraction Method:**	SW3050B
Date Prepared:	10/16/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Road	**Unit:**	mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16A-W2-0.5	1810832-009A	Soil	10/15/2018 07:44	ICP-MS1 048SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**57**	0.50	1	10/17/2018 20:09

Surrogates	REC (%)	Limits	
Terbium	94	70-130	10/17/2018 20:09

Analyst(s): ND

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16A-W2-2.5	1810832-010A	Soil	10/15/2018 08:18	ICP-MS1 173SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**10**	0.50	1	10/18/2018 09:03

Surrogates	REC (%)	Limits	
Terbium	92	70-130	10/18/2018 09:03

Analyst(s): ND

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16D-0.5	1810832-011A	Soil	10/15/2018 10:31	ICP-MS1 049SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**120**	0.50	1	10/17/2018 20:15

Surrogates	REC (%)	Limits	
Terbium	97	70-130	10/17/2018 20:15

Analyst(s): ND

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16D-2.5	1810832-012A	Soil	10/15/2018 10:47	ICP-MS1 050SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**8.1**	0.50	1	10/17/2018 20:21

Surrogates	REC (%)	Limits	
Terbium	92	70-130	10/17/2018 20:21

Analyst(s): ND

(Cont.)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1810832
Date Received:	10/16/18 15:30	**Extraction Method:**	SW3050B
Date Prepared:	10/16/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Road	**Unit:**	mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16D-E1-0.5	1810832-013A	Soil	10/15/2018 09:25	ICP-MS1 054SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**180**	0.50	1	10/17/2018 20:45

Surrogates	REC (%)	Limits	
Terbium	93	70-130	10/17/2018 20:45

Analyst(s): ND

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16D-E1-2.5	1810832-014A	Soil	10/15/2018 09:43	ICP-MS3 008SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**8.5**	0.50	1	10/17/2018 16:26

Surrogates	REC (%)	Limits	
Terbium	101	70-130	10/17/2018 16:26

Analyst(s): JC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16D-E2-0.5	1810832-015A	Soil	10/15/2018 09:33	ICP-MS3 009SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**40**	0.50	1	10/17/2018 16:32

Surrogates	REC (%)	Limits	
Terbium	99	70-130	10/17/2018 16:32

Analyst(s): JC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16D-E2-2.5	1810832-016A	Soil	10/15/2018 09:55	ICP-MS3 010SMPL.D	166742

Analytes	Result	RL	DF	Date Analyzed
Lead	**8.0**	0.50	1	10/17/2018 16:38

Surrogates	REC (%)	Limits	
Terbium	96	70-130	10/17/2018 16:38

Analyst(s): JC

(Cont.)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1810832
Date Received:	10/16/18 15:30	**Extraction Method:**	SW3050B
Date Prepared:	10/16/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Road	**Unit:**	mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16D-N1-0.5	1810832-017A	Soil	10/15/2018 09:52	ICP-MS1 034SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**64**	0.50	1	10/17/2018 18:43

Surrogates	REC (%)	Limits	
Terbium	97	70-130	10/17/2018 18:43

Analyst(s): ND

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16D-N1-2.5	1810832-018A	Soil	10/15/2018 10:20	ICP-MS3 011SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**5.1**	0.50	1	10/17/2018 16:44

Surrogates	REC (%)	Limits	
Terbium	96	70-130	10/17/2018 16:44

Analyst(s): JC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16D-N2-0.5	1810832-019A	Soil	10/15/2018 10:16	ICP-MS3 012SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**21**	0.50	1	10/17/2018 16:50

Surrogates	REC (%)	Limits	
Terbium	97	70-130	10/17/2018 16:50

Analyst(s): JC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16D-N2-2.5	1810832-020A	Soil	10/15/2018 10:30	ICP-MS3 027SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**8.8**	0.50	1	10/17/2018 18:22

Surrogates	REC (%)	Limits	
Terbium	102	70-130	10/17/2018 18:22

Analyst(s): MIG

(Cont.)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1810832
Date Received:	10/16/18 15:30	**Extraction Method:**	SW3050B
Date Prepared:	10/16/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Road	**Unit:**	mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17B-0.5	1810832-021A	Soil	10/15/2018 12:14	ICP-MS3 013SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**150**	0.50	1	10/17/2018 16:56

Surrogates	REC (%)	Limits	
Terbium	100	70-130	10/17/2018 16:56

Analyst(s): JC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17B-2.5	1810832-022A	Soil	10/15/2018 12:33	ICP-MS3 014SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**14**	0.50	1	10/17/2018 17:02

Surrogates	REC (%)	Limits	
Terbium	99	70-130	10/17/2018 17:02

Analyst(s): JC

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17B-E1-0.5	1810832-023A	Soil	10/15/2018 13:55	ICP-MS3 018SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**120**	0.50	1	10/17/2018 17:27

Surrogates	REC (%)	Limits	
Terbium	97	70-130	10/17/2018 17:27

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17B-E2-0.5	1810832-024A	Soil	10/15/2018 12:20	ICP-MS3 019SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**240**	0.50	1	10/17/2018 17:33

Surrogates	REC (%)	Limits	
Terbium	99	70-130	10/17/2018 17:33

Analyst(s): MIG

(Cont.)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1810832
Date Received:	10/16/18 15:30	**Extraction Method:**	SW3050B
Date Prepared:	10/16/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Road	**Unit:**	mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17B-E2-1.0	1810832-025A	Soil	10/15/2018 13:48	ICP-MS3 020SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**27**	0.50	1	10/17/2018 17:39

Surrogates	REC (%)	Limits	
Terbium	103	70-130	10/17/2018 17:39

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17B-N1-0.5	1810832-026A	Soil	10/15/2018 12:04	ICP-MS3 021SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**55**	0.50	1	10/17/2018 17:46

Surrogates	REC (%)	Limits	
Terbium	92	70-130	10/17/2018 17:46

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17B-N1-2.5	1810832-027A	Soil	10/15/2018 13:12	ICP-MS3 022SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**12**	0.50	1	10/17/2018 17:52

Surrogates	REC (%)	Limits	
Terbium	105	70-130	10/17/2018 17:52

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17B-N2-0.5	1810832-028A	Soil	10/15/2018 12:36	ICP-MS3 023SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**30**	0.50	1	10/17/2018 17:58

Surrogates	REC (%)	Limits	
Terbium	95	70-130	10/17/2018 17:58

Analyst(s): MIG

(Cont.)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1810832
Date Received:	10/16/18 15:30	**Extraction Method:**	SW3050B
Date Prepared:	10/16/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Road	**Unit:**	mg/Kg

Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17B-W1-0.5	1810832-029A	Soil	10/15/2018 13:14	ICP-MS3 024SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**49**	0.50	1	10/17/2018 18:04

Surrogates	REC (%)	Limits	
Terbium	101	70-130	10/17/2018 18:04

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17B-W2-0.5	1810832-030A	Soil	10/15/2018 12:55	ICP-MS3 025SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**96**	0.50	1	10/17/2018 18:10

Surrogates	REC (%)	Limits	
Terbium	98	70-130	10/17/2018 18:10

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17B-W2-1.0	1810832-031A	Soil	10/15/2018 13:55	ICP-MS3 026SMPL.D	166746

Analytes	Result	RL	DF	Date Analyzed
Lead	**12**	0.50	1	10/17/2018 18:16

Surrogates	REC (%)	Limits	
Terbium	104	70-130	10/17/2018 18:16

Analyst(s): MIG

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1810832
Date Prepared:	10/16/18	**BatchID:**	166742
Date Analyzed:	10/17/18	**Extraction Method:**	SW3050B
Instrument:	ICP-MS1	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/Kg
Project:	393757; 1040-1045 Cochrane Road	**Sample ID:**	MB/LCS/LCSD-166742

QC Summary Report for Metals

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Lead	ND	0.50	-	-	-
Surrogate Recovery					
Terbium	520		500	103	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Lead	47	51	50	94	102	75-125	8.30	20
Surrogate Recovery								
Terbium	480	530	500	96	106	70-130	9.14	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1810832
Date Prepared:	10/16/18	**BatchID:**	166746
Date Analyzed:	10/17/18	**Extraction Method:**	SW3050B
Instrument:	ICP-MS1	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/Kg
Project:	393757; 1040-1045 Cochrane Road	**Sample ID:**	MB/LCS/LCSD-166746 1810832-017AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Lead	ND	0.50	-	-	-
Surrogate Recovery					
Terbium	480		500	96	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Lead	50	46	50	100	93	75-125	7.58	20
Surrogate Recovery								
Terbium	510	480	500	102	95	70-130	7.39	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	1	120	110	50	64.38	112	90	75-125	9.83	20
Surrogate Recovery										
Terbium	1	470	490	500		93	97	70-130	4.31	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Lead	63	64.38	2.14	20

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1810832 **ClientCode: AEL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ■ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
■ Detection Summary ■ Dry-Weight

Report to:
Shalom Marquardt
AEI Consultants
2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597
(925) 478-9698 FAX: (925) 944-2895

Email: smarquardt@aeiconsultants.com
cc/3rd Party: akittredge@aeiconsultants.com; akershner
PO: 175550
Project: 393757; 1040-1045 Cochrane Road

Bill to:
Accounts Payable
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
AccountsPayable@AEIConsultants.com

Requested TAT: 2 days;

Date Received: **10/16/2018**
Date Logged: **10/16/2018**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1810832-001	SS-R-16A-0.5	Soil	10/15/2018 07:32	☐	A											
1810832-002	SS-R-16A-2.5	Soil	10/15/2018 07:52	☐	A											
1810832-003	SS-R-16A-S1-0.5	Soil	10/15/2018 07:39	☐	A											
1810832-004	SS-R-16A-S1-2.5	Soil	10/15/2018 09:02	☐	A											
1810832-005	SS-R-16A-S2-0.5	Soil	10/15/2018 07:56	☐	A											
1810832-006	SS-R-16A-S2-2.5	Soil	10/15/2018 09:14	☐	A											
1810832-007	SS-R-16A-W1-0.5	Soil	10/15/2018 07:36	☐	A											
1810832-008	SS-R-16A-W1-2.5	Soil	10/15/2018 08:04	☐	A											
1810832-009	SS-R-16A-W2-0.5	Soil	10/15/2018 07:44	☐	A											
1810832-010	SS-R-16A-W2-2.5	Soil	10/15/2018 08:18	☐	A											
1810832-011	SS-R-16D-0.5	Soil	10/15/2018 10:31	☐	A											
1810832-012	SS-R-16D-2.5	Soil	10/15/2018 10:47	☐	A											
1810832-013	SS-R-16D-E1-0.5	Soil	10/15/2018 09:25	☐	A											
1810832-014	SS-R-16D-E1-2.5	Soil	10/15/2018 09:43	☐	A											
1810832-015	SS-R-16D-E2-0.5	Soil	10/15/2018 09:33	☐	A											

Test Legend:

1	PBMS_TTLC_S	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Nancy Palacios

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1810832 **ClientCode: AEL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ■ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
■ Detection Summary ■ Dry-Weight

Report to:
Shalom Marquardt
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Email: smarquardt@aeiconsultants.com
cc/3rd Party: akittredge@aeiconsultants.com; akershner
PO: 175550
Project: 393757; 1040-1045 Cochrane Road

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Accounts Payable
AEI Consultants
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Walnut Creek, CA 94597
AccountsPayable@AEIConsultants.com

Requested TAT: 2 days;

Date Received: **10/16/2018**
Date Logged: **10/16/2018**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1810832-016	SS-R-16D-E2-2.5	Soil	10/15/2018 09:55	☐	A											
1810832-017	SS-R-16D-N1-0.5	Soil	10/15/2018 09:52	☐	A											
1810832-018	SS-R-16D-N1-2.5	Soil	10/15/2018 10:20	☐	A											
1810832-019	SS-R-16D-N2-0.5	Soil	10/15/2018 10:16	☐	A											
1810832-020	SS-R-16D-N2-2.5	Soil	10/15/2018 10:30	☐	A											
1810832-021	SS-R-17B-0.5	Soil	10/15/2018 12:14	☐	A											
1810832-022	SS-R-17B-2.5	Soil	10/15/2018 12:33	☐	A											
1810832-023	SS-R-17B-E1-0.5	Soil	10/15/2018 13:55	☐	A											
1810832-024	SS-R-17B-E2-0.5	Soil	10/15/2018 12:20	☐	A											
1810832-025	SS-R-17B-E2-1.0	Soil	10/15/2018 13:48	☐	A											
1810832-026	SS-R-17B-N1-0.5	Soil	10/15/2018 12:04	☐	A											
1810832-027	SS-R-17B-N1-2.5	Soil	10/15/2018 13:12	☐	A											
1810832-028	SS-R-17B-N2-0.5	Soil	10/15/2018 12:36	☐	A											
1810832-029	SS-R-17B-W1-0.5	Soil	10/15/2018 13:14	☐	A											
1810832-030	SS-R-17B-W2-0.5	Soil	10/15/2018 12:55	☐	A											

Test Legend:

1	PBMS_TTLC_S	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Nancy Palacios

Comments:

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1810832 **ClientCode: AEL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☐ Detection Summary ☐ Dry-Weight

Report to:
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Email: smarquardt@aeiconsultants.com
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PO: 175550
Project: 393757; 1040-1045 Cochrane Road

Bill to:
Accounts Payable
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
AccountsPayable@AEIConsultants.com

Requested TAT: 2 days;

Date Received: **10/16/2018**
Date Logged: **10/16/2018**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1810832-031	SS-R-17B-W2-1.0	Soil	10/15/2018 13:55	☐	A											

Test Legend:

1	PBMS_TTLC_S	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Nancy Palacios

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
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"When Quality Counts"

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http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS
Client Contact: Shalom Marquardt
Contact's Email: smarquardt@aeiconsultants.com

Project: 393757; 1040-1045 Cochrane Road
Comments:

Work Order: 1810832
QC Level: LEVEL 2
Date Logged: 10/16/2018

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1810832-001A	SS-R-16A-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 7:32	2 days		☐	
1810832-002A	SS-R-16A-2.5	Soil	SW6020 (Lead)	1	Stainless Steel tube 2"x6"	☐	10/15/2018 7:52	2 days		☐	
1810832-003A	SS-R-16A-S1-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 7:39	2 days		☐	
1810832-004A	SS-R-16A-S1-2.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 9:02	2 days		☐	
1810832-005A	SS-R-16A-S2-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 7:56	2 days		☐	
1810832-006A	SS-R-16A-S2-2.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 9:14	2 days		☐	
1810832-007A	SS-R-16A-W1-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 7:36	2 days		☐	
1810832-008A	SS-R-16A-W1-2.5	Soil	SW6020 (Lead)	1	Stainless Steel tube 2"x6"	☐	10/15/2018 8:04	2 days		☐	
1810832-009A	SS-R-16A-W2-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 7:44	2 days		☐	
1810832-010A	SS-R-16A-W2-2.5	Soil	SW6020 (Lead)	1	Stainless Steel tube 2"x6"	☐	10/15/2018 8:18	2 days		☐	
1810832-011A	SS-R-16D-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 10:31	2 days		☐	
1810832-012A	SS-R-16D-2.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 10:47	2 days		☐	
1810832-013A	SS-R-16D-E1-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 9:25	2 days		☐	
1810832-014A	SS-R-16D-E1-2.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 9:43	2 days		☐	
1810832-015A	SS-R-16D-E2-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 9:33	2 days		☐	
1810832-016A	SS-R-16D-E2-2.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 9:55	2 days		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

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WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS
Client Contact: Shalom Marquardt
Contact's Email: smarquardt@aeiconsultants.com

Project: 393757; 1040-1045 Cochrane Road
Comments:

Work Order: 1810832
QC Level: LEVEL 2
Date Logged: 10/16/2018

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1810832-017A	SS-R-16D-N1-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 9:52	2 days		☐	
1810832-018A	SS-R-16D-N1-2.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 10:20	2 days		☐	
1810832-019A	SS-R-16D-N2-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 10:16	2 days		☐	
1810832-020A	SS-R-16D-N2-2.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 10:30	2 days		☐	
1810832-021A	SS-R-17B-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 12:14	2 days		☐	
1810832-022A	SS-R-17B-2.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 12:33	2 days		☐	
1810832-023A	SS-R-17B-E1-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 13:55	2 days		☐	
1810832-024A	SS-R-17B-E2-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 12:20	2 days		☐	
1810832-025A	SS-R-17B-E2-1.0	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 13:48	2 days		☐	
1810832-026A	SS-R-17B-N1-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 12:04	2 days		☐	
1810832-027A	SS-R-17B-N1-2.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 13:12	2 days		☐	
1810832-028A	SS-R-17B-N2-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 12:36	2 days		☐	
1810832-029A	SS-R-17B-W1-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 13:14	2 days		☐	
1810832-030A	SS-R-17B-W2-0.5	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 12:55	2 days		☐	
1810832-031A	SS-R-17B-W2-1.0	Soil	SW6020 (Lead)	1	8OZ GJ, Unpres	☐	10/15/2018 13:55	2 days		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

General COC

RUSH!

MAI Work Order # 1810832

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD

Turn Around Time:	1 Day Rush			2 Day Rush	X	3 Day Rush		STD		Quote #													
J-Flag / MDL		ESL		Cleanup Approved				Bottle Order #															
Delivery Format:	PDF	X		GeoTracker EDF		EDD		Write On (DW)		EQuIS													

Report To: Shalom Marquardt Bill To: Accounts Payable

Company: AEI Consultants

Email: smarquardt@aeiconsultants.com / akittredge@aeiconsultants.com

Alt Email: akershner@aeiconsultants.com Tele:

Project Name: 1040 -1045 Cochrane Road Project #: 393757

Project Location: Morgan Hill, CA PO # 175550

Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: Lead 6020B
SS-R-16A-0.5	10/15/18	0732	1	S	7	X
SS-R-16A-2.5		0752				
SS-R-16A-S1-0.5		0739				
SS-R-16A-S1-2.5		0902				
SS-R-16A-S2-0.5		0756				
SS-R-16A-S2-2.5		0914				
SS-R-16A-W1-0.5		0736				
SS-R-16A-W1-2.5		0804				
SS-R-16A-W2-0.5		0744				
SS-R-16A-W2-2.5		0818				

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
Adam AEI	10/16	1020	LAP	10/16/18	1020
LAP	10/16/18	1530	Nancy Palacios	10.16.18	1530

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 4.9 °C Initials WG

Page 14 of 14

General COC

RUSH!

MAI Work Order # 1810832

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CHAIN OF CUSTODY RECORD

Turn Around Time:	1 Day Rush		2 Day Rush	X	3 Day Rush		STD		Quote #				
J-Flag / MDL		ESL		Cleanup Approved					Bottle Order #				
Delivery Format:	PDF	X	GeoTracker EDF		EDD		Write On (DW)		EQuIS				

Report To: Shalom Marquardt — Bill To: Accounts Payable
Company: AEI Consultants
Email: smarquardt@aeiconsultants.com / akittredge@aeiconsultants.com
Alt Email: akershner@aeiconsultants.com — Tele:
Project Name: 1040 -1045 Cochrane Road — Project #: 393757
Project Location: Morgan Hill, CA — PO # 175550
Sampler Signature:

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Lead 6020B
SS-R-16D-0.5	10/15/18	1031	1	S	7	X
SS-R-16D-2.5		1047				
SS-R-16D-E1-0.5		0925				
SS-R-16D-E1-2.5		0943				
SS-R-16D-E2-0.5		0933				
SS-R-16D-E2-2.5		0955				
SS-R-16D-N1-0.5		0952				
SS-R-16D-N1-2.5		1020				
SS-R-16D-N2-0.5		1016				
SS-R-16D-N2-2.5		1030				

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Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
AEI	10/16	1020	LAP	10/16/18	1020
LAP	10/16/18	1530	Nancy Palacios	10-16-18	1530

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 4.9 Wet °C Initials E L

General COC

RUSH!

MAI Work Order # 1810832

6

McCAMPBELL ANALYTICAL, INC.

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www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD

Turn Around Time:	1 Day Rush		2 Day Rush	X	3 Day Rush		STD		Quote #						
J-Flag / MDL		ESL		Cleanup Approved					Bottle Order #						
Delivery Format:	PDF	X	GeoTracker EDF		EDD		Write On (DW)		EQuIS						

Report To: Shalom Marquardt Bill To: Accounts Payable

Company: AEI Consultants

Email: smarquardt@aeiconsultants.com / akittredge@aeiconsultants.com

Alt Email: akershner@aeiconsultants.com Tele:

Project Name: 1040 -1045 Cochrane Road Project #: 393757

Project Location: Morgan Hill, CA PO # 175550

Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: Lead 6020B
SS-R-17B-0.5	10/15/18	1214	1	S	7	X
SS-R-17B-2.5		1233				
SS-R-17B-E1-0.5		1355				
SS-R-17B-E2-0.5		1220				
SS-R-17B-E2-1.0		1348				
SS-R-17B-N1-0.5		1204				
SS-R-17B-N1-2.5		1312				
SS-R-17B-N2-0.5		1236				
SS-R-17B-W1-0.5		1314				
SS-R-17B-W2-0.5	↓	1255	↓	↓	↓	↓

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
AEI	10/16	1020	MAI	10/16/18	1020
MAI	10/16/18	1530	Nancy Palacios	10.16.18	1530

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 4.9 °C Initials alt

Page 3 of 4

General COC

RUSH!

MAI Work Order # 1810832

6

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD

Turn Around Time:	1 Day Rush		2 Day Rush	X	3 Day Rush		STD		Quote #						
J-Flag / MDL		ESL		Cleanup Approved					Bottle Order #						
Delivery Format:	PDF	X	GeoTracker EDF		EDD		Write On (DW)		EQuIS						

Report To: Shalom Marquardt Bill To: Accounts Payable

Company: AEI Consultants

Email: smarquardt@aeiconsultants.com / akittredge@aeiconsultants.com

Alt Email: akershner@aeiconsultants.com Tele:

Project Name: 1040 -1045 Cochrane Road Project #: 393757

Project Location: Morgan Hill, CA PO # 175550

Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: Lead 6020B
SS-R-178-W2-~~2.5~~1.0	10/15/18	1355	1	S	7	X

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
AE	10/16	1020	UAP	10/16/18	1020
UAP	10/16/18	1530	Nancy Palacios	10.16.18	1530

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp _____ °C Initials _____

4.9 WT

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Sample Receipt Checklist

Client Name:	**AEI Consultants**	Date and Time Received	**10/16/2018 15:30**
Project:	**393757; 1040-1045 Cochrane Road**	Date Logged:	**10/16/2018**
		Received by:	Nancy Palacios
WorkOrder №:	**1810832** Matrix: Soil	Logged by:	Nancy Palacios
Carrier:	Lorenzo Perez (MAI Courier)		

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐		
Chain of custody signed when relinquished and received?	Yes	☑	No	☐		
Chain of custody agrees with sample labels?	Yes	☑	No	☐		
Sample IDs noted by Client on COC?	Yes	☑	No	☐		
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐		
Sampler's name noted on COC?	Yes	☑	No	☐		
COC agrees with Quote?	Yes	☐	No	☐	NA	☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	NA	☑
Shipping container/cooler in good condition?	Yes	☑	No	☐		
Samples in proper containers/bottles?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA	☐
Samples Received on Ice?	Yes	☑	No	☐		
(Ice Type: WET ICE)						
Sample/Temp Blank temperature	Temp: 4.9°C				NA	☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☐	No	☐	NA	☑
Sample labels checked for correct preservation?	Yes	☑	No	☐		
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes	☐	No	☐	NA	☑
UCMR Samples:						
pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes	☐	No	☐	NA	☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes	☐	No	☐	NA	☑

Comments:

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Analytical Report

WorkOrder: 1810832 A

Report Created for: AEI Consultants

2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597

Project Contact: Shalom Marquardt
Project P.O.: 175550
Project: 393757; 1040-1045 Cochrane Road

Project Received: 10/16/2018

Analytical Report reviewed & approved for release on 10/24/2018 by:

Yen Cao
Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.

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Glossary of Terms & Qualifier Definitions

Client: AEI Consultants
Project: 393757; 1040-1045 Cochrane Road
WorkOrder: 1810832 A

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1810832
Date Received:	10/16/18 15:30	**Extraction Method:**	CA Title 22
Date Prepared:	10/20/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Road	**Unit:**	mg/L

Metals (STLC)

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16A-S1-0.5	1810832-003A	Soil	10/15/2018 07:39	ICP-MS3 130SMPL.D	166993

Analytes	Result	RL	DF	Date Analyzed
Lead	**15**	0.10	1	10/22/2018 21:27

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16A-S2-0.5	1810832-005A	Soil	10/15/2018 07:56	ICP-MS3 108SMPL.D	166993

Analytes	Result	RL	DF	Date Analyzed
Lead	**13**	0.10	1	10/22/2018 19:12

Analyst(s): MIG

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1810832
Date Prepared:	10/20/18	**BatchID:**	166993
Date Analyzed:	10/22/18	**Extraction Method:**	CA Title 22
Instrument:	ICP-MS3	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/L
Project:	393757; 1040-1045 Cochrane Road	**Sample ID:**	MB/LCS/LCSD-166993 1810832-005AMS/MSD

QC Summary Report for Metals (STLC)

Analyte	MB Result	RL			
Lead	ND	0.10	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Lead	9.9	9.8	10	99	98	75-125	0.587	20

Analyte	MS DF	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Lead	1	24	24	10	13.38	102	105	75-125	1.09	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Lead	14	13.38	4.63	20

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

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Pittsburg, CA 94565-1701
(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1810832 A **ClientCode: AEL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Shalom Marquardt
AEI Consultants
2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597
(925) 321-3561 FAX: (925) 944-2895

Email: smarquardt@aeiconsultants.com
cc/3rd Party: akittredge@aeiconsultants.com; akershner
PO: 175550
Project: 393757; 1040-1045 Cochrane Road

Bill to:
Accounts Payable
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
AccountsPayable@AEIConsultants.com

Requested TAT: 2 days;

Date Received: **10/16/2018**
Date Logged: **10/16/2018**
Date Add-On: **10/19/2018**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1810832-003	SS-R-16A-S1-0.5	Soil	10/15/2018 07:39	☐	A											
1810832-005	SS-R-16A-S2-0.5	Soil	10/15/2018 07:56	☐	A											

Test Legend:

1	PBMS_STLC_S	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Nancy Palacios

Add-On Prepared By: Maria Venegas

Comments: STLC Pb added to 003,005 10/19/18 2day.

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS
Client Contact: Shalom Marquardt
Contact's Email smarquardt@aeiconsultants.com

Project: 393757; 1040-1045 Cochrane Road
Comments: STLC Pb added to 003,005 10/19/18 2day.

Work Order: 1810832
QC Level: LEVEL 2
Date Logged: 10/16/2018
Date Add-On: 10/19/2018

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1810832-003A	SS-R-16A-S1-0.5	Soil	SW6020 (Lead) (STLC)	1	8OZ GJ, Unpres	10/15/2018 7:39	2 days*		☐	
1810832-005A	SS-R-16A-S2-0.5	Soil	SW6020 (Lead) (STLC)	1	8OZ GJ, Unpres	10/15/2018 7:56	2 days*		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

APPENDIX B

NATURALLY OCCURRING ASBESTOS SERPENTINE IMPORT FILL REPORT BY BERLOGAR STEVENS & ASSOCIATES (PENDING)

AEI Consultants

September 20, 2018

LIMITED PHASE II AGRICULTURAL INVESTIGATION

Property Identification:
1040-1045 Cochrane Road
Morgan Hill, California 95037

AEI Project No. 393757

Prepared for:
Corey McCoy
Trumark Homes LLC
3001 Bishop Drive, Suite 100
San Ramon, California 94583

Prepared by:
AEI Consultants
2500 Camino Diablo
Walnut Creek, California 94597
925-746-6000

Environmental Due Diligence

Building Assessments

Site Investigation & Remediation

Energy Performance & Benchmarking

Industrial Hygiene

Construction Risk Management

Zoning Analysis Reports & ALTA Surveys

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FIGURES

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TABLES

Table 1 Soil Sample Pesticide Data Summary
Table 2 Soil Sample Arsenic and Lead Data Summary

APPENDICES

Appendix A Laboratory Analytical Reports

AEI Consultants

September 20, 2018

Corey McCoy
Trumark Homes LLC
3001 Bishop Drive, Suite 100
San Ramon, California 94583

Subject: Limited Agricultural Investigation
1040-1045 Cochrane Road
Morgan Hill, California 95037
AEI Project No. 393757

Dear Mr. McCoy:

AEI Consultants (AEI) is pleased to provide this report which describes the activities and results of the Limited Agricultural Investigation performed at 1040-1045 Cochrane Road (the "Site") in Morgan Hill, California (Figures 1 and 2). This investigation was completed in general accordance with the scope of services outlined in AEI's proposal number 59709.

1.0 SITE DESCRIPTION

The Site is located southwest of Highway 101 and between Cochrane Road and Half Road in Morgan Hill, California. The Site is comprised of approximately 87.6-acres of land, which is currently and historically used for agricultural purposes. The Site is identified by three Santa Clara County's County Assessor's Parcel Numbers: 728-31-14, 728-30-1, 728-30-4, 728-30-6, and 728-30-9.

According to information obtained from the United States Geological Survey (USGS) mapping database, the Site is underlain by alluvial gravel, and valley sand and clay deposits. Based on AEI's review of groundwater monitoring data obtained from the State of California Geotracker database for a nearby site indicates that the depth to groundwater in the area is estimated at 156 below ground surface (bgs). Regional topographic conditions suggest that the direction of groundwater is to the southwest.

2.0 BACKGROUND

A Draft Phase I Environmental Site Assessment (ESA) was performed by AEI as detailed in a report dated June 6, 2018. Based on a review of the ESA, the Site was identified to have been used for agricultural purposes from as early as 1939 to present. There is a potential that agricultural chemicals, such as pesticides, herbicides and fertilizers, used onsite have in impacted the Site.

Based on this, there is a potential that organochlorine pesticides (OCPs) or arsenic have been used on-site that could have impacted shallow surface soils. AEI understands that the Site is

slated for residential redevelopment. Consequently, AEI recommended on-site sampling to evaluate if the Site has been significantly impacted in connection with the historical agricultural use for the protection of the construction workers and future occupants of the Site.

3.0 INVESTIGATION EFFORTS

AEI was requested to perform an investigation, including the collection of shallow soil samples, to evaluate if the above identified REC had adversely impacted the property. The completed activities are summarized below, and sample locations are presented on Figure 3 and Figure 4:

- Collection of near-surface soil samples SS-1 through SS-15 (gridded into 60 separate sampling locations, A through D, and composited by the laboratory into four (4) four-point composite samples) at a depth between zero and one (1) foot below ground surface (bgs) to evaluate shallow soil conditions beneath the Site for potential pesticide impacts from former and current agricultural operations.
- Collection of fifteen (15) discrete near-surface soil samples (SS-1A through SS-15A) at a depth between zero and one (1) foot bgs to evaluate for potential arsenic and lead impacts to the Site from the former and current agricultural operations.
- Collection of eight (8) additional discrete soil samples SS-R-16A-D and SS-R-17A-D at a depth between zero and one (1) foot below ground surface (bgs) to evaluate shallow soil conditions near the two buildings on the Site for potential lead impacts from current residential structures.

3.1 Health and Safety Plan

A site-specific health and safety plan was prepared, reviewed by onsite personnel, and kept onsite for the duration of the fieldwork.

3.2 Soil Sampling

A shallow soil sampling program was completed which was consistent with the protocol outlined in the State of California Department of Toxic Substances Control (DTSC) *Interim Guidance for Sampling Agricultural Properties (Third Revision)* dated August 7, 2008. For the shallow sampling program, the Site was grid into fifteen (15) separate sampling areas (SS-1 through SS-15) and analyzed for OCPs, arsenic, and lead.

At the time of the soil sampling, AEI observed the Site as agricultural land. Near-surface soil samples were collected by AEI at sixty-eight (68) locations throughout the Site, designated as SS-1A to -1D through SS-15A to -15D, and SS-R-16A to -16D through SS-R-17A to -17D. Samples SS-1A to -1D through SS-15A to -15D, were composited by the laboratory into four (4) four-point composite samples (SS-1 COMP through SS-15 COMP) for the analysis of OCPs. Samples SS-R-16A to -16D through SS-R-17A to -17D were collected for the discrete analysis of lead and arsenic. Soil samples SS-1A through SS-15A were also collected for the discrete analysis of arsenic and lead. The approximate sample locations are shown on Figure 3.

Prior to sampling, loose vegetation and soil was cleared from the ground surface at each sample location and a small hole was dug to a depth of approximately 1 foot with a shovel. A hand shovel was then used to scrape soil from the sides of the hole at a depth of between three and six inches

and transfer the soil to a clean, laboratory-supplied, 4-ounce glass jars. Upon collection, each sample was labeled with the project name, project number, and the sampling date and time. After labeling, each sample was placed into an insulated, chilled ice chest containing ice for transport to the analytical laboratory. Chain-of-custody documentation was completed and accompanied the soil samples to State of California-certified laboratory.

Upon completion of sample collection, the shallow holes were backfilled with excavated and surrounding surficial soils.

3.3 Equipment Decontamination and Investigation-Derived Waste

The hand sampling equipment was decontaminated prior to and/or after collecting each soil sample. The equipment was cleaned using a triple-rinse method, which consisted of an initial wash containing an Alconox detergent and water solution, followed by two (2) potable water rinses.

4.0 LABORATORY ANALYSES

The soil samples were transferred under appropriate chain-of-custody documentation to a State of California-certified analytical laboratory, McCampbell Analytical, Inc, of Pittsburg, California. A summary of the requested laboratory analyses is shown in the table below:

Table A – Laboratory Analysis Summary

Sample ID	Compositing Schedule	Analysis
SS-1A to -1D through SS-15A to -15D	4 to 1	OCPs by EPA Method 8081A
SS-R-16A to -16D through SS-R-17A to -17D	Discrete	Arsenic and Lead by EPA Method 6020
SS-1A through SS-15A	Discrete	Arsenic and Lead by EPA Method 6020

Laboratory analytical documentation is provided in Appendix A.

5.0 ANALYTICAL RESULTS

For the purpose of providing context to the data obtained during this investigation, analytical results are compared to available regulatory screening levels. The San Francisco Bay Regional Water Quality Control Boards (RWQCB) Environmental Screening Levels (ESLs) for Direct Contact were used for comparison values under a residential land use scenario for this investigation. The ESLs are considered to be conservative. Under most circumstances, and within the limitations described in the ESLs, the presence of a chemical in soil at concentrations below the corresponding ESL and soil criteria may be assumed to not pose a significant threat to human health and the environment.

The Arsenic comparison concentrations should be taken from Geochemical and Mineralogical Maps for the Conterminous United States by United States Geological Survey (USGS). It indicates background levels of arsenic in this particular location's soil to have a background upper limit of

8.4 milligrams per kilogram (mg/kg). Additional evaluation may be necessary at sites where a chemical is present at concentrations above the corresponding ESL and soil gas criteria.

Table 1 and 2 presents a summary of the soil sample analytical results, and laboratory analytical documentation is provided in Appendix B. The results can be summarized as follows:

- Chlordane (Technical), a-Chlordane, and g-Chlordane were detected in sample SS-2 COMP at concentrations of 0.16 mg/kg, 0.018 mg/kg, and 0.015 mg/kg respectively. The detected concentrations were below the residential and commercial ESLs of 0.48 mg/kg and 2.2 mg/kg, respectively.
- p,p-dichlorodiphenyldichloroethane (p,p-DDD) was detected in sample SS-14 COMP, at a concentration of 0.012 mg/kg. The detected concentration is below the residential and commercial ESL of 2.7 mg/kg and 12 mg/kg, respectively.
- p,p-dichlorodiphenyldichloroethylene (p,p-DDE) was detected in 13 of the 15 samples collected and analyzed, with the exception of SS-1 COMP and SS-7 COMP. p,p-DDE concentrations ranged from 0.0020 mg/kg to 0.075 mg/kg. The detected concentrations are below the residential and commercial ESL of 1.9 mg/kg and 8.1 mg/kg, respectively.
- p,p-dichlorodiphenyltrichloroethane (p,p-DDT) was detected in 12 of the 15 samples collected and analyzed, with the exception of SS-1 COMP, SS-4 COMP, and SS-7 COMP. p,p-DDT concentrations ranged from 0.0017 mg/kg to 0.019 mg/kg. The detected concentrations are below the residential and commercial ESL of 1.9 mg/kg and 8.1 mg/kg, respectively.
- Dieldrin was detected in samples SS-2 COMP, SS-5 COMP, and SS-15 COMP at concentrations of 0.0068 mg/kg, 0.0016 mg/kg, and 0.0038 mg/kg, respectively. The detected concentrations are below the residential and commercial ESL of 0.038 mg/kg and 0.14 mg/kg, respectively.
- The remaining OCPs were not detected at or below laboratory method reporting limits.
- Arsenic was detected in every sample collected and analyzed. Arsenic concentrations ranged from 0.91 mg/kg to 10 mg/kg. The detected arsenic concentrations were found to exceed direct contact residential ESLs of 0.067 mg/kg; however, the arsenic levels observed in samples collected from the Site are consistent with naturally occurring arsenic (6.0 – 8.4 mg/kg) as demonstrated by USGS' *Geochemical and Mineralogical Maps for the Conterminous United States* (Smith, 2014) for the Morgan Hill area.
- Lead was detected in all samples collected and analyzed. Lead concentrations ranged from 0.87 mg/kg to 200 mg/kg. Lead concentrations from SS-R-16A (120 mg/kg), SS-R-16D (170 mg/kg), and SS-R-17B (200 mg/kg) exceeded its applicable residential ESLs of 80 mg/kg and was below its commercial ESLs of 320 mg/kg.

6.0 SUMMARY AND CONCLUSIONS

AEI has completed a Limited Agricultural Investigation at the Site to evaluate the current subsurface conditions related to the historical agricultural site use. Near-surface soil samples were collected at sixty-eight (68) locations throughout the Site, designated as SS-1A-D through SS-15A-D, SS-R-16A-D and SS-R-17A-D. Samples SS-1A-D through SS-15A-D were composited by the laboratory into fifteen (15) four-point composite samples (S1-S15 COMP), for the analysis of OCPs. One sample from each composite (SS-1A through SS-15A) was set aside for discrete analysis of arsenic and lead. Samples SS-R-16A-D and SS-R-17A-D were analyzed for arsenic and lead.

No OCPs analyzed exceeded their corresponding ESLs for residential and commercial direct contact scenarios. In addition, arsenic was detected at concentrations ranging from 0.91 mg/kg to 10 mg/kg, which is consistent with typical background concentrations (6.0 – 8.4 mg/kg) for the Morgan Hill area. Lead was found in concentrations above its corresponding residential ESL in three samples SS-R-16A, SS-R-16D, and SS-R-17B. Each of the sample locations with lead concentrations above the residential ESL were collected in the vicinity of the former residence, which is typically associated with the use of lead paint. Additional characterization to delineate the extent of lead in soil is recommended along with limited remediation by source removal in the vicinity of the former residences. Additional analysis of Soluble Threshold Limit Concentration (STLC) is recommended for the soil samples with lead present for waste disposal requirements.

7.0 REFERENCES

AEI Consultants, 2018, *Draft Phase I Environmental Site Assessment*, *1040 1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, Santa Clara County, California 95037,* technical report prepared for Llagas, LLC., dated June 6, 2018.

San Francisco Bay Regional Water Quality Control Board, 2016, *Environmental Screening Levels* (ESLs), February 2016, revision 3.

Smith, D.B., Cannon, W.F., Woodruff, L.G., Solano, Federico, and Ellefsen, K.J., 2014, Geochemical and mineralogical maps for soils of the conterminous United States: U.S. Geological Survey Open-File Report 2014–1082, 386 p., https://dx.doi.org/10.3133/ofr20141082.

8.0 REPORT LIMITATIONS AND RELIANCE

This report presents a summary of work completed by AEI Consultants. The completed work includes observations and descriptions of site conditions encountered. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide the requested information, subject to scope of work for which AEI was retained and limitations inherent in this type of work, but it cannot be assumed that they are representative of areas not sampled. This report should not be regarded as a guarantee that no further contamination beyond that which could have been detected within the scope of this investigation is present beneath the subject property. Undocumented, unauthorized releases of hazardous material, the remains of which are not readily identifiable by visual inspection and are of different chemical constituents, are difficult and often impossible to detect within the scope of a chemical specific investigation.

Any conclusions and/or recommendations are based on these analyses and observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document. These services were performed in accordance with generally accepted practices, in the environmental engineering and construction field, which existed at the time and location of the work. No other warranty, either expressed or implied, has been made.

This investigation was prepared for the sole use and benefit of Trumark Homes LLC. All reports, both verbal and written, whether in draft or final, are for the benefit of Trumark Homes

LLC. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of AEI. Either verbally or in writing, third parties may come into possession of this report or all or part of the information generated as a result of this work. In the absence of a written agreement with AEI granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against AEI, its officers, employees, vendors, successors or assigns. Reliance is provided in accordance with AEI's Proposal and Standard Terms & Conditions executed by Trumark Homes LLC. The limitation of liability defined in the Terms and Conditions is the aggregate limit of AEI's liability to the client and all relying parties.

If there are any questions regarding our investigation, please do not hesitate to contact AEI at 925-746-6000.

Sincerely,
AEI Consultants

Shalom Marquardt, P.G. 8901
Senior Geologist

Adam Kershner
Staff Geologist

AEI Consultants
2500 Camino Diablo
Walnut Creek, California 94597
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TABLE 1: SOIL SAMPLE PESTICIDE DATA SUMMARY
1040 - 1045 Cochrane Road, Morgan Hill, California 95037

Location ID	Date	Depth (feet bgs)	Chlordane (Technical) (mg/kg)	a-Chlordane (mg/kg)	g-Chlordane (mg/kg)	p,p-DDD (mg/kg)	p,p-DDE (mg/kg)	p,p-DDT (mg/kg)	Dieldrin (mg/kg)	Other Pesticides (mg/kg)
SS-1 COMP	9/10/2018	1.0	<0.050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<RL
SS-2 COMP	9/10/2018	1.0	0.16	0.018	0.015	<0.0020	0.050	0.019	0.0068	<RL
SS-3 COMP	9/10/2018	1.0	<0.050	<0.0020	<0.0020	<0.0020	0.0067	0.0033	<0.0020	<RL
SS-4 COMP	9/10/2018	1.0	<0.025	<0.0010	<0.0010	<0.0010	0.0020	<0.0010	<0.0010	<RL
SS-5 COMP	9/10/2018	1.0	<0.025	<0.0010	<0.0010	<0.0010	0.011	0.0043	0.0016	<RL
SS-6 COMP	9/10/2018	1.0	<0.025	<0.0010	<0.0010	<0.0010	0.015	0.0062	<0.0010	<RL
SS-7 COMP	9/10/2018	1.0	<0.025	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<RL
SS-8 COMP	9/10/2018	1.0	<0.050	<0.0020	<0.0020	<0.0020	0.042	0.0049	<0.0020	<RL
SS-9 COMP	9/10/2018	1.0	<0.050	<0.0020	<0.0020	<0.0020	0.0063	0.0064	<0.0020	<RL
SS-10 COMP	9/10/2018	1.0	<0.025	<0.0010	<0.0010	<0.0010	0.0077	0.0037	<0.0010	<RL
SS-11 COMP	9/10/2018	1.0	<0.050	<0.0020	<0.0020	<0.0020	0.0026	0.0020	<0.0020	<RL
SS-12 COMP	9/10/2018	1.0	<0.025	<0.0010	<0.0010	<0.0010	0.0035	0.0017	<0.0010	<RL
SS-13 COMP	9/10/2018	1.0	<0.12	<0.0050	<0.0050	<0.0050	0.020	0.013	<0.0050	<RL
SS-14 COMP	9/10/2018	1.0	<0.050	<0.0020	<0.0020	0.012	0.075	0.019 P	<0.0020	<RL
SS-15 COMP	9/10/2018	1.0	<0.050	<0.0020	<0.0020	<0.0020	0.011	0.0075 P	0.0038	<RL
Comparison Values:										
ESL - Residential Shallow Soil			0.48	0.48	0.48	2.7	1.9	1.9	0.038	Various
ESL - Commercial Shallow Soil			2.2	2.2	2.2	12	8.1	8.1	0.14	Various

Notes:

mg/kg	milligrams per kilogram
<RL	less than the laboratory reporting limit
bgs	below ground surface
DDD	Dichlorodiphenyldichloroethane
DDE	Dichlorodiphenyldichloroethylene
DDT	Dichlorodiphenyltrichloroethane
Bold	Result exceeds a regulatory screening
P	Agreement between quantitative confirmation results exceed method recommended limits

Comparison Values:

ESL Direct Contact: Direct Exposure Human Health for Residential Shallow Soil Exposure; Environmental Screening Levels (ESLs) from February 2016 (Rev. 3) ESL Summary Tables, prepared by the San Francisco Bay Regional Water Quality Control Board

TABLE 2: SOIL SAMPLE ARSENIC AND LEAD DATA SUMMARY
1040 - 1045 Cochrane Road, Morgan Hill, California 95037

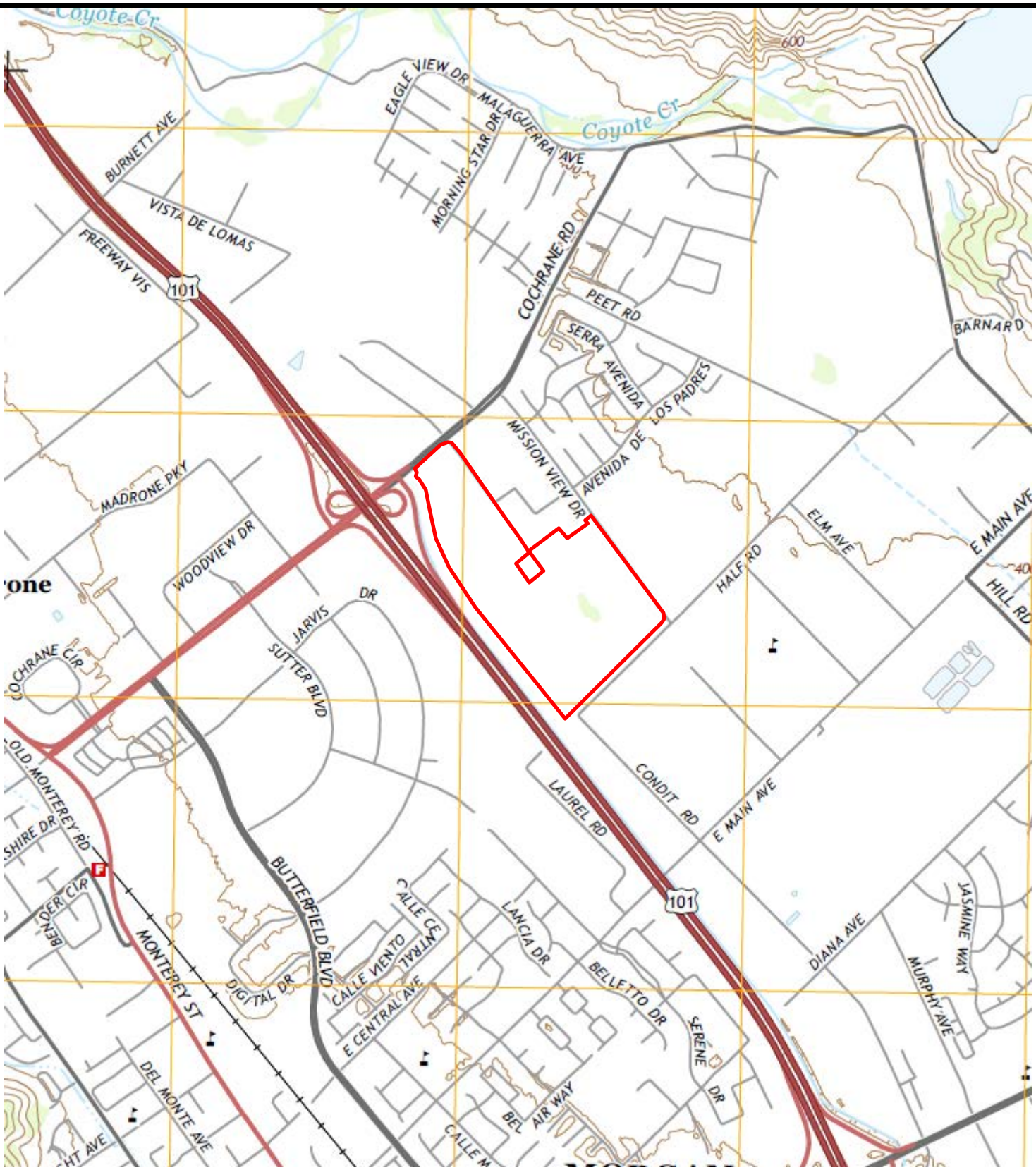
Location ID	Date	Depth (feet bgs)	Arsenic (mg/kg)	Lead (mg/kg)
SS-1A	9/10/2018	1.0	**6.0**	9.6
SS-2A	9/10/2018	1.0	**7.8**	42
SS-3A	9/10/2018	1.0	**7.8**	12
SS-4A	9/10/2018	1.0	**6.2**	9.3
SS-5A	9/10/2018	1.0	**8.8**	16
SS-6A	9/10/2018	1.0	**8.7**	10
SS-7A	9/10/2018	1.0	**8.9**	11
SS-8A	9/10/2018	1.0	**7.1**	14
SS-9A	9/10/2018	1.0	**8.4**	13
SS-10A	9/10/2018	1.0	**9.1**	14
SS-11A	9/10/2018	1.0	**8.9**	14
SS-12A	9/10/2018	1.0	**8.6**	15
SS-13A	9/10/2018	1.0	**4.0**	8.8
SS-14A	9/10/2018	1.0	**6.9**	14
SS-15A	9/10/2018	1.0	**0.91**	0.87
SS-R-16A	9/10/2018	1.0	**5.7**	**120**
SS-R-16B	9/10/2018	1.0	**4.1**	39
SS-R-16C	9/10/2018	1.0	**6.3**	62
SS-R-16D	9/10/2018	1.0	**6.9**	**170**
SS-R-17A	9/10/2018	1.0	**6.4**	23
SS-R-17B	9/10/2018	1.0	**10**	**200**
SS-R-17C	9/10/2018	1.0	**8.5**	17
SS-R-17D	9/10/2018	1.0	**6.4**	24
Comparison Values:				
ESL - Residential Shallow Soil			0.067 [1]	80
ESL - Com Shallow Soil			0.31 [1]	320

Notes:

mg/kg	milligrams per kilogram
<RL	less than the laboratory reporting limit
bgs	below ground surface
Bold	Result exceeds a regulatory screening
[1]	Arsenic concentrations from Geochemical and Mineralogical Maps for the Conterminous United States, a map completed in 2014 by the USGS indicate background levels of arsenic of soil onsite has background upper limit of 8.4 mg/kg.

Comparison Values:

ESL Direct Contact: Direct Exposure Human Health for Residential Shallow Soil Exposure; Environmental Screening Levels (ESLs) from February 2016 (Rev. 3) ESL Summary Tables, prepared by the San Francisco Bay Regional Water Quality Control Board



Legend
Approximate Property Boundary
Source: USGS Topographic Map *Morgan Hill, California* (2015)

N

Figure 1: TOPOGRAPHIC MAP

1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, California 95037
Project Number: 393757

AEI Consultants

LEGEND

Approximate Property Boundary

0 250 500

SCALE: 1" = 500'

AEI Consultants

2500 Camino Diablo, Walnut Creek, California

SITE MAP

1040 - 1045 Cochrane Road
Morgan Hill, California

FIGURE 2
Project No. 393757

LEGEND

- Approximate Property Boundary
- Shallow Soil Sample for OC Pesticides
- Discrete Shallow Soil Sample for OC Pesticides and Arsenic and Lead
- Set of Four (4) Shallow Soil Samples for Discrete Lead

AEI Consultants
2500 Camino Diablo, Walnut Creek, California

SAMPLE LOCATION MAP

1040 - 1045 Cochrane Road
Morgan Hill, California

FIGURE 3
Project No. 393757

LEGEND

- Discrete Lead and Arsenic Shallow Soil Samples

AEI Consultants

2500 Camino Diablo, Walnut Creek, California

SOIL SAMPLE LOCATION MAP
IN VICINITY OF RESIDENCES

1040 - 1045 Cochrane Road
Morgan Hill, California

FIGURE 4
Project No. 393757

McCampbell Analytical, Inc.
"When Quality Counts"

Analytical Report

WorkOrder: 1809311

Report Created for: AEI Consultants

2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597

Project Contact: Shalom Marquardt
Project P.O.: 171218
Project: 393757; 1040-1045 Cochrane Rd.

Project Received: 09/10/2018

Analytical Report reviewed & approved for release on 09/13/2018 by:

Jennifer Lagerbom
Project Manager

The report shall not be reproduced except in full, without the written approval of the laboratory. The analytical results relate only to the items tested. Results reported conform to the most current NELAP standards, where applicable, unless otherwise stated in the case narrative.

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Glossary of Terms & Qualifier Definitions

Client: AEI Consultants
Project: 393757; 1040-1045 Cochrane Rd.
WorkOrder: 1809311

Glossary Abbreviation

95% Interval	95% Confident Interval
c	Serial Dilution Percent Difference
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

Analytical Qualifiers

P	Agreement between quantitative confirmation results exceed method recommended limits

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Glossary of Terms & Qualifier Definitions

Client: AEI Consultants
Project: 393757; 1040-1045 Cochrane Rd.
WorkOrder: 1809311

Quality Control Qualifiers

F1	MS/MSD recovery and/or RPD is out of acceptance criteria; LCS validates the prep batch.
F2	LCS/LCSD recovery and/or RPD is out of acceptance criteria.
F10	MS/MSD outside control limits. Physical or chemical interferences exist due to sample matrix.

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-1 Comp	1809311-001A	Soil	09/10/2018 12:28	GC22 09111817.D	164656

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0020	2	09/11/2018 21:36
a-BHC	ND	0.0020	2	09/11/2018 21:36
b-BHC	ND	0.0020	2	09/11/2018 21:36
d-BHC	ND	0.0020	2	09/11/2018 21:36
g-BHC	ND	0.0020	2	09/11/2018 21:36
Chlordane (Technical)	ND	0.050	2	09/11/2018 21:36
a-Chlordane	ND	0.0020	2	09/11/2018 21:36
g-Chlordane	ND	0.0020	2	09/11/2018 21:36
p,p-DDD	ND	0.0020	2	09/11/2018 21:36
p,p-DDE	ND	0.0020	2	09/11/2018 21:36
p,p-DDT	ND	0.0020	2	09/11/2018 21:36
Dieldrin	ND	0.0020	2	09/11/2018 21:36
Endosulfan I	ND	0.0020	2	09/11/2018 21:36
Endosulfan II	ND	0.0020	2	09/11/2018 21:36
Endosulfan sulfate	ND	0.0020	2	09/11/2018 21:36
Endrin	ND	0.0020	2	09/11/2018 21:36
Endrin aldehyde	ND	0.0020	2	09/11/2018 21:36
Endrin ketone	ND	0.0020	2	09/11/2018 21:36
Heptachlor	ND	0.0020	2	09/11/2018 21:36
Heptachlor epoxide	ND	0.0020	2	09/11/2018 21:36
Hexachlorobenzene	ND	0.020	2	09/11/2018 21:36
Hexachlorocyclopentadiene	ND	0.040	2	09/11/2018 21:36
Methoxychlor	ND	0.0020	2	09/11/2018 21:36
Toxaphene	ND	0.10	2	09/11/2018 21:36

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	101	70-130	09/11/2018 21:36

Analyst(s): CK

(Cont.)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-2 Comp	**1809311-002A**	**Soil**	**09/10/2018 10:39**	**GC22 09111818.D**	**164656**

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0020	2	09/11/2018 22:10
a-BHC	ND	0.0020	2	09/11/2018 22:10
b-BHC	ND	0.0020	2	09/11/2018 22:10
d-BHC	ND	0.0020	2	09/11/2018 22:10
g-BHC	ND	0.0020	2	09/11/2018 22:10
Chlordane (Technical)	**0.16**	0.050	2	09/11/2018 22:10
a-Chlordane	**0.018**	0.0020	2	09/11/2018 22:10
g-Chlordane	**0.015**	0.0020	2	09/11/2018 22:10
p,p-DDD	ND	0.0020	2	09/11/2018 22:10
p,p-DDE	**0.050**	0.0020	2	09/11/2018 22:10
p,p-DDT	**0.019**	0.0020	2	09/11/2018 22:10
Dieldrin	**0.0068**	0.0020	2	09/11/2018 22:10
Endosulfan I	ND	0.0020	2	09/11/2018 22:10
Endosulfan II	ND	0.0020	2	09/11/2018 22:10
Endosulfan sulfate	ND	0.0020	2	09/11/2018 22:10
Endrin	ND	0.0020	2	09/11/2018 22:10
Endrin aldehyde	ND	0.0020	2	09/11/2018 22:10
Endrin ketone	ND	0.0020	2	09/11/2018 22:10
Heptachlor	ND	0.0020	2	09/11/2018 22:10
Heptachlor epoxide	ND	0.0020	2	09/11/2018 22:10
Hexachlorobenzene	ND	0.020	2	09/11/2018 22:10
Hexachlorocyclopentadiene	ND	0.040	2	09/11/2018 22:10
Methoxychlor	ND	0.0020	2	09/11/2018 22:10
Toxaphene	ND	0.10	2	09/11/2018 22:10

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	99	70-130	09/11/2018 22:10

Analyst(s): CK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-3 Comp	**1809311-003A**	**Soil**	**09/10/2018 10:16**	**GC22 09111819.D**	**164656**

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0020	2	09/11/2018 22:44
a-BHC	ND	0.0020	2	09/11/2018 22:44
b-BHC	ND	0.0020	2	09/11/2018 22:44
d-BHC	ND	0.0020	2	09/11/2018 22:44
g-BHC	ND	0.0020	2	09/11/2018 22:44
Chlordane (Technical)	ND	0.050	2	09/11/2018 22:44
a-Chlordane	ND	0.0020	2	09/11/2018 22:44
g-Chlordane	ND	0.0020	2	09/11/2018 22:44
p,p-DDD	ND	0.0020	2	09/11/2018 22:44
p,p-DDE	**0.0067**	0.0020	2	09/11/2018 22:44
p,p-DDT	**0.0033**	0.0020	2	09/11/2018 22:44
Dieldrin	ND	0.0020	2	09/11/2018 22:44
Endosulfan I	ND	0.0020	2	09/11/2018 22:44
Endosulfan II	ND	0.0020	2	09/11/2018 22:44
Endosulfan sulfate	ND	0.0020	2	09/11/2018 22:44
Endrin	ND	0.0020	2	09/11/2018 22:44
Endrin aldehyde	ND	0.0020	2	09/11/2018 22:44
Endrin ketone	ND	0.0020	2	09/11/2018 22:44
Heptachlor	ND	0.0020	2	09/11/2018 22:44
Heptachlor epoxide	ND	0.0020	2	09/11/2018 22:44
Hexachlorobenzene	ND	0.020	2	09/11/2018 22:44
Hexachlorocyclopentadiene	ND	0.040	2	09/11/2018 22:44
Methoxychlor	ND	0.0020	2	09/11/2018 22:44
Toxaphene	ND	0.10	2	09/11/2018 22:44

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	109	70-130	09/11/2018 22:44

Analyst(s): CK

(Cont.)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-4 Comp	**1809311-004A**	**Soil**	**09/10/2018 12:39**	**GC22 09111820.D**	**164656**

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	09/11/2018 23:17
a-BHC	ND	0.0010	1	09/11/2018 23:17
b-BHC	ND	0.0010	1	09/11/2018 23:17
d-BHC	ND	0.0010	1	09/11/2018 23:17
g-BHC	ND	0.0010	1	09/11/2018 23:17
Chlordane (Technical)	ND	0.025	1	09/11/2018 23:17
a-Chlordane	ND	0.0010	1	09/11/2018 23:17
g-Chlordane	ND	0.0010	1	09/11/2018 23:17
p,p-DDD	ND	0.0010	1	09/11/2018 23:17
p,p-DDE	**0.0020**	0.0010	1	09/11/2018 23:17
p,p-DDT	ND	0.0010	1	09/11/2018 23:17
Dieldrin	ND	0.0010	1	09/11/2018 23:17
Endosulfan I	ND	0.0010	1	09/11/2018 23:17
Endosulfan II	ND	0.0010	1	09/11/2018 23:17
Endosulfan sulfate	ND	0.0010	1	09/11/2018 23:17
Endrin	ND	0.0010	1	09/11/2018 23:17
Endrin aldehyde	ND	0.0010	1	09/11/2018 23:17
Endrin ketone	ND	0.0010	1	09/11/2018 23:17
Heptachlor	ND	0.0010	1	09/11/2018 23:17
Heptachlor epoxide	ND	0.0010	1	09/11/2018 23:17
Hexachlorobenzene	ND	0.010	1	09/11/2018 23:17
Hexachlorocyclopentadiene	ND	0.020	1	09/11/2018 23:17
Methoxychlor	ND	0.0010	1	09/11/2018 23:17
Toxaphene	ND	0.050	1	09/11/2018 23:17

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	103	70-130	09/11/2018 23:17

Analyst(s): CK

(Cont.)

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-5 Comp	**1809311-005A**	**Soil**	**09/10/2018 11:04**	**GC22 09111821.D**	**164656**

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	09/11/2018 23:51
a-BHC	ND	0.0010	1	09/11/2018 23:51
b-BHC	ND	0.0010	1	09/11/2018 23:51
d-BHC	ND	0.0010	1	09/11/2018 23:51
g-BHC	ND	0.0010	1	09/11/2018 23:51
Chlordane (Technical)	ND	0.025	1	09/11/2018 23:51
a-Chlordane	ND	0.0010	1	09/11/2018 23:51
g-Chlordane	ND	0.0010	1	09/11/2018 23:51
p,p-DDD	ND	0.0010	1	09/11/2018 23:51
p,p-DDE	**0.011**	0.0010	1	09/11/2018 23:51
p,p-DDT	**0.0043**	0.0010	1	09/11/2018 23:51
Dieldrin	**0.0016**	0.0010	1	09/11/2018 23:51
Endosulfan I	ND	0.0010	1	09/11/2018 23:51
Endosulfan II	ND	0.0010	1	09/11/2018 23:51
Endosulfan sulfate	ND	0.0010	1	09/11/2018 23:51
Endrin	ND	0.0010	1	09/11/2018 23:51
Endrin aldehyde	ND	0.0010	1	09/11/2018 23:51
Endrin ketone	ND	0.0010	1	09/11/2018 23:51
Heptachlor	ND	0.0010	1	09/11/2018 23:51
Heptachlor epoxide	ND	0.0010	1	09/11/2018 23:51
Hexachlorobenzene	ND	0.010	1	09/11/2018 23:51
Hexachlorocyclopentadiene	ND	0.020	1	09/11/2018 23:51
Methoxychlor	ND	0.0010	1	09/11/2018 23:51
Toxaphene	ND	0.050	1	09/11/2018 23:51

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	103	70-130	09/11/2018 23:51

Analyst(s): CK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-6 Comp	**1809311-006A**	**Soil**	**09/10/2018 09:15**	**GC22 09111822.D**	**164656**

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	09/12/2018 00:25
a-BHC	ND	0.0010	1	09/12/2018 00:25
b-BHC	ND	0.0010	1	09/12/2018 00:25
d-BHC	ND	0.0010	1	09/12/2018 00:25
g-BHC	ND	0.0010	1	09/12/2018 00:25
Chlordane (Technical)	ND	0.025	1	09/12/2018 00:25
a-Chlordane	ND	0.0010	1	09/12/2018 00:25
g-Chlordane	ND	0.0010	1	09/12/2018 00:25
p,p-DDD	ND	0.0010	1	09/12/2018 00:25
p,p-DDE	**0.015**	0.0010	1	09/12/2018 00:25
p,p-DDT	**0.0062**	0.0010	1	09/12/2018 00:25
Dieldrin	ND	0.0010	1	09/12/2018 00:25
Endosulfan I	ND	0.0010	1	09/12/2018 00:25
Endosulfan II	ND	0.0010	1	09/12/2018 00:25
Endosulfan sulfate	ND	0.0010	1	09/12/2018 00:25
Endrin	ND	0.0010	1	09/12/2018 00:25
Endrin aldehyde	ND	0.0010	1	09/12/2018 00:25
Endrin ketone	ND	0.0010	1	09/12/2018 00:25
Heptachlor	ND	0.0010	1	09/12/2018 00:25
Heptachlor epoxide	ND	0.0010	1	09/12/2018 00:25
Hexachlorobenzene	ND	0.010	1	09/12/2018 00:25
Hexachlorocyclopentadiene	ND	0.020	1	09/12/2018 00:25
Methoxychlor	ND	0.0010	1	09/12/2018 00:25
Toxaphene	ND	0.050	1	09/12/2018 00:25

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	92	70-130	09/12/2018 00:25

Analyst(s): CK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-7 Comp	1809311-007A	Soil	09/10/2018 12:47	GC22 09111823.D	164656

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	09/12/2018 00:59
a-BHC	ND	0.0010	1	09/12/2018 00:59
b-BHC	ND	0.0010	1	09/12/2018 00:59
d-BHC	ND	0.0010	1	09/12/2018 00:59
g-BHC	ND	0.0010	1	09/12/2018 00:59
Chlordane (Technical)	ND	0.025	1	09/12/2018 00:59
a-Chlordane	ND	0.0010	1	09/12/2018 00:59
g-Chlordane	ND	0.0010	1	09/12/2018 00:59
p,p-DDD	ND	0.0010	1	09/12/2018 00:59
p,p-DDE	ND	0.0010	1	09/12/2018 00:59
p,p-DDT	ND	0.0010	1	09/12/2018 00:59
Dieldrin	ND	0.0010	1	09/12/2018 00:59
Endosulfan I	ND	0.0010	1	09/12/2018 00:59
Endosulfan II	ND	0.0010	1	09/12/2018 00:59
Endosulfan sulfate	ND	0.0010	1	09/12/2018 00:59
Endrin	ND	0.0010	1	09/12/2018 00:59
Endrin aldehyde	ND	0.0010	1	09/12/2018 00:59
Endrin ketone	ND	0.0010	1	09/12/2018 00:59
Heptachlor	ND	0.0010	1	09/12/2018 00:59
Heptachlor epoxide	ND	0.0010	1	09/12/2018 00:59
Hexachlorobenzene	ND	0.010	1	09/12/2018 00:59
Hexachlorocyclopentadiene	ND	0.020	1	09/12/2018 00:59
Methoxychlor	ND	0.0010	1	09/12/2018 00:59
Toxaphene	ND	0.050	1	09/12/2018 00:59

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	103	70-130	09/12/2018 00:59

Analyst(s): CK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-8 Comp	**1809311-008A**	**Soil**	**09/10/2018 11:47**	**GC22 09111824.D**	**164656**

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0020	2	09/12/2018 01:32
a-BHC	ND	0.0020	2	09/12/2018 01:32
b-BHC	ND	0.0020	2	09/12/2018 01:32
d-BHC	ND	0.0020	2	09/12/2018 01:32
g-BHC	ND	0.0020	2	09/12/2018 01:32
Chlordane (Technical)	ND	0.050	2	09/12/2018 01:32
a-Chlordane	ND	0.0020	2	09/12/2018 01:32
g-Chlordane	ND	0.0020	2	09/12/2018 01:32
p,p-DDD	ND	0.0020	2	09/12/2018 01:32
p,p-DDE	**0.042**	0.0020	2	09/12/2018 01:32
p,p-DDT	**0.0049**	0.0020	2	09/12/2018 01:32
Dieldrin	ND	0.0020	2	09/12/2018 01:32
Endosulfan I	ND	0.0020	2	09/12/2018 01:32
Endosulfan II	ND	0.0020	2	09/12/2018 01:32
Endosulfan sulfate	ND	0.0020	2	09/12/2018 01:32
Endrin	ND	0.0020	2	09/12/2018 01:32
Endrin aldehyde	ND	0.0020	2	09/12/2018 01:32
Endrin ketone	ND	0.0020	2	09/12/2018 01:32
Heptachlor	ND	0.0020	2	09/12/2018 01:32
Heptachlor epoxide	ND	0.0020	2	09/12/2018 01:32
Hexachlorobenzene	ND	0.020	2	09/12/2018 01:32
Hexachlorocyclopentadiene	ND	0.040	2	09/12/2018 01:32
Methoxychlor	ND	0.0020	2	09/12/2018 01:32
Toxaphene	ND	0.10	2	09/12/2018 01:32

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	97	70-130	09/12/2018 01:32

Analyst(s): CK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-9 Comp	**1809311-009A**	**Soil**	**09/10/2018 11:19**	**GC22 09111825.D**	**164656**

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0020	2	09/12/2018 02:06
a-BHC	ND	0.0020	2	09/12/2018 02:06
b-BHC	ND	0.0020	2	09/12/2018 02:06
d-BHC	ND	0.0020	2	09/12/2018 02:06
g-BHC	ND	0.0020	2	09/12/2018 02:06
Chlordane (Technical)	ND	0.050	2	09/12/2018 02:06
a-Chlordane	ND	0.0020	2	09/12/2018 02:06
g-Chlordane	ND	0.0020	2	09/12/2018 02:06
p,p-DDD	ND	0.0020	2	09/12/2018 02:06
p,p-DDE	**0.0063**	0.0020	2	09/12/2018 02:06
p,p-DDT	**0.0064**	0.0020	2	09/12/2018 02:06
Dieldrin	ND	0.0020	2	09/12/2018 02:06
Endosulfan I	ND	0.0020	2	09/12/2018 02:06
Endosulfan II	ND	0.0020	2	09/12/2018 02:06
Endosulfan sulfate	ND	0.0020	2	09/12/2018 02:06
Endrin	ND	0.0020	2	09/12/2018 02:06
Endrin aldehyde	ND	0.0020	2	09/12/2018 02:06
Endrin ketone	ND	0.0020	2	09/12/2018 02:06
Heptachlor	ND	0.0020	2	09/12/2018 02:06
Heptachlor epoxide	ND	0.0020	2	09/12/2018 02:06
Hexachlorobenzene	ND	0.020	2	09/12/2018 02:06
Hexachlorocyclopentadiene	ND	0.040	2	09/12/2018 02:06
Methoxychlor	ND	0.0020	2	09/12/2018 02:06
Toxaphene	ND	0.10	2	09/12/2018 02:06

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	102	70-130	09/12/2018 02:06

Analyst(s): CK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-10 Comp	**1809311-010A**	**Soil**	**09/10/2018 09:44**	**GC22 09111832.D**	**164656**

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	09/12/2018 06:02
a-BHC	ND	0.0010	1	09/12/2018 06:02
b-BHC	ND	0.0010	1	09/12/2018 06:02
d-BHC	ND	0.0010	1	09/12/2018 06:02
g-BHC	ND	0.0010	1	09/12/2018 06:02
Chlordane (Technical)	ND	0.025	1	09/12/2018 06:02
a-Chlordane	ND	0.0010	1	09/12/2018 06:02
g-Chlordane	ND	0.0010	1	09/12/2018 06:02
p,p-DDD	ND	0.0010	1	09/12/2018 06:02
p,p-DDE	**0.0077**	0.0010	1	09/12/2018 06:02
p,p-DDT	**0.0037**	0.0010	1	09/12/2018 06:02
Dieldrin	ND	0.0010	1	09/12/2018 06:02
Endosulfan I	ND	0.0010	1	09/12/2018 06:02
Endosulfan II	ND	0.0010	1	09/12/2018 06:02
Endosulfan sulfate	ND	0.0010	1	09/12/2018 06:02
Endrin	ND	0.0010	1	09/12/2018 06:02
Endrin aldehyde	ND	0.0010	1	09/12/2018 06:02
Endrin ketone	ND	0.0010	1	09/12/2018 06:02
Heptachlor	ND	0.0010	1	09/12/2018 06:02
Heptachlor epoxide	ND	0.0010	1	09/12/2018 06:02
Hexachlorobenzene	ND	0.010	1	09/12/2018 06:02
Hexachlorocyclopentadiene	ND	0.020	1	09/12/2018 06:02
Methoxychlor	ND	0.0010	1	09/12/2018 06:02
Toxaphene	ND	0.050	1	09/12/2018 06:02

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	100	70-130	09/12/2018 06:02

Analyst(s): CK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-11 Comp	**1809311-011A**	**Soil**	**09/10/2018 13:21**	**GC22 09111833.D**	**164656**

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0020	2	09/12/2018 06:36
a-BHC	ND	0.0020	2	09/12/2018 06:36
b-BHC	ND	0.0020	2	09/12/2018 06:36
d-BHC	ND	0.0020	2	09/12/2018 06:36
g-BHC	ND	0.0020	2	09/12/2018 06:36
Chlordane (Technical)	ND	0.050	2	09/12/2018 06:36
a-Chlordane	ND	0.0020	2	09/12/2018 06:36
g-Chlordane	ND	0.0020	2	09/12/2018 06:36
p,p-DDD	ND	0.0020	2	09/12/2018 06:36
p,p-DDE	**0.0026**	0.0020	2	09/12/2018 06:36
p,p-DDT	**0.0020**	0.0020	2	09/12/2018 06:36
Dieldrin	ND	0.0020	2	09/12/2018 06:36
Endosulfan I	ND	0.0020	2	09/12/2018 06:36
Endosulfan II	ND	0.0020	2	09/12/2018 06:36
Endosulfan sulfate	ND	0.0020	2	09/12/2018 06:36
Endrin	ND	0.0020	2	09/12/2018 06:36
Endrin aldehyde	ND	0.0020	2	09/12/2018 06:36
Endrin ketone	ND	0.0020	2	09/12/2018 06:36
Heptachlor	ND	0.0020	2	09/12/2018 06:36
Heptachlor epoxide	ND	0.0020	2	09/12/2018 06:36
Hexachlorobenzene	ND	0.020	2	09/12/2018 06:36
Hexachlorocyclopentadiene	ND	0.040	2	09/12/2018 06:36
Methoxychlor	ND	0.0020	2	09/12/2018 06:36
Toxaphene	ND	0.10	2	09/12/2018 06:36

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	93	70-130	09/12/2018 06:36

Analyst(s): CK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-12 Comp	**1809311-012A**	**Soil**	**09/10/2018 14:55**	**GC22 09111834.D**	**164656**

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0010	1	09/12/2018 07:10
a-BHC	ND	0.0010	1	09/12/2018 07:10
b-BHC	ND	0.0010	1	09/12/2018 07:10
d-BHC	ND	0.0010	1	09/12/2018 07:10
g-BHC	ND	0.0010	1	09/12/2018 07:10
Chlordane (Technical)	ND	0.025	1	09/12/2018 07:10
a-Chlordane	ND	0.0010	1	09/12/2018 07:10
g-Chlordane	ND	0.0010	1	09/12/2018 07:10
p,p-DDD	ND	0.0010	1	09/12/2018 07:10
p,p-DDE	**0.0035**	0.0010	1	09/12/2018 07:10
p,p-DDT	**0.0017**	0.0010	1	09/12/2018 07:10
Dieldrin	ND	0.0010	1	09/12/2018 07:10
Endosulfan I	ND	0.0010	1	09/12/2018 07:10
Endosulfan II	ND	0.0010	1	09/12/2018 07:10
Endosulfan sulfate	ND	0.0010	1	09/12/2018 07:10
Endrin	ND	0.0010	1	09/12/2018 07:10
Endrin aldehyde	ND	0.0010	1	09/12/2018 07:10
Endrin ketone	ND	0.0010	1	09/12/2018 07:10
Heptachlor	ND	0.0010	1	09/12/2018 07:10
Heptachlor epoxide	ND	0.0010	1	09/12/2018 07:10
Hexachlorobenzene	ND	0.010	1	09/12/2018 07:10
Hexachlorocyclopentadiene	ND	0.020	1	09/12/2018 07:10
Methoxychlor	ND	0.0010	1	09/12/2018 07:10
Toxaphene	ND	0.050	1	09/12/2018 07:10

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	108	70-130	09/12/2018 07:10

Analyst(s): CK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-13 Comp	**1809311-013A**	**Soil**	**09/10/2018 14:39**	**GC22 09111835.D**	**164656**

Analytes	Result	RL	DF	Date Analyzed
Aldrin	ND	0.0050	5	09/12/2018 07:44
a-BHC	ND	0.0050	5	09/12/2018 07:44
b-BHC	ND	0.0050	5	09/12/2018 07:44
d-BHC	ND	0.0050	5	09/12/2018 07:44
g-BHC	ND	0.0050	5	09/12/2018 07:44
Chlordane (Technical)	ND	0.12	5	09/12/2018 07:44
a-Chlordane	ND	0.0050	5	09/12/2018 07:44
g-Chlordane	ND	0.0050	5	09/12/2018 07:44
p,p-DDD	ND	0.0050	5	09/12/2018 07:44
p,p-DDE	**0.020**	0.0050	5	09/12/2018 07:44
p,p-DDT	**0.013**	0.0050	5	09/12/2018 07:44
Dieldrin	ND	0.0050	5	09/12/2018 07:44
Endosulfan I	ND	0.0050	5	09/12/2018 07:44
Endosulfan II	ND	0.0050	5	09/12/2018 07:44
Endosulfan sulfate	ND	0.0050	5	09/12/2018 07:44
Endrin	ND	0.0050	5	09/12/2018 07:44
Endrin aldehyde	ND	0.0050	5	09/12/2018 07:44
Endrin ketone	ND	0.0050	5	09/12/2018 07:44
Heptachlor	ND	0.0050	5	09/12/2018 07:44
Heptachlor epoxide	ND	0.0050	5	09/12/2018 07:44
Hexachlorobenzene	ND	0.050	5	09/12/2018 07:44
Hexachlorocyclopentadiene	ND	0.10	5	09/12/2018 07:44
Methoxychlor	ND	0.0050	5	09/12/2018 07:44
Toxaphene	ND	0.25	5	09/12/2018 07:44

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	107	70-130	09/12/2018 07:44

Analyst(s): CK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-14 Comp	**1809311-014A**	**Soil**	**09/10/2018 15:05**	**GC22 09111836.D**	**164656**

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Aldrin	ND		0.0020	2	09/12/2018 08:17
a-BHC	ND		0.0020	2	09/12/2018 08:17
b-BHC	ND		0.0020	2	09/12/2018 08:17
d-BHC	ND		0.0020	2	09/12/2018 08:17
g-BHC	ND		0.0020	2	09/12/2018 08:17
Chlordane (Technical)	ND		0.050	2	09/12/2018 08:17
a-Chlordane	ND		0.0020	2	09/12/2018 08:17
g-Chlordane	ND		0.0020	2	09/12/2018 08:17
p,p-DDD	**0.012**		0.0020	2	09/12/2018 08:17
p,p-DDE	**0.075**		0.0020	2	09/12/2018 08:17
p,p-DDT	**0.019**	P	0.0020	2	09/12/2018 08:17
Dieldrin	ND		0.0020	2	09/12/2018 08:17
Endosulfan I	ND		0.0020	2	09/12/2018 08:17
Endosulfan II	ND		0.0020	2	09/12/2018 08:17
Endosulfan sulfate	ND		0.0020	2	09/12/2018 08:17
Endrin	ND		0.0020	2	09/12/2018 08:17
Endrin aldehyde	ND		0.0020	2	09/12/2018 08:17
Endrin ketone	ND		0.0020	2	09/12/2018 08:17
Heptachlor	ND		0.0020	2	09/12/2018 08:17
Heptachlor epoxide	ND		0.0020	2	09/12/2018 08:17
Hexachlorobenzene	ND		0.020	2	09/12/2018 08:17
Hexachlorocyclopentadiene	ND		0.040	2	09/12/2018 08:17
Methoxychlor	ND		0.0020	2	09/12/2018 08:17
Toxaphene	ND		0.10	2	09/12/2018 08:17

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	100	70-130	09/12/2018 08:17

Analyst(s): CK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3550B
Date Prepared:	9/10/18	**Analytical Method:**	SW8081A
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/kg

Organochlorine Pesticides

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-15 Comp	**1809311-015A**	**Soil**	**09/10/2018 13:58**	**GC22 09111837.D**	**164662**

Analytes	Result	Qualifiers	RL	DF	Date Analyzed
Aldrin	ND		0.0020	2	09/12/2018 08:51
a-BHC	ND		0.0020	2	09/12/2018 08:51
b-BHC	ND		0.0020	2	09/12/2018 08:51
d-BHC	ND		0.0020	2	09/12/2018 08:51
g-BHC	ND		0.0020	2	09/12/2018 08:51
Chlordane (Technical)	ND		0.050	2	09/12/2018 08:51
a-Chlordane	ND		0.0020	2	09/12/2018 08:51
g-Chlordane	ND		0.0020	2	09/12/2018 08:51
p,p-DDD	ND		0.0020	2	09/12/2018 08:51
p,p-DDE	**0.011**		0.0020	2	09/12/2018 08:51
p,p-DDT	**0.0075**	P	0.0020	2	09/12/2018 08:51
Dieldrin	**0.0038**		0.0020	2	09/12/2018 08:51
Endosulfan I	ND		0.0020	2	09/12/2018 08:51
Endosulfan II	ND		0.0020	2	09/12/2018 08:51
Endosulfan sulfate	ND		0.0020	2	09/12/2018 08:51
Endrin	ND		0.0020	2	09/12/2018 08:51
Endrin aldehyde	ND		0.0020	2	09/12/2018 08:51
Endrin ketone	ND		0.0020	2	09/12/2018 08:51
Heptachlor	ND		0.0020	2	09/12/2018 08:51
Heptachlor epoxide	ND		0.0020	2	09/12/2018 08:51
Hexachlorobenzene	ND		0.020	2	09/12/2018 08:51
Hexachlorocyclopentadiene	ND		0.040	2	09/12/2018 08:51
Methoxychlor	ND		0.0020	2	09/12/2018 08:51
Toxaphene	ND		0.10	2	09/12/2018 08:51

Surrogates	REC (%)	Limits	
Decachlorobiphenyl	107	70-130	09/12/2018 08:51

Analyst(s): CK

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3050B
Date Prepared:	9/10/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-1A	1809311-001B	Soil	09/10/2018 12:24	ICP-MS3 103SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**6.0**	0.50	1	09/11/2018 20:07
Lead	**9.6**	0.50	1	09/11/2018 20:07

Surrogates	REC (%)	Limits	
Terbium	95	70-130	09/11/2018 20:07

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-2A	1809311-002B	Soil	09/10/2018 10:25	ICP-MS3 104SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**7.8**	0.50	1	09/11/2018 20:14
Lead	**42**	0.50	1	09/11/2018 20:14

Surrogates	REC (%)	Limits	
Terbium	97	70-130	09/11/2018 20:14

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-3A	1809311-003B	Soil	09/10/2018 10:16	ICP-MS3 105SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**7.8**	0.50	1	09/11/2018 20:20
Lead	**12**	0.50	1	09/11/2018 20:20

Surrogates	REC (%)	Limits	
Terbium	96	70-130	09/11/2018 20:20

Analyst(s): MIG

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3050B
Date Prepared:	9/10/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-4A	1809311-004B	Soil	09/10/2018 12:32	ICP-MS3 106SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**6.2**	0.50	1	09/11/2018 20:26
Lead	**9.3**	0.50	1	09/11/2018 20:26

Surrogates	REC (%)	Limits	
Terbium	99	70-130	09/11/2018 20:26

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-5A	1809311-005B	Soil	09/10/2018 10:47	ICP-MS3 107SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**8.8**	0.50	1	09/11/2018 20:32
Lead	**16**	0.50	1	09/11/2018 20:32

Surrogates	REC (%)	Limits	
Terbium	98	70-130	09/11/2018 20:32

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-6A	1809311-006B	Soil	09/10/2018 08:59	ICP-MS3 108SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**8.7**	0.50	1	09/11/2018 20:38
Lead	**10**	0.50	1	09/11/2018 20:38

Surrogates	REC (%)	Limits	
Terbium	94	70-130	09/11/2018 20:38

Analyst(s): MIG

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3050B
Date Prepared:	9/10/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-7A	1809311-007B	Soil	09/10/2018 12:44	ICP-MS3 109SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**8.9**	0.50	1	09/11/2018 20:44
Lead	**11**	0.50	1	09/11/2018 20:44

Surrogates	REC (%)	Limits	
Terbium	97	70-130	09/11/2018 20:44

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-8A	1809311-008B	Soil	09/10/2018 11:47	ICP-MS3 110SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**7.1**	0.50	1	09/11/2018 20:50
Lead	**14**	0.50	1	09/11/2018 20:50

Surrogates	REC (%)	Limits	
Terbium	95	70-130	09/11/2018 20:50

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-9A	1809311-009B	Soil	09/10/2018 11:13	ICP-MS3 116SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**8.4**	0.50	1	09/11/2018 21:28
Lead	**13**	0.50	1	09/11/2018 21:28

Surrogates	REC (%)	Limits	
Terbium	101	70-130	09/11/2018 21:28

Analyst(s): DB

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3050B
Date Prepared:	9/10/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-10A	1809311-010B	Soil	09/10/2018 09:29	ICP-MS3 117SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**9.1**	0.50	1	09/11/2018 21:34
Lead	**14**	0.50	1	09/11/2018 21:34

Surrogates	REC (%)	Limits	
Terbium	97	70-130	09/11/2018 21:34

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-11A	1809311-011B	Soil	09/10/2018 12:51	ICP-MS3 118SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**8.9**	0.50	1	09/11/2018 21:40
Lead	**14**	0.50	1	09/11/2018 21:40

Surrogates	REC (%)	Limits	
Terbium	98	70-130	09/11/2018 21:40

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-12A	1809311-012B	Soil	09/10/2018 14:44	ICP-MS3 119SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**8.6**	0.50	1	09/11/2018 21:46
Lead	**15**	0.50	1	09/11/2018 21:46

Surrogates	REC (%)	Limits	
Terbium	96	70-130	09/11/2018 21:46

Analyst(s): DB

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3050B
Date Prepared:	9/10/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-13A	1809311-013B	Soil	09/10/2018 13:27	ICP-MS3 120SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**4.0**	0.50	1	09/11/2018 21:52
Lead	**8.8**	0.50	1	09/11/2018 21:52

Surrogates	REC (%)	Limits	
Terbium	101	70-130	09/11/2018 21:52

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-14A	1809311-014B	Soil	09/10/2018 14:29	ICP-MS3 121SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**6.9**	0.50	1	09/11/2018 21:58
Lead	**14**	0.50	1	09/11/2018 21:58

Surrogates	REC (%)	Limits	
Terbium	92	70-130	09/11/2018 21:58

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-15A	1809311-015B	Soil	09/10/2018 13:42	ICP-MS3 122SMPL.D	164657

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**0.91**	0.50	1	09/11/2018 22:05
Lead	**0.87**	0.50	1	09/11/2018 22:05

Surrogates	REC (%)	Limits	
Terbium	103	70-130	09/11/2018 22:05

Analyst(s): DB

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3050B
Date Prepared:	9/10/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16A	1809311-016A	Soil	09/10/2018 14:09	ICP-MS3 095SMPL.D	164663

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**5.7**	0.50	1	09/11/2018 19:18
Lead	**120**	0.50	1	09/11/2018 19:18

Surrogates	REC (%)	Limits	
Terbium	92	70-130	09/11/2018 19:18

Analyst(s): MIG

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16B	1809311-017A	Soil	09/10/2018 14:12	ICP-MS3 123SMPL.D	164663

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**4.1**	0.50	1	09/11/2018 22:11
Lead	**39**	0.50	1	09/11/2018 22:11

Surrogates	REC (%)	Limits	
Terbium	98	70-130	09/11/2018 22:11

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16C	1809311-018A	Soil	09/10/2018 14:17	ICP-MS3 124SMPL.D	164663

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**6.3**	0.50	1	09/11/2018 22:17
Lead	**62**	0.50	1	09/11/2018 22:17

Surrogates	REC (%)	Limits	
Terbium	96	70-130	09/11/2018 22:17

Analyst(s): DB

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3050B
Date Prepared:	9/10/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-16D	1809311-019A	Soil	09/10/2018 14:18	ICP-MS3 125SMPL.D	164663

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**6.9**	0.50	1	09/11/2018 22:23
Lead	**170**	0.50	1	09/11/2018 22:23

Surrogates	REC (%)	Limits	
Terbium	95	70-130	09/11/2018 22:23

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17A	1809311-020A	Soil	09/10/2018 15:15	ICP-MS3 129SMPL.D	164663

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**6.4**	0.50	1	09/11/2018 22:48
Lead	**23**	0.50	1	09/11/2018 22:48

Surrogates	REC (%)	Limits	
Terbium	92	70-130	09/11/2018 22:48

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17B	1809311-021A	Soil	09/10/2018 15:16	ICP-MS3 130SMPL.D	164663

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**10**	0.50	1	09/11/2018 22:54
Lead	**200**	0.50	1	09/11/2018 22:54

Surrogates	REC (%)	Limits	
Terbium	94	70-130	09/11/2018 22:54

Analyst(s): DB

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Analytical Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Received:	9/10/18 19:53	**Extraction Method:**	SW3050B
Date Prepared:	9/10/18	**Analytical Method:**	SW6020
Project:	393757; 1040-1045 Cochrane Rd.	**Unit:**	mg/Kg

Arsenic and Lead

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17C	1809311-022A	Soil	09/10/2018 15:19	ICP-MS3 131SMPL.D	164663

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**8.5**	0.50	1	09/11/2018 23:00
Lead	**17**	0.50	1	09/11/2018 23:00

Surrogates	REC (%)	Limits	
Terbium	95	70-130	09/11/2018 23:00

Analyst(s): DB

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SS-R-17D	1809311-023A	Soil	09/10/2018 15:21	ICP-MS3 132SMPL.D	164663

Analytes	Result	RL	DF	Date Analyzed
Arsenic	**6.4**	0.50	1	09/11/2018 23:06
Lead	**24**	0.50	1	09/11/2018 23:06

Surrogates	REC (%)	Limits	
Terbium	95	70-130	09/11/2018 23:06

Analyst(s): DB

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Prepared:	9/10/18	**BatchID:**	164656
Date Analyzed:	9/10/18 - 9/12/18	**Extraction Method:**	SW3550B
Instrument:	GC20, GC22	**Analytical Method:**	SW8081A
Matrix:	Soil	**Unit:**	mg/kg
Project:	393757; 1040-1045 Cochrane Rd.	**Sample ID:**	MB/LCS/LCSD-164656

QC Summary Report for SW8081A

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aldrin	ND	0.0010	-	-	-
a-BHC	ND	0.0010	-	-	-
b-BHC	ND	0.0010	-	-	-
d-BHC	ND	0.0010	-	-	-
g-BHC	ND	0.0010	-	-	-
Chlordane (Technical)	ND	0.025	-	-	-
a-Chlordane	ND	0.0010	-	-	-
g-Chlordane	ND	0.0010	-	-	-
p,p-DDD	ND	0.0010	-	-	-
p,p-DDE	ND	0.0010	-	-	-
p,p-DDT	ND	0.0010	-	-	-
Dieldrin	ND	0.0010	-	-	-
Endosulfan I	ND	0.0010	-	-	-
Endosulfan II	ND	0.0010	-	-	-
Endosulfan sulfate	ND	0.0010	-	-	-
Endrin	ND	0.0010	-	-	-
Endrin aldehyde	ND	0.0010	-	-	-
Endrin ketone	ND	0.0010	-	-	-
Heptachlor	ND	0.0010	-	-	-
Heptachlor epoxide	ND	0.0010	-	-	-
Hexachlorobenzene	ND	0.010	-	-	-
Hexachlorocyclopentadiene	ND	0.020	-	-	-
Methoxychlor	ND	0.0010	-	-	-
Toxaphene	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.0651		0.050	130	70-130

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Prepared:	9/10/18	**BatchID:**	164656
Date Analyzed:	9/10/18 - 9/12/18	**Extraction Method:**	SW3550B
Instrument:	GC20, GC22	**Analytical Method:**	SW8081A
Matrix:	Soil	**Unit:**	mg/kg
Project:	393757; 1040-1045 Cochrane Rd.	**Sample ID:**	MB/LCS/LCSD-164656

QC Summary Report for SW8081A

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aldrin	0.0610	0.0626	0.050	122	125	70-130	2.54	20
a-BHC	0.0669	0.0683	0.050	134, F2	137, F2	70-130	2.10	20
b-BHC	0.0556	0.0567	0.050	111	113	70-130	2.04	20
d-BHC	0.0660	0.0677	0.050	132, F2	135, F2	70-130	2.53	20
g-BHC	0.0628	0.0641	0.050	126	128	70-130	2.00	20
a-Chlordane	0.0567	0.0581	0.050	113	116	70-130	2.50	20
g-Chlordane	0.0596	0.0611	0.050	119	122	70-130	2.49	20
p,p-DDD	0.0557	0.0577	0.050	111	115	70-130	3.53	20
p,p-DDE	0.0607	0.0623	0.050	121	125	70-130	2.69	20
p,p-DDT	0.0539	0.0556	0.050	108	111	70-130	3.27	20
Dieldrin	0.0660	0.0682	0.050	132, F2	136, F2	70-130	3.35	20
Endosulfan I	0.0569	0.0581	0.050	114	116	70-130	1.99	20
Endosulfan II	0.0558	0.0573	0.050	112	115	70-130	2.67	20
Endosulfan sulfate	0.0551	0.0564	0.050	110	113	70-130	2.32	20
Endrin	0.0645	0.0658	0.050	129	132, F2	70-130	1.91	20
Endrin aldehyde	0.0588	0.0603	0.050	118	121	70-130	2.59	20
Endrin ketone	0.0528	0.0542	0.050	106	108	70-130	2.59	20
Heptachlor	0.0618	0.0633	0.050	124	127	70-130	2.38	20
Heptachlor epoxide	0.0562	0.0576	0.050	112	115	70-130	2.48	20
Hexachlorobenzene	0.0554	0.0565	0.050	111	113	50-150	1.99	20
Hexachlorocyclopentadiene	0.0505	0.0509	0.050	101	102	50-150	0.760	20
Methoxychlor	0.0597	0.0617	0.050	119	123	70-130	3.33	20
Surrogate Recovery								
Decachlorobiphenyl	0.0492	0.0499	0.050	99	100	70-130	1.24	20

(Cont.)

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Prepared:	9/10/18	**BatchID:**	164662
Date Analyzed:	9/11/18 - 9/12/18	**Extraction Method:**	SW3550B
Instrument:	GC22	**Analytical Method:**	SW8081A
Matrix:	Soil	**Unit:**	mg/kg
Project:	393757; 1040-1045 Cochrane Rd.	**Sample ID:**	MB/LCS/LCSD-164662 1809311-015AMS/MSD

QC Summary Report for SW8081A

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Aldrin	ND	0.0010	-	-	-
a-BHC	ND	0.0010	-	-	-
b-BHC	ND	0.0010	-	-	-
d-BHC	ND	0.0010	-	-	-
g-BHC	ND	0.0010	-	-	-
Chlordane (Technical)	ND	0.025	-	-	-
a-Chlordane	ND	0.0010	-	-	-
g-Chlordane	ND	0.0010	-	-	-
p,p-DDD	ND	0.0010	-	-	-
p,p-DDE	ND	0.0010	-	-	-
p,p-DDT	ND	0.0010	-	-	-
Dieldrin	ND	0.0010	-	-	-
Endosulfan I	ND	0.0010	-	-	-
Endosulfan II	ND	0.0010	-	-	-
Endosulfan sulfate	ND	0.0010	-	-	-
Endrin	ND	0.0010	-	-	-
Endrin aldehyde	ND	0.0010	-	-	-
Endrin ketone	ND	0.0010	-	-	-
Endrin ketone	ND	0.0010	-	-	-
Heptachlor	ND	0.0010	-	-	-
Heptachlor epoxide	ND	0.0010	-	-	-
Hexachlorobenzene	ND	0.010	-	-	-
Hexachlorocyclopentadiene	ND	0.020	-	-	-
Methoxychlor	ND	0.0010	-	-	-
Toxaphene	ND	0.050	-	-	-
Surrogate Recovery					
Decachlorobiphenyl	0.0485		0.050	97	70-130

(Cont.)

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Prepared:	9/10/18	**BatchID:**	164662
Date Analyzed:	9/11/18 - 9/12/18	**Extraction Method:**	SW3550B
Instrument:	GC22	**Analytical Method:**	SW8081A
Matrix:	Soil	**Unit:**	mg/kg
Project:	393757; 1040-1045 Cochrane Rd.	**Sample ID:**	MB/LCS/LCSD-164662 1809311-015AMS/MSD

QC Summary Report for SW8081A

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Aldrin	0.0567	0.0579	0.050	113	116	70-130	2.11	20
a-BHC	0.0625	0.0632	0.050	125	126	70-130	1.20	20
b-BHC	0.0523	0.0533	0.050	105	107	70-130	1.90	20
d-BHC	0.0612	0.0626	0.050	122	125	70-130	2.38	20
g-BHC	0.0586	0.0595	0.050	117	119	70-130	1.55	20
a-Chlordane	0.0582	0.0584	0.050	116	117	70-130	0.293	20
g-Chlordane	0.0549	0.0567	0.050	110	113	70-130	3.21	20
p,p-DDD	0.0563	0.0442	0.050	113	89	70-130	3.24	20
p,p-DDE	0.0557	0.0580	0.050	111	116	70-130	4.12	20
p,p-DDT	0.0526	0.0548	0.050	105	110	70-130	4.10	20
Dieldrin	0.0615	0.0636	0.050	123	127	70-130	3.35	20
Endosulfan I	0.0546	0.0564	0.050	109	113	70-130	3.34	20
Endosulfan II	0.0509	0.0530	0.050	102	106	70-130	4.08	20
Endosulfan sulfate	0.0506	0.0536	0.050	101	107	70-130	5.77	20
Endrin	0.0602	0.0625	0.050	120	125	70-130	3.75	20
Endrin aldehyde	0.0547	0.0575	0.050	109	115	70-130	4.94	20
Endrin ketone	0.0490	0.0498	0.050	98	100	70-130	1.54	20
Heptachlor	0.0578	0.0589	0.050	116	118	70-130	1.80	20
Heptachlor epoxide	0.0522	0.0538	0.050	104	107	70-130	2.84	20
Hexachlorobenzene	0.0527	0.0532	0.050	105	106	50-150	0.896	20
Hexachlorocyclopentadiene	0.0494	0.0487	0.050	99	97	50-150	1.36	20
Methoxychlor	0.0472	0.0525	0.050	94	105	70-130	10.7	20
Surrogate Recovery								
Decachlorobiphenyl	0.0467	0.0420	0.050	93	84	70-130	10.7	20

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Aldrin	0.0510	0.0466	0.050	ND<0.0020	102	93	70-130	9.20	20
a-BHC	0.0540	0.0501	0.050	ND<0.0020	108	100	70-130	7.54	20
b-BHC	0.0507	0.0455	0.050	ND<0.0020	101	91	70-130	10.9	20
d-BHC	0.0548	0.0500	0.050	ND<0.0020	110	100	70-130	9.25	20
g-BHC	0.0518	0.0474	0.050	ND<0.0020	103	95	70-130	8.85	20
a-Chlordane	0.0511	0.0486	0.050	ND<0.0020	99	94	70-130	4.99	20
g-Chlordane	0.0518	0.0468	0.050	ND<0.0020	102	92	70-130	10.2	20
p,p-DDD	0.0493	0.0452	0.050	ND<0.0020	97,F1	89,F1	0-0	8.62	0
p,p-DDE	0.0648	0.0599	0.050	0.01089	108	98	70-130	7.82	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Prepared:	9/10/18	**BatchID:**	164662
Date Analyzed:	9/11/18 - 9/12/18	**Extraction Method:**	SW3550B
Instrument:	GC22	**Analytical Method:**	SW8081A
Matrix:	Soil	**Unit:**	mg/kg
Project:	393757; 1040-1045 Cochrane Rd.	**Sample ID:**	MB/LCS/LCSD-164662 1809311-015AMS/MSD

QC Summary Report for SW8081A

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
p,p-DDT	0.0559	0.0527	0.050	0.007508	97	90	70-130	5.98	0
Dieldrin	0.0639	0.0600	0.050	0.003753	120	113	70-130	6.31	20
Endosulfan I	0.0516	0.0460	0.050	ND<0.0020	103	92	70-130	11.5	20
Endosulfan II	0.0494	0.0439	0.050	ND<0.0020	99	88	70-130	11.8	20
Endosulfan sulfate	0.0494	0.0434	0.050	ND<0.0020	99	87	70-130	13.0	20
Endrin	0.0579	0.0525	0.050	ND<0.0020	114	103	70-130	9.80	20
Endrin aldehyde	0.0526	0.0467	0.050	ND<0.0020	105	93	70-130	11.8	20
Endrin ketone	0.0445	0.0414	0.050	ND<0.0020	89,F1	83,F1	0-0	7.15	0
Heptachlor	0.0519	0.0472	0.050	ND<0.0020	104	94	70-130	9.53	20
Heptachlor epoxide	0.0509	0.0457	0.050	ND<0.0020	102	91	70-130	10.9	20
Hexachlorobenzene	0.0505	0.0454	0.050	ND<0.020	99	88	50-150	10.5	20
Hexachlorocyclopentadiene	0.0396	0.0395	0.050	ND<0.040	79	79	50-150	0	20
Methoxychlor	0.0555	0.0497	0.050	ND<0.0020	111	99	70-130	11.0	20
Surrogate Recovery									
Decachlorobiphenyl	0.0572	0.0520	0.050		114	104	70-130	9.53	20

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Prepared:	9/10/18	**BatchID:**	164657
Date Analyzed:	9/11/18	**Extraction Method:**	SW3050B
Instrument:	ICP-MS1, ICP-MS2, ICP-MS3	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/Kg
Project:	393757; 1040-1045 Cochrane Rd.	**Sample ID:**	MB/LCS/LCSD-164657

QC Summary Report for Metals

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Arsenic	ND	0.50	-	-	-
Lead	ND	0.50	-	-	-
Surrogate Recovery					
Terbium	489		500	98	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Arsenic	49.8	50.8	50	100	102	75-125	1.95	20
Lead	49.6	49.4	50	99	99	75-125	0	20
Surrogate Recovery								
Terbium	496	500	500	99	100	70-130	0.763	20

(Cont.)

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Quality Control Report

Client:	AEI Consultants	**WorkOrder:**	1809311
Date Prepared:	9/10/18	**BatchID:**	164663
Date Analyzed:	9/11/18	**Extraction Method:**	SW3050B
Instrument:	ICP-MS3	**Analytical Method:**	SW6020
Matrix:	Soil	**Unit:**	mg/Kg
Project:	393757; 1040-1045 Cochrane Rd.	**Sample ID:**	MB/LCS/LCSD-164663 1809311-016AMS/MSD

QC Summary Report for Metals

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Arsenic	ND	0.50	-	-	-
Lead	ND	0.50	-	-	-
Surrogate Recovery					
Terbium	495		500	99	70-130

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Arsenic	49.0	49.4	50	98	99	75-125	0.772	20
Lead	48.9	48.2	50	98	96	75-125	1.28	20
Surrogate Recovery								
Terbium	489	484	500	98	97	70-130	1.11	20

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Arsenic	52.0	50.1	50	5.687	93	89	75-125	3.78	20
Lead	151	164	50	124.7	53,F10	78	75-125	8.07	20
Surrogate Recovery									
Terbium	477	459	500		95	92	70-130	3.91	20

Analyte	DLT Result	DLTRef Val	%D	%D Limit
Arsenic	5.45	5.687	4.17	-
Lead	118	124.7	5.37	20

%D Control Limit applied to analytes with concentrations greater than 25 times the reporting limits.

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1809311 **ClientCode: AEL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ■ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
■ Detection Summary ■ Dry-Weight

Report to:
Shalom Marquardt
AEI Consultants
2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597
(925) 478-9698 FAX: (925) 283-6121

Email: smarquardt@aeiconsultants.com
cc/3rd Party: akittredge@aeiconsultants.com;
PO: 171218
Project: 393757; 1040-1045 Cochrane Rd.

Bill to:
Accounts Payable
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
AccountsPayable@AEIConsultants.com

Requested TAT: 3 days;

Date Received: **09/10/2018**
Date Logged: **09/10/2018**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1809311-001	SS-1 Comp	Soil	9/10/2018 12:28	☐	A											
1809311-001	SS-1A	Soil	9/10/2018 12:24	☐		B										
1809311-002	SS-2 Comp	Soil	9/10/2018 10:39	☐	A											
1809311-002	SS-2A	Soil	9/10/2018 10:25	☐		B										
1809311-003	SS-3 Comp	Soil	9/10/2018 10:16	☐	A											
1809311-003	SS-3A	Soil	9/10/2018 10:16	☐		B										
1809311-004	SS-4 Comp	Soil	9/10/2018 12:39	☐	A											
1809311-004	SS-4A	Soil	9/10/2018 12:32	☐		B										
1809311-005	SS-5 Comp	Soil	9/10/2018 11:04	☐	A											
1809311-005	SS-5A	Soil	9/10/2018 10:47	☐		B										
1809311-006	SS-6 Comp	Soil	9/10/2018 09:15	☐	A											
1809311-006	SS-6A	Soil	9/10/2018 08:59	☐		B										
1809311-007	SS-7 Comp	Soil	9/10/2018 12:47	☐	A											
1809311-007	SS-7A	Soil	9/10/2018 12:44	☐		B										
1809311-008	SS-8 Comp	Soil	9/10/2018 11:47	☐	A											

Test Legend:

1	8081_S	2	PBASMS_TTLC_S	3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Kena Ponce

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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CHAIN-OF-CUSTODY RECORD

WorkOrder: 1809311 **ClientCode: AEL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ■ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
■ Detection Summary ■ Dry-Weight

Report to:
Shalom Marquardt
AEI Consultants
2500 Camino Diablo, Ste.#200
Walnut Creek, CA 94597
(925) 478-9698 FAX: (925) 283-6121

Email: smarquardt@aeiconsultants.com
cc/3rd Party: akittredge@aeiconsultants.com;
PO: 171218
Project: 393757; 1040-1045 Cochrane Rd.

Bill to:
Accounts Payable
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
AccountsPayable@AEIConsultants.com

Requested TAT: 3 days;

Date Received: **09/10/2018**
Date Logged: **09/10/2018**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below) 1	2	3	4	5	6	7	8	9	10	11	12
1809311-008	SS-8A	Soil	9/10/2018 11:47	☐		B										
1809311-009	SS-9 Comp	Soil	9/10/2018 11:19	☐	A											
1809311-009	SS-9A	Soil	9/10/2018 11:13	☐		B										
1809311-010	SS-10 Comp	Soil	9/10/2018 09:44	☐	A											
1809311-010	SS-10A	Soil	9/10/2018 09:29	☐		B										
1809311-011	SS-11 Comp	Soil	9/10/2018 13:21	☐	A											
1809311-011	SS-11A	Soil	9/10/2018 12:51	☐		B										
1809311-012	SS-12 Comp	Soil	9/10/2018 14:55	☐	A											
1809311-012	SS-12A	Soil	9/10/2018 14:44	☐		B										
1809311-013	SS-13 Comp	Soil	9/10/2018 14:39	☐	A											
1809311-013	SS-13A	Soil	9/10/2018 13:27	☐		B										
1809311-014	SS-14 Comp	Soil	9/10/2018 15:05	☐	A											
1809311-014	SS-14A	Soil	9/10/2018 14:29	☐		B										
1809311-015	SS-15 Comp	Soil	9/10/2018 13:58	☐	A											
1809311-015	SS-15A	Soil	9/10/2018 13:42	☐		B										

Test Legend:

1	8081_S	2	PBASMS_TTLC_S	3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Kena Ponce

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
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(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1809311 **ClientCode: AEL**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☐ Detection Summary ☐ Dry-Weight

Report to:
Shalom Marquardt
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Email: smarquardt@aeiconsultants.com
cc/3rd Party: akittredge@aeiconsultants.com;
PO: 171218
Project: 393757; 1040-1045 Cochrane Rd.

Bill to:
Accounts Payable
AEI Consultants
2500 Camino Diablo, Ste. #200
Walnut Creek, CA 94597
AccountsPayable@AEIConsultants.com

Requested TAT: 3 days;

Date Received: **09/10/2018**
Date Logged: **09/10/2018**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1809311-016	SS-R-16A	Soil	9/10/2018 14:09	☐		A										
1809311-017	SS-R-16B	Soil	9/10/2018 14:12	☐		A										
1809311-018	SS-R-16C	Soil	9/10/2018 14:17	☐		A										
1809311-019	SS-R-16D	Soil	9/10/2018 14:18	☐		A										
1809311-020	SS-R-17A	Soil	9/10/2018 15:15	☐		A										
1809311-021	SS-R-17B	Soil	9/10/2018 15:16	☐		A										
1809311-022	SS-R-17C	Soil	9/10/2018 15:19	☐		A										
1809311-023	SS-R-17D	Soil	9/10/2018 15:21	☐		A										

Test Legend:

1	8081_S	2	PBASMS_TTLC_S	3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Kena Ponce

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

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WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS
Client Contact: Shalom Marquardt
Contact's Email: smarquardt@aeiconsultants.com

Project: 393757; 1040-1045 Cochrane Rd.
Comments:

Work Order: 1809311
QC Level: LEVEL 2
Date Logged: 9/10/2018

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1809311-001A	SS-1 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 12:28	3 days		☐	
1809311-001B	SS-1A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 12:24	3 days		☐	
1809311-002A	SS-2 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 10:39	3 days		☐	
1809311-002B	SS-2A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 10:25	3 days		☐	
1809311-003A	SS-3 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 10:16	3 days		☐	
1809311-003B	SS-3A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 10:16	3 days		☐	
1809311-004A	SS-4 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 12:39	3 days		☐	
1809311-004B	SS-4A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 12:32	3 days		☐	
1809311-005A	SS-5 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 11:04	3 days		☐	
1809311-005B	SS-5A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 10:47	3 days		☐	
1809311-006A	SS-6 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 9:15	3 days		☐	
1809311-006B	SS-6A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 8:59	3 days		☐	
1809311-007A	SS-7 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 12:47	3 days		☐	
1809311-007B	SS-7A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 12:44	3 days		☐	
1809311-008A	SS-8 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 11:47	3 days		☐	
1809311-008B	SS-8A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 11:47	3 days		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

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http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS
Client Contact: Shalom Marquardt
Contact's Email: smarquardt@aeiconsultants.com

Project: 393757; 1040-1045 Cochrane Rd.
Comments:

Work Order: 1809311
QC Level: LEVEL 2
Date Logged: 9/10/2018

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1809311-009A	SS-9 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 11:19	3 days		☐	
1809311-009B	SS-9A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 11:13	3 days		☐	
1809311-010A	SS-10 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 9:44	3 days		☐	
1809311-010B	SS-10A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 9:29	3 days		☐	
1809311-011A	SS-11 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 13:21	3 days		☐	
1809311-011B	SS-11A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 12:51	3 days		☐	
1809311-012A	SS-12 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 14:55	3 days		☐	
1809311-012B	SS-12A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 14:44	3 days		☐	
1809311-013A	SS-13 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 14:39	3 days		☐	
1809311-013B	SS-13A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 13:27	3 days		☐	
1809311-014A	SS-14 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 15:05	3 days		☐	
1809311-014B	SS-14A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 14:29	3 days		☐	
1809311-015A	SS-15 Comp	Soil	SW8081A (OC Pesticides)	1	4OZ GJ, Unpres	☐	9/10/2018 13:58	3 days		☐	
1809311-015B	SS-15A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 13:42	3 days		☐	
1809311-016A	SS-R-16A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 14:09	3 days		☐	
1809311-017A	SS-R-16B	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 14:12	3 days		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

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WORK ORDER SUMMARY

Client Name: AEI CONSULTANTS
Client Contact: Shalom Marquardt
Contact's Email: smarquardt@aeiconsultants.com

Project: 393757; 1040-1045 Cochrane Rd.
Comments:

Work Order: 1809311
QC Level: LEVEL 2
Date Logged: 9/10/2018

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1809311-018A	SS-R-16C	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 14:17	3 days		☐	
1809311-019A	SS-R-16D	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 14:18	3 days		☐	
1809311-020A	SS-R-17A	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 15:15	3 days		☐	
1809311-021A	SS-R-17B	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 15:16	3 days		☐	
1809311-022A	SS-R-17C	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 15:19	3 days		☐	
1809311-023A	SS-R-17D	Soil	SW6020 (Arsenic & Lead)	1	4OZ GJ, Unpres	☐	9/10/2018 15:21	3 days		☐	

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General COC

RUSH!

MAI Work Order # 1809311

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CHAIN OF CUSTODY RECORD

Turn Around Time:	1 Day Rush		2 Day Rush		3 Day Rush	X	STD		Quote #														
J-Flag / MDL		ESL		Cleanup Approved				Bottle Order #															
Delivery Format:	PDF	X	GeoTracker EDF		EDD		Write On (DW)		EQuIS														

Report To: Shalom Marquardt Bill To: Accounts Payable - Jeremy Smith

Company: AEI Consultants

Email: smarquardt@aeiconsultants.com

Alt Email: akittredge@aeiconsultants.com Tele: 925-746-6000 ext.1125

Project Name: 1040-1045 Cochrane Rd Project #: 393757

Project Location: Morgan Hill, CA PO # 171218

Sampler Signature:

SAMPLE ID Location / Field Point		Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: OC Pesticides 8081A	Arsenic and lead 6020
SS-1A	SS-1comp	9/10/18	1224	1	S	7	C	D
SS-1B			1220	1				
SS-1C			1228	1				
SS-1D			1216	1			↓	
SS-2A	SS-2 comp		1025	1			C	D
SS-2B			1029	1				
SS-2C			1035	1				
SS-2D		↓	1039	1	↓	↓	↓	

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* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

C - composite 4 to 1
D - discrete

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
AEI	9/10/18	1951		9/10/18	19:53

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp 6.8 °C Initials TP

General COC

MAI Work Order # _____

6

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CHAIN OF CUSTODY RECORD

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Delivery Format:	PDF		GeoTracker EDF		EDD		Write On (DW)		EQuIS														

Report To: Shalom Marquardt Bill To: Accounts Payable - Jeremy Smith

Company: AEI Consultants

Email: smarquardt@aeiconsultants.com

Alt Email: akittredge@aeiconsultants.com Tele: 925-746-6000 ext.1125

Project Name: 1040-1045 Cochrane Rd Project #:393757

Project Location: Morgan Hill, CA PO # 171218

Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: OC Pesticides 8081A	Arsenic and lead 6020
SS-3A	9/10/18	1016	1	S	7	C	D
SS-3B		0834	1				
SS-3C (SS-3 Comp)		0842	1				
SS-3D		0849	1			↓	
SS-4A		1232	1			C	D
SS-4B		1212	1				
SS-4C (SS-4 Comp)		1239	1				
SS-4D	↓	1208	1	↓	↓	↓	

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AEI	9/10/18	1951		9/10/18	19:53

Comments / Instructions
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Temp _____ °C Initials _____

General COC

MAI Work Order # _____

6

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CHAIN OF CUSTODY RECORD

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Report To: Shalom Marquardt	Bill To: Accounts Payable - Jeremy Smith
Company: AEI Consultants	
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Alt Email: akittredge@aeiconsultants.com	Tele: 925-746-6000 ext.1125
Project Name: 1040-1045 Cochrane Rd	Project #: 393757
Project Location: Morgan Hill, CA	PO # 171218
Sampler Signature:	

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: OC Pesticides 8081A	Arsenic and lead 6020
SS-5A	9/10/18	1047	1	S	7	C	D
SS-5B		1052	1				
SS-5C } SS-5		1100	1				
SS-5D } comp		1104	1			↓	
SS-6A		0859	1			C	D
SS-6B		0854	1				
SS-6C } SS-6		0908	1				
SS-6D } comp	↓	0915	1	↓	↓	↓	

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Temp _____ °C Initials _____

General COC

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Project Name: 1040-1045 Cochrane Rd Project #:393757

Project Location: Morgan Hill, CA PO # 171218

Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: OC Pesticides 8081A	Analysis Requested: Arsenic and lead 6020
SS-7A	9/10/18	1244	1	S	7	C	D
SS-7B (SS-7 comp)		1205	1				
SS-7C (SS-7 comp)		1247	1				
SS-7D (SS-7 comp)		1202	1				
SS-8A		1147	1			C	D
SS-8B (SS-8 comp)		1143	1				
SS-8C (SS-8 comp)		1137	1				
SS-8D (SS-8 comp)		1130	1				

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Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp _____ °C Initials _____

General COC

MAI Work Order # _____

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Report To: Shalom Marquardt — Bill To: Accounts Payable - Jeremy Smith

Company: AEI Consultants

Email: smarquardt@aeiconsultants.com

Alt Email: akittredge@aeiconsultants.com — Tele: 925-746-6000 ext.1125

Project Name: 1040-1045 Cochrane Rd — Project #: 393757

Project Location: Morgan Hill, CA — PO # 171218

Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: OC Pesticides 8081A	Arsenic and lead 6020
SS-9A	9/10/18	1113	1	S	7	C	D
SS-9B		1008	1				
SS-9C (SS-9 comp)		1119	1				
SS-9D (SS-9 comp)		1003	1			↓	
SS-10A		0929	1			C	D
SS-10B		0924	1				
SS-10C (SS-10 comp)		0944	1				
SS-10D (SS-10 comp)	↓	0936	1	↓	↓	↓	

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Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

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CHAIN OF CUSTODY RECORD

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Report To: Shalom Marquardt Bill To: Accounts Payable - Jeremy Smith

Company: AEI Consultants

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Alt Email: akittredge@aeiconsultants.com Tele: 925-746-6000 ext.1125

Project Name: 1040-1045 Cochrane Rd Project #:393757

Project Location: Morgan Hill, CA PO # 171218

Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: OC Pesticides 8081A	Arsenic and lead 6020
SS-11A	9/10/18	1251	1	S	7	C	D
SS-11B (SS-11 comp)		1155	1				
SS-11C (SS-11 comp)		1255	1				
SS-11D (SS-11 comp)		1321	1				
SS-12A		1444	1			C	D
SS-12B (SS-12 comp)		1452	1				
SS-12C (SS-12 comp)		1435	1				
SS-12D (SS-12 comp)		1455	1				

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Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp _____ °C Initials _____

General COC

MAI Work Order # _____

6

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Project Location: Morgan Hill, CA PO # 171218

Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: OC Pesticides 8081A	Arsenic and lead 6020
SS-13A	9/10/18	1327	1	S	7	C	D
SS-13B (SS-13 comp)		1439	1				
SS-13C (SS-13 comp)		1332	1				
SS-13D (SS-13 comp)		1337	1			↓	
SS-14A		1429	1			C	D
SS-14B (SS-14 comp)		1500	1				
SS-14C (SS-14 comp)		1424	1				
SS-14D (SS-14 comp)	↓	1505	1	↓	↓	↓	

MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

* If metals are requested for water samples and the water type (Matrix) is not specified on the chain of custody, MAI will default to metals by E200.8.

Please provide an adequate volume of sample. If the volume is not sufficient for a MS/MSD a LCS/LCSD will be prepared in its place and noted in the report.

Comments / Instructions

C - composite 4 to 1

d - discrete

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
AEI	9/10/18	1951		9/10/18	19:53

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp _____ °C Initials _____

General COC

MAI Work Order # _____

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD

Turn Around Time:	1 Day Rush		2 Day Rush		3 Day Rush	X	STD		Quote #														
J-Flag / MDL		ESL		Cleanup Approved				Bottle Order #															
Delivery Format:	PDF		GeoTracker EDF		EDD		Write On (DW)		EQuIS														

Report To: Shalom Marquardt Bill To: Accounts Payable - Jeremy Smith

Company: AEI Consultants

Email: smarquardt@aeiconsultants.com

Alt Email: akittredge@aeiconsultants.com Tele: 925-746-6000 ext.1125

Project Name: 1040-1045 Cochrane Rd Project #:393757

Project Location: Morgan Hill, CA PO # 171218

Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: OC Pesticides 8081A	Analysis Requested: Arsenic and lead 6020
SS-15A } SS-15 comp	9/10/18	1342	1	S	7	C	D
SS-15B		1345	1				
SS-15C		1349	1				
SS-15D		1358	1				
SS-R-16A		1409	1				D
SS-R-16B		1412	1				D
SS-R-16C		1417	1				D
SS-R-16D		1418	1				D

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Comments / Instructions

c - composite 4 to 1
d - discrete

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time
AEI	9/10/18	1951		9/10/18	19:53

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Temp _____ °C Initials _____

General COC

MAI Work Order # _____

6

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush [ ] 2 Day Rush [ ] 3 Day Rush [X] STD [ ] Quote # [ ]
J-Flag / MDL [ ] ESL [ ] Cleanup Approved [ ] Bottle Order # [ ]
Delivery Format: PDF [X] GeoTracker EDF [ ] EDD [ ] Write On (DW) [ ] EQuIS [ ]

Report To: Shalom Marquardt Bill To: Accounts Payable - Jeremy Smith
Company: AEI Consultants
Email: smarquardt@aeiconsultants.com
Alt Email: akittredge@aeiconsultants.com Tele: 925-746-6000 ext.1125
Project Name: 1040-1045 Cochrane Rd Project #: 393757
Project Location: Morgan Hill, CA PO # 171218
Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Date	Sampling Time	#Containers	Matrix	Preservative	Analysis Requested: OC Pesticides 8081A	Arsenic and lead 6020
SS-R-17A	9/10/18	1515	1	S	7		D
SS-R-17B	↓	1516	1	↓	↓		D
SS-R-17C		1519	1				D
SS-R-17D		1521	1				D

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AEI	9/10/18	1951		9/10/18	19:53

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SW=Seawater, S=Soil, SL=Sludge, A=Air, WP=Wipe, O=Other

Preservative Code: 1=4°C 2=HCl 3=H_2SO_4 4=HNO_3 5=NaOH 6=ZnOAc/NaOH 7=None

Temp _____ °C Initials _____

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	**AEI Consultants**	Date and Time Received	**9/10/2018 19:53**
Project:	**393757; 1040-1045 Cochrane Rd.**	Date Logged:	**9/10/2018**
		Received by:	Kena Ponce
WorkOrder №:	**1809311** Matrix: Soil	Logged by:	Kena Ponce
Carrier:	Client Drop-In		

Chain of Custody (COC) Information

Chain of custody present?	Yes	☑	No	☐		
Chain of custody signed when relinquished and received?	Yes	☑	No	☐		
Chain of custody agrees with sample labels?	Yes	☑	No	☐		
Sample IDs noted by Client on COC?	Yes	☑	No	☐		
Date and Time of collection noted by Client on COC?	Yes	☑	No	☐		
Sampler's name noted on COC?	Yes	☑	No	☐		
COC agrees with Quote?	Yes	☐	No	☐	NA	☑

Sample Receipt Information

Custody seals intact on shipping container/cooler?	Yes	☐	No	☐	NA	☑
Shipping container/cooler in good condition?	Yes	☑	No	☐		
Samples in proper containers/bottles?	Yes	☑	No	☐		
Sample containers intact?	Yes	☑	No	☐		
Sufficient sample volume for indicated test?	Yes	☑	No	☐		

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA	☐
Samples Received on Ice?	Yes	☑	No	☐		
(Ice Type: WET ICE)						
Sample/Temp Blank temperature	Temp: 6.8°C				NA	☐
Water - VOA vials have zero headspace / no bubbles?	Yes	☐	No	☐	NA	☑
Sample labels checked for correct preservation?	Yes	☑	No	☐		
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes	☐	No	☐	NA	☑
UCMR Samples:						
pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes	☐	No	☐	NA	☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes	☐	No	☐	NA	☑

Comments:

AEI Consultants

June 6, 2018

Environmental
Due Diligence

Building Assessments

Site Investigation
& Remediation

Energy Performance
& Benchmarking

Industrial Hygiene

Construction
Risk Management

Zoning Analysis
Reports & ALTA
Surveys

PHASE I
ENVIRONMENTAL SITE ASSESSMENT

Property Identification:
1040-1045 Cochrane Road and 1065-1105 Half Road
Morgan Hill, Santa Clara County, California 95037

AEI Project No. 388872

Prepared For:
Llagas, LLC.
600 East Broken Road
San Jose, California 95112

Prepared By:
AEI Consultants
2500 Camino Diablo, Suite 100
Walnut Creek, California 94597-3940
AEI Main Contact: Tory Golino
(408) 559-7600
TGolino@aeiconsultants.com

AEI Consultants

June 6, 2018

Llagas, LLC.
600 East Broken Road
San Jose, California 95112

Subject: PHASE I ENVIRONMENTAL SITE ASSESSMENT
1040-1045 Cochrane Road and 1065-1105 Half Road
Morgan Hill, California 95037
AEI Project No. 388872

Dear Rick Singer:

AEI Consultants is pleased to provide the *Phase I Environmental Site Assessment (Phase I ESA)* report of the above referenced property. This assessment was authorized and performed in accordance with the scope of services outlined in AEI's contract, the scope and limitations of ASTM Standard Practice E1527-13, and the Environmental Protection Agency Standards and Practices for All Appropriate Inquiries (40 CFR Part 312).

We appreciate the opportunity to provide services to you. If you have any questions concerning this report, or if we may assist you in any other matter, please contact me at (408) 559-7600 or TGolino@aeiconsultants.com.

Sincerely,

Tory Golino
AEI Consultants

PROJECT SUMMARY

1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, Santa Clara County, California 95037
AEI Project No. 388872

Report Section		REC	CREC	HREC	OEC	Recommended Action
1.0	Introduction					None
2.0	Site and Vicinity Description					None
3.0	Historical Review of Site and Vicinity				✔	None
4.0	Regulatory Agency Records Review					None
5.0	Regulatory Database Records Review					None
6.0	Interviews and User Provided Information					None
7.0	Site Reconnaissance					None
8.1	Asbestos-Containing Building Materials				✔	Asbestos survey prior to any demolition activities
8.2	Lead-Based Paint				✔	Consult a certified Lead Risk Assessor prior to any planned demolition activities
8.3	Radon					None
8.4	Mold/Indoor Air Quality Issues					None

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EXECUTIVE SUMMARY

AEI Consultants (AEI) was retained by Llagas, LLC. to conduct a Phase I ESA in conformance with AEI's contract and the scope and limitations of ASTM Standard Practice E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) for the property located at 1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, Santa Clara County, California (the "subject property"). Any exceptions to, or deletions from, this practice are described in Sections 1.4, 1.5, and 1.6 of this report.

Pertinent subject property information is noted below:

PROPERTY INFORMATION	
Site Address(es)	1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, Santa Clara County, California 95037
Property ID (APN or Block/Lot)	728-31-14 to -16 and 728-30-1 to -4, -6, and -9
Location	Bounded by Cochrane Road to the Northwest, De Paul Drive and Mission View Drive to the northeast, Half Road to the southeast, and Highway 101 to the southwest
Property Type	Agricultural
SITE AND BUILDING INFORMATION	
Approximate Site Acreage/Source	87.6/Santa Clara County
Number of Buildings	Two
Building Construction Date(s)	Circa 1974
Building Square Footage (SF)/Source	11,000/Estimate using Google Earth
Number of Floors/Stories	One
Basement or Subgrade Area(s)	None identified
Number of Units	Three
Additional Improvements	Gravel and dirt roads and an unfinished stormwater detention pond
On-site Occupant(s)	A tree farm (1040-1045 Cochrane Road) Cherry orchard (1065-1105 Half Road) Santa Clara Valley Water District Construction Staging (No address along Half Road) Hay cultivation (southern portion of the property)
Current On-site Operations/Use	Typical agricultural and residential activities, staging of dirt, gravel, and construction related equipment
Current Use of Hazardous Substances	Yes; refer to Section 7.1
REGULATORY INFORMATION	
Regulatory Database Listing(s)	None identified

A chronological summary of historical subject property information is as follows:

Date Range	Subject Property Description and Use (Historical Addresses)	Source(s)
Prior to 1939	Not found; Data failure; refer to Section 1.6.1	Aerial photographs, city directories, agency records, interviews

Date Range	Subject Property Description and Use (Historical Addresses)	Source(s)
1939-Present	Residences and agricultural use including orchards and row crops	Aerial photographs, city directories, agency records, interviews

The immediately surrounding properties consist of the following:

Direction	Tenant/Use (Address)	Regulatory Database Listing(s)
Northwest	Cochrane Road, followed by: Shopping Center (1031-1045 Cochrane Road) (1045 address not associated with the subject property)	EDR Hist Cleaner (1041 Cochrane Road)
North	Cochrane Road, followed by: Burger King (1039 Cochrane Road)	UST (1107 Cochrane Road - historical address)
Northeast	De Paul Road, followed by: De Paul Health Center/hospital (18500 De Paul Drive) Mission View Road, followed by: Residences (18201-18241 Tolusa Place) Orchard (1345 Half Road)	RCRA-SQG, FINDS, ECHO, HAZNET (18500 St. Louise Drive - historical address) CUPA Listings (four times), UST (18500 De Paul Drive) CUPA Listings (18511 Mission View Drive - additional address)
East	Half Road, followed by: Agricultural land and residence (1400 Half Road)	None identified
Southeast	Half Road, followed by: Agricultural land and a residence (APNs 728-29-001 and -018 and 17905 Condit Road)	None identified
Southwest	Santa Clara Valley Water District Canal, followed by Highway 101, followed by: Shoe Palace (755 Jarvis Drive) Commercial Building (685 Jarvis Drive) Commercial Building (675 Jarvis Drive) Extended Stay America (605 Jarvis Drive) Hobby Lobby (150 Cochrane Road) and vacant land	CUPA Listings, HAZNET (675 Jarvis Drive) CUPA Listings (685 Jarvis Drive)

If the surrounding properties are listed in the regulatory database, please refer to Section 5.1 for discussion.

FINDINGS

Recognized Environmental Condition (REC) is defined by the ASTM Standard Practice E1527-13 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

- AEI did not identify evidence of RECs during the course of this assessment.

Controlled Recognized Environmental Condition (CREC) is defined by the ASTM Standard Practice

E1527-13 as a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

- AEI did not identify evidence of CRECs during the course of this assessment.

Historical Recognized Environmental Condition (HREC) is defined by the ASTM Standard Practice E1527-13 as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.

- AEI did not identify evidence of HRECs during the course of this assessment.

Other Environmental Considerations (OEC) warrant discussion, but do not qualify as RECs as defined by the ASTM Standard Practice E1527-13. These include, but are not limited to, de minimis conditions and/or environmental considerations such as the presence of ACMs, LBP, radon, mold, and lead in drinking water, which can affect the liabilities and financial obligations of the client, the health and safety of site occupants, and the value and marketability of the subject property.

- The subject property is currently and has historically been used for agricultural purposes. There is a potential that agricultural chemicals, such as pesticides, herbicides and fertilizers, used on site have impacted the subject property. However, based on the planned continued use of the subject property for agricultural production for the near future, no further investigation is likely warranted at this time. Soil sampling would be recommended prior to any redevelopment of the subject property.
- According to the Mr. Singer, demolition of the subject property buildings may be planned for the future. Regardless of building construction date, the EPA's NESHAP requires that a thorough asbestos survey be performed prior to demolition or renovation activities that may disturb ACMs. This requirement may be enforced by federal, state and local regulatory agencies, and specifies that all suspect ACMs be sampled to determine the presence or absence of asbestos prior to any renovation or demolition activities which may disturb them to prevent potential exposure to workers, building occupants, and the environment. Similarly, OSHA regulations require that specific work practices be implemented when handling construction materials and debris that contain asbestos and/or lead-containing materials.
- Due to the age of the subject property buildings, there is a potential that LBP is present. AEI understands that demolition activities may be planned. AEI recommends that the property owner consult with a certified Lead Risk Assessor to determine options for control of possible LBP hazards. Stringent local and State regulations may apply to LBP in association with building demolition/renovations and worker/occupant protection. It should be noted that construction activities that disturb materials or paints containing any amount of lead may be subject to certain requirements of the OSHA lead standard contained in 29 CFR 1910.1025 and 1926.62.

We have performed a Phase I ESA in conformance with the scope and limitations of ASTM Standard Practice E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) of 1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, Santa Clara County, California, the *subject property*. Any exceptions to, or deletions from, this practice are described in Sections 1.4, 1.5, and 1.6 of this report.

AEI did not identify evidence of RECs or CRECs in connection with the subject property during the course of this assessment. AEI recommends no further investigation for the subject property at this time.

1.0 INTRODUCTION

This report documents the methods and findings of the Phase I ESA performed in conformance with AEI's contract and scope and limitations of ASTM Standard Practice E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) for the property located at 1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, Santa Clara County, California (Appendix A: Figures and Appendix B: Property Photographs).

1.1 Scope of Work

The purpose of the Phase I ESA is to assist the client in identifying potential RECs, in accordance with ASTM E1527-13, associated with the presence of any hazardous substances or petroleum products, their use, storage, and disposal at and in the vicinity of the subject property. Property assessment activities focused on: 1) a review of federal, state, tribal, and local databases that identify and describe underground fuel tank sites, leaking underground fuel tank sites, hazardous waste generation sites, and hazardous waste storage and disposal facility sites within the ASTM approximate minimum search distance; 2) a property and surrounding site reconnaissance, and interviews with the past and present owners and current occupants and operators to identify potential environmental contamination; and 3) a review of historical sources to help ascertain previous land use at the site and in the surrounding area.

1.2 Additional Services

Other Environmental Considerations such as ACMs, LBP, lead in drinking water, radon, mold, and wetlands can result in business environmental risks for property owners which may disrupt current or planned operations or cash flow and are generally beyond the scope of a Phase I assessment as defined by ASTM E1527-13. Based upon the agreed-on scope of services this ESA did not include subsurface or other invasive assessments, business environmental risks, or other services not specifically identified and discussed herein.

1.3 Significant Assumptions

The following assumptions are made by AEI in this report. AEI relied on information derived from secondary sources including governmental agencies, the client, designated representatives of the client, property contact, property owner, property owner representatives, computer databases, and personal interviews. AEI has reviewed and evaluated the thoroughness and reliability of the information derived from secondary sources including government agencies, the client, designated representatives of the client, property contact, property owner, property owner representatives, computer databases, or personal interviews. It appears that all information obtained from outside sources and reviewed for this assessment is thorough and reliable. However, AEI cannot guarantee the thoroughness or reliability of this information.

Groundwater flow, unless otherwise specified by on-site well data or well data from the subject property or nearby sites, is inferred from contour information depicted on the USGS topographic maps. AEI assumes the property has been correctly and accurately identified by the client, designated representative of the client, property contact, property owner, and property owner's representatives.

1.4 LIMITATIONS

Property conditions, as well as local, state, tribal, and federal regulations can change significantly over time. Therefore, the recommendations and conclusions presented as a result of this assessment apply strictly to the environmental regulations and property conditions existing at the time the assessment was performed. Available information has been analyzed using currently accepted assessment techniques and it is believed that the inferences made are reasonably representative of the property. AEI makes no warranty, expressed or implied, except that the services have been performed in accordance with generally accepted environmental property assessment practices applicable at the time and location of the assessment.

Considerations identified by ASTM as beyond the scope of a Phase I ESA that may affect business environmental risk at a given property include the following: ACMs, radon, LBP, lead in drinking water, wetlands, regulatory compliance, cultural and historical resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, mold, and high voltage lines. These environmental issues or conditions may warrant assessment based on the type of the property transaction; however, they are considered non-scope issues under ASTM Standard Practice E1527-13.

If requested by the client, these non-scope issues are discussed herein. Otherwise, the purpose of this assessment is solely to satisfy one of the requirements for qualification of the innocent landowner defense, contiguous property owner or bona fide prospective purchaser under CERCLA. ASTM Standard Practice E1527-13 and the United States EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) constitute the "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined in:

1. 42 U.S.C. § 9601(35)(B), referenced in the ASTM Standard Practice E1527-13.
2. Sections 101(35)(B) (ii) and (iii) of CERCLA and referenced in the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312).
3. 42 U.S.C. § 9601(40) and 42 U.S.C. § 9607(q).

The Phase I ESA is not, and should not be construed as, a warranty or guarantee about the presence or absence of environmental contaminants that may affect the property. Neither is the assessment intended to assure clear title to the property in question. The sole purpose of assessment into property title records is to ascertain a historical basis of prior land use. All findings, conclusions, and recommendations stated in this report are based upon facts, circumstances, and industry-accepted procedures for such services as they existed at the time this report was prepared (i.e., federal, state, and local laws, rules, regulations, market conditions, economic conditions, political climate, and other applicable matters). All findings, conclusions, and recommendations stated in this report are based on the data and information provided, current subject property use, and observations and conditions that existed on the date and time of the property reconnaissance.

Responses received from local, state, or federal agencies or other secondary sources of information after the issuance of this report may change certain facts, findings, conclusions, or circumstances to the report. A change in any fact, circumstance, or industry-accepted procedure upon which this report was based may adversely affect the findings, conclusions, and recommendations expressed in this report.

AEI's limited radon screening, if included, is intended to provide a preliminary screening to evaluate the potential presence of elevated radon concentrations at the site. The proposed scope is not intended to define the full extent of the presence of radon at the subject property. As such, the results should be used for lending purposes only. The recommendations and conclusions presented as a result of the limited preliminary radon screening apply strictly to the property conditions existing at the time the sampling was performed. The sample analytical results are only valid for the time, place, and condition of the site at the time of collection and AEI does not warrant that the results will be repeatable or are representative of past or future conditions.

1.5 Limiting Conditions/Deviations

The performance of this Phase I ESA was limited by the following:

- While additional assessments may have been conducted on the subject property, these documents must be provided for AEI's review in order for the information to be summarized/included in this Phase I ESA. Please refer to Section 6.3 for a summary of previous reports and other documentation provided to AEI during this assessment.

- Due to the size of the subject property, AEI performed a reconnaissance of the property utilizing a field technique of traversing the site in an attempt to provide an overlapping field of view. Due to the size of the property and the vegetation present on site, isolated areas of the site may have not been accessible for direct observation during AEI's field reconnaissance. Based on information provided by the ownership and by agencies, this limitation is not expected to significantly alter the findings of this assessment.

- AEI did not access into the interiors of the residences, a garage, or temporary trailers on-site. Features may be present which were not observed by AEI. However, based on the nature, of use, this limitation is not expected to significantly alter the findings of this assessment.

1.6 Data Failure and Data Gaps

According to ASTM E1527-13, data gaps occur when the Environmental Professional is unable to obtain information required by the Standard, despite good faith efforts to gather such information. Pursuant to ASTM E1527-13, only significant data gaps, defined as those that affect the ability of the Environmental Professional to identify RECs, need to be documented.

Data failure is one type of data gap. According to ASTM E1527-13, data failure occurs when all of the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the objectives have not been met. Pursuant to ASTM E1527-13, historical sources are required to document property use back to the property's first developed use or back to 1940, whichever is earlier, or periods of five years or greater.

1.6.1 DATA FAILURE

The following data failure was identified during the course of this assessment:

Data Failure	The earliest historical resource obtained during this assessment was an aerial photograph from 1939 indicating that the subject property was developed agriculturally. The lack of historical sources for the subject property dating back to first developed use represents historical data source failure. However, as it is assumed that the subject property would have been previously used for agricultural purposes, if not undeveloped, this data failure is not expected to significantly alter the findings of this assessment.
Information/Sources Consulted	City directories, Sanborn fire insurance maps, aerial photographs, agency records, interviews

1.6.2 DATA GAPS

AEI did not identify significant data gaps which affected our ability to identify RECs.

1.7 RELIANCE

All reports, both verbal and written, are for the benefit of Llagas, LLC.. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of AEI. Either verbally or in writing, third parties may come into possession of this report or all or part of the information generated as a result of this work. In the absence of a written agreement with AEI granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against AEI, its officers, employees, vendors, successors, or assigns. Reliance is provided in accordance with AEI's contract and Standard Terms and Conditions executed by Llagas, LLC. on May 15, 2018. The limitation of liability defined in the Terms and Conditions is the aggregate limit of AEI's liability to the client and all relying parties.

2.0 SITE AND VICINITY DESCRIPTION

2.1 SITE LOCATION AND DESCRIPTION

PROPERTY INFORMATION	
Site Address(es)	1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, Santa Clara County, California 95037
Property ID (APN or Block/Lot)	728-31-14 to -16 and 728-30-1 to -4, -6, and -9
Location	Bounded by Cochrane Road to the Northwest, De Paul Drive and Mission View Drive to the northeast, Half Road to the southeast, and Highway 101 to the southwest
Property Type	Agricultural
SITE AND BUILDING INFORMATION	
Approximate Site Acreage/Source	87.6/Santa Clara County
Number of Buildings	Two
Building Construction Date(s)	Circa 1974
Building Square Footage (SF)/Source	11,000/Estimate using Google Earth
Number of Floors/Stories	One
Basement or Subgrade Area(s)	None identified
Number of Units	Three
Additional Improvements	Gravel and dirt roads and an unfinished stormwater detention pond
On-site Occupant(s)	A tree farm (1040-1045 Cochrane Road) Cherry orchard (1065-1105 Half Road) Santa Clara Valley Water District Construction Staging (No address along Half Road) Hay cultivation (southern portion of the property)
Current On-site Operations/Use	Typical agricultural and residential activities, staging of dirt, gravel, and construction related equipment
Current Use of Hazardous Substances	Yes; refer to Section 7.1
REGULATORY INFORMATION	
Regulatory Database Listing(s)	None identified

2.2 ON-SITE UTILITIES

Utility	Source/System Information
Heating System	Natural gas and electricity
Cooling System	N/A
Potable Water	Santa Clara Valley Water District
Sewage Disposal/Treatment	Septic

Utility source/system information listed in the table above is provided by Mr. Rick Singer, unless otherwise noted above.

2.3 SITE AND VICINITY CHARACTERISTICS

The subject property is located in a mixed commercial and residential area of Morgan Hill,

California. The immediately surrounding properties consist of the following:

Direction	Tenant/Use (Address)	Regulatory Database Listing(s)
Northwest	Cochrane Road, followed by: Shopping Center (1031-1045 Cochrane Road) (1045 address not associated with the subject property)	EDR Hist Cleaner (1041 Cochrane Road)
North	Cochrane Road, followed by: Burger King (1039 Cochrane Road)	UST (1107 Cochrane Road - historical address)
Northeast	De Paul Road, followed by: De Paul Health Center/hospital (18500 De Paul Drive) Mission View Road, followed by: Residences (18201-18241 Tolusa Place) Orchard (1345 Half Road)	RCRA-SQG, FINDS, ECHO, HAZNET (18500 St. Louise Drive - historical address) CUPA Listings (four times), UST (18500 De Paul Drive) CUPA Listings (18511 Mission View Drive - additional address)
East	Half Road, followed by: Agricultural land and residence (1400 Half Road)	None identified
Southeast	Half Road, followed by: Agricultural land and a residence (APNs 728-29-001 and -018 and 17905 Condit Road)	None identified
Southwest	Santa Clara Valley Water District Canal, followed by Highway 101, followed by: Shoe Palace (755 Jarvis Drive) Commercial Building (685 Jarvis Drive) Commercial Building (675 Jarvis Drive) Extended Stay America (605 Jarvis Drive) Hobby Lobby (150 Cochrane Road) and vacant land	CUPA Listings, HAZNET (675 Jarvis Drive) CUPA Listings (685 Jarvis Drive)

If the surrounding properties are listed in the regulatory database, please refer to Section 5.1 for discussion.

2.4 Physical Setting

Geologic Unit: Description/Source	Qa: Alluvial gravel, sand and clay of valleys, age Holocene/USGS and United States Department of the Interior
Soil Series: Description/Source	Primarily ArA: Arbuckle gravelly loam, a gravelly loam to at least 40 inches/USDA Soil Survey
Groundwater Flow Direction/Source	Southwest/Topographic map interpretation
Estimated Depth to Groundwater/ Source	156 feet bgs/Well data for a well located approximately 0.84 mile north of the subject property, obtain from the USGS national Water Information System
Surface waters on the subject property or adjacent sites	A Santa Clara Valley Water District canal is located adjacent to the southwest of the subject property

Note: Groundwater flow direction can be influenced locally and regionally by the presence of local wetland features, surface topography, recharge and discharge areas, horizontal and vertical inconsistencies in the types and location of subsurface soils, and proximity to water

pumping wells. Depth and gradient of the water table can change seasonally in response to variation in precipitation and recharge, and over time, in response to urban development such as storm water controls, impervious surfaces, pumping wells, cleanup activities, dewatering, seawater intrusion barrier projects near the coast, and other factors.

3.0 HISTORICAL REVIEW OF SITE AND VICINITY

Reasonably ascertainable standard historical sources as outlined in ASTM Standard E1527-13 were used to determine previous uses and occupancies of the subject property that are likely to have led to RECs in connection with the subject property. A chronological summary of historical data found, including but not limited to aerial photographs, historical city directories, Sanborn fire insurance maps, and agency records, is as follows:

Date Range	Subject Property Description and Use (Historical Addresses)	Source(s)
Prior to 1939	Not found; Data failure; refer to Section 1.6.1	Aerial photographs, city directories, agency records, interviews
1939-Present	Residences and agricultural use including orchards and row crops	Aerial photographs, city directories, agency records, interviews

The subject property is currently and has historically been used for agricultural purposes. There is a potential that agricultural chemicals, such as pesticides, herbicides and fertilizers, used on site have impacted the subject property. However, based on the planned continued use of the subject property for agricultural production for the near future, no further investigation is likely warranted at this time. Soil sampling would be recommended prior to any redevelopment of the subject property.

If available, copies of historical sources are provided in the report appendices.

3.1 AERIAL PHOTOGRAPHS

AEI reviewed aerial photographs of the subject property and surrounding area. A search was made of the EDR collection of aerial photographs. Aerial photographs were reviewed for the following years:

Year(s)	Subject Property Description	Adjacent Site Descriptions
1939 1940	Primarily orchard, with three residences on-site	NORTHWEST: A road, followed by orchards NORTH: A road, followed by agricultural land and orchards NORTHEAST: Orchards and a residence EAST: A road, followed by orchards SOUTHEAST: A road, followed by orchards SOUTHWEST: Orchards and a residence
1968	Primarily orchard, with two residences on-site	NORTHWEST: No significant changes NORTH: No significant changes NORTHEAST: No significant changes EAST: A road, followed by orchards and agricultural structures SOUTHEAST: No significant changes SOUTHWEST: No significant changes

Year(s)	Subject Property Description	Adjacent Site Descriptions
1974 1982	The two existing residences on-site as well as orchards and row crops. An area on the southern portion of the property is improved with small residences and/or agricultural structures	NORTHWEST: No significant changes NORTH: No significant changes NORTHEAST: No significant changes EAST: A road, followed by orchards and agricultural structures SOUTHEAST: No significant changes SOUTHWEST: The existing canal followed by the existing highway
1998	Property is mostly vacant land, with the two existing residences, a small orchard, and an unidentified improved area on the southern portion of the property	NORTHWEST: No significant changes NORTH: No significant changes NORTHEAST: A road, followed by the existing hospital and a road followed by agricultural land and orchards EAST: No significant changes SOUTHEAST: A road, followed by agricultural land and the existing residence SOUTHWEST: No significant changes
2006	The two existing residences, the existing tree farm, the existing orchard, and agricultural land (hay)	No significant changes
2009 2012	No significant changes	NORTHWEST: Cochrane Road, followed by the existing shopping center NORTH: Cochrane Road, followed by construction NORTHEAST: No significant changes EAST: No significant changes SOUTHEAST: No significant changes SOUTHWEST: No significant changes
2016	No significant changes	NORTHWEST: No significant changes NORTH: No significant changes NORTHEAST: The existing hospital, and Mission View Road, followed by the existing residences and an orchard EAST: No significant changes SOUTHEAST: No significant changes SOUTHWEST: No significant changes

Based on a review of aerials photographs, the subject property appears to have been developed for agricultural use since at least 1939. Please refer to Section 3.0 for additional information.

3.2 Sanborn Fire Insurance Maps

Sanborn Fire Insurance maps were developed in the late 1800s and early 1900s for use as an assessment tool for fire insurance rates in urbanized areas. A search was made of the EDR collection of Sanborn Fire Insurance maps.

Sanborn map coverage was not available for the subject property.

3.3 City Directories

A search of historical city directories was conducted for the subject property utilizing EDR. No

potential tenants of concern were identified based on AEI's review of the historical city directories. Directories were reviewed in approximate five-year increments from 1975 to 2014. The first listing for the subject property appeared in 1992. Please refer to the appendices for a complete list of historical subject property tenants identified by EDR.

3.4 Historical Topographic Maps

Based on the quality of information obtained from other sources, historical topographic maps were not reviewed as a part of this assessment.

3.5 Chain of Title

Based on the quality of information obtained from other sources, a chain of title search was not performed as part of this assessment.

4.0 REGULATORY AGENCY RECORDS REVIEW

Local and state agencies, such as environmental health departments, fire prevention bureaus, and building and planning departments are contacted to identify any current or previous reports of hazardous substance use, storage, and/or unauthorized releases that may have impacted the subject property. In addition, information pertaining to AULs, defined as legal or physical restrictions, or limitations on the use of, or access to, a site or facility, is requested.

4.1 LOCAL ENVIRONMENTAL HEALTH DEPARTMENT AND/OR STATE ENVIRONMENTAL AGENCY

Agency	Date Contacted	Method of Contact	Name & Title of Contact	Agency Response
Santa Clara County Consumer and Environmental Protection Agency (SCC CEP)	May 17, 2018	Email	Ms. Melissa Belloso	Response received, no records on file

4.2 FIRE DEPARTMENT

Agency	Date Contacted	Method of Contact	Name & Title of Contact	Agency Response
Santa Clara County Fire Department (SCCFD)	May 17, 2018	Fax	Employee with Department	Referred to City of Morgan Hill
Morgan Hill Fire Department	May 17, 2018	Website	Ms. Angie Gonzalez	Records provided with Building Department Records, please refer to Section 4.3

4.3 Building Department

Agency	Date Contacted	Method of Contact	Name & Title of Contact	Agency Response
Morgan Hill Building Department (MHBD)	May 17, 2018	Website	Ms. Angie Gonzalez	Response received, records discussed below

Records Summary - 1040 Cochrane Road

Year(s)	Owner/Applicant	Description of Permit and Building Use
1992	St. Louise Hospital	Freeway sign for hospital

Records Summary - 1065 Half Road

Year(s)	Owner/Applicant	Description of Permit and Building Use
1993	Dave Gonzalez	Hand written note about "clean up" of property
1995	Mel Barberi	Demolish house and garage

Records Summary - 1085 Half Road

Year(s)	Owner/Applicant	Description of Permit and Building Use
1975	Illegible	Mostly illegible, something to do with a pump

Records Summary - 1105 Half Road

Year(s)	Owner/Applicant	Description of Permit and Building Use
2016	Llagas LLC	Replacement of meter base for agricultural pump

Records were provided to AEI for the address 1045 Cochrane Road. However, all of these records appear to be associated with the adjacent shopping center which also uses this address.

Evidence indicating current or prior use or storage of hazardous substances was not on file for the subject property with the MHBD.

4.4 Planning Department

Agency	Date Contacted	Method of Contact	Name & Title of Contact	Agency Response
Morgan Hill Planning Department (MHPD)	May 17, 2018	Telephone	Employee with the planning department	No evidence indicating the existence of AULs on file for the subject property

4.5 Assessor's Office

Agency	Date Contacted	Method of Contact	Name & Title of Contact	Agency Response
Santa Clara County Assessor's Office	May 17, 2018	Website	N/A	Information obtained is discussed below

Records Summary

APN	728-31-14 to -16 and 728-30-1 to -4, -6, and -9
Acreage	87.6 acres

Construction Date	Not provided
Building Square Footage	Not provided
Current Owner	Not provided
Additional Information	No additional information provided

4.6 Other Agencies Searched

Agency	Date Contacted	Method of Contact	Name & Title of Contact	Agency Response
CA State Water Resources Control Board (SWRCB) Geotracker	May 17, 2018	Website	N/A	Response received, records discussed below
CA Department of Toxic Substances Control (DTSC) Hazardous Waste Tracking System (HWTS)	May 17, 2018	Website	N/A	Online database searched, no records on file
CA DTSC Envirostor	May 17, 2018	Website	N/A	Online database searched, no records on file
Bay Area Air Quality Management District	May 17, 2018	Website	Ms. Rochelle Reed	Online database searched, no records on file

According to the Regional Water Control Board Irrigated Lands Regulatory Program (ILRP) and GeoTracker, the subject property is part of the ILRP, as well as some of the adjoining sites. The ILRP was initiated in 2003 to prevent agricultural runoff from impairing surface waters, and in 2012, groundwater regulations were added to the program. Waste discharge requirements (also known as "WDRs" or "Orders"), which protect both surface water and groundwater, address irrigated agricultural discharges throughout the Central Valley.

The subject property was listed as "George Chiala Farms, Inc. - Tuscany" and the program status is listed as "terminated".

Based on the nature of the program, the status of the subject property program listing, and current use of the subject property and adjacent properties listed as agricultural land, the subject property former enrollment in the ILRP is not expected to represent a significant environmental concern.

4.7 Oil and Gas Wells

Agency	Date Referenced	Resource	Oil or gas wells located within 500 feet of the subject property
California Division of Oil, Gas, and Geothermal Resources (CA DOGGR)	June 5, 2018	CA DOGGR Map	No

4.8 Oil and Gas Pipelines

Agency	Date Referenced	Resource	Pipelines located within 500 feet of the subject property
National Pipeline Mapping System (NPMS)	June 5, 2018	NPMS Public Map Viewer	Information obtained is discussed below

According to information obtained from the NPMS Public Map Viewer, a subterranean natural gas pipeline is located along Cochrane Road; see map in appendices. The pipeline, identified as a natural gas pipeline, is operated by Pacific Gas and Electric. No stressed vegetation or olfactory indications of a release were observed in the vicinity of the pipeline and no records of past releases or violations associated with this pipeline were identified within the regulatory database. Due to its contents, the natural gas pipeline is not expected to represent a potential threat to soil or groundwater conditions at the subject property. Based on this information, the pipeline does not appear to represent a significant environmental concern to the subject property at this time.

4.9 State Environmental Superliens

In accordance with our approved scope of services, AEI did not assess whether the subject property is subject to any state environmental superliens.

4.10 State Property Transfer Laws

In accordance with our approved scope of services, AEI did not assess whether the subject property is subject to any state property transfer laws.

5.0 REGULATORY DATABASE RECORDS REVIEW

AEI contracted EDR to conduct a search of publicly available information from federal, state, tribal, and local databases containing known and suspected sites of environmental contamination and sites of potential environmental significance. Data gathered during the current regulatory database search is compiled by EDR into one regulatory database report. Location information for listed sites is designated using geocoded information provided by federal, state, or local agencies and commonly used mapping databases with the exception of "Orphan" sites. Due to poor or inadequate address information, Orphan sites are identified but not geocoded/mapped by EDR, rather, information is provided based upon vicinity zip codes, city name, and state. The number of listed sites identified within the approximate minimum search distance from the federal and state environmental records database listings specified in ASTM Standard E1527-13 is summarized in Section 5.1, along with the total number of Orphan sites. A copy of the regulatory database report, which includes detailed descriptions of the databases noted below, is included in Appendix C of this report.

In determining if a listed site is a potential environmental concern to the subject property, AEI generally applies the following criteria to classify the site as lower potential environmental concern: 1) the site only holds an operating permit (which does not imply a release), 2) the site's distance from, and/or topographic position relative to, the subject property, and/or 3) the site has recently been granted "No Further Action" by the appropriate regulatory agency.

5.1 RECORDS SUMMARY

Database	Search Distance (Miles)	Subject Property Listed	Listings Within Search Distance	Listings Determined To Warrant Additional Discussion Below
NPL	1.0	No	0	0
DELISTED NPL	0.5	No	0	0
SEMS/CERCLIS	0.5	No	0	0
SEMS-ARCHIVE/CERCLIS NFRAP	0.5	No	0	0
RCRA CORRACTS	1.0	No	0	0
RCRA-TSDF	0.5	No	0	0
RCRA LQG, SQG, CESQGs, NLR	SP/ADJ	No	1	1
US ENG CONTROLS	SP	No	0	0
US INST CONTROLS	SP	No	0	0
ERNS	SP	No	0	0
STATE/TRIBAL HWS	1.0	No	8	0
STATE/TRIBAL SWLF	0.5	No	0	0
STATE/TRIBAL REGISTERED STORAGE TANKS	SP/ADJ	No	2	2
STATE/TRIBAL LUST	0.5	No	0	0
STATE/TRIBAL EC and IC	SP	No	0	0
STATE/TRIBAL VCP	0.5	No	0	0
STATE/TRIBAL BROWNFIELD	0.5	No	0	0
ORPHAN	N/A	No	0	0

Database	Search Distance (Miles)	Subject Property Listed	Listings Within Search Distance	Listings Determined To Warrant Additional Discussion Below
ADDITIONAL ENVIRONMENTAL RECORD SOURCES	SP/ADJ	No	11	11

Facility Name	St Louise Hospital, Unimed Management Svcs San Jose Inc., De Paul Health Center, De Paul Medical center
Address	18500 St. Louise Drive, 18500 De Paul Drive, 18511 Mission View Drive
Distance & Direction	Adjacent to the northeast beyond De Paul Drive
Hydrologic Position	Up-gradient
Databases Listed	RCRA-SQG, FINDS, ECHO, HAZNET (18500 St. Louise Drive) CUPA Listings (four times), UST (18500 De Paul Drive) CUPA Listings (18511 Mission View Drive)
Comments	The adjacent hospital to the northeast was identified in the regulatory database for generating small quantities of hazardous waste on-site. No violations related to these wastes were listed in the regulatory database. In addition, the site was listed for having a UST on-site permitted with Santa Clara County. The size, contents, and age of the UST was not provided. However, based on the lack of a documented release and the lack of violations listed, the review of regulatory agency records was not deemed necessary and these listings are not expected to represent a significant environmental concern. This property is listed as a HAZNET, FINDS and ECHO site in association with the above RCRA listing. No violations or enforcement actions were identified on the EPA websites Envirofacts and ECHO. Based on the nature of this listing and lack of violations, it is not expected to represent a significant environmental concern.

Facility Name	Cochrane 76
Address	1107 Cochrane Road
Distance & Direction	Adjacent to the north beyond Cochrane Road
Hydrologic Position	Cross-gradient
Databases Listed	UST
Comments	The adjacent site to the north, which is now occupied by a fast food restaurant (1039 Cochrane Road), appears to have been historically associated with the address 1107 Cochrane Road. This address was listed for a UST permitted with Santa Clara County under the name Cochrane 76. The size, contents, and age of the UST was not provided. However, based on the lack of a documented release, the review of regulatory agency records was not deemed necessary and this listing is not expected to represent a significant environmental concern.

Facility Name	Green Cleaners
Address	1041 Cochrane Road

Distance & Direction	Adjacent to the northwest beyond Cochrane Road, in the shopping center
Hydrologic Position	Cross-gradient
Databases Listed	EDR Hist Cleaner
Comments	A unit in the adjacent shopping center to the northwest was listed in the regulatory database as Green Cleaners, from 2008 to 2014. However, no documented generation of hazardous waste associated with this dry cleaner was identified in the regulatory database. Based on the relatively short duration of occupancy, the occupancy time period under regulatory oversight, the lack of associated hazardous waste generation, the lack of a documented release, and the inferred direction of groundwater flow, the review of regulatory agency records was not deemed necessary and this listing is not expected to represent a significant environmental concern.

Facility Name	Smart Products Inc
Address	675 Jarvis Avenue
Distance & Direction	Adjacent to the southwestwest beyond the canal and Highway 101
Hydrologic Position	Down-gradient
Databases Listed	CUPA Listings, HAZNET
Comments	This adjacent site was listed in the regulatory database for generating waste oil and storage of hazardous substances. Based on the lack of a documented release, the inferred direction of groundwater flow, and the relative distance from the subject property, the review of regulatory agency records was not deemed necessary and this listing is not expected to represent a significant environmental concern.

Facility Name	USI Manufacturing services Inc.
Address	685 Jarvis Drive A
Distance & Direction	Adjacent to the southwestwest beyond the canal and Highway 101
Hydrologic Position	Down-gradient
Databases Listed	CUPA Listings
Comments	This adjacent site was listed in the regulatory database for generating hazardous wastes on-site. Based on the lack of a documented release, the lack of additional listings, the inferred direction of groundwater flow, and the relative distance from the subject property, the review of regulatory agency records was not deemed necessary and this listing is not expected to represent a significant environmental concern.

Facility Name	No name listed
Address	101 Cochrane Road and 101 at Cochrane Road
Distance & Direction	Presumed to be nearby or adjacent to the northwest
Hydrologic Position	Cross-gradient
Databases Listed	CHMIRS, ERNS

Comments	According to information in the regulatory database, on March 25, 2014, a caller complained that an employee from a nearby restaurant was dumping cooking grease into a storm drain near the restaurant (Sitar Indian Cuisine). It does not appear that any additional investigation was required. Based on the nature of the incident and the location of the incident off-site, the review of regulatory agency records was not deemed necessary and these listings are not expected to represent a significant environmental concern.

5.2 VAPOR MIGRATION

AEI reviewed reasonably ascertainable information for the subject and nearby properties, including a regulatory database, files for nearby release sites, and/or historical documentation, to determine if potential vapor-phase migration concerns may be present which could impact the subject property.

Based on a review of available resources as documented in this report, AEI did not identify significant on-site concerns and/or regulated listings from nearby sites which suggest that a vapor-phase migration concern currently exists at the subject property.

6.0 INTERVIEWS AND USER PROVIDED INFORMATION

6.1 INTERVIEWS

Pursuant to ASTM E1527-13, the following interviews were performed during this assessment in order to obtain information indicating RECs in connection with the subject property.

6.1.1 OWNER AND KEY SITE MANAGER

Relation to Property	Name	Date Interviewed	Method of Contact	Year First Associated w/ Property	Notes
Owner Representative	Mr. Rick Singer	June 4, 2018	In Person	1999	Interviewed; see Interview Summary table below
Key Site Manager	Ms. Laura Phelps	June 4, 2018	In Person	Unknown	Interviewed; see Interview Summary table below

Interview Summary

Question	Owner (Representative) Response/ Comment	Key Site Manager Response/ Comment
Do you have any knowledge of USTs, clarifiers or oil/water separators, sumps, or other subsurface features?	No	No
Do you have any knowledge of previous environmental investigations conducted on site?	No	No
Do you have any knowledge of current or past industrial operations and/or other operations which would involve the use of hazardous substances and/or petroleum products?	No	No
Are you aware of any known plans for site redevelopment or change in site use?	No	No
Are you aware of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property?	No	No
Are you aware of any pending, threatened or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property?	No	No
Are you aware of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?	No	No
Are you aware of any incidents of flooding, leaks, or other water intrusion, and/or complaints related to indoor air quality?	No	No

Question	Owner (Representative) Response/ Comment	Key Site Manager Response/ Comment
Additional information provided:	Mr. Singer explained that future redevelopment of the property is being considered, but no plans are underway and the property will stay as is for the near future.	N/A

6.1.2 Past Owners, Operators, and Occupants

AEI did not attempt to interview past owners, operators, and occupants of the subject property because information from these sources would likely be duplicative of information already obtained from other sources.

6.1.3 Interview with Others

Information obtained during interviews with local government officials is incorporated into the appropriate segments of this section.

6.2 User Provided Information

User provided information is intended to help identify the possibility of RECs in connection with the subject property. According to ASTM E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), certain items should be researched by the prospective landowner or grantee, and the results of such inquiries may be provided to the Environmental Professional. The responsibility for qualifying for LLPs by conducting the inquiries ultimately rests with the User, and providing the information to the Environmental Professional would be prudent if such information is available.

The User Questionnaire was completed by Mr. Rick Singer, representative of the ownership. The following table represents information contained therein.

Question	Response/ Comment
1. Environmental liens that are filed or recorded against the property (40 CFR 312.25) Did a search of recorded land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the property under federal, tribal, state or local law?	No
2. Activity and use limitations that are in place on the property or that have been filed or recorded against the property (40 CFR 312.26(a)(1)(v) and vi)). Did a search of recorded land title records (or judicial records where appropriate) identify any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law?	No

Question	Response / Comment
3. Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28). Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?	No
4. Relationship of the purchase price to the fair market value of the property if it were not contaminated (40 CFR 312.29). Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?	Yes
5. Commonly known or reasonably ascertainable information about the property (40 CFR 312.30). Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example: (a) Do you know the past uses of the property? (b) Do you know of specific chemicals that are present or once were present at the property? (c) Do you know of spills or other chemical releases that have taken place at the property? (d) Do you know of any environmental cleanups that have taken place at the property?	Yes
6. The degree of obviousness of the presence or likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31). Based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property?	No

6.3 Previous Reports and Other Provided Documentation

No prior reports or other relevant documentation in association with the subject property was made available to AEI during the course of this assessment.

6.4 Environmental Lien Search

In accordance with our approved scope of services, an environmental lien search was not performed as part of this assessment.

7.0 SITE RECONNAISSANCE

Site Reconnaissance Date	June 4, 2018
AEI Site Assessor(s)	Elizabeth Scudero
Property Escort(s)/ Relationship(s) to Property	Mr. Rick Singer/Owner Representative Ms. Laura Phelps/Key Site Manager
Units/Areas Observed	AEI was granted access to exterior areas of the property
Area(s) not accessed and reason(s)	Interiors of residences were not accessed. Refer to Section 1.5 for discussion of limiting conditions.
Other Physical Constraints	None

Reconnaissance Findings Summary

Feature	Observed on Subject Property (see Section 7.1)	Observed on Adjacent Property (see Section 7.2)
Regulated Hazardous Substances/Wastes and/or Petroleum Products in Connection with Property Use	✔	
Aboveground/Underground Hazardous Substance or Petroleum Product Storage Tanks (ASTs/USTs)		
Hazardous Substance and Petroleum Product Containers Not in Connection with Property Use		
Unidentified Substance Containers		
Electrical or Mechanical Equipment Likely to Contain Fluids		✔
Interior Stains or Corrosion		
Strong, Pungent, or Noxious Odors		
Pools of Liquid		
Drains, Sumps, and Clarifiers		
Pits, Ponds, and Lagoons	✔	
Stained Soil or Pavement	✔	
Stressed Vegetation		
Solid Waste Disposal or Evidence of Fill Materials		
Waste Water Discharges		
Wells	✔	
Septic Systems	✔	
Biomedical Wastes		
Other	✔	

7.1 SUBJECT PROPERTY RECONNAISSANCE FINDINGS

During the site reconnaissance, AEI observed the items listed in the above Reconnaissance Findings Summary table, which are further discussed below.

7.1.1 Regulated Hazardous Substances/Wastes and/or Petroleum Products in Connection with Property Use

Substance/Waste (size/quantity)	Location	Operations Associated with Material	Disposal Method/ Frequency	Secondary Containment	Staining/ Spills
Propane	Shed on northwest side of property	Unknown	N/A	No	No
WD-40, small containers of maintenance related materials	Shed on northwest side of property	Presumed maintenance related activities	N/A	No	No

AEI observed a small container of propane, WD-40, and other similar maintenance related materials in a storage shed on the northwestern side of the property. No staining associated with these substances was observed. Based on the very small quantities and lack of staining, these substances are not expected to represent a significant environmental concern.

7.1.2 Pits, Ponds, and Lagoons

A stormwater detention pond was observed on the western side of the property. According to Mr. Singer, the owners speculate that the detention pond and associated drain system may have been a project started by the adjacent hospital and the Santa Clara Valley Water District. Mr. Singer speculates that the water project was never completed and the owners have never seen water collect in this area. Based on this information, the detention pond is not expected to represent a significant environmental concern.

7.1.3 Stained Soil and Pavement

An oily stain approximately 4 feet by 4 feet in size was observed on dirt and gravel in a staging area on the northwestern side of the property. The stain appeared to be from parking large equipment used in connection with the tree farm. The stain also appeared to be surficial in nature. Based on the small size and the surficial nature of the staining, it is not expected to represent a significant environmental concern.

7.1.4 Wells

AEI observed three irrigation wells on the subject property. The date of installation and depth of the wells was not provided to AEI. According to Mr. Singer, none of the wells are used for drinking water, and the one occupied residence on the northwestern portion of the property is connected to the municipal water system. No water quality testing results were provided to AEI for review. Based on the nature of use of the wells, the presence of the wells is not expected to represent a significant environmental concern.

7.1.5 Septic Systems

According to Mr. Singer and Ms. Phelps, there are two septic systems located on-site, one for each residence. The septic systems are used for the treatment and disposal of domestic

waste. The exact location of the septic systems was not provided to AEI, and AEI did not observed any features pointing to the location of the septic tanks while on-site. Based on the use of the systems solely for domestic waste, and since no hazardous substances or petroleum products are utilized on site in the residences, the presence of this septic systems is not expected to represent a significant environmental concern.

7.1.6 Other

A wood-lined hole in the ground was observed near the residence on the northwestern side of the subject property. The hole was observed because the cover appeared to have been broken, and the exact size of the feature could not be ascertained. The on-site occupant was interviewed, and he said he was not aware of the use of the feature, but he had checked and nothing was stored or located there. Based on these observations, this feature is not expected to represent a significant environmental concern.

According to an employee on-site, no fertilizers or pesticides are stored on-site. Any fertilizers used in agricultural practices on-site are brought from an off-site storage location. Please refer to Section 3.0 for discussion of current and former agricultural use.

7.2 Adjacent Property Reconnaissance Findings

During the site reconnaissance, AEI observed the items listed in the above Reconnaissance Findings Summary table, which are further discussed below.

7.2.1 Electrical or Mechanical Equipment Likely to Contain Fluids

Toxic PCBs were commonly used historically in electrical equipment such as transformers, fluorescent lamp ballasts, and capacitors. According to United States EPA regulation 40 CFR, Part 761, there are three categories for classifying such equipment: <50 ppm of PCBs is considered "Non-PCB"; between 50 and 500 ppm is considered "PCB-Contaminated"; and >500 ppm is considered "PCB-Containing". Pursuant to 15 U.S.C. 2605(e)(2)(A), the manufacture, process, or distribution in commerce or use of any polychlorinated biphenyl in any manner other than in a totally enclosed manner was prohibited after January 1, 1977.

Transformers

The management of potential PCB-containing transformers is the responsibility of the local utility or the transformer owner. Actual material samples need to be collected to determine if transformers are PCB-containing.

Several pole-mounted and pad-mounted transformers were observed on the adjacent sites during the site reconnaissance. No spills, staining, or leaks were observed on or around the transformers. Based on the good condition of the equipment, the transformers are not expected to represent a significant environmental concern.

8.0 NON-ASTM SERVICES

8.1 Asbestos-Containing Building Materials

Asbestos is the name for a group of naturally occurring silicate minerals that can be separated into fibers. The fibers are strong, durable, and resistant to heat and fire. They are also long, thin and flexible, so they can even be woven into cloth. Because of these qualities, asbestos has been used in thousands of consumer, industrial, maritime, automotive, scientific and building products. During the 20th century, some 30 million tons of asbestos have been used in industrial sites, homes, schools, shipyards and commercial buildings in the United States. Commercial use of ACM began in the early 1900's and peaked in the period between 1940 and into the 1970's. Common ACMs include pipe-covering, insulating cement, insulating block, refactory and boiler insulation materials, transite board, fireproofing spray, joint compound, vinyl floor tile, ceiling tile, mastics, roofing products, and duct insulation for HVAC applications. Inhalation of asbestos fibers can result in deleterious health effects.

The potential for ACM was evaluated based the USEPA Guidance Document: Managing Asbestos in Place - A Building Owner's Guide to Operations and Maintenance Programs for Asbestos-Containing Materials (the Green Book). In 1973 the NESHAPS banned the use of most spray-applied surfacing ACM, specifically asbestos containing spray-on fireproofing and insulation. Subsequent revisions to this regulation in 1975 and 1978 effectively eliminated the use of friable pre-molded pipe, boiler, turbine, and duct insulation; and the spray application of friable asbestos-containing materials for all uses in buildings. In 1989 the EPA issued regulations to ban some asbestos-containing products and phase out most others over a multi-year period. The "Ban and Phase-Down" rule was challenged in court and the regulation remanded to the agency. As a result, any asbestos-containing products then "in commerce" would not be banned. Those not in commerce would be banned. Those materials "banned" could not be sold. It did not affect such materials already installed, or in use. Most US firms voluntarily ceased production of asbestos containing building materials not covered by the aforementioned Federal bans by the mid-1980's. In 1994, the OSHA determined that employers and building owners are required to treat installed thermal system installation and sprayed on and troweled-on surfacing materials, as well as vinyl or asphalt flooring material, as ACM in buildings constructed no later than 1980 until tested by laboratory analysis to prove otherwise.

The information below is for general informational purposes only and does not constitute an asbestos survey. In addition, the information is not intended to comply with federal, state or local regulations in regards to ACM.

Due to the age of the subject property buildings, there is a potential that ACMs are present. A limited list of typical suspect ACMs is included in the following table:

Material Type	Location
Plaster (acoustical and smooth)	Walls and ceilings
Ceiling tile	Ceiling systems
Thermal systems insulations, packings, and gaskets	Heating systems, cooling systems, domestic and heating and cooling piping, ductwork, and other equipment
Floor tile and associate mastics, flooring felts, and papers (under hardwood/other)	Floors
Vinyl sheet flooring and adhesives	Floors
Cove base and associated mastics	Walls
Ceramic tile adhesives and grouts	Walls, floors, and ceilings
All adhesives	Mirrors, wall coverings, construction, etc.
Grout and caulking	Windows and doors
Gypsum board, tape, and joint compound	Wall and ceiling systems
Insulation materials	Walls, ceilings, and attic spaces
Roofing materials (felts, rolled, shingle, flashings, adhesives, tar, and insulations)	Roof and parapet wall systems
Brick and block, mortars	Walls

According to Mr. Singer, demolition of the subject property buildings may be planned for the near future. Regardless of building construction date, the EPA's NESHAP requires that a thorough asbestos survey be performed prior to demolition or renovation activities that may disturb ACMs. This requirement may be enforced by federal, state and local regulatory agencies, and specifies that all suspect ACMs be sampled to determine the presence or absence of asbestos prior to any renovation or demolition activities which may disturb them to prevent potential exposure to workers, building occupants, and the environment. Similarly, OSHA regulations require that specific work practices be implemented when handling construction materials and debris that contain asbestos and/or lead-containing materials.

8.2 Lead-Based Paint

LBP is defined as any paint, varnish, stain, or other applied coating that has ≥1 mg/cm² (5,000 µg/g or 5,000 ppm) or more of lead by federal guidelines; state and local definitions may differ from the federal definitions in amounts ranging from 0.5 mg/cm² to 2.0 mg/cm². Section 1017 of the Housing and Urban Development (HUD) Guidelines, Residential Lead-Based Paint Hazard Reduction Act of 1992, otherwise known as "Title X", defines a LBP hazard as "any condition that causes exposure to lead that would result in adverse human health effects" resulting from lead-contaminated dust, bare, lead-contaminated soil, and/or lead-contaminated paint that is deteriorated or present on accessible, friction, or impact surfaces. Therefore, under Title X, intact LBP on most walls and ceilings would not be considered a "hazard", although the paint should be maintained and its condition monitored to ensure that it does not deteriorate and become a hazard. Additionally, Section 1018 of this law directed HUD and EPA to require the disclosure of known information on LBP and LBP hazards before the sale or lease of most housing built before 1978. Most private housing, public housing, or federally owned or subsidized housing is affected by this rule.

Under OSHA, LCP is defined as any paint with any detectable amount of lead present in it. Therefore, all LBP is considered LCP. Conversely, LCP may not meet the criteria to be considered LBP in accordance with HUD guidelines or some states' definition of LBP.

It is important to note that LCP may create a lead hazard when being removed. The condition of these materials must be monitored when they are being disturbed. In the event LCP is subject to abrading, sanding, torching, and/or cutting during demolition or renovation activities, there may be regulatory issues that must be addressed.

The information below is for general informational purposes only and does not constitute a lead hazard evaluation. In addition, the information is not intended to comply with federal, state, or local regulations in regards to LBP.

In buildings constructed after 1978, it is unlikely that LBP is present; however, some paints utilized after 1978 will be LCP under OSHA. Structures built prior to 1978 and especially prior to the 1960s should be expected to contain LBP.

Due to the age of the subject property buildings, there is a potential that LBP is present. AEI understands that demolition activities of the subject property buildings may be planned for the near future. AEI recommends that the property owner consult with a certified Lead Risk Assessor to determine options for control of possible LBP hazards. Stringent local and State regulations may apply to LBP in association with building demolition/renovations and worker/ occupant protection. It should be noted that construction activities that disturb materials or paints containing any amount of lead may be subject to certain requirements of the OSHA lead standard contained in 29 CFR 1910.1025 and 1926.62.

8.3 Radon

Radon is a naturally-occurring, odorless, and invisible gas. Natural radon levels vary and are closely related to geologic formations. Radon may enter buildings through basement sumps or other openings.

The United States EPA has prepared a map to assist National, State, and local organizations to target their resources and to implement radon-resistant building codes. The map divides the country into three radon zones, with Zone 1 being those areas with the average predicted indoor radon concentration in residential dwellings exceeding the EPA Action Limit of 4.0 pCi/L. It is important to note that the EPA has found homes with elevated levels of radon in all three zones, and the EPA recommends site specific testing in order to determine radon levels at a specific location. However, the map does give a valuable indication of the propensity of radon gas accumulation in structures.

Radon sampling was not requested as part of this assessment. According to the US EPA, the radon zone level for the area is Zone 2, which has a predicted average indoor screening level between 2 pCi/L and 4 pCi/L, equal to or below the action level of 4 pCi/L set forth by the US EPA.

8.4 Mold / Indoor Air Quality Issues

AEI was not granted access to the interior of the subject property buildings. Consequently, mold was not addressed as part of this assessment.

9.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONALS

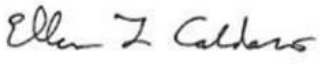
I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in §312.10 of 40 CFR Part 312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Prepared By:

Elizabeth Scudero
Project Manager

Reviewed By:



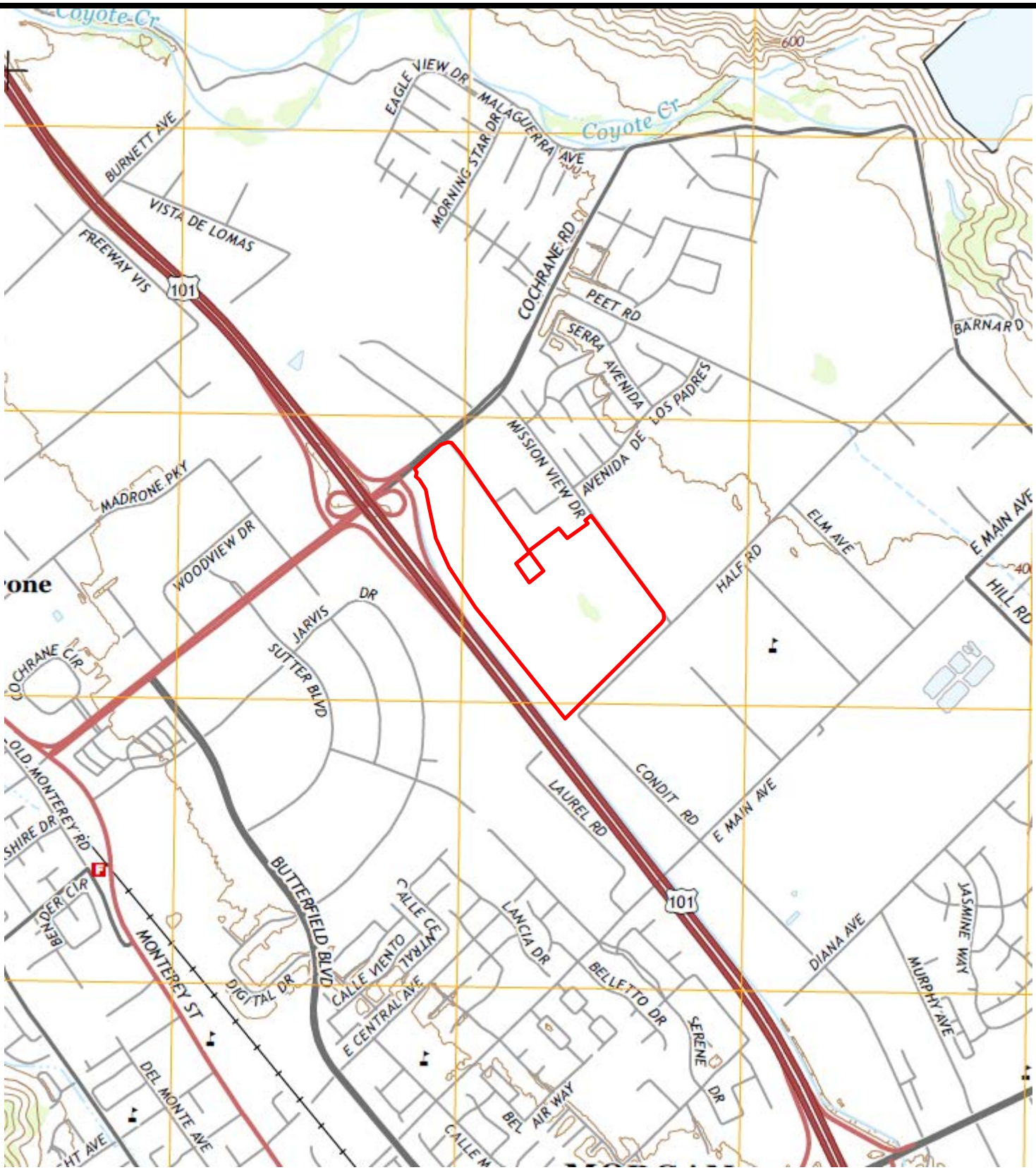
Ellen Caldaro
Senior Author

10.0 REFERENCES

Item	Date(s)	Source
Soils Information	Accessed June 2018	USDA Web Soil Survey http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx
Topographic Map	202015	USGS, Morgan Hill
Depth to Groundwater Information	Obtained June 2018	
Aerial Photographs	1939-2016 (non-inclusive)	EDR
Sanborn Map Report/Search	May 16, 2018	EDR
City Directories	1975-2014 (non-inclusive)	EDR
Environmental Health Department/ State Environmental Agency	May 17, 2018	Santa Clara County Consumer and Environmental Protection Agency
Fire Department	May 17, 2018	Santa Clara County Fire Department
Building Department	May 17, 2018	Morgan Hill Building Department
Planning Department	May 17, 2018	Morgan Hill Planning Department
Assessor's Information and Parcel Map	May 17, 2018	Santa Clara County Assessor's Office
Other Agencies Searched	May 17, 2018	SWRCB Geotracker, DTSC HWTS, and DTSC Envirostor databases, Bay Area Air Quality Management Distirct
Oil and Gas Wells	June 5, 2018	California Division of Oil, Gas, and Geothermal Resources
Oil and Gas Pipelines	June 5, 2018	NPMS Public Map Viewer https://www.npms.phmsa.dot.gov/PublicViewer/composite.jsf
Regulatory Database Report	May 16, 2018	EDR
Interview with Owner	June 4, 2018	Mr. Rick Singer
Interview with Key Site Manager	June 4, 2018	Ms. Laura Phelps
Radon Zone Information	1993	US EPA Map of Radon Zones https://www.epa.gov/radon

APPENDIX A

FIGURES



Legend
Approximate Property Boundary
Source: USGS Topographic Map *Morgan Hill, California* (2015)

N

Figure 1: TOPOGRAPHIC MAP

1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, California 95037
Project Number: 388872

AEI Consultants

Legend

Estimated Groundwater Flow Direction

Approximate Property Boundary

Listed in Environmental Database Report *

Santa Clara Valley Water District Staging Area

Well

Residence with Septic

Detention Pond (unfinished)

N

Figure 2: SITE MAP

1040-1045 Cochrane Road and 1065-1105 Half Road, Morgan Hill, California 95037

Project Number: 388872

AEI Consultants

APPENDIX B

PROPERTY PHOTOGRAPHS

1. View of the subject property from across Cochrane Road, faicng south

2. View of the subject property from the end of Half Road, facing north

3. View of the subject property from the intersection of Half Road and Mission View Drive, facing northwest

4. View of the hay field on the subject property, facing east

5. View of the southeastern side of the subject property, facing southwest

6. View of a water well on the subject property

7. View of another well on the subject property

8. View of the Santa Clara Valley Water District staging area on the subject property

9. View of the subject property, facing northwest

10. View of the unfinished detention pond on the western portion of the subject

property

11. View of a draining area on the western side of the subject property

12. View of substances observed in a shed on-site.

13. View of a shed on the northwestern side of the property

14. View of an unidentified underground feature on the northwestern side of the subject property

15. View of staining on the northwestern side of the subject property

16. View of the location of the residence and equipment staging on the northwestern side of the subject property

17. View of the tree farm on the subject property

18. View of an unused trailer on the subject property

19. View of the third well and a water holding tank on the subject property.

20. View of the residence on the southeastern portion of the property

21. View of the cherry orchard on the subject property

22. View of the adjacent shopping center to the northwest

23. View of the sign for the adjacent De Paul Health Center, hospital to the northeast

24. View of the orchard adjacent to the northeast

25. View of the agricultural land adjacent to the southeast

26. View of the residence adjacent to the southeast

27. View of the canal and freeway adjacent to the southwest

APPENDIX C

REGULATORY DATABASE

388872
101, 1040 and 1045 Cochrane
Morgan Hill, CA 95037

Inquiry Number: 5296707.2s
May 16, 2018

The EDR Radius Map™ Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

FORM EDP2 ASH

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Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

GeoCheck - Not Requested

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

101, 1040 AND 1045 COCHRANE
MORGAN HILL, CA 95037

COORDINATES

Latitude (North):	37.1504530 - 37° 9' 1.63''
Longitude (West):	121.6463730 - 121° 38' 46.94''
Universal Tranverse Mercator:	Zone 10
UTM X (Meters):	620208.7
UTM Y (Meters):	4112217.0
Elevation:	385 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5640402 MORGAN HILL, CA
Version Date:	2012
Northeast Map:	5640104 MOUNT SIZER, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140609
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
101, 1040 AND 1045 COCHRANE
MORGAN HILL, CA 95037

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1		101 COCHRANE RD.	ERNS		TP
A2		101 COCHRANE ROAD AT	CHMIRS		TP
3	COCHRANE 76	1107 COCHRANE RD	UST	Higher	280, 0.053, NNW
B4	SAINT LOUISE HOSPITA	18500 ST LOUISE DRIV	RCRA-SQG, FINDS, ECHO, HAZNET	Higher	305, 0.058, North
5	PARTY CITY #867	1007 COCHRANE RD	CUPA Listings	Lower	306, 0.058, NW
B6	UNIMED MGMT SVCS SAN	18550 ST LOUISE DR	CUPA Listings	Higher	362, 0.069, North
7	GREEN CLEANERS	1041 COCHRANE RD STE	EDR Hist Cleaner	Higher	407, 0.077, NNW
B8	DE PAUL HEALTH CENTE	18500 DE PAUL DR	CUPA Listings	Higher	453, 0.086, North
B9	SAINT LOUISE HOSPITA	18500 DE PAUL DR	CUPA Listings	Higher	453, 0.086, North
B10	DE PAUL MEDICAL CENT	18500 DE PAUL DR	UST	Higher	453, 0.086, North
C11	PETCO #1329	1019 COCHRANE RD	CUPA Listings, HAZNET	Lower	695, 0.132, NW
C12	STAPLES THE OFFICE S	1023 COCHRANE RD	CUPA Listings, HAZNET	Lower	695, 0.132, NW
13	SAINT LOUISE CANCER	18511 MISSION VIEW D	CUPA Listings	Higher	734, 0.139, North
14	SMART PRODUCTS INC	675 JARVIS AV	CUPA Listings, HAZNET	Lower	738, 0.140, WSW
15	USI MANUFACTURING SE	685 JARVIS DR A	CUPA Listings	Lower	765, 0.145, WSW
D16	LAWRENCE L. VASQUEZ	17825 CASA LN	HIST UST	Higher	786, 0.149, ESE
D17	BERT FINTON	17820 CASA LANE	HIST UST	Higher	787, 0.149, ESE
E18	RUGE RANCH	1320 COCHRANE ROAD	HIST UST	Higher	912, 0.173, North
E19	RUGE RANCH	1320 COCHRANE RD	CUPA Listings	Higher	912, 0.173, North
20	ST. LOUISE HOSPITAL	18500 ST LOUISE DR	UST	Higher	958, 0.181, NNE
F21	GMP PLATING INC	740 JARVIS DR	CUPA Listings	Lower	1171, 0.222, SW
F22	GMP METAL PLATING, I	740 JARVIS DRIVE	RCRA-LQG	Lower	1171, 0.222, SW
F23	ABBOTT LABORATORIES	755 JARVIS DRIVE	CUPA Listings, EMI, WDS, CIWQS	Lower	1217, 0.230, SW
24	HOBBY LOBBY #503	990 COCHRANE RD	CUPA Listings	Lower	1267, 0.240, West
25	XKD CORPORATION	18450 TECHNOLOGY DR	CUPA Listings	Lower	1273, 0.241, WSW
26	FRED PONZINI	17765 LAUREL RD	HIST UST	Lower	1315, 0.249, SSE
27	PHOTOTEK	18450 SUTTER BLVD	RCRA-SQG, ENVIROSTOR, HAZNET	Lower	1785, 0.338, WSW
28	ANRITSU COMPANY	490 JARVIS DRIVE	CUPA Listings, EMI, HIST CORTESE, NPDES, CIWQS	Lower	2135, 0.404, WSW
29	BORELLO PROPERTY - M	PEET ROAD, EAST OF M	US BROWNFIELDS	Higher	2179, 0.413, NNE
30	RYAN PROPERTIES	E. MAIN AVE. & EAST	ENVIROSTOR	Lower	2438, 0.462, SSE
31	BORELLO PROPERTY	PEET ROAD, EAST OF M	ENVIROSTOR, SCH	Higher	2451, 0.464, NNE
32	MADRONE LAND CORPORA	645 COCHRANE ROAD	ENVIROSTOR, CPS-SLIC, DEED, HIST CORTESE	Lower	2972, 0.563, West
33	TENCATE ADVANCE COMP	18410 BUTTERFIELD BL	RCRA-LQG, ENVIROSTOR, WDS	Lower	3142, 0.595, WSW
34	THE ESTATES AT SAN S	PEET ROAD	ENVIROSTOR, VCP	Higher	4354, 0.825, NE
35	BORELLO ST. MARKS PR	COCHRAN ROAD AND SAI	ENVIROSTOR, VCP	Higher	4475, 0.848, NNE
36	DEPRESSURIZED TECHNO	335 COCHRANE CIRCLE	RCRA-SQG, FINDS, ECHO, ICE, HWP	Lower	4651, 0.881, WSW
37	BORELLO PROPERTY	COCHRAN ROAD AND PEE	ENVIROSTOR, VCP	Higher	4674, 0.885, NNE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
101 COCHRANE RD. 101 COCHRANE RD. MORGAN HILL, CA	ERNS NRC Report #: 1077712	N/A
101 COCHRANE ROAD AT 101 COCHRANE ROAD AT MORGAN HILL, CA	CHMIRS OES Incident Number: 4-1782	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

EXECUTIVE SUMMARY

Federal RCRA generators list

RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

LUST ---------- Geotracker's Leaking Underground Fuel Tank Report
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ---------- Statewide SLIC Cases
HIST LUST ---------- HIST LUST - Fuel Leak Site Activity Report

State and tribal registered storage tank lists

FEMA UST ---------- Underground Storage Tank Listing
AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing
VCP ---------- Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ---------- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ---------- Waste Management Unit Database
SWRCY ---------- Recycler Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---------- Open Dump Inventory
IHS OPEN DUMPS ---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register

HIST Cal-Sites ---- Historical Calsites Database
SCH ---- School Property Evaluation Program
CDL ---- Clandestine Drug Labs
Toxic Pits ---- Toxic Pits Cleanup Act Sites
US CDL ---- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

SWEEPS UST ---- SWEEPS UST Listing
CA FID UST ---- Facility Inventory Database

Local Land Records

LIENS ---- Environmental Liens Listing
LIENS 2 ---- CERCLA Lien Information
DEED ---- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
LDS ---- Land Disposal Sites Listing
MCS ---- Military Cleanup Sites Listing
SPILLS 90 ---- SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ---- RCRA - Non Generators / No Longer Regulated
FUDS ---- Formerly Used Defense Sites
DOD ---- Department of Defense Sites
SCRD DRYCLEANERS ---- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---- Financial Assurance Information
EPA WATCH LIST ---- EPA WATCH LIST
2020 COR ACTION ---- 2020 Corrective Action Program List
TSCA ---- Toxic Substances Control Act
TRIS ---- Toxic Chemical Release Inventory System
SSTS ---- Section 7 Tracking Systems
ROD ---- Records Of Decision
RMP ---- Risk Management Plans
RAATS ---- RCRA Administrative Action Tracking System
PRP ---- Potentially Responsible Parties
PADS ---- PCB Activity Database System
ICIS ---- Integrated Compliance Information System
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---- Material Licensing Tracking System
COAL ASH DOE ---- Steam-Electric Plant Operation Data
COAL ASH EPA ---- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---- PCB Transformer Registration Database
RADINFO ---- Radiation Information Database
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---- Incident and Accident Data
CONSENT ---- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---- Indian Reservations
FUSRAP ---- Formerly Utilized Sites Remedial Action Program
UMTRA ---- Uranium Mill Tailings Sites

LEAD SMELTERS Lead Smelter Sites
US AIRS Aerometric Information Retrieval System Facility Subsystem
US MINES Mines Master Index File
ABANDONED MINES Abandoned Mines
FINDS Facility Index System/Facility Registry System
UXO Unexploded Ordnance Sites
ECHO Enforcement & Compliance History Information
DOCKET HWC Hazardous Waste Compliance Docket Listing
FUELS PROGRAM EPA Fuels Program Registered Listing
CA BOND EXP. PLAN Bond Expenditure Plan
Cortese "Cortese" Hazardous Waste & Substances Sites List
DRYCLEANERS Cleaner Facilities
EMI Emissions Inventory Data
ENF Enforcement Action Listing
Financial Assurance Financial Assurance Information Listing
HAZNET Facility and Manifest Data
ICE ICE
HWT Registered Hazardous Waste Transporter Database
MINES Mines Site Location Listing
MWMP Medical Waste Management Program Listing
NPDES NPDES Permits Listing
PEST LIC Pesticide Regulation Licenses Listing
PROC Certified Processors Database
Notify 65 Proposition 65 Records
SAN JOSE HAZMAT Hazardous Material Facilities
UIC UIC Listing
WASTEWATER PITS Oil Wastewater Pits Listing
WDS Waste Discharge System
WIP Well Investigation Program Case List
WELL STIM PROJ Well Stimulation Project (GEOTRACKER)
CIWQS California Integrated Water Quality System
UIC GEO UIC GEO (GEOTRACKER)
PROJECT PROJECT (GEOTRACKER)
PROD WATER PONDS PROD WATER PONDS (GEOTRACKER)
OTHER OIL GAS OTHER OIL & GAS (GEOTRACKER)
NON-CASE INFO NON-CASE INFO (GEOTRACKER)
SAMPLING POINT SAMPLING POINT (GEOTRACKER)
MILITARY PRIV SITES MILITARY PRIV SITES (GEOTRACKER)

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP EDR Proprietary Manufactured Gas Plants
EDR Hist Auto EDR Exclusive Historical Auto Stations

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF Recovered Government Archive Solid Waste Facilities List
RGA LUST Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 12/11/2017 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
GMP METAL PLATING, I	740 JARVIS DRIVE	SW 1/8 - 1/4 (0.222 mi.)	F22	22

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 12/11/2017 has revealed that there is 1 RCRA-SQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SAINT LOUISE HOSPITA	***18500 ST LOUISE DRIV***	***N 0 - 1/8 (0.058 mi.)***	***B4***	***9***

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk

characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 01/30/2018 has revealed that there are 8 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BORELLO PROPERTY Facility Id: 60002240 Status: Active	***PEET ROAD, EAST OF M***	***NNE 1/4 - 1/2 (0.464 mi.)***	***31***	***51***
THE ESTATES AT SAN S Facility Id: 60002246 Status: No Further Action	***PEET ROAD***	***NE 1/2 - 1 (0.825 mi.)***	***34***	***68***
BORELLO ST. MARKS PR Facility Id: 60000323 Status: No Further Action	***COCHRAN ROAD AND SAI***	***NNE 1/2 - 1 (0.848 mi.)***	***35***	***71***
BORELLO PROPERTY Facility Id: 43010033 Status: Certified	***COCHRAN ROAD AND PEE***	***NNE 1/2 - 1 (0.885 mi.)***	***37***	***76***

Lower Elevation	Address	Direction / Distance	Map ID	Page
PHOTOTEK Facility Id: 71003458 Status: Inactive - Needs Evaluation	***18450 SUTTER BLVD***	***WSW 1/4 - 1/2 (0.338 mi.)***	***27***	***31***
RYAN PROPERTIES Facility Id: 43010015 Status: No Further Action	E. MAIN AVE. & EAST	SSE 1/4 - 1/2 (0.462 mi.)	30	50
MADRONE LAND CORPORA Facility Id: 43010016 Status: Refer: RWQCB	***645 COCHRANE ROAD***	***W 1/2 - 1 (0.563 mi.)***	***32***	***56***
TENCATE ADVANCE COMP Facility Id: 71004096 Status: Inactive - Needs Evaluation	***18410 BUTTERFIELD BL***	***WSW 1/2 - 1 (0.595 mi.)***	***33***	***58***

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, has revealed that there are 3 UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
COCHRANE 76 Database: UST, Date of Government Version: 03/12/2018	1107 COCHRANE RD	NNW 0 - 1/8 (0.053 mi.)	3	9
DE PAUL MEDICAL CENT Database: UST, Date of Government Version: 03/12/2018	18500 DE PAUL DR	N 0 - 1/8 (0.086 mi.)	B10	15
ST. LOUISE HOSPITAL Database: UST, Date of Government Version: 03/12/2018	18500 ST LOUISE DR	NNE 1/8 - 1/4 (0.181 mi.)	20	21

Facility Id: 85

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: The EPA's listing of Brownfields properties from the Cleanups in My Community program, which provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

A review of the US BROWNFIELDS list, as provided by EDR, and dated 01/19/2018 has revealed that there is 1 US BROWNFIELDS site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
BORELLO PROPERTY - M	PEET ROAD, EAST OF M	NNE 1/4 - 1/2 (0.413 mi.)	29	47

Local Lists of Registered Storage Tanks

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 4 HIST UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
LAWRENCE L. VASQUEZ Facility Id: 00000034979	17825 CASA LN	ESE 1/8 - 1/4 (0.149 mi.)	D16	19
BERT FINTON Facility Id: 00000035061	17820 CASA LANE	ESE 1/8 - 1/4 (0.149 mi.)	D17	19
RUGE RANCH Facility Id: 00000032162	1320 COCHRANE ROAD	N 1/8 - 1/4 (0.173 mi.)	E18	20

Lower Elevation	Address	Direction / Distance	Map ID	Page
FRED PONZINI Facility Id: 00000051188	17765 LAUREL RD	SSE 1/8 - 1/4 (0.249 mi.)	26	30

Other Ascertainable Records

CUPA Listings: A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

A review of the CUPA Listings list, as provided by EDR, has revealed that there are 14 CUPA Listings

sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
UNIMED MGMT SVCS SAN Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	18550 ST LOUISE DR	N 0 - 1/8 (0.069 mi.)	B6	13
DE PAUL HEALTH CENTE Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	18500 DE PAUL DR	N 0 - 1/8 (0.086 mi.)	B8	14
SAINT LOUISE HOSPITA Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	18500 DE PAUL DR	N 0 - 1/8 (0.086 mi.)	B9	14
SAINT LOUISE CANCER Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	18511 MISSION VIEW D	N 1/8 - 1/4 (0.139 mi.)	13	18
RUGE RANCH Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	1320 COCHRANE RD	N 1/8 - 1/4 (0.173 mi.)	E19	21

Lower Elevation	Address	Direction / Distance	Map ID	Page
PARTY CITY #867 Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	1007 COCHRANE RD	NW 0 - 1/8 (0.058 mi.)	5	13
PETCO #1329 Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	***1019 COCHRANE RD***	***NW 1/8 - 1/4 (0.132 mi.)***	***C11***	***15***
STAPLES THE OFFICE S Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	***1023 COCHRANE RD***	***NW 1/8 - 1/4 (0.132 mi.)***	***C12***	***17***
SMART PRODUCTS INC Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	***675 JARVIS AV***	***WSW 1/8 - 1/4 (0.140 mi.)***	***14***	***18***
USI MANUFACTURING SE Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	685 JARVIS DR A	WSW 1/8 - 1/4 (0.145 mi.)	15	19
GMP PLATING INC Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	740 JARVIS DR	SW 1/8 - 1/4 (0.222 mi.)	F21	21
ABBOTT LABORATORIES Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	***755 JARVIS DRIVE***	***SW 1/8 - 1/4 (0.230 mi.)***	***F23***	***26***
HOBBY LOBBY #503 Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	990 COCHRANE RD	W 1/8 - 1/4 (0.240 mi.)	24	29
XKD CORPORATION Database: CUPA SANTA CLARA, Date of Government Version: 02/20/2018	18450 TECHNOLOGY DR	WSW 1/8 - 1/4 (0.241 mi.)	25	29

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there is 1 HIST CORTESE site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ANRITSU COMPANY Reg Id: 2417	***490 JARVIS DRIVE***	***WSW 1/4 - 1/2 (0.404 mi.)***	***28***	***36***

HWP: Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

A review of the HWP list, as provided by EDR, and dated 02/20/2018 has revealed that there is 1 HWP site within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
DEPRESSURIZED TECHNO EPA Id: CAD983665068 Cleanup Status: CLOSED	***335 COCHRANE CIRCLE***	***WSW 1/2 - 1 (0.881 mi.)***	***36***	***73***

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Cleaner: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

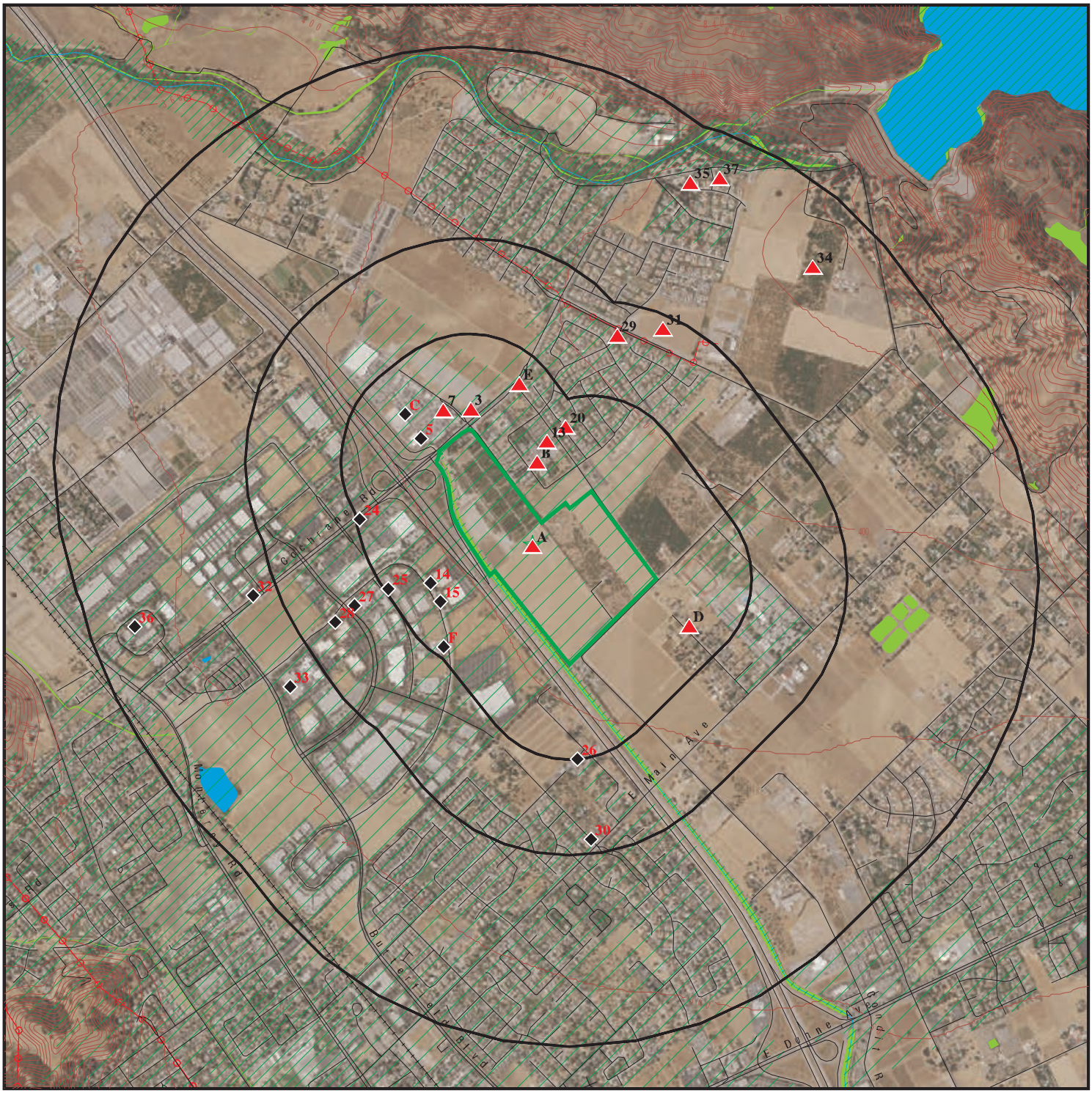
A review of the EDR Hist Cleaner list, as provided by EDR, has revealed that there is 1 EDR Hist Cleaner site within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
GREEN CLEANERS	1041 COCHRANE RD STE	NNW 0 - 1/8 (0.077 mi.)	7	13

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5296707.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Upgradient Area

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	388872	CLIENT:	AEI Consultants
ADDRESS:	101, 1040 and 1045 Cochrane Morgan Hill CA 95037	CONTACT:	Christian Cagonot
LAT/LONG:	37.150453 / 121.646373	INQUIRY #:	5296707.2s
		DATE:	May 16, 2018 5:14 pm

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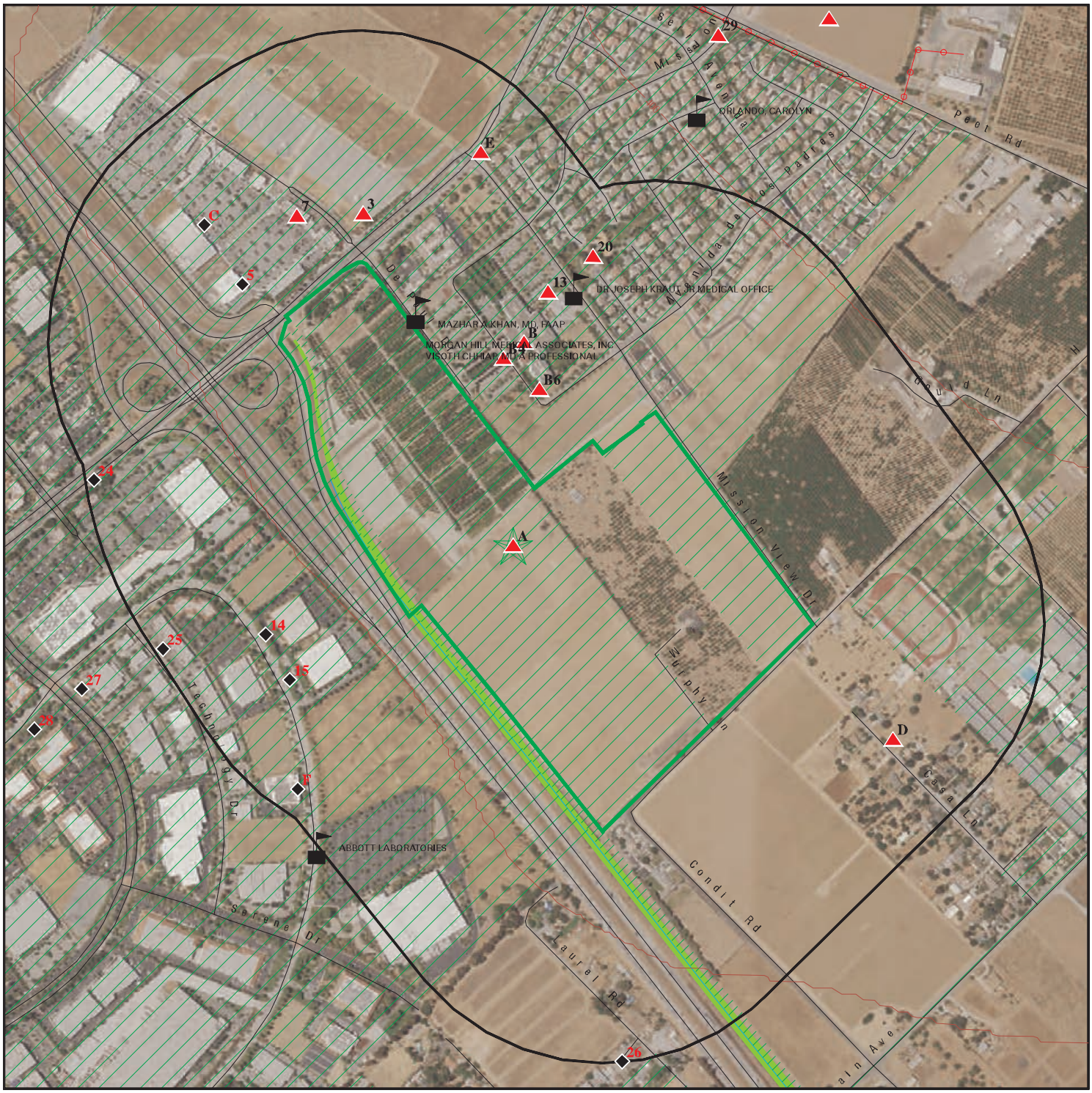
DETAIL MAP - 5296707.2S



0 1/8 1/4 1/2 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 388872	CLIENT: AEI Consultants
ADDRESS: 101, 1040 and 1045 Cochrane Morgan Hill CA 95037	CONTACT: Christian Cagonot INQUIRY #: 5296707.2s
LAT/LONG: 37.150453 / 121.646373	DATE: May 16, 2018 5:17 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	1	NR	NR	NR	1
RCRA-SQG	0.250		1	0	NR	NR	NR	1
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP	1	NR	NR	NR	NR	NR	1
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	3	5	NR	8
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
HIST LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		2	1	NR	NR	NR	3
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	1	NR	NR	1
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		0	0	NR	NR	NR	0
HIST UST	0.250		0	4	NR	NR	NR	4
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP	1	NR	NR	NR	NR	NR	1
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		4	10	NR	NR	NR	14
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	0	1	NR	NR	1
HWP	1.000		0	0	0	1	NR	1
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
SAN JOSE HAZMAT	0.250		0	0	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		0	NR	NR	NR	NR	0
EDR Hist Cleaner	0.125		1	NR	NR	NR	NR	1
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		2	8	16	5	6	0	37

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **ERNS** **2014077712**
Target Property **101 COCHRANE RD.** **N/A**
MORGAN HILL, CA

Site 1 of 2 in cluster A

Actual: 385 ft.

Click this hyperlink while viewing on your computer to access additional ERNS detail in the EDR Site Report.

A2 **CHMIRS** **S116778326**
Target Property **101 COCHRANE ROAD AT MORGAN HILL PLAZA** **N/A**
MORGAN HILL, CA

Site 2 of 2 in cluster A

Actual: 385 ft.

CHMIRS:

OES Incident Number:	4-1782
OES notification:	03/25/2014
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	Unknown
Waterway:	Potential Storm Drain
Spill Site:	Military Base
Cleanup By:	No
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	OTHER
Measure:	Gal(s)
Other:	Food Oil
Date/Time:	1240
Year:	2014
Agency:	NRC

(Continued) **S116778326**

Incident Date:	3/25/2014
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Unknown
Site Type:	Potential Storm Drain
E Date:	Not reported
Substance:	Cooking Oil
Quantity Released:	5
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Dumping
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	Other
Fatals:	No
Comments:	Not reported
Description:	Quoting the NRC Report: "THE CALLER IS REPORTING A DISCHARGE OF COOKING OIL INTO THE SHRUBS AND POTENTIALLY INTO A STORM DRAIN. THE CALLER STATED THAT AN EMPLOYEE FROM A LOCAL RESTAURANT WAS SPOTTED DUMPING THE COOKING OIL INTO THE BUSHES NEARBY THE RESTAURANT."

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3 **COCHRANE 76** **UST** **U004276733**
NNW **1107 COCHRANE RD** **N/A**
< 1/8 **MORGAN HILL, CA 95037**
0.053 mi.
280 ft.

Relative: **Higher**
Actual: **388 ft.**

UST:

Facility ID:	Not reported
Permitting Agency:	Santa Clara County Environmental Health
Latitude:	37.15566
Longitude:	-121.64922

B4 **SAINT LOUISE HOSPITAL & HEALTH CENTER** **RCRA-SQG** **1000321607**
North **18500 ST LOUISE DRIVE** **FINDS** **CAD982401374**
< 1/8 **MORGAN HILL, CA 95037** **ECHO**
0.058 mi. **HAZNET**
305 ft. **Site 1 of 5 in cluster B**

Relative: **Higher**
Actual: **389 ft.**

RCRA-SQG:

Date form received by agency:	12/01/1989
Facility name:	SAINT LOUISE HOSPITAL & HEALTH CENTER
Facility address:	18500 ST LOUISE DRIVE MORGAN HILL, CA 95037
EPA ID:	CAD982401374
Mailing address:	18500 ST.LOUIS DRIVE

SAINT LOUISE HOSPITAL & HEALTH CENTER (Continued) **1000321607**

MORGAN HILL, CA 95037
Contact: ENVIRONMENTAL MANAGER
Contact address: 18500 ST LOUISE DRIVE
MORGAN HILL, CA 95037
Contact country: US
Contact telephone: 408-778-6654
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: SAINT LOUIS HEALTH CTR
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: 415-555-1212
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: 415-555-1212
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No

SAINT LOUISE HOSPITAL & HEALTH CENTER (Continued) **1000321607**

Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002804289

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000321607
Registry ID: 110002804289
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002804289

HAZNET:
envid: 1000321607
Year: 2000
GEPAID: CAD982401374
Contact: KATHY HARLAN/SAFETY OFFICER
Telephone: 4089472500
Mailing Name: Not reported
Mailing Address: 17000 MONTGOMERY ST
Mailing City,St,Zip: SAN FRANCISCO, CA 950370000
Gen County: Not reported
TSD EPA ID: CAD059494310
TSD County: Not reported
Waste Category: Unspecified organic liquid mixture
Disposal Method: Disposal, Other
Tons: 0.51
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Santa Clara

envid: 1000321607
Year: 2000
GEPAID: CAD982401374
Contact: KATHY HARLAN/SAFETY OFFICER
Telephone: 4089472500
Mailing Name: Not reported
Mailing Address: 17000 MONTGOMERY ST
Mailing City,St,Zip: SAN FRANCISCO, CA 950370000
Gen County: Not reported
TSD EPA ID: CAL000115947
TSD County: Not reported
Waste Category: Metal sludge (Alkaline solution (pH >= 12.5) with metals)

SAINT LOUISE HOSPITAL & HEALTH CENTER (Continued) **1000321607**

Disposal Method: Recycler
Tons: 0
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Santa Clara

envid: 1000321607
Year: 2000
GEPAID: CAD982401374
Contact: KATHY HARLAN/SAFETY OFFICER
Telephone: 4089472500
Mailing Name: Not reported
Mailing Address: 17000 MONTGOMERY ST
Mailing City,St,Zip: SAN FRANCISCO, CA 950370000
Gen County: Not reported
TSD EPA ID: CAL000115947
TSD County: Not reported
Waste Category: Photochemicals/photoprocessing waste
Disposal Method: Recycler
Tons: 0.05
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Santa Clara

envid: 1000321607
Year: 1999
GEPAID: CAD982401374
Contact: CATHOLIC HEALTHCARE WEST
Telephone: 4154385500
Mailing Name: Not reported
Mailing Address: 18500 SAINT LOUISE DR
Mailing City,St,Zip: MORGAN HILL, CA 950372900
Gen County: Not reported
TSD EPA ID: CAD059494310
TSD County: Not reported
Waste Category: Unspecified organic liquid mixture
Disposal Method: Disposal, Other
Tons: .7714
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Santa Clara

envid: 1000321607
Year: 1999
GEPAID: CAD982401374
Contact: CATHOLIC HEALTHCARE WEST
Telephone: 4154385500
Mailing Name: Not reported
Mailing Address: 18500 SAINT LOUISE DR
Mailing City,St,Zip: MORGAN HILL, CA 950372900
Gen County: Not reported
TSD EPA ID: CAD059494310
TSD County: Not reported
Waste Category: Waste oil and mixed oil
Disposal Method: Disposal, Other
Tons: .0083
Cat Decode: Not reported

SAINT LOUISE HOSPITAL & HEALTH CENTER (Continued) **1000321607**

Method Decode: Not reported
Facility County: Santa Clara

Click this hyperlink while viewing on your computer to access
32 additional CA_HAZNET: record(s) in the EDR Site Report.

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5 **PARTY CITY #867** **CUPA Listings** **S121287937**
NW **1007 COCHRANE RD** **N/A**
< 1/8 **MORGAN HILL, CA 95037**
0.058 mi.
306 ft.

Relative: CUPA SANTA CLARA:
Lower
Actual: Region: SANTA CLARA
383 ft. PE#: Not reported
Program Description: HMBP FACILITY, 1-3 CHEMICALS
Latitude: 37.1544753
Longitude: -121.6519261
Record ID: PR0428636
Facility ID: FA0285853

Region: SANTA CLARA
PE#: 2202
Program Description: GENERATES < 100 KG/YR
Latitude: 37.1544753
Longitude: -121.6519261
Record ID: PR0428637
Facility ID: FA0285853

B6 **UNIMED MGMT SVCS SAN JOSE INC** **CUPA Listings** **S121471749**
North **18550 ST LOUISE DR** **N/A**
< 1/8 **MORGAN HILL, CA 95037**
0.069 mi.
362 ft. **Site 2 of 5 in cluster B**

Relative: CUPA SANTA CLARA:
Higher
Actual: Region: SANTA CLARA
389 ft. PE#: 2205
Program Description: GENERATES 100 KG YR TO <5 TONS/YR
Latitude: 37.152893
Longitude: -121.645856
Record ID: PR0364252
Facility ID: FA0250984

---

7 **GREEN CLEANERS** **EDR Hist Cleaner** **1018598593**
NNW **1041 COCHRANE RD STE 120** **N/A**
< 1/8 **MORGAN HILL, CA 95037**
0.077 mi.
407 ft.

Relative: EDR Hist Cleaner
Higher

Actual:
386 ft.

Year:	Name:	Type:
2008	GREEN CLEANERS	Laundry And Drycleaner Agents
2009	GREEN CLEANERS	Laundry And Drycleaner Agents

GREEN CLEANERS (Continued) **1018598593**

2010	GREEN CLEANERS	Laundry And Drycleaner Agents
2011	GREEN CLEANERS	Laundry And Drycleaner Agents
2012	GREEN CLEANERS	Laundry And Drycleaner Agents
2013	GREEN CLEANERS	Laundry And Drycleaner Agents
2014	GREEN CLEANERS	Laundry And Drycleaner Agents

B8 **DE PAUL HEALTH CENTER** **CUPA Listings** **S112345692**
North **18500 DE PAUL DR** **N/A**
< 1/8 **MORGAN HILL, CA 95037**
0.086 mi.
453 ft. **Site 3 of 5 in cluster B**

Relative: **Higher**

Actual: **390 ft.**

CUPA SANTA CLARA:

Region:	SANTA CLARA
PE#:	2399
Program Description:	UNDERGROUND STORAGE TANK PROGRAM RECORD
Latitude:	37.153293
Longitude:	-121.647494
Record ID:	PR0379115
Facility ID:	FA0258833

Region:	SANTA CLARA
PE#:	Not reported
Program Description:	HMBP FACILITY, 1-3 CHEMICALS
Latitude:	37.153293
Longitude:	-121.647494
Record ID:	PR0379114
Facility ID:	FA0258833

B9 **SAINT LOUISE HOSPITAL** **CUPA Listings** **S121471837**
North **18500 DE PAUL DR** **N/A**
< 1/8 **MORGAN HILL, CA 95037**
0.086 mi.
453 ft. **Site 4 of 5 in cluster B**

Relative: **Higher**

Actual: **390 ft.**

CUPA SANTA CLARA:

Region:	SANTA CLARA
PE#:	2263
Program Description:	CONDITIONALLY EXEMPT (CE)
Latitude:	37.153293
Longitude:	-121.647494
Record ID:	PR0364922
Facility ID:	FA0251300

Region:	SANTA CLARA
PE#:	2206
Program Description:	GENERATES 5 TO <25 TONS/YR
Latitude:	37.153293
Longitude:	-121.647494
Record ID:	PR0315417
Facility ID:	FA0251300

B10 **DE PAUL MEDICAL CENTER** **UST** **U004263321**
North **18500 DE PAUL DR** **N/A**
< 1/8 **MORGAN HILL, CA 95037**
0.086 mi.
453 ft. **Site 5 of 5 in cluster B**

Relative:
Higher

Actual:
390 ft.

UST:
Facility ID: Not reported
Permitting Agency: Santa Clara County Environmental Health
Latitude: 37.15363
Longitude: -121.64616

C11 **PETCO #1329** **CUPA Listings** **S117040454**
NW **1019 COCHRANE RD** **HAZNET** **N/A**
1/8-1/4 **MORGAN HILL, CA 95037**
0.132 mi.
695 ft. **Site 1 of 2 in cluster C**

Relative:
Lower

Actual:
383 ft.

CUPA SANTA CLARA:
Region: SANTA CLARA
PE#: 2202
Program Description: GENERATES < 100 KG/YR
Latitude: 37.1552147
Longitude: -121.6527638
Record ID: PR0416791
Facility ID: FA0275772

HAZNET:
envid: S117040454
Year: 2016
GEPAID: CAL000388137
Contact: AMY EBERSOLE-MARTINEZ
Telephone: 8587615359
Mailing Name: Not reported
Mailing Address: 654 RICHLAND HILLS
Mailing City,St,Zip: SAN ANTONIO, TX 78245
Gen County: Santa Clara
TSD EPA ID: NVD980895338
TSD County: 99
Waste Category: Other inorganic solid waste
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.0005
Cat Decode: Other inorganic solid waste
Method Decode: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Santa Clara

envid: S117040454
Year: 2016
GEPAID: CAL000388137
Contact: AMY EBERSOLE-MARTINEZ
Telephone: 8587615359
Mailing Name: Not reported
Mailing Address: 654 RICHLAND HILLS
Mailing City,St,Zip: SAN ANTONIO, TX 78245
Gen County: Santa Clara
TSD EPA ID: NVD980895338
TSD County: 99

PETCO #1329 (Continued) **S117040454**

Waste Category:	Alkaline solution without metals pH >= 12.5
Disposal Method:	Neutralization Only
Tons:	0.0115
Cat Decode:	Alkaline solution without metals pH >= 12.5
Method Decode:	Neutralization Only
Facility County:	Santa Clara
envid:	S117040454
Year:	2016
GEPAID:	CAL000388137
Contact:	AMY EBERSOLE-MARTINEZ
Telephone:	8587615359
Mailing Name:	Not reported
Mailing Address:	654 RICHLAND HILLS
Mailing City,St,Zip:	SAN ANTONIO, TX 78245
Gen County:	Santa Clara
TSD EPA ID:	CAD980884183
TSD County:	Sacramento
Waste Category:	Off-specification, aged or surplus organics
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.073
Cat Decode:	Off-specification, aged or surplus organics
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Santa Clara
envid:	S117040454
Year:	2016
GEPAID:	CAL000388137
Contact:	AMY EBERSOLE-MARTINEZ
Telephone:	8587615359
Mailing Name:	Not reported
Mailing Address:	654 RICHLAND HILLS
Mailing City,St,Zip:	SAN ANTONIO, TX 78245
Gen County:	Santa Clara
TSD EPA ID:	CAD980884183
TSD County:	Sacramento
Waste Category:	Other inorganic solid waste
Disposal Method:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons:	0.0105
Cat Decode:	Other inorganic solid waste
Method Decode:	Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County:	Santa Clara
envid:	S117040454
Year:	2016
GEPAID:	CAL000388137
Contact:	AMY EBERSOLE-MARTINEZ
Telephone:	8587615359
Mailing Name:	Not reported
Mailing Address:	654 RICHLAND HILLS
Mailing City,St,Zip:	SAN ANTONIO, TX 78245
Gen County:	Santa Clara
TSD EPA ID:	NVD980895338

PETCO #1329 (Continued) **S117040454**

TSD County: 99
Waste Category: Off-specification, aged or surplus organics
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.0045
Cat Decode: Off-specification, aged or surplus organics
Method Decode: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Facility County: Santa Clara

Click this hyperlink while viewing on your computer to access
5 additional CA_HAZNET: record(s) in the EDR Site Report.

C12
NW
1/8-1/4
0.132 mi.
695 ft.

STAPLES THE OFFICE SUPERSTORE #1428 **CUPA Listings** **S118585249**
1023 COCHRANE RD **HAZNET** **N/A**
MORGAN HILL, CA 95037

Site 2 of 2 in cluster C

Relative:
Lower

Actual:
383 ft.

CUPA SANTA CLARA:
Region: SANTA CLARA
PE#: 2240
Program Description: GENERATES < 10 GAL/YR
Latitude: 37.155219
Longitude: -121.6527488
Record ID: PR0423721
Facility ID: FA0282513

HAZNET:
envid: S118585249
Year: 2015
GEPAID: CAL000391767
Contact: KEITH BARROWS
Telephone: 5082531498
Mailing Name: Not reported
Mailing Address: 500 STAPLES DR
Mailing City,St,Zip: FRAMINGHAM, MA 01702
Gen County: Santa Clara
TSD EPA ID: NVD980895338
TSD County: 99
Waste Category: Not reported
Disposal Method: Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.001
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Santa Clara

13
North
1/8-1/4
0.139 mi.
734 ft.

SAINT LOUISE CANCER CARE
18511 MISSION VIEW DR
MORGAN HILL, CA 95037

CUPA Listings **S121471662**
N/A

Relative:
Higher

Actual:
391 ft.

CUPA SANTA CLARA:

Region:	SANTA CLARA
PE#:	2271
Program Description:	SILVER WASTE ONLY <100 KG/MO
Latitude:	37.153618
Longitude:	-121.644661
Record ID:	PR0364072
Facility ID:	FA0250647

14
WSW
1/8-1/4
0.140 mi.
738 ft.

SMART PRODUCTS INC
675 JARVIS AV
MORGAN HILL, CA 95037

CUPA Listings **S113137425**
HAZNET **N/A**

Relative:
Lower

Actual:
378 ft.

CUPA SANTA CLARA:

Region:	SANTA CLARA
PE#:	2201
Program Description:	GENERATES WASTE OIL ONLY
Latitude:	37.147621
Longitude:	-121.650388
Record ID:	PR0377870
Facility ID:	FA0258159

Region:	SANTA CLARA
PE#:	2502
Program Description:	HAZMAT STORAGE FACILITY-MINIMAL STORAGE SITE
Latitude:	37.147621
Longitude:	-121.650388
Record ID:	PR0377871
Facility ID:	FA0258159

HAZNET:

envid:	S113137425
Year:	2005
GEPAID:	CAL000294602
Contact:	ROSS JERNIGAN
Telephone:	4087763035
Mailing Name:	Not reported
Mailing Address:	675 JARVIS DR
Mailing City,St,Zip:	MORGAN HILL, CA 950372830
Gen County:	Not reported
TSD EPA ID:	CAL000161743
TSD County:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Recycler
Tons:	0.2
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Santa Clara

15
WSW
1/8-1/4
0.145 mi.
765 ft.

USI MANUFACTURING SERVICES INC
685 JARVIS DR A
MORGAN HILL, CA 95037

CUPA Listings

S121472375
N/A

Relative:
Lower

Actual:
377 ft.

CUPA SANTA CLARA:

Region:	SANTA CLARA
PE#:	2205
Program Description:	GENERATES 100 KG YR TO <5 TONS/YR
Latitude:	37.147417
Longitude:	-121.650312
Record ID:	PR0369227
Facility ID:	FA0253583

D16
ESE
1/8-1/4
0.149 mi.
786 ft.

LAWRENCE L. VASQUEZ
17825 CASA LN
MORGAN HILL, CA 95037

Site 1 of 2 in cluster D

HIST UST

U001601577
N/A

Relative:
Higher

Actual:
388 ft.

HIST UST:

File Number:	Not reported
URL:	Not reported
Region:	STATE
Facility ID:	00000034979
Facility Type:	Other
Other Type:	FARM
Contact Name:	Not reported
Telephone:	4087799663
Owner Name:	LAWRENCE L. VASQUEZ
Owner Address:	17845 CASA LANE
Owner City,St,Zip:	MORGAN HILL, CA 95037
Total Tanks:	0001
Tank Num:	001
Container Num:	17825
Year Installed:	1962
Tank Capacity:	00000500
Tank Used for:	PRODUCT
Type of Fuel:	PREMIUM
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor

D17
ESE
1/8-1/4
0.149 mi.
787 ft.

BERT FINTON
17820 CASA LANE
MORGAN HILL, CA 95037

Site 2 of 2 in cluster D

HIST UST

U001601515
N/A

Relative:
Higher

Actual:
389 ft.

HIST UST:

File Number:	0002CEBB
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002CEBB.pdf
Region:	STATE
Facility ID:	00000035061
Facility Type:	Other
Other Type:	FARM
Contact Name:	Not reported

BERT FINTON (Continued) **U001601515**

Telephone:	4087793561
Owner Name:	BERT FINTON
Owner Address:	17820 CASA LANE
Owner City,St,Zip:	MORGAN HILL, CA 95037
Total Tanks:	0001
Tank Num:	001
Container Num:	1
Year Installed:	1960
Tank Capacity:	00000350
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	None

Click here for Geo Tracker PDF:

E18 **RUGE RANCH** **HIST UST** **U001601613**
North **1320 COCHRANE ROAD** **N/A**
1/8-1/4 **MORGAN HILL, CA 95037**
0.173 mi.
912 ft. **Site 1 of 2 in cluster E**

Relative: HIST UST:
Higher

Actual: File Number:	00020ABF
393 ft. URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00020ABF.pdf
Region:	STATE
Facility ID:	00000032162
Facility Type:	Other
Other Type:	FARM2
Contact Name:	Not reported
Telephone:	4087793760
Owner Name:	WILLIAM R. RUGE
Owner Address:	1320 COCHRANE ROAD
Owner City,St,Zip:	MORGAN HILL, CA 95037
Total Tanks:	0002
Tank Num:	001
Container Num:	I
Year Installed:	1950
Tank Capacity:	00000550
Tank Used for:	PRODUCT
Type of Fuel:	PREMIUM
Container Construction Thickness:	Not reported
Leak Detection:	Visual
Tank Num:	002
Container Num:	II
Year Installed:	1952
Tank Capacity:	00000350
Tank Used for:	PRODUCT
Type of Fuel:	REGULAR
Container Construction Thickness:	Not reported
Leak Detection:	Visual

Click here for Geo Tracker PDF:

E19 **RUGE RANCH** **CUPA Listings** **S121468847**
North **1320 COCHRANE RD** **N/A**
1/8-1/4 **MORGAN HILL, CA 95037**
0.173 mi.
912 ft. **Site 2 of 2 in cluster E**

Relative: CUPA SANTA CLARA:
Higher
Actual: Region: SANTA CLARA
393 ft. PE#: 2399
Program Description: UNDERGROUND STORAGE TANK PROGRAM RECORD
Latitude: 37.157533
Longitude: -121.646352
Record ID: PR0308204
Facility ID: FA0203013

---

20 **ST. LOUISE HOSPITAL** **UST** **U003976875**
NNE **18500 ST LOUISE DR** **N/A**
1/8-1/4 **MORGAN HILL, CA 95037**
0.181 mi.
958 ft.

Relative: UST:
Higher
Actual: Facility ID: 85
393 ft. Permitting Agency: CAMPBELL,CUPERTINO,LOS GATOS,MORGAN HILL
Latitude: 37.154975
Longitude: -121.64481

F21 **GMP PLATING INC** **CUPA Listings** **S105726298**
SW **740 JARVIS DR** **N/A**
1/8-1/4 **MORGAN HILL, CA 95037**
0.222 mi.
1171 ft. **Site 1 of 3 in cluster F**

Relative: CUPA SANTA CLARA:
Lower
Actual: Region: SANTA CLARA
375 ft. PE#: Not reported
Program Description: GENERATES 50 TO <250 TONS/YR (RCRA LQG)
Latitude: 37.146215
Longitude: -121.650388
Record ID: PR0369484
Facility ID: FA0253699

Region: SANTA CLARA
PE#: 2261
Program Description: PERMIT BY RULE (PBR)
Latitude: 37.146215
Longitude: -121.650388
Record ID: PR0369735
Facility ID: FA0253699

Region: SANTA CLARA
PE#: Not reported
Program Description: HMBP FACILITY, 22+ CHEMICALS
Latitude: 37.146215
Longitude: -121.650388
Record ID: PR0375999
Facility ID: FA0253699

F22
SW
1/8-1/4
0.222 mi.
1171 ft.

GMP METAL PLATING, INC
740 JARVIS DRIVE
MORGAN HILL, CA 95037

Site 2 of 3 in cluster F

RCRA-LQG | **1001959868** / **CAR000065565**

Relative:
Lower

Actual:
375 ft.

RCRA-LQG:

Date form received by agency:	02/18/2016
Facility name:	GMP METAL PLATING, INC
Facility address:	740 JARVIS DRIVE MORGAN HILL, CA 95037
EPA ID:	CAR000065565
Mailing address:	JARVIS DRIVE MORGAN HILL, CA 95037
Contact:	MARTIN GUTIERREZ
Contact address:	JARVIS DRIVE MORGAN HILL, CA 95037
Contact country:	US
Contact telephone:	408-776-0712
Contact email:	INFO@GMPPLATING.COM
EPA Region:	09
Land type:	Private
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	MARTIN GUTIERREZ
Owner/operator address:	Not reported Not reported
Owner/operator country:	Not reported
Owner/operator telephone:	Not reported
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	07/01/2000
Owner/Op end date:	Not reported

Owner/operator name:	MARTIN GUTIERREZ
Owner/operator address:	JARVIS DRIVE MORGAN HILL, CA 95037
Owner/operator country:	US
Owner/operator telephone:	408-776-0712
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private

GMP METAL PLATING, INC (Continued) **1001959868**

Owner/Operator Type: Owner
Owner/Op start date: 07/01/2000
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: 171
. Waste name: Metal sludge (see 121)

. Waste code: 181
. Waste name: Other inorganic solid waste

. Waste code: 221
. Waste name: Waste oil and mixed oil

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

Historical Generators:
Date form received by agency: 03/01/2014
Site name: GMP METAL PLATING INC
Classification: Large Quantity Generator

. Waste code: 171
. Waste name: Metal sludge (see 121)

. Waste code: 181
. Waste name: Other inorganic solid waste

GMP METAL PLATING, INC (Continued) **1001959868**

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

Date form received by agency: 02/24/2012
Site name: GMP METAL PLATING, INC.
Classification: Large Quantity Generator

. Waste code: D006
. Waste name: CADMIUM

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

Date form received by agency: 02/09/2010
Site name: GMP METAL PLATING, INC.
Classification: Large Quantity Generator

. Waste code: D007
. Waste name: CHROMIUM

Date form received by agency: 02/29/2008
Site name: GMP METAL PLATING, INC.
Classification: Large Quantity Generator

. Waste code: D007
. Waste name: CHROMIUM

Date form received by agency: 02/17/2006
Site name: GMP METAL PLATING, INC.
Classification: Large Quantity Generator

. Waste code: 181
. Waste name: Other inorganic solid waste

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: LABP
. Waste name: LAB PACK

GMP METAL PLATING, INC (Continued) **1001959868**

Date form received by agency: 07/01/2004
Site name: GMP METAL PLATING INC.
Classification: Large Quantity Generator

. Waste code: D007
. Waste name: CHROMIUM

Date form received by agency: 02/02/2000
Site name: GMP INC
Classification: Large Quantity Generator

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

Biennial Reports:

Last Biennial Reporting Year: 2017

Annual Waste Handled:
Waste code: D006
Waste name: CADMIUM
Amount (Lbs): 2488832

Waste code: D007
Waste name: CHROMIUM
Amount (Lbs): 2488832

Waste code: F006
Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.
Amount (Lbs): 2488832

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 08/05/2015
Date achieved compliance: 09/04/2015
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/05/2015
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported

GMP METAL PLATING, INC (Continued) **1001959868**

Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 08/05/2015
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 09/04/2015
Evaluation lead agency: State

F23 **ABBOTT LABORATORIES** **CUPA Listings** **1001115518**
SW **755 JARVIS DRIVE** **EMI** **N/A**
1/8-1/4 **MORGAN HILL, CA 95037** **WDS**
0.230 mi. **CIWQS**
1217 ft. **Site 3 of 3 in cluster F**

Relative:
Lower

Actual:
375 ft.

CUPA SANTA CLARA:
Region: SANTA CLARA
PE#: Not reported
Program Description: GENERATES 5 TO <25 TONS/YR (RCRA LQG)
Latitude: 37.145907
Longitude: -121.650066
Record ID: PR0340225
Facility ID: FA0230312

EMI:
Year: 1998
County Code: 43
Air Basin: SF
Facility ID: 11213
Air District Name: BA
SIC Code: 3841
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Year: 1999
County Code: 43
Air Basin: SF
Facility ID: 11213
Air District Name: BA
SIC Code: 3841
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

ABBOTT LABORATORIES (Continued) **1001115518**

Year:	2000
County Code:	43
Air Basin:	SF
Facility ID:	11213
Air District Name:	BA
SIC Code:	3841
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2001
County Code:	43
Air Basin:	SF
Facility ID:	11213
Air District Name:	BA
SIC Code:	3841
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2002
County Code:	43
Air Basin:	SF
Facility ID:	11213
Air District Name:	BA
SIC Code:	3841
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2003
County Code:	43
Air Basin:	SF
Facility ID:	11213
Air District Name:	BA
SIC Code:	3841

ABBOTT LABORATORIES (Continued) **1001115518**

Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

WDS:

Facility ID:	Central Coastal 43I018777
Facility Type:	Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status:	Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number:	CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion:	3
Facility Telephone:	4087823484
Facility Contact:	Matt Wolfinger
Agency Name:	HOSPIRA INC
Agency Address:	275 N Field Dr
Agency City,St,Zip:	Lake Forest 60045
Agency Contact:	Dennis Lowry
Agency Telephone:	8479363380
Agency Type:	Private
SIC Code:	3841
SIC Code 2:	Not reported
Primary Waste Type:	Not reported
Primary Waste:	Not reported
Waste Type2:	Not reported
Waste2:	Not reported
Primary Waste Type:	Not reported
Secondary Waste:	Not reported
Secondary Waste Type:	Not reported
Design Flow:	0
Baseline Flow:	0
Reclamation:	Not reported
POTW:	Not reported
Treat To Water:	Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.
Complexity:	Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

ABBOTT LABORATORIES (Continued) **1001115518**

CIWQS:

Agency:	Hospira Inc
Agency Address:	275 N Field Dr, Lake Forest, IL 60045
Place/Project Type:	Industrial - Surgical and Medical Instruments and Apparatus
SIC/NAICS:	3841
Region:	3
Program:	INDSTW
Regulatory Measure Status:	Terminated
Regulatory Measure Type:	Storm water industrial
Order Number:	2014-0057-DWQ
WDID:	3 43I018777
NPDES Number:	CAS000001
Adoption Date:	Not reported
Effective Date:	05/04/2004
Termination Date:	07/05/2012
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	37.14599
Longitude:	-121.65027

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24 **HOBBY LOBBY #503** **CUPA Listings** **S121474963**
West **990 COCHRANE RD** **N/A**
1/8-1/4 **MORGAN HILL, CA 95037**
0.240 mi.
1267 ft.

Relative: **Lower**
Actual: **376 ft.**

CUPA SANTA CLARA:

Region:	SANTA CLARA
PE#:	2202
Program Description:	GENERATES < 100 KG/YR
Latitude:	37.1520481
Longitude:	-121.6537765
Record ID:	PR0430073
Facility ID:	FA0286773

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25 **XKD CORPORATION** **CUPA Listings** **S121473070**
WSW **18450 TECHNOLOGY DR** **N/A**
1/8-1/4 **MORGAN HILL, CA 95037**
0.241 mi.
1273 ft.

Relative: **Lower**
Actual: **375 ft.**

CUPA SANTA CLARA:

Region:	SANTA CLARA
PE#:	2202
Program Description:	GENERATES < 100 KG/YR
Latitude:	37.147277
Longitude:	-121.652059
Record ID:	PR0376450
Facility ID:	FA0257472

26
SSE
1/8-1/4
0.249 mi.
1315 ft.

FRED PONZINI
17765 LAUREL RD
MORGAN HILL, CA 95037

HIST UST **U001601539**
N/A

Relative:
Lower

Actual:
375 ft.

HIST UST:

File Number:	Not reported
URL:	Not reported
Region:	STATE
Facility ID:	00000051188
Facility Type:	Other
Other Type:	Not reported
Contact Name:	GARY F. PONZINI
Telephone:	4087793833
Owner Name:	FRED PONZINI
Owner Address:	17765 LAUREL RD.
Owner City,St,Zip:	MORGAN HILL, CA 95037
Total Tanks:	0005
Tank Num:	001
Container Num:	1
Year Installed:	Not reported
Tank Capacity:	00000350
Tank Used for:	PRODUCT
Type of Fuel:	06
Container Construction Thickness:	Not reported
Leak Detection:	Visual, None
Tank Num:	002
Container Num:	1
Year Installed:	Not reported
Tank Capacity:	00004000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor, None
Tank Num:	003
Container Num:	2
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	PRODUCT
Type of Fuel:	REGULAR
Container Construction Thickness:	Not reported
Leak Detection:	None
Tank Num:	004
Container Num:	3
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	PRODUCT
Type of Fuel:	PREMIUM
Container Construction Thickness:	Not reported
Leak Detection:	None
Tank Num:	005
Container Num:	4
Year Installed:	Not reported

FRED PONZINI (Continued) **U001601539**

Tank Capacity:	00000000
Tank Used for:	PRODUCT
Type of Fuel:	WASTE OIL
Container Construction Thickness:	Not reported
Leak Detection:	None

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27 **PHOTOTEK** **RCRA-SQG** **1001115570**
WSW **18450 SUTTER BLVD** **ENVIROSTOR** **CAR000015065**
1/4-1/2 **MORGAN HILL, CA 95037** **HAZNET**
0.338 mi.
1785 ft.

Relative:
Lower

Actual:
373 ft.

RCRA-SQG:

Date form received by agency:	04/30/2002
Facility name:	PHOTOTEK
Facility address:	18450 SUTTER BLVD MORGAN HILL, CA 95037
EPA ID:	CAR000015065
Mailing address:	307 CONSTITUTION DRIVE, MS MENLO PARK, CA 94025
Contact:	ROBIN A ADAIR
Contact address:	Not reported Not reported
Contact country:	US
Contact telephone:	650-361-3022
Telephone ext.:	3022
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	TYCO ELECTRONICS CORPORATION
Owner/operator address:	Not reported Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	01/01/2002
Owner/Op end date:	Not reported

Owner/operator name:	TYCO ELECTRONICS CORPORATION
Owner/operator address:	Not reported Not reported
Owner/operator country:	US
Owner/operator telephone:	Not reported
Owner/operator email:	Not reported
Owner/operator fax:	Not reported
Owner/operator extension:	Not reported

PHOTOTEK (Continued) **1001115570**

Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 01/01/2002
Owner/Op end date: Not reported

Owner/operator name: JAMES OSTENDORF
Owner/operator address: 2310 LUNDY AVE
SAN JOSE, CA 95131
Owner/operator country: Not reported
Owner/operator telephone: 408-435-5501
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 04/30/2002
Site name: PHOTOTEK
Classification: Large Quantity Generator

. Waste code: 121
. Waste name: Alkaline solution (pH >12.5) with metals (antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc)

. Waste code: 122
. Waste name: Alkaline solution without metals (pH > 12.5)

. Waste code: 132
. Waste name: Aqueous solution w/metals (< restricted levels and see waste code 121 for a list of metals)

. Waste code: 141
. Waste name: Off-specification, aged, or surplus inorganics

. Waste code: 171

PHOTOTEK (Continued) **1001115570**

. Waste name: Metal sludge (see 121)

. Waste code: 181
. Waste name: Other inorganic solid waste

. Waste code: 331
. Waste name: Off-specification, aged, or surplus organics

. Waste code: 791
. Waste name: Liquids with pH < 2

. Waste code: 792
. Waste name: Liquids with pH < 2 with metals

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM; (2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

Date form received by agency: 04/30/2001
Site name: DYNAVISION INC DBA PHOTOTEK
Classification: Large Quantity Generator

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D008
. Waste name: LEAD

. Waste code: F006
. Waste name: WASTEWATER TREATMENT SLUDGES FROM ELECTROPLATING OPERATIONS, EXCEPT FROM THE FOLLOWING PROCESSES: (1) SULFURIC ACID ANODIZING OF ALUMINUM;

PHOTOTEK (Continued) **1001115570**

(2) TIN PLATING ON CARBON STEEL; (3) ZINC PLATING (SEGREGATED BASIS) ON CARBON STEEL; (4) ALUMINUM OR ZINC-ALUMINUM PLATING ON CARBON STEEL; (5) CLEANING/STRIPPING ASSOCIATED WITH TIN, ZINC, AND ALUMINUM PLATING ON CARBON STEEL; AND (6) CHEMICAL ETCHING AND MILLING OF ALUMINUM.

Date form received by agency: 03/04/1999
Site name: AGASIS
Classification: Large Quantity Generator

Violation Status: No violations found

ENVIROSTOR:
Facility ID: 71003458
Status: Inactive - Needs Evaluation
Status Date: Not reported
Site Code: Not reported
Site Type: Tiered Permit
Site Type Detailed: Tiered Permit
Acres: Not reported
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Not reported
Division Branch: Cleanup Berkeley
Assembly: 30
Senate: 17
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 37.14834
Longitude: -121.6543
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAR000015065
Alias Type: EPA Identification Number
Alias Name: 110008062005
Alias Type: EPA (FRS #)
Alias Name: 71003458
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 07/11/2012
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported

PHOTOTEK (Continued) **1001115570**

Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

HAZNET:
envid: 1001115570
Year: 2004
GEPAID: CAR000015065
Contact: JAMES OSTENDOR F
Telephone: 6509486781
Mailing Name: Not reported
Mailing Address: 738 LOYOLA DR
Mailing City,St,Zip: LOS ALTOS, CA 94024
Gen County: Not reported
TSD EPA ID: CAD008302903
TSD County: Not reported
Waste Category: Aqueous solution with total organic residues less than 10 percent
Disposal Method: Transfer Station
Tons: 9.17
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Santa Clara

envid: 1001115570
Year: 2003
GEPAID: CAR000015065
Contact: JAMES OSTENDOR F
Telephone: 6509486781
Mailing Name: Not reported
Mailing Address: 738 LOYOLA DR
Mailing City,St,Zip: LOS ALTOS, CA 94024
Gen County: Not reported
TSD EPA ID: CAT000646117
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: Disposal, Land Fill
Tons: 67.42
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Santa Clara

envid: 1001115570
Year: 2002
GEPAID: CAR000015065
Contact: JAMES OSTENDOR F
Telephone: 6509486781
Mailing Name: Not reported
Mailing Address: 738 LOYOLA DR
Mailing City,St,Zip: LOS ALTOS, CA 94024
Gen County: Not reported
TSD EPA ID: CAT080014079
TSD County: Not reported
Waste Category: Off-specification, aged or surplus organics
Disposal Method: Transfer Station
Tons: 0.58
Cat Decode: Not reported

PHOTOTEK (Continued) **1001115570**

Method Decode: Not reported
Facility County: Santa Clara

envid: 1001115570
Year: 2002
GEPAID: CAR000015065
Contact: JAMES OSTENDOR F
Telephone: 6509486781
Mailing Name: Not reported
Mailing Address: 738 LOYOLA DR
Mailing City,St,Zip: LOS ALTOS, CA 94024
Gen County: Not reported
TSD EPA ID: CAT080014079
TSD County: Not reported
Waste Category: Off-specification, aged or surplus inorganics
Disposal Method: Transfer Station
Tons: 0
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Santa Clara

envid: 1001115570
Year: 2002
GEPAID: CAR000015065
Contact: JAMES OSTENDOR F
Telephone: 6509486781
Mailing Name: Not reported
Mailing Address: 738 LOYOLA DR
Mailing City,St,Zip: LOS ALTOS, CA 94024
Gen County: Not reported
TSD EPA ID: CAD097030993
TSD County: Not reported
Waste Category: Other organic solids
Disposal Method: Disposal, Other
Tons: 0.12
Cat Decode: Not reported
Method Decode: Not reported
Facility County: Santa Clara

Click this hyperlink while viewing on your computer to access
75 additional CA_HAZNET: record(s) in the EDR Site Report.

28
WSW
1/4-1/2
0.404 mi.
2135 ft.

ANRITSU COMPANY
490 JARVIS DRIVE
MORGAN HILL, CA 95037

CUPA Listings **S103661828**
EMI **N/A**
HIST CORTESE
NPDES
CIWQS

Relative:
Lower

Actual:
371 ft.

CUPA SANTA CLARA:
Region: SANTA CLARA
PE#: Not reported
Program Description: HMBP FACILITY, 7-9 CHEMICALS
Latitude: 37.147614
Longitude: -121.655773
Record ID: PR0376001
Facility ID: FA0203263

Region: SANTA CLARA

ANRITSU COMPANY (Continued) **S103661828**

PE#: 2206
Program Description: GENERATES 5 TO <25 TONS/YR
Latitude: 37.147614
Longitude: -121.655773
Record ID: PR0313074
Facility ID: FA0203263

Region: SANTA CLARA
PE#: 2263
Program Description: CONDITIONALLY EXEMPT (CE)
Latitude: 37.147614
Longitude: -121.655773
Record ID: PR0427507
Facility ID: FA0203263

EMI:
Year: 1987
County Code: 43
Air Basin: SF
Facility ID: 2417
Air District Name: BA
SIC Code: 3679
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 2
Reactive Organic Gases Tons/Yr: 1
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Year: 1990
County Code: 43
Air Basin: SF
Facility ID: 2417
Air District Name: BA
SIC Code: 3671
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 2
Reactive Organic Gases Tons/Yr: 2
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Year: 1995
County Code: 43
Air Basin: SF
Facility ID: 2417
Air District Name: BA
SIC Code: 3679
Air District Name: BAY AREA AQMD

ANRITSU COMPANY (Continued) **S103661828**

Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	1996
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3679
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	1997
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3679
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	1998
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3679
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0

ANRITSU COMPANY (Continued) **S103661828**

SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	1999
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2000
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2001
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	4
Reactive Organic Gases Tons/Yr:	2
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2002
County Code:	43

ANRITSU COMPANY (Continued) **S103661828**

Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2003
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2004
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.69
Reactive Organic Gases Tons/Yr:	0.676
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2005
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported

ANRITSU COMPANY (Continued) **S103661828**

Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.246
Reactive Organic Gases Tons/Yr:	.0984
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2006
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.246
Reactive Organic Gases Tons/Yr:	.0984
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2007
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	.246
Reactive Organic Gases Tons/Yr:	.0984
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2008
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.5
Reactive Organic Gases Tons/Yr:	.3488
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0

ANRITSU COMPANY (Continued) **S103661828**

Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Year: 2009
County Code: 43
Air Basin: SF
Facility ID: 2417
Air District Name: BA
SIC Code: 3825
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 2.2149999999999999
Reactive Organic Gases Tons/Yr: 0.63480000000000003
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Year: 2010
County Code: 43
Air Basin: SF
Facility ID: 2417
Air District Name: BA
SIC Code: 3825
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1.7290000000000001
Reactive Organic Gases Tons/Yr: 0.82955319999999999
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Year: 2011
County Code: 43
Air Basin: SF
Facility ID: 2417
Air District Name: BA
SIC Code: 3825
Air District Name: BAY AREA AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1.735
Reactive Organic Gases Tons/Yr: 0.5127274
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

Year: 2012
County Code: 43
Air Basin: SF

ANRITSU COMPANY (Continued) **S103661828**

Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.959
Reactive Organic Gases Tons/Yr:	0.6023274
Carbon Monoxide Emissions Tons/Yr:	0.001
NOX - Oxides of Nitrogen Tons/Yr:	0.005
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2013
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	2.06
Reactive Organic Gases Tons/Yr:	0.6427274
Carbon Monoxide Emissions Tons/Yr:	0.001
NOX - Oxides of Nitrogen Tons/Yr:	0.006
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2014
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1.999577076
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0.002505402
NOX - Oxides of Nitrogen Tons/Yr:	0.014663426
SOX - Oxides of Sulphur Tons/Yr:	2.5976e-005
Particulate Matter Tons/Yr:	0.000543393
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.000521657

Year:	2015
County Code:	43
Air Basin:	SF
Facility ID:	2417
Air District Name:	BA
SIC Code:	3825
Air District Name:	BAY AREA AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported

ANRITSU COMPANY (Continued) **S103661828**

Total Organic Hydrocarbon Gases Tons/Yr:	1.999089753
Reactive Organic Gases Tons/Yr:	0.806548542
Carbon Monoxide Emissions Tons/Yr:	0.001127148
NOX - Oxides of Nitrogen Tons/Yr:	0.006596882
SOX - Oxides of Sulphur Tons/Yr:	1.1686e-005
Particulate Matter Tons/Yr:	0.000244465
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0.000234687

HIST CORTESE:

Region:	CORTESE
Facility County Code:	43
Reg By:	LTNKA
Reg Id:	2417

NPDES:

Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	3
Regulatory Measure Id:	464310
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	3 43NEC001838
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	10/13/2015
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Anritsu Company
Discharge Address:	490 Jarvis Drive
Discharge City:	Morgan Hill
Discharge State:	California
Discharge Zip:	95037
RECEIVED DATE:	Not reported
PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported
OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported

ANRITSU COMPANY (Continued) **S103661828**

DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

Npdes Number:	Not reported
Facility Status:	Not reported
Agency Id:	Not reported
Region:	3
Regulatory Measure Id:	464310
Order No:	Not reported
Regulatory Measure Type:	Industrial
Place Id:	Not reported
WDID:	3 43NEC001838
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
RECEIVED DATE:	02/16/2016
PROCESSED DATE:	10/13/2015
STATUS CODE NAME:	Active

ANRITSU COMPANY (Continued) **S103661828**

STATUS DATE:	02/16/2016
PLACE SIZE:	691732
PLACE SIZE UNIT:	SqFt
FACILITY CONTACT NAME:	Ben Hartshorn
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	408-201-1038
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	ben.hartshorn@anritsu.com
OPERATOR NAME:	Anritsu Company
OPERATOR ADDRESS:	490 Jarvis Drive
OPERATOR CITY:	Morgan Hill
OPERATOR STATE:	California
OPERATOR ZIP:	95037
OPERATOR CONTACT NAME:	Ben Hartshorn
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	408-201-1038
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	ben.hartshorn@anritsu.com
OPERATOR TYPE:	Private Business
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	California
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	N
RECEIVING WATER NAME:	Uvas/Llagas Watershed
CERTIFIER NAME:	Ben Hartshorn
CERTIFIER TITLE:	Facilities Manager
CERTIFICATION DATE:	27-SEP-16
PRIMARY SIC:	3679-Electronic Components, NEC
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

CIWQS:

Agency:	Anritsu Company
Agency Address:	490 Jarvis Drive, Morgan Hill, CA 95037

ANRITSU COMPANY (Continued) **S103661828**

Place/Project Type:	Industrial - Electronic Components, NEC
SIC/NAICS:	3679
Region:	3
Program:	INDSTW
Regulatory Measure Status:	Active
Regulatory Measure Type:	Storm water industrial
Order Number:	2014-0057-DWQ
WDID:	3 43NEC001838
NPDES Number:	CAS000001
Adoption Date:	Not reported
Effective Date:	10/13/2015
Termination Date:	Not reported
Expiration/Review Date:	Not reported
Design Flow:	Not reported
Major/Minor:	Not reported
Complexity:	Not reported
TTWQ:	Not reported
Enforcement Actions within 5 years:	0
Violations within 5 years:	0
Latitude:	37.14722
Longitude:	-121.65572

---

29 **BORELLO PROPERTY - MORGAN HILL USD** **US BROWNFIELDS** **1019321857**
NNE **PEET ROAD, EAST OF MISSION AVENIDA** **N/A**
1/4-1/2 **MORGAN HILL, CA 95037**
0.413 mi.
2179 ft.

Relative:
Higher

Actual:
404 ft.

US BROWNFIELDS:

Property Name:	BORELLO PROPERTY - MORGAN HILL USD
Recipient Name:	California Department of Toxic Substances Control
Grant Type:	Section 128(a) State/Tribal
Property Number:	728-55-15; 728-55-16; 728-55-17
Parcel size:	9
Latitude:	37.1584306
Longitude:	-121.6423629
HCM Label:	Address Matching-House Number
Map Scale:	Not reported
Point of Reference:	Entrance Point of a Facility or Station
Highlights:	Not reported
Datum:	North American Datum of 1983
Acres Property ID:	198121
IC Data Access:	Not reported
Start Date:	Not reported
Redev Completition Date:	Not reported
Completed Date:	Not reported
Acres Cleaned Up:	Not reported
Cleanup Funding:	Not reported
Cleanup Funding Source:	Not reported
Assessment Funding:	15000
Assessment Funding Source:	US EPA - State & Tribal Section 128(a) Funding
Redevelopment Funding:	Not reported
Redev. Funding Source:	Not reported
Redev. Funding Entity Name:	Not reported
Redevelopment Start Date:	Not reported
Assessment Funding Entity:	EPA
Cleanup Funding Entity:	Not reported
Grant Type:	Hazardous

BORELLO PROPERTY - MORGAN HILL USD (Continued) **1019321857**

Accomplishment Type:	Phase II Environmental Assessment
Accomplishment Count:	1
Cooperative Agreement Number:	00T89301
Start Date:	01/21/2016 00:00:00
Ownership Entity:	Private
Completion Date:	05/06/2016 00:00:00
Current Owner:	Lupine Investors, LLC
Did Owner Change:	N
Cleanup Required:	Y
Video Available:	N
Photo Available:	Y
Institutional Controls Required:	U
IC Category Proprietary Controls:	Not reported
IC Cat. Info. Devices:	Not reported
IC Cat. Gov. Controls:	Not reported
IC Cat. Enforcement Permit Tools:	Not reported
IC in place date:	Not reported
IC in place:	N
State/tribal program date:	Not reported
State/tribal program ID:	Not reported
State/tribal NFA date:	Not reported
Air contaminated:	Not reported
Air cleaned:	Not reported
Asbestos found:	Not reported
Asbestos cleaned:	Not reported
Controled substance found:	Not reported
Controled substance cleaned:	Not reported
Drinking water affected:	Not reported
Drinking water cleaned:	Not reported
Groundwater affected:	Not reported
Groundwater cleaned:	Not reported
Lead contaminant found:	Not reported
Lead cleaned up:	Not reported
No media affected:	Not reported
Unknown media affected:	Not reported
Other cleaned up:	Not reported
Other metals found:	Not reported
Other metals cleaned:	Not reported
Other contaminants found:	Not reported
Other contams found description:	Not reported
PAHs found:	Not reported
PAHs cleaned up:	Not reported
PCBs found:	Not reported
PCBs cleaned up:	Not reported
Petro products found:	Not reported
Petro products cleaned:	Not reported
Sediments found:	Not reported
Sediments cleaned:	Not reported
Soil affected:	Y
Soil cleaned up:	Not reported
Surface water cleaned:	Not reported
VOCs found:	Not reported
VOCs cleaned:	Not reported
Cleanup other description:	Not reported
Num. of cleanup and re-dev. jobs:	Not reported
Past use greenspace acreage:	9
Past use residential acreage:	Not reported

BORELLO PROPERTY - MORGAN HILL USD (Continued) **1019321857**

Surface Water:	Not reported
Past use commercial acreage:	Not reported
Past use industrial acreage:	Not reported
Future use greenspace acreage:	Not reported
Future use residential acreage:	Not reported
Future use commercial acreage:	9
Future use industrial acreage:	Not reported
Greenspace acreage and type:	Not reported
Superfund Fed. landowner flag:	Not reported
Arsenic cleaned up:	Not reported
Cadmium cleaned up:	Not reported
Chromium cleaned up:	Not reported
Copper cleaned up:	Not reported
Iron cleaned up:	Not reported
mercury cleaned up:	Not reported
Nickel Cleaned Up:	Not reported
No clean up:	Not reported
Pesticides cleaned up:	Not reported
Selenium cleaned up:	Not reported
SVOCs cleaned up:	Not reported
Unknown clean up:	Not reported
Arsenic contaminant found:	Not reported
Cadmium contaminant found:	Not reported
Chromium contaminant found:	Not reported
Copper contaminant found:	Not reported
Iron contaminant found:	Not reported
Mercury contaminant found:	Not reported
Nickel contaminant found:	Not reported
No contaminant found:	Not reported
Pesticides contaminant found:	Y
Selenium contaminant found:	Not reported
SVOCs contaminant found:	Not reported
Unknown contaminant found:	Not reported
Future Use: Multistory	Not reported
Media affected Bluiding Material:	Not reported
Media affected indoor air:	Not reported
Building material media cleaned up:	Not reported
Indoor air media cleaned up:	Not reported
Unknown media cleaned up:	Not reported
Past Use: Multistory	Not reported
Property Description:	The Site is located at the northeastern corner of the intersection of Peet Road and Mission Avenida in Morgan Hill, California, in the County of Santa Clara. The site was used for agricultural purposes from prior to 1939 until sometime between 1998 and 2005. The site also had three existing and former structures of such an age that building maintenance may have introduced pesticides and/or metals to shallow soil. Recent investigations indicated concentrations of organochlorine pesticide in soil that exceed health risk-based screening levels. The site was previously owned by Mr. Stanly Borello for over 50 years.
Below Poverty Number:	55
Below Poverty Percent:	2.8%
Meidan Income:	24537
Meidan Income Number:	171
Meidan Income Percent:	8.8%
Vacant Housing Number:	17
Vacant Housing Percent:	3.4%
Unemployed Number:	61

BORELLO PROPERTY - MORGAN HILL USD (Continued) **1019321857**

Unemployed Percent: 3.2%

30
SSE
1/4-1/2
0.462 mi.
2438 ft.

RYAN PROPERTIES
E. MAIN AVE. & EAST LANE
MORGAN HILL, CA 95037

ENVIROSTOR **S100351771**
N/A

Relative:
Lower

Actual:
370 ft.

ENVIROSTOR:

Facility ID:	43010015
Status:	No Further Action
Status Date:	07/10/2006
Site Code:	201524
Site Type:	Evaluation
Site Type Detailed:	Evaluation
Acres:	20
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	Denise Tsuji
Division Branch:	Cleanup Berkeley
Assembly:	30
Senate:	17
Special Program:	EPA - PASI
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	37.13876
Longitude:	-121.6430
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	NONE SPECIFIED No Contaminants found
Confirmed COC:	NONE SPECIFIED
Potential Description:	NMA
Alias Name:	RYAN PROPERTIES
Alias Type:	Alternate Name
Alias Name:	201524
Alias Type:	Project Code (Site Code)
Alias Name:	43010015
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	08/13/1996
Comments:	Completed Site Screening. A variety of chemicals were present in non-hazardous levels (>TTLC) : arsenic to 91 ppm, chromium to 62 ppm, lead to 480 ppm, zinc to 190 ppm, and extractable hydrocarbons (motor oil) to 45,000 ppm. Pesticides including DDT and dieldrin are present below soluble limits. The former farm vacant, a large garbage pile, and auto painting wastes were reported on site. The buyer wants the seller to get a signoff from the City who in turn, referred the site to DTSC.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported

RYAN PROPERTIES (Continued) **S100351771**

Completed Document Type:	Site Screening
Completed Date:	01/10/2000
Comments:	Site screening approved by USEPA. No further action required under CERCLA. Post-removal concentrations of contaminants (lead, DDE, DDT, and dieldrin) were below CHHSLs.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

31
NNE
1/4-1/2
0.464 mi.
2451 ft.

BORELLO PROPERTY **ENVIROSTOR** **S118353725**
PEET ROAD, EAST OF MISSION AVENIDA **SCH** **N/A**
MORGAN HILL, CA 95037

Relative:
Higher

Actual:
408 ft.

ENVIROSTOR:

Facility ID:	60002240
Status:	Active
Status Date:	09/21/2015
Site Code:	204285
Site Type:	School Cleanup
Site Type Detailed:	School
Acres:	9
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Mellan Songco
Supervisor:	Jose Salcedo
Division Branch:	Northern California Schools & Santa Susana
Assembly:	, 30
Senate:	, 17
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	37.15869
Longitude:	-121.6402
APN:	72850007
Past Use:	AGRICULTURAL - ORCHARD, AGRICULTURAL - ROW CROPS
Potential COC:	Under Investigation Arsenic Chlordane DDD DDE DDT Lead Naturally Occurring Asbestos (NOA Polychlorinated biphenyls (PCBs Dieldrin
Confirmed COC:	Dieldrin 31001-NO
Potential Description:	SOIL, UE
Alias Name:	72850007
Alias Type:	APN
Alias Name:	202053
Alias Type:	Project Code (Site Code)
Alias Name:	202053-83
Alias Type:	Project Code (Site Code)
Alias Name:	204285
Alias Type:	Project Code (Site Code)

BORELLO PROPERTY (Continued) **S118353725**

Alias Name: 60002240
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: School Cleanup Agreement
Completed Date: 05/25/2016
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Inspections/Visit (Non LUR)
Completed Date: 01/21/2016
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 05/24/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 11/09/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 10/02/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Responsible Agency Review
Completed Date: 11/16/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Application
Completed Date: 09/22/2015
Comments: Application for Targeted Site Investigation.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 05/06/2016
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 10/28/2015
Comments: On October 22, 2015, DTSC received the following documents as background information: Borello Pipeline Study, School Site

BORELLO PROPERTY (Continued) **S118353725**

Constraint Report, MCI Borello Phase II Report and Borello MND_Public Review Version.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Community Profile
Completed Date: 06/29/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 11/16/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 06/30/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 06/30/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 08/04/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 08/04/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: 4.15 Request
Completed Date: 08/30/2017
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

BORELLO PROPERTY (Continued) **S118353725**

Facility ID:	60002240
Site Type:	School Cleanup
Site Type Detail:	School
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	9
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Mellan Songco
Supervisor:	Jose Salcedo
Division Branch:	Northern California Schools & Santa Susana
Site Code:	204285
Assembly:	, 30
Senate:	, 17
Special Program Status:	Not reported
Status:	Active
Status Date:	09/21/2015
Restricted Use:	NO
Funding:	School District
Latitude:	37.15869
Longitude:	-121.6402
APN:	72850007
Past Use:	AGRICULTURAL - ORCHARD, AGRICULTURAL - ROW CROPS
Potential COC:	Under Investigation, Arsenic, Chlordane, DDD, DDE, DDT, Lead, Naturally Occurring Asbestos (NOA, Polychlorinated biphenyls (PCBs, Dieldrin
Confirmed COC:	Dieldrin, 31001-NO
Potential Description:	SOIL, UE
Alias Name:	72850007
Alias Type:	APN
Alias Name:	202053
Alias Type:	Project Code (Site Code)
Alias Name:	202053-83
Alias Type:	Project Code (Site Code)
Alias Name:	204285
Alias Type:	Project Code (Site Code)
Alias Name:	60002240
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	School Cleanup Agreement
Completed Date:	05/25/2016
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Inspections/Visit (Non LUR)
Completed Date:	01/21/2016
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Correspondence
Completed Date:	05/24/2017
Comments:	Not reported

BORELLO PROPERTY (Continued) **S118353725**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 11/09/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Correspondence
Completed Date: 10/02/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Responsible Agency Review
Completed Date: 11/16/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Application
Completed Date: 09/22/2015
Comments: Application for Targeted Site Investigation.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 05/06/2016
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 10/28/2015
Comments: On October 22, 2015, DTSC received the following documents as background information: Borello Pipeline Study, School Site Constraint Report, MCI Borello Phase II Report and Borello MND_Public Review Version.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Community Profile
Completed Date: 06/29/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 11/16/2017
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 06/30/2017
Comments: Not reported

BORELLO PROPERTY (Continued) **S118353725**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Public Notice
Completed Date:	06/30/2017
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Other Report
Completed Date:	08/04/2017
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Other Report
Completed Date:	08/04/2017
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	4.15 Request
Completed Date:	08/30/2017
Comments:	Not reported
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

32
West
1/2-1
0.563 mi.
2972 ft.

MADRONE LAND CORPORATION
645 COCHRANE ROAD
MORGAN HILL, CA 95037

ENVIROSTOR **S101482285**
CPS-SLIC **N/A**
DEED
HIST CORTESE

Relative:
Lower

Actual:
366 ft.

ENVIROSTOR:

Facility ID:	43010016
Status:	Refer: RWQCB
Status Date:	08/21/1996
Site Code:	Not reported
Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Rick Jones
Supervisor:	Hansen Pang
Division Branch:	Cleanup Berkeley
Assembly:	30
Senate:	17
Special Program:	Not reported
Restricted Use:	NO

MADRONE LAND CORPORATION (Continued) **S101482285**

Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 37.15062
Longitude: -121.6562
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: * WASTE OIL & MIXED OIL Lead
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: MADRONE LAND CORP./SAN JOSE TRAP & SKEET
Alias Type: Alternate Name
Alias Name: 43010016
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 11/10/1992
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

CPS-SLIC:
Region: STATE
Facility Status: **Completed - Case Closed**
Status Date: 08/09/1995
Global Id: SL20274892
Lead Agency: SAN FRANCISCO BAY RWQCB (REGION 2)
Lead Agency Case Number: Not reported
Latitude: 37.1292648829132
Longitude: -121.641437342297
Case Type: Cleanup Program Site
Case Worker: UUU
Local Agency: Not reported
RB Case Number: SL20274892
File Location: Not reported
Potential Media Affected: Not reported
Potential Contaminants of Concern: Not reported
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

DEED:
Envirostor ID: SL20274892
Area: Not reported
Sub Area: Not reported
Site Type: SLIC
Status: COMPLETED - CASE CLOSED

MADRONE LAND CORPORATION (Continued) **S101482285**

Agency: SWRCB
Covenant Uploaded: Y
Deed Date(s): 10/02/2001
File Name: Geotracker Land Use/Deed Restrictions

HIST CORTESE:
Region: CORTESE
Facility County Code: 43
Reg By: CALSI
Reg Id: 43010016

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33 TENCATE ADVANCE COMPOSITES **RCRA-LQG 1001959809**
WSW 18410 BUTTERFIELD BLVD. **ENVIROSTOR CAR000064659**
1/2-1 MORGAN HILL, CA 95037 **WDS**
0.595 mi.
3142 ft.

Relative: Lower

Actual: 364 ft.

RCRA-LQG:
Date form received by agency: 02/24/2016
Facility name: TENCATE ADVANCE COMPOSITES
Facility address: 18410 BUTTERFIELD BLVD.
MORGAN HILL, CA 95037
EPA ID: CAR000064659
Mailing address: BUTTERFIELD BLVD.
MORGAN HILL, CA 95037
Contact: MARTHA ESPITIA-PENA
Contact address: BUTTERFIELD BLVD.
MORGAN HILL, CA 95037
Contact country: US
Contact telephone: 408-465-8574
Contact email: M.ESPITIA-PENA@TCAC-USA.COM
EPA Region: 09
Land type: Private
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:
Owner/operator name: TENCATE ADVANCE COMPOSITES
Owner/operator address: Not reported
Not reported
Owner/operator country: Not reported
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private

TENCATE ADVANCE COMPOSITES (Continued) **1001959809**

Owner/Operator Type: Operator
Owner/Op start date: 01/02/1999
Owner/Op end date: Not reported

Owner/operator name: ALIEN TECHNOLOGY
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 04/01/2000
Owner/Op end date: Not reported

Owner/operator name: ALIEN TECHNOLOGY CORP
Owner/operator address: 18410 BUTTERFIELD BLVD
MORGAN HILL, CA 95037
Owner/operator country: Not reported
Owner/operator telephone: 510-783-1800
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: PARKERS PARTNERS
Owner/operator address: SUTTER BLVD.
MORGAN HILL, CA 95037
Owner/operator country: US
Owner/operator telephone: 408-825-1824
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 06/01/1998
Owner/Op end date: Not reported

Owner/operator name: KIM DEYOUNG
Owner/operator address: 630 S. ROSSMORE AVE.
LOS ANGELES, CA 90005
Owner/operator country: US
Owner/operator telephone: Not reported
Owner/operator email: Not reported
Owner/operator fax: Not reported
Owner/operator extension: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/01/2005
Owner/Op end date: Not reported

TENCATE ADVANCE COMPOSITES (Continued) **1001959809**

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: 141
. Waste name: Off-specification, aged, or surplus inorganics

. Waste code: 181
. Waste name: Other inorganic solid waste

. Waste code: 212
. Waste name: Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)

. Waste code: 214
. Waste name: Unspecified solvent mixture

. Waste code: 331
. Waste name: Off-specification, aged, or surplus organics

. Waste code: 352
. Waste name: Other organic solids

. Waste code: 791
. Waste name: Liquids with pH < 2

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: D004
. Waste name: ARSENIC

. Waste code: D008
. Waste name: LEAD

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

. Waste code: F003

TENCATE ADVANCE COMPOSITES (Continued) **1001959809**

. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: U112
. Waste name: ACETIC ACID, ETHYL ESTER (I) (OR) ETHYL ACETATE (I)

Historical Generators:
Date form received by agency: 07/07/2014
Site name: TENCATE ADVANCED COMPOSITES
Classification: Large Quantity Generator

. Waste code: 141
. Waste name: Off-specification, aged, or surplus inorganics

. Waste code: 181
. Waste name: Other inorganic solid waste

. Waste code: 212
. Waste name: Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)

. Waste code: 272
. Waste name: Polymeric resin waste

. Waste code: 343
. Waste name: Unspecified organic liquid mixture

. Waste code: 352
. Waste name: Other organic solids

. Waste code: 791
. Waste name: Liquids with pH < 2

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D035
. Waste name: METHYL ETHYL KETONE

TENCATE ADVANCE COMPOSITES (Continued) **1001959809**

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F005
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Date form received by agency: 12/08/2006
Site name: ALIEN TECHNOLOGY *D
Classification: Not a generator, verified

Date form received by agency: 02/27/2006
Site name: ALIEN TECHNOLOGY
Classification: Small Quantity Generator

Date form received by agency: 02/27/2006
Site name: ALIEN TECHNOLOGY
Classification: Large Quantity Generator

. Waste code: 122
. Waste name: Alkaline solution without metals (pH > 12.5)

. Waste code: 181
. Waste name: Other inorganic solid waste

. Waste code: 212
. Waste name: Oxygenated solvents (acetone, butanol, ethyl acetate, etc.)

. Waste code: 331
. Waste name: Off-specification, aged, or surplus organics

. Waste code: 551
. Waste name: Laboratory waste chemicals

. Waste code: 791
. Waste name: Liquids with pH < 2

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

TENCATE ADVANCE COMPOSITES (Continued) **1001959809**

. Waste code: D007
. Waste name: CHROMIUM

. Waste code: D011
. Waste name: SILVER

Date form received by agency: 01/20/2000
Site name: ALIEN TECHNOLOGY CORP
Classification: Small Quantity Generator

. Waste code: D000
. Waste name: Not Defined

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D002
. Waste name: CORROSIVE WASTE

. Waste code: D003
. Waste name: REACTIVE WASTE

. Waste code: F003
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NONHALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS, AND A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: F004
. Waste name: THE FOLLOWING SPENT NONHALOGENATED SOLVENTS: CRESOLS, CRESYLIC ACID, AND NITROBENZENE; AND THE STILL BOTTOMS FROM THE RECOVERY OF THESE SOLVENTS; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NONHALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

. Waste code: U134
. Waste name: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

Biennial Reports:

Last Biennial Reporting Year: 2017

Annual Waste Handled:
Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT

TENCATE ADVANCE COMPOSITES (Continued) **1001959809**

WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
Amount (Lbs): 13006

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.
Amount (Lbs): 3646

Waste code: D003
Waste name: A MATERIAL IS CONSIDERED TO BE A REACTIVE HAZARDOUS WASTE IF IT IS NORMALLY UNSTABLE, REACTS VIOLENTLY WITH WATER, GENERATES TOXIC GASES WHEN EXPOSED TO WATER OR CORROSIVE MATERIALS, OR IF IT IS CAPABLE OF DETONATION OR EXPLOSION WHEN EXPOSED TO HEAT OR A FLAME. ONE EXAMPLE OF SUCH WASTE WOULD BY WASTE GUNPOWDER.
Amount (Lbs): 35

Waste code: D004
Waste name: ARSENIC
Amount (Lbs): 406

Waste code: D008
Waste name: LEAD
Amount (Lbs): 406

Waste code: D035
Waste name: METHYL ETHYL KETONE
Amount (Lbs): 3716

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 11185

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 800

Waste code: U112

TENCATE ADVANCE COMPOSITES (Continued) **1001959809**

Waste name: ACETIC ACID ETHYL ESTER (I)
Amount (Lbs): 406

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: Generators - Manifest
Date violation determined: 01/22/2016
Date achieved compliance: Not reported
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 01/22/2016
Date achieved compliance: Not reported
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Records/Reporting
Date violation determined: 01/22/2016
Date achieved compliance: Not reported
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - Pre-transport
Date violation determined: 01/22/2016
Date achieved compliance: Not reported
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported

TENCATE ADVANCE COMPOSITES (Continued) **1001959809**

Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 01/22/2016
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/22/2016
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/22/2016
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Manifest
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/22/2016
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Records/Reporting
Date achieved compliance: Not reported
Evaluation lead agency: State

ENVIROSTOR:
Facility ID: 71004096
Status: Inactive - Needs Evaluation
Status Date: Not reported
Site Code: Not reported
Site Type: Tiered Permit
Site Type Detailed: Tiered Permit
Acres: Not reported
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Not reported
Division Branch: Cleanup Berkeley
Assembly: 30
Senate: 17
Special Program: Not reported
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 37.14513
Longitude: -121.6577
APN: NONE SPECIFIED
Past Use: NONE SPECIFIED
Potential COC: NONE SPECIFIED
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: CAR000064659

TENCATE ADVANCE COMPOSITES (Continued) **1001959809**

Alias Type: EPA Identification Number
Alias Name: 110002932097
Alias Type: EPA (FRS #)
Alias Name: 71004096
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: Not reported
Completed Sub Area Name: Not reported
Completed Document Type: Not reported
Completed Date: Not reported
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

WDS:
Facility ID: Central Coastal 43I015752
Facility Type: Industrial - Facility that treats and/or disposes of liquid or semisolid wastes from any servicing, producing, manufacturing or processing operation of whatever nature, including mining, gravel washing, geothermal operations, air conditioning, ship building and repairing, oil production, storage and disposal operations, water pumping.
Facility Status: Active - Any facility with a continuous or seasonal discharge that is under Waste Discharge Requirements.
NPDES Number: CAS000001 The 1st 2 characters designate the state. The remaining 7 are assigned by the Regional Board
Subregion: 3
Facility Telephone: 4087823915
Facility Contact: Mary Beth Miller
Agency Name: ALIEN TECHNOLOGY CORPORATION
Agency Address: 18410 BUTTERFIELD BOULEVARD
Agency City,St,Zip: MORGAN HILL 95307
Agency Contact: MARY BETH MILLER
Agency Telephone: 4087823915
Agency Type: Private
SIC Code: 0
SIC Code 2: Not reported
Primary Waste Type: Not reported
Primary Waste: Not reported
Waste Type2: Not reported
Waste2: Not reported
Primary Waste Type: Not reported
Secondary Waste: Not reported
Secondary Waste Type: Not reported
Design Flow: 0
Baseline Flow: 0
Reclamation: Not reported
POTW: Not reported

TENCATE ADVANCE COMPOSITES (Continued) **1001959809**

Treat To Water: Minor Threat to Water Quality. A violation of a regional board order should cause a relatively minor impairment of beneficial uses compared to a major or minor threat. Not: All nurds without a TTWQ will be considered a minor threat to water quality unless coded at a higher Level. A Zero (0) may be used to code those NURDS that are found to represent no threat to water quality.

Complexity: Category C - Facilities having no waste treatment systems, such as cooling water dischargers or thosewho must comply through best management practices, facilities with passive waste treatment and disposal systems, such as septic systems with subsurface disposal, or dischargers having waste storage systems with land disposal such as dairy waste ponds.

34
NE
1/2-1
0.825 mi.
4354 ft.

THE ESTATES AT SAN SEBASTIAN - PHASE I **ENVIROSTOR S118353730**
PEET ROAD **VCP N/A**
MORGAN HILL, CA 95037

Relative: Higher

Actual: 426 ft.

ENVIROSTOR:

Facility ID:	60002246
Status:	No Further Action
Status Date:	03/04/2016
Site Code:	202055
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	38.8
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Nicole Yuen
Supervisor:	Mark Piros
Division Branch:	Cleanup Berkeley
Assembly:	, 30
Senate:	, 17
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	37.16104
Longitude:	-121.6331
APN:	72834026
Past Use:	AGRICULTURAL - ORCHARD, AGRICULTURAL - ROW CROPS
Potential COC:	Chlordane Dieldrin
Confirmed COC:	Chlordane Dieldrin
Potential Description:	SOIL
Alias Name:	72834026
Alias Type:	APN
Alias Name:	202055
Alias Type:	Project Code (Site Code)
Alias Name:	60002246
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Application
Completed Date:	09/22/2015

THE ESTATES AT SAN SEBASTIAN - PHASE I (Continued) **S118353730**

Comments:	Request for Agency Oversight Application
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	03/04/2016
Comments:	DTSC reviewed a Phase I Environmental Site Assessment and risk evaluation reports prepared for the site. Dieldrin from past agricultural use was detected in soil samples collected from across the site and was identified as the primary chemical of potential concern. However, based on the risk evaluation it was concluded that the presence of dieldrin in soil does not pose a human health risk for future residential receptors. Soil was removed at two sampling locations where chlordane was detected at concentrations of 1,110 and 4,800 micrograms per kilogram. Arsenic was detected in soil at concentrations consistent with naturally-occurring background concentrations in Santa Clara County. DTSC concluded that no further action is required at the Site and that the planned residential development is acceptable.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	10/15/2015
Comments:	Voluntary Cleanup Agreement for DTSC to oversee Preliminary Endangerment Assessment (equivalent).
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Correspondence
Completed Date:	10/01/2015
Comments:	Letter sent to project proponent providing notification that DTSC was determined to be the appropriate lead agency.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

VCP:

Facility ID:	60002246
Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	38.8
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Nicole Yuen
Supervisor:	Mark Piros
Division Branch:	Cleanup Berkeley

THE ESTATES AT SAN SEBASTIAN - PHASE I (Continued) **S118353730**

Site Code:	202055
Assembly:	, 30
Senate:	, 17
Special Programs Code:	Not reported
Status:	No Further Action
Status Date:	03/04/2016
Restricted Use:	NO
Funding:	Responsible Party
Lat/Long:	37.16104 / -121.6331
APN:	72834026
Past Use:	AGRICULTURAL - ORCHARD, AGRICULTURAL - ROW CROPS
Potential COC:	30004, 30207
Confirmed COC:	30004,30207
Potential Description:	SOIL
Alias Name:	72834026
Alias Type:	APN
Alias Name:	202055
Alias Type:	Project Code (Site Code)
Alias Name:	60002246
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Application
Completed Date:	09/22/2015
Comments:	Request for Agency Oversight Application

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	03/04/2016
Comments:	DTSC reviewed a Phase I Environmental Site Assessment and risk evaluation reports prepared for the site. Dieldrin from past agricultural use was detected in soil samples collected from across the site and was identified as the primary chemical of potential concern. However, based on the risk evaluation it was concluded that the presence of dieldrin in soil does not pose a human health risk for future residential receptors. Soil was removed at two sampling locations where chlordane was detected at concentrations of 1,110 and 4,800 micrograms per kilogram. Arsenic was detected in soil at concentrations consistent with naturally-occurring background concentrations in Santa Clara County. DTSC concluded that no further action is required at the Site and that the planned residential development is acceptable.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	10/15/2015
Comments:	Voluntary Cleanup Agreement for DTSC to oversee Preliminary Endangerment Assessment (equivalent).

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Correspondence
Completed Date:	10/01/2015
Comments:	Letter sent to project proponent providing notification that DTSC was

THE ESTATES AT SAN SEBASTIAN - PHASE I (Continued) **S118353730**

determined to be the appropriate lead agency.

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

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35 NNE 1/2-1 0.848 mi. 4475 ft. **BORELLO ST. MARKS PROPERTY** **ENVIROSTOR** **S107770194**
COCHRAN ROAD AND SAINT MARKS AVENUE **VCP** **N/A**
MORGAN HILL, CA 95037

Relative: Higher

Actual: 405 ft.

ENVIROSTOR:

Facility ID:	60000323
Status:	No Further Action
Status Date:	09/18/2006
Site Code:	201662
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	13.6
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Allan Fone
Supervisor:	Karen Toth
Division Branch:	Cleanup Berkeley
Assembly:	30
Senate:	17
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	37.16423
Longitude:	-121.6389
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	Chlordane DDD DDE DDT Endrin Dieldrin
Confirmed COC:	Dieldrin Chlordane DDD DDE DDT Endrin
Potential Description:	SOIL
Alias Name:	110033619154
Alias Type:	EPA (FRS #)
Alias Name:	201662
Alias Type:	Project Code (Site Code)
Alias Name:	60000323
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	06/29/2006
Comments:	Not reported

BORELLO ST. MARKS PROPERTY (Continued) **S107770194**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Report
Completed Date:	09/18/2006
Comments:	The site does not appear to pose a threat to human health or the environment under a residential land use scenario. Therefore, DTSC determines that no further action is necessary with respect to investigation and remediation of hazardous substances at the property. If previously unidentified contamination is discovered at the site, additional assessment, investigation and/or cleanup may be required.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	*Voluntary Cleanup Agreement Completion
Completed Date:	09/18/2006
Comments:	Not reported

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

VCP:

Facility ID:	60000323
Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	13.6
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Allan Fone
Supervisor:	Karen Toth
Division Branch:	Cleanup Berkeley
Site Code:	201662
Assembly:	30
Senate:	17
Special Programs Code:	Voluntary Cleanup Program
Status:	No Further Action
Status Date:	09/18/2006
Restricted Use:	NO
Funding:	Responsible Party
Lat/Long:	37.16423 / -121.6389
APN:	NONE SPECIFIED
Past Use:	AGRICULTURAL - ROW CROPS
Potential COC:	30004, 30006, 30007, 30008, 30010, 30207
Confirmed COC:	30207,30004,30006,30007,30008,30010
Potential Description:	SOIL
Alias Name:	110033619154
Alias Type:	EPA (FRS #)

BORELLO ST. MARKS PROPERTY (Continued) **S107770194**

Alias Name: 201662
Alias Type: Project Code (Site Code)
Alias Name: 60000323
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 06/29/2006
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 09/18/2006
Comments: The site does not appear to pose a threat to human health or the environment under a residential land use scenario. Therefore, DTSC determines that no further action is necessary with respect to investigation and remediation of hazardous substances at the property. If previously unidentified contamination is discovered at the site, additional assessment, investigation and/or cleanup may be required.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: *Voluntary Cleanup Agreement Completion
Completed Date: 09/18/2006
Comments: Not reported

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

36
WSW
1/2-1
0.881 mi.
4651 ft.

DEPRESSURIZED TECHNOLOGIES INT **RCRA-SQG** **1000820468**
335 COCHRANE CIRCLE **FINDS** **CAD983665068**
MORGAN HILL, CA 95037 **ECHO**
ICE
HWP

Relative:
Lower

Actual:
357 ft.

RCRA-SQG:
Date form received by agency: 10/12/2000
Facility name: DEPRESSURIZED TECHNOLOGIES INT
Site name: DEPRESSURIZED TECHNOLOGIES INTERNATIONAL
Facility address: 335 COCHRANE CIRCLE
MORGAN HILL, CA 95037-2838
EPA ID: CAD983665068
Contact: WALTER GONZALES
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: 408-776-7816

DEPRESSURIZED TECHNOLOGIES INT (Continued) **1000820468**

Contact email: Not reported
EPA Region: 09
Land type: Private
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: Yes
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 03/04/1999
Site name: DEPRESSURIZED TECHNOLOGIES INTERNATIONAL
Classification: Large Quantity Generator

Date form received by agency: 09/01/1996
Site name: DEPRESSURIZED TECHNOLOGIES INT
Classification: Small Quantity Generator

Date form received by agency: 04/19/1993
Site name: DEPRESSURIZED TECHNOLOGIES INT
Classification: Large Quantity Generator

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: TSD - Container Use and Management
Date violation determined: 03/26/1999
Date achieved compliance: 03/30/1999
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/30/1999
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

DEPRESSURIZED TECHNOLOGIES INT (Continued) **1000820468**

Evaluation Action Summary:
Evaluation date: 01/28/2003
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/26/1999
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: 03/30/1999
Evaluation lead agency: State

FINDS:

Registry ID: 110000785561

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000820468
Registry ID: 110000785561
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110000785561

ICE:
Envirostor ID: 3001585
EPA ID: CAD983665068
Site Type: INSPECTION
Facility Status: No Action

Inspection:
Action Type: Compliance Evaluation Inspection - Standardized Permit
Action Date: 03/26/1999
Violation Class: Minor
RTC Date: 03/30/1999

Action Type: Compliance Evaluation Inspection - Standardized Permit
Action Date: 01/28/2003
Violation Class: No Violations
RTC Date: Not reported

HWP:
EPA Id: CAD983665068
Cleanup Status: CLOSED
Latitude: 37.14720

DEPRESSURIZED TECHNOLOGIES INT (Continued) **1000820468**

Longitude:	-121.6641
Facility Type:	Historical - Non-Operating
Facility Size:	Not reported
Team:	Not reported
Supervisor:	Not reported
Site Code:	200961, 520008
Assembly District:	30
Senate District:	17
Public Information Officer:	Not reported
Public Information Officer:	Not reported

Closure:

EPA Id:	CAD983665068
Facility Type:	Historical - Non-Operating
Unit Names:	Pressurized Gas Tank Stor Unit(DTI-S3)
Event Description:	Closure Final - ISSUE CLOSURE VERIFICATION
Actual Date:	10/11/2002

EPA Id:	CAD983665068
Facility Type:	Historical - Non-Operating
Unit Names:	Pressurized Gas Tank Stor Unit(DTI-S3)
Event Description:	Closure Final - RECEIVE CLOSURE CERTIFICATION
Actual Date:	09/27/2002

Alias:

EPA Id:	CAD983665068
Facility Type:	Historical - Non-Operating
Alias Type:	FRS
Alias:	110000785561

EPA Id:	CAD983665068
Facility Type:	Historical - Non-Operating
Alias Type:	Project Code (Site Code)
Alias:	200961

EPA Id:	CAD983665068
Facility Type:	Historical - Non-Operating
Alias Type:	Project Code (Site Code)
Alias:	520008

37
NNE
1/2-1
0.885 mi.
4674 ft.

BORELLO PROPERTY **ENVIROSTOR** **S106568334**
COCHRAN ROAD AND PEET ROAD **VCP** **N/A**
MORGAN HILL, CA 95037

Relative:
Higher

Actual:
405 ft.

ENVIROSTOR:

Facility ID:	43010033
Status:	Certified
Status Date:	11/03/2017
Site Code:	201563
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	14
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP

BORELLO PROPERTY (Continued) **S106568334**

Program Manager: Nicole Yuen
Supervisor: Mark Piros
Division Branch: Cleanup Berkeley
Assembly: 30
Senate: 17
Special Program: Voluntary Cleanup Program
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 37.15923
Longitude: -121.6406
APN: 72834026, 778-34-3
Past Use: AGRICULTURAL - ORCHARD, AGRICULTURAL - ORCHARD
Potential COC: Toxaphene Dieldrin Dieldrin
Confirmed COC: Toxaphene Dieldrin Dieldrin
Potential Description: SOIL, SOIL
Alias Name: COCHRAN ROAD FARMS
Alias Type: Alternate Name
Alias Name: 72834026
Alias Type: APN
Alias Name: 778-34-3
Alias Type: APN
Alias Name: 110033619145
Alias Type: EPA (FRS #)
Alias Name: 201563
Alias Type: Project Code (Site Code)
Alias Name: 43010033
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Responsible Agency Review
Completed Date: 08/17/2017
Comments: DTSC filed a California Environmental Quality Act (CEQA) Notice of Determination with the State Clearinghouse after the Final Removal Action Workplan was approved on August 17, 2017. DTSC relied on the City of Morgan Hill's Initial Study/Mitigated Negative Declaration and Addendum for the Lupine Annexation and Rezone Project to comply with CEQA.

Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 02/03/2017
Comments: Voluntary Cleanup Agreement between Lupine Investors, LLC and DTSC to oversee the cleanup at the site

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 09/24/2004
Comments: Voluntary Cleanup Agreement (VCA) signed.

Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 11/03/2017

BORELLO PROPERTY (Continued) **S106568334**

Comments:	DTSC certified that all removal actions have been satisfactorily completed in accordance with the Removal Action Workplan approved by DTSC on August 17, 2017.
Completed Area Name:	Altimira Residential Parcels
Completed Sub Area Name:	Not reported
Completed Document Type:	Community Profile
Completed Date:	06/08/2017
Comments:	The community profile summarizes the responses to the community survey conducted by DTSC, includes demographic information regarding the surrounding community, and identifies recommended public participation activities.
Completed Area Name:	Altimira Residential Parcels
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Workplan
Completed Date:	08/17/2017
Comments:	The Final Removal Action Workplan (RAW) identifies excavation of an estimated 6,500 cubic yards of pesticide-impacted soil and off-site disposal at a permitted landfill as the remedy for the Site. Modifications were made in the Final RAW in response to comments on the Draft RAW that were received during the public comment period; the Responsiveness Summary that is included as Appendix E provides responses to the comments and identifies where the modifications were made in the Final RAW.
Completed Area Name:	Altimira Residential Parcels
Completed Sub Area Name:	Not reported
Completed Document Type:	Fact Sheets
Completed Date:	06/14/2017
Comments:	The Community Update announces the public comment period for the Draft Removal Action Workplan, discusses the Site history and environmental investigations, and summarizes the proposed cleanup actions. The Community Update was mailed to the neighboring community at the beginning of the public comment period.
Completed Area Name:	Altimira Residential Parcels
Completed Sub Area Name:	Not reported
Completed Document Type:	Public Notice
Completed Date:	06/13/2017
Comments:	The Public Notice serves as the official notice of the beginning of the public comment period for the Draft Removal Action Workplan and was placed in the Morgan Hill Times on 6/23/2017.
Completed Area Name:	Altimira Residential Parcels
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	10/02/2017
Comments:	Removal Action Workplan implementation was completed with the final round of confirmation sampling that was performed on 10/2/2017.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Work Notice
Completed Date:	08/18/2017
Comments:	Not reported

BORELLO PROPERTY (Continued) **S106568334**

Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 11/02/2017
Comments: Not reported

Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: Pre-HARP Form
Completed Date: 08/29/2017
Comments: Pre-HARP to oversee soil excavation completed.

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 10/07/2005
Comments: Site certified as remediated for residential development.

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 06/30/2005
Comments: NOE

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 10/07/2005
Comments: Approved report documenting the in-situ treatment of the pesticide contaminated soils.

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 06/30/2005
Comments: Removal Action Workplan approved which identifies bio-remediaton as the preferred cleanup method. Through the addition of Factor and fertilizers, the population of soil bacteria will grow and consume the residual pesticides as a source of food. When the remediation of the soil is complete, the bacterial populations will return back to normal levels. Residential cleanup levels are expected to be achieved within 6 months.

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 05/01/2005
Comments: Not reported

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 04/28/2004
Comments: Report detailing shallow soil sampling. This report was provided as background. No DTSc approval letter exists.

Completed Area Name: Borello Property

BORELLO PROPERTY (Continued) **S106568334**

Completed Sub Area Name:	Not reported
Completed Document Type:	Community Profile
Completed Date:	04/01/2005
Comments:	Community Profile report
Completed Area Name:	Borello Property
Completed Sub Area Name:	Not reported
Completed Document Type:	Pilot Study/Treatability Workplan
Completed Date:	06/15/2004
Comments:	Pilot study workplan to evaluate the effectiveness of the bio-remediating toxaphene impacted soils.
Completed Area Name:	Borello Property
Completed Sub Area Name:	Not reported
Completed Document Type:	Pilot/Treatability Study Report
Completed Date:	11/30/2004
Comments:	Results of the pilot study. Bio-remediation factor appears to work.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

VCP:

Facility ID:	43010033
Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	14
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Nicole Yuen
Supervisor:	Mark Piros
Division Branch:	Cleanup Berkeley
Site Code:	201563
Assembly:	30
Senate:	17
Special Programs Code:	Voluntary Cleanup Program
Status:	Certified
Status Date:	11/03/2017
Restricted Use:	NO
Funding:	Responsible Party
Lat/Long:	37.15923 / -121.6406
APN:	72834026, 778-34-3
Past Use:	AGRICULTURAL - ORCHARD, AGRICULTURAL - ORCHARD
Potential COC:	30023, 30207, 30207
Confirmed COC:	30023,30207,, ,30207
Potential Description:	SOIL, SOIL
Alias Name:	COCHRAN ROAD FARMS
Alias Type:	Alternate Name

BORELLO PROPERTY (Continued) **S106568334**

Alias Name: 72834026
Alias Type: APN
Alias Name: 778-34-3
Alias Type: APN
Alias Name: 110033619145
Alias Type: EPA (FRS #)
Alias Name: 201563
Alias Type: Project Code (Site Code)
Alias Name: 43010033
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Responsible Agency Review
Completed Date: 08/17/2017
Comments: DTSC filed a California Environmental Quality Act (CEQA) Notice of Determination with the State Clearinghouse after the Final Removal Action Workplan was approved on August 17, 2017. DTSC relied on the City of Morgan Hill's Initial Study/Mitigated Negative Declaration and Addendum for the Lupine Annexation and Rezone Project to comply with CEQA.

Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 02/03/2017
Comments: Voluntary Cleanup Agreement between Lupine Investors, LLC and DTSC to oversee the cleanup at the site

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 09/24/2004
Comments: Voluntary Cleanup Agreement (VCA) signed.

Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 11/03/2017
Comments: DTSC certified that all removal actions have been satisfactorily completed in accordance with the Removal Action Workplan approved by DTSC on August 17, 2017.

Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: Community Profile
Completed Date: 06/08/2017
Comments: The community profile summarizes the responses to the community survey conducted by DTSC, includes demographic information regarding the surrounding community, and identifies recommended public participation activities.

Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 08/17/2017
Comments: The Final Removal Action Workplan (RAW) identifies excavation of an

BORELLO PROPERTY (Continued) **S106568334**

estimated 6,500 cubic yards of pesticide-impacted soil and off-site disposal at a permitted landfill as the remedy for the Site. Modifications were made in the Final RAW in response to comments on the Draft RAW that were received during the public comment period; the Responsiveness Summary that is included as Appendix E provides responses to the comments and identifies where the modifications were made in the Final RAW.

Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 06/14/2017
Comments: The Community Update announces the public comment period for the Draft Removal Action Workplan, discusses the Site history and environmental investigations, and summarizes the proposed cleanup actions. The Community Update was mailed to the neighboring community at the beginning of the public comment period.

Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: Public Notice
Completed Date: 06/13/2017
Comments: The Public Notice serves as the official notice of the beginning of the public comment period for the Draft Removal Action Workplan and was placed in the Morgan Hill Times on 6/23/2017.

Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 10/02/2017
Comments: Removal Action Workplan implementation was completed with the final round of confirmation sampling that was performed on 10/2/2017.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Work Notice
Completed Date: 08/18/2017
Comments: Not reported

Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 11/02/2017
Comments: Not reported

Completed Area Name: Altimira Residential Parcels
Completed Sub Area Name: Not reported
Completed Document Type: Pre-HARP Form
Completed Date: 08/29/2017
Comments: Pre-HARP to oversee soil excavation completed.

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 10/07/2005
Comments: Site certified as remediated for residential development.

BORELLO PROPERTY (Continued) **S106568334**

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 06/30/2005
Comments: NOE

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 10/07/2005
Comments: Approved report documenting the in-situ treatment of the pesticide contaminated soils.

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 06/30/2005
Comments: Removal Action Workplan approved which identifies bio-remediaton as the preferred cleanup method. Through the addition of Factor and fertilizers, the population of soil bacteria will grow and consume the residual pesticides as a source of food. When the remediation of the soil is complete, the bacterial populations will return back to normal levels. Residential cleanup levels are expected to be achieved within 6 months.

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Fact Sheets
Completed Date: 05/01/2005
Comments: Not reported

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 04/28/2004
Comments: Report detailing shallow soil sampling. This report was provided as background. No DTSc approval letter exists.

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Community Profile
Completed Date: 04/01/2005
Comments: Community Profile report

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Pilot Study/Treatability Workplan
Completed Date: 06/15/2004
Comments: Pilot study workplan to evaluate the effectiveness of the bio-remediating toxaphene impacted soils.

Completed Area Name: Borello Property
Completed Sub Area Name: Not reported
Completed Document Type: Pilot/Treatability Study Report
Completed Date: 11/30/2004
Comments: Results of the pilot study. Bio-remediation factor appears to work.

BORELLO PROPERTY (Continued) **S106568334**

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/22/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 14

Source: EPA
Telephone: N/A
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 66

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 66

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 02/16/2018
Date Data Arrived at EDR: 02/22/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 78

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/09/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 02/13/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/27/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 02/13/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/27/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 01/16/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 63

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/12/2018
Date Data Arrived at EDR: 02/14/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 48

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

LUST REG 7: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report
Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks
California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List

Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation

Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/12/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/24/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/06/2018
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 10/16/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 10/12/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36

Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11

Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 05/15/2017
Date Data Arrived at EDR: 05/30/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 136

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Varies

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 15

Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69

Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/12/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 01/13/2018
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/24/2017
Date Data Arrived at EDR: 07/27/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 134

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 10/24/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/14/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 10/16/2017
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 80

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties
Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 38
Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 01/19/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 21
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 02/08/2018
Date Data Arrived at EDR: 02/09/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 39

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/09/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 01/30/2018
Next Scheduled EDR Contact: 05/14/2018
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 05/04/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/27/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/30/2018
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 47

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 06/30/2017
Date Data Arrived at EDR: 08/18/2017
Date Made Active in Reports: 09/21/2017
Number of Days to Update: 34

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/27/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database

A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 02/28/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 27

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SAN FRANCISCO AST: Aboveground Storage Tank Site Listing

Aboveground storage tank sites

Date of Government Version: 04/19/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 10

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

CA FID UST: Facility Inventory Database

The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing

A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 01/28/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 46

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 94

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 02/08/2018
Date Data Arrived at EDR: 02/08/2018
Date Made Active in Reports: 02/08/2018
Number of Days to Update: 0

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 01/19/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 63

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 02/15/2018
Date Data Arrived at EDR: 02/20/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 42

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/24/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)
Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51
Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)
Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 7
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch
Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50
Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated
RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/11/2017
Date Data Arrived at EDR: 12/26/2017
Date Made Active in Reports: 02/09/2018
Number of Days to Update: 45
Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites
The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97
Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

DOD: Department of Defense Sites
This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/15/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 01/11/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/08/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/23/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 02/23/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/09/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 94

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/20/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 06/01/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 10/13/2017
Number of Days to Update: 126

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 04/09/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 03/09/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 05/24/2017
Date Data Arrived at EDR: 11/30/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 15
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/03/2018
Date Data Arrived at EDR: 01/04/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 99

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 79

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/23/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/23/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 24

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/27/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 01/25/2018
Date Data Arrived at EDR: 02/28/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 72

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/02/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 03/02/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 12/20/2017
Date Data Arrived at EDR: 12/21/2017
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 92

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 02/21/2018
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 28

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 02/23/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 10/31/2017
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 73

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 01/13/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 03/02/2018
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/19/2018
Date Made Active in Reports: 04/13/2018
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 03/02/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 03/23/2018
Number of Days to Update: 30

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan

Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6

Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 38
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA LIVERMORE-PLEASANTON
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 02/28/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 64
Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

CUPA SAN FRANCISCO CO: CUPA SAN FRANCISCO CO
Cupa facilities

Date of Government Version: 04/20/2018
Date Data Arrived at EDR: 04/24/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 10
Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

DRYCLEAN AVAQMD: DRYCLEAN AVAQMD
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/13/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 52
Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 03/27/2018
Date Data Arrived at EDR: 03/29/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 36
Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Annually

DRYCLEAN SOUTH COAST: DRYCLEAN SOUTH COAST
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 03/16/2018
Date Data Arrived at EDR: 03/20/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 45
Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 08/15/2017
Number of Days to Update: 147

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/23/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 54

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 55

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/14/2018
Date Data Arrived at EDR: 02/16/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 46

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/09/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/12/2017
Date Made Active in Reports: 10/17/2017
Number of Days to Update: 97

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/12/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 41

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/21/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 41

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 01/08/2018
Date Data Arrived at EDR: 01/09/2018
Date Made Active in Reports: 02/06/2018
Number of Days to Update: 28

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 02/27/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 42

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 03/14/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 04/19/2018
Number of Days to Update: 45

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 03/05/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 03/23/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 38

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing

Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67

Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 04/13/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Varies

WDS: Waste Discharge System

Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9

Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List

Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13

Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 03/21/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Varies

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

OTHER OIL GAS: OTHER OIL & GAS (GEOTRACKER)
Other Oil & Gas Projects sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

PROD WATER PONDS: PROD WATER PONDS (GEOTRACKER)
Produced water ponds sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

PROJECT: PROJECT (GEOTRACKER)
Projects sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

NON-CASE INFO: NON-CASE INFO (GEOTRACKER)
Non-Case Information sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

SAMPLING POINT: SAMPLING POINT (GEOTRACKER)
Sampling point - public sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

WELL STIM PROJ: WELL SAMP PROJ (GEOTRACKER)
Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

CIWQS: The California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 60

Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

UIC GEO: UIC GEO (GEOTRACKER)

Underground control injection sites

Date of Government Version: 03/12/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 51

Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 12/12/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2018
Date Data Arrived at EDR: 01/11/2018
Date Made Active in Reports: 02/22/2018
Number of Days to Update: 42

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 24

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List
Cupa Facility List

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 10

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 01/25/2018
Date Data Arrived at EDR: 01/26/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 47

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/26/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 02/26/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 14

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 48

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 04/30/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 01/05/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 40

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 04/25/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/08/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 39

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 04/30/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/05/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 9

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 03/06/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/08/2018
Date Made Active in Reports: 04/30/2018
Number of Days to Update: 53

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 02/05/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/26/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 47

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 06/08/2017
Date Data Arrived at EDR: 06/09/2017
Date Made Active in Reports: 08/04/2017
Number of Days to Update: 56

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 03/28/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 02/02/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 54

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 11/14/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/15/2017
Number of Days to Update: 28

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 02/06/2018
Date Data Arrived at EDR: 02/09/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 33

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/16/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 01/16/2018
Date Data Arrived at EDR: 01/23/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 56

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 01/16/2018
Date Data Arrived at EDR: 01/16/2018
Date Made Active in Reports: 02/14/2018
Number of Days to Update: 29

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/17/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2018
Date Data Arrived at EDR: 05/01/2018
Date Made Active in Reports: 05/14/2018
Number of Days to Update: 13

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 01/01/2018
Date Data Arrived at EDR: 01/17/2018
Date Made Active in Reports: 02/14/2018
Number of Days to Update: 28

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 04/17/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/11/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Annually

City of Torrance Underground Storage Tank

Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/04/2018
Date Data Arrived at EDR: 01/05/2018
Date Made Active in Reports: 01/18/2018
Number of Days to Update: 13

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/05/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List

A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 02/21/2018
Date Data Arrived at EDR: 02/22/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 40

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites

Currently permitted USTs in Marin County.

Date of Government Version: 03/30/2018
Date Data Arrived at EDR: 04/06/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 28

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 03/29/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 01/11/2018
Date Data Arrived at EDR: 01/12/2018
Date Made Active in Reports: 02/08/2018
Number of Days to Update: 27

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 15

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 03/27/2018
Date Data Arrived at EDR: 03/29/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 18

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 02/20/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 02/27/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 30

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 01/31/2018
Date Data Arrived at EDR: 02/01/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 41

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 04/25/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 02/05/2018
Date Data Arrived at EDR: 02/13/2018
Date Made Active in Reports: 04/03/2018
Number of Days to Update: 49

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 02/05/2018
Date Data Arrived at EDR: 02/13/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 35

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/07/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 01/02/2018
Date Data Arrived at EDR: 02/07/2018
Date Made Active in Reports: 03/28/2018
Number of Days to Update: 49

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/08/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 03/15/2018
Date Data Arrived at EDR: 03/19/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 46

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 03/15/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/15/2018
Number of Days to Update: 50

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/19/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 04/05/2018
Date Data Arrived at EDR: 04/10/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 24

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/19/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 01/03/2018
Date Made Active in Reports: 02/05/2018
Number of Days to Update: 33

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 01/03/2018
Date Made Active in Reports: 02/14/2018
Number of Days to Update: 42

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 11/01/2017
Date Data Arrived at EDR: 11/03/2017
Date Made Active in Reports: 11/17/2017
Number of Days to Update: 14

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 11/30/2017
Date Data Arrived at EDR: 12/01/2017
Date Made Active in Reports: 01/16/2018
Number of Days to Update: 46

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 04/06/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 03/05/2018
Date Data Arrived at EDR: 03/07/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 40

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

Local Oversight Program Listing

A listing all LOP release sites that are or were under the County of San Diegoa??s jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 04/18/2018
Date Data Arrived at EDR: 04/23/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 11

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

Underground Storage Tank Information

Underground storage tank sites located in San Francisco county.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/07/2017
Date Made Active in Reports: 12/19/2017
Number of Days to Update: 42

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 05/02/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 03/20/2018
Date Data Arrived at EDR: 03/22/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 43

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 07/02/2018
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 11/16/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/18/2017
Number of Days to Update: 31

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 03/14/2018
Date Data Arrived at EDR: 03/20/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 45

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/15/2018
Date Data Arrived at EDR: 03/20/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 45

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/07/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 02/20/2018
Date Data Arrived at EDR: 02/20/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 27

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 02/22/2018
Next Scheduled EDR Contact: 06/11/2018
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 02/04/2018
Date Data Arrived at EDR: 02/06/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 42

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 02/15/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/13/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 52

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/08/2018
Date Data Arrived at EDR: 03/13/2018
Date Made Active in Reports: 03/29/2018
Number of Days to Update: 16

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 04/16/2018
Number of Days to Update: 20

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/22/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 04/03/2018
Date Data Arrived at EDR: 04/06/2018
Date Made Active in Reports: 05/09/2018
Number of Days to Update: 33

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 03/22/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 02/06/2018
Date Data Arrived at EDR: 02/07/2018
Date Made Active in Reports: 03/16/2018
Number of Days to Update: 37

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 04/16/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Varies

SUTTER COUNTY:

Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 01/08/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 03/30/2018
Number of Days to Update: 29

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 02/28/2018
Next Scheduled EDR Contact: 06/18/2018
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA Facility List
Cupa facilities

Date of Government Version: 01/26/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 47

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/19/2018
Number of Days to Update: 53

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

TULARE COUNTY:

CUPA Facility List
Cupa program facilities

Date of Government Version: 03/19/2018
Date Data Arrived at EDR: 03/22/2018
Date Made Active in Reports: 04/17/2018
Number of Days to Update: 26

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/20/2018
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/16/2018
Number of Days to Update: 50

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/18/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/26/2017
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 48

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/23/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/29/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites

Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/09/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Quarterly

Medical Waste Program List

To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 12/26/2017
Date Data Arrived at EDR: 01/25/2018
Date Made Active in Reports: 03/20/2018
Number of Days to Update: 54
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/23/2018
Next Scheduled EDR Contact: 08/06/2018
Data Release Frequency: Quarterly

Underground Tank Closed Sites List

Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/28/2018
Date Data Arrived at EDR: 03/14/2018
Date Made Active in Reports: 03/30/2018
Number of Days to Update: 16
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/14/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report

Underground storage tank sites located in Yolo county.

Date of Government Version: 03/27/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 05/04/2018
Number of Days to Update: 31
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/29/2018
Next Scheduled EDR Contact: 07/16/2018
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List

CUPA facility listing for Yuba County.

Date of Government Version: 02/01/2018
Date Data Arrived at EDR: 02/02/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 47
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 04/25/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 01/03/2018
Date Data Arrived at EDR: 02/14/2018
Date Made Active in Reports: 03/22/2018
Number of Days to Update: 36

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 02/14/2018
Next Scheduled EDR Contact: 05/28/2018
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 07/27/2017
Number of Days to Update: 107

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/23/2018
Next Scheduled EDR Contact: 07/23/2018
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 01/31/2018
Date Made Active in Reports: 03/09/2018
Number of Days to Update: 37

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/03/2018
Next Scheduled EDR Contact: 08/13/2018
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 07/25/2017
Date Made Active in Reports: 09/25/2017
Number of Days to Update: 62

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/12/2018
Next Scheduled EDR Contact: 07/30/2018
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 02/23/2018
Date Made Active in Reports: 04/09/2018
Number of Days to Update: 45

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/21/2018
Next Scheduled EDR Contact: 06/04/2018
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 04/13/2017
Date Made Active in Reports: 07/14/2017
Number of Days to Update: 92

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/08/2018
Next Scheduled EDR Contact: 06/25/2018
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data
Source: PennWell Corporation
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

STREET AND ADDRESS INFORMATION

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APPENDIX D

HISTORICAL SOURCES

388872

101, 1040 and 1045 Cochrane

Morgan Hill, CA 95037

Inquiry Number: 5296707.5

May 17, 2018

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

05/17/18

Site Name:

388872
101, 1040 and 1045 Cochrane
Morgan Hill, CA 95037
EDR Inquiry # 5296707.5

Client Name:

AEI Consultants
2500 Camino Diablo
Walnut Creek, CA 94597
Contact: Christian Cagonot

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2006	1"=500'	Flight Year: 2006	USDA/NAIP
1998	1"=500'	Acquisition Date: August 21, 1998	USGS/DOQQ
1982	1"=500'	Flight Date: July 05, 1982	USDA
1974	1"=500'	Flight Date: July 12, 1974	USGS
1968	1"=500'	Flight Date: June 14, 1968	USGS
1963	1"=500'	Flight Date: June 24, 1963	USGS
1956	1"=500'	Flight Date: July 07, 1956	USDA
1950	1"=500'	Flight Date: March 06, 1950	USDA
1948	1"=500'	Flight Date: September 26, 1948	USDA
1940	1"=500'	Flight Date: June 09, 1940	USDA
1939	1"=500'	Flight Date: October 20, 1939	USDA

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0 Feet 500 1000 2000

N

AERIAL PHOTOGRAPH - 2016

101, 1040 and 1045 Cochrane, Morgan Hill, CA 95037

Project Number: 388872

AEI Consultants

0 Feet 500 1000 2000

N

AERIAL PHOTOGRAPH - 2012

101, 1040 and 1045 Cochrane, Morgan Hill, CA 95037

Project Number: 388872

AEI Consultants

0 Feet 500 1000 2000

N

AERIAL PHOTOGRAPH - 2009

101, 1040 and 1045 Cochrane, Morgan Hill, CA 95037

Project Number: 388872

AEI Consultants

0 Feet 500 1000 2000

N

AERIAL PHOTOGRAPH - 2006

101, 1040 and 1045 Cochrane, Morgan Hill, CA 95037

Project Number: 388872

AEI Consultants

0 Feet 500 1000 2000

N

AERIAL PHOTOGRAPH - 1998

101, 1040 and 1045 Cochrane, Morgan Hill, CA 95037

Project Number: 388872

AEI Consultants

0 Feet 500 1000 2000

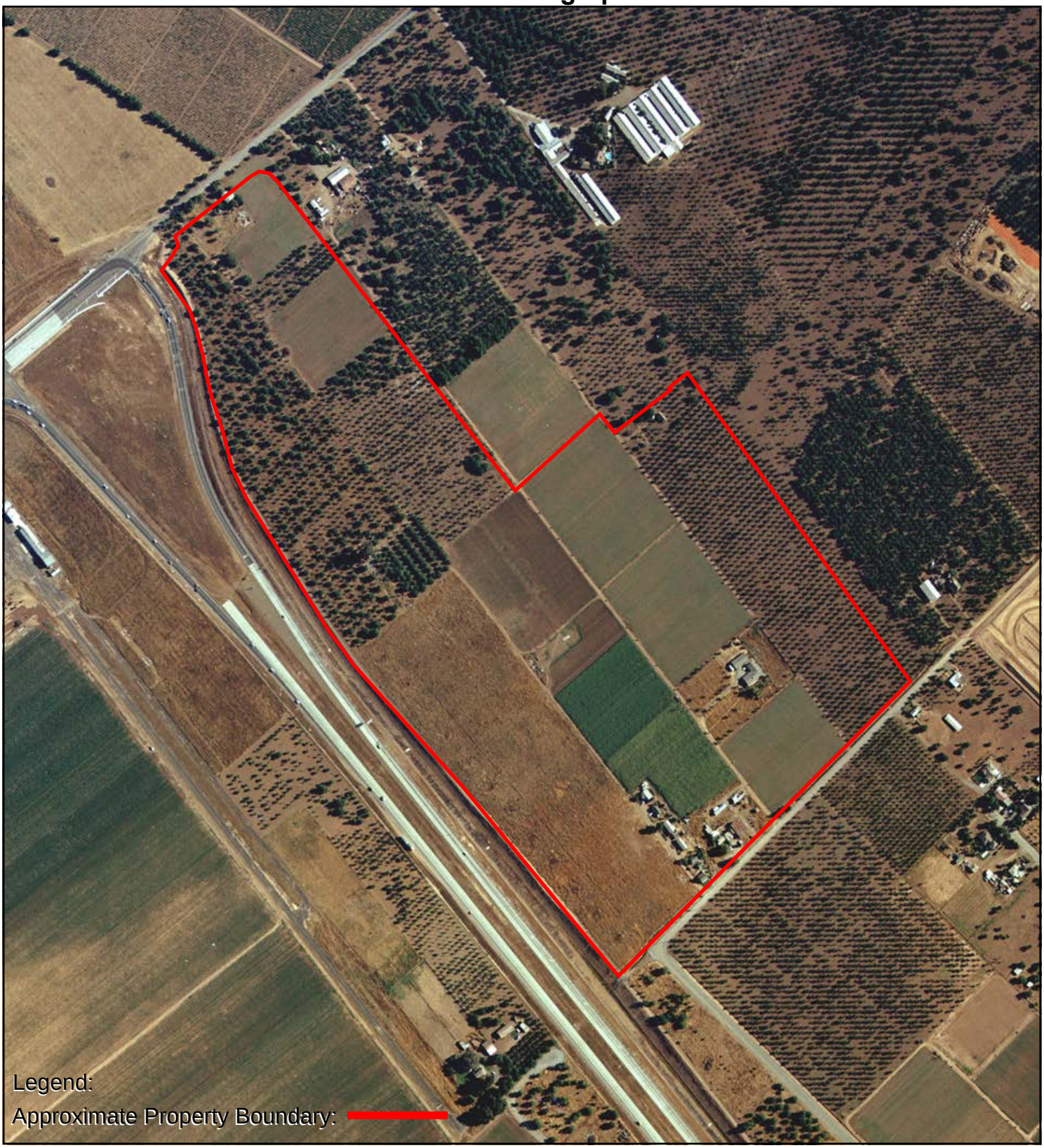
N

AERIAL PHOTOGRAPH - 1982

101, 1040 and 1045 Cochrane, Morgan Hill, CA 95037

Project Number: 388872

AEI Consultants



0 Feet 500 1000 2000

N

AERIAL PHOTOGRAPH - 1974

101, 1040 and 1045 Cochrane, Morgan Hill, CA 95037

Project Number: 388872

AEI Consultants

0 Feet 500 1000 2000

N

AERIAL PHOTOGRAPH - 1968

101, 1040 and 1045 Cochrane, Morgan Hill, CA 95037

Project Number: 388872

AEI Consultants

0 Feet 500 1000 2000

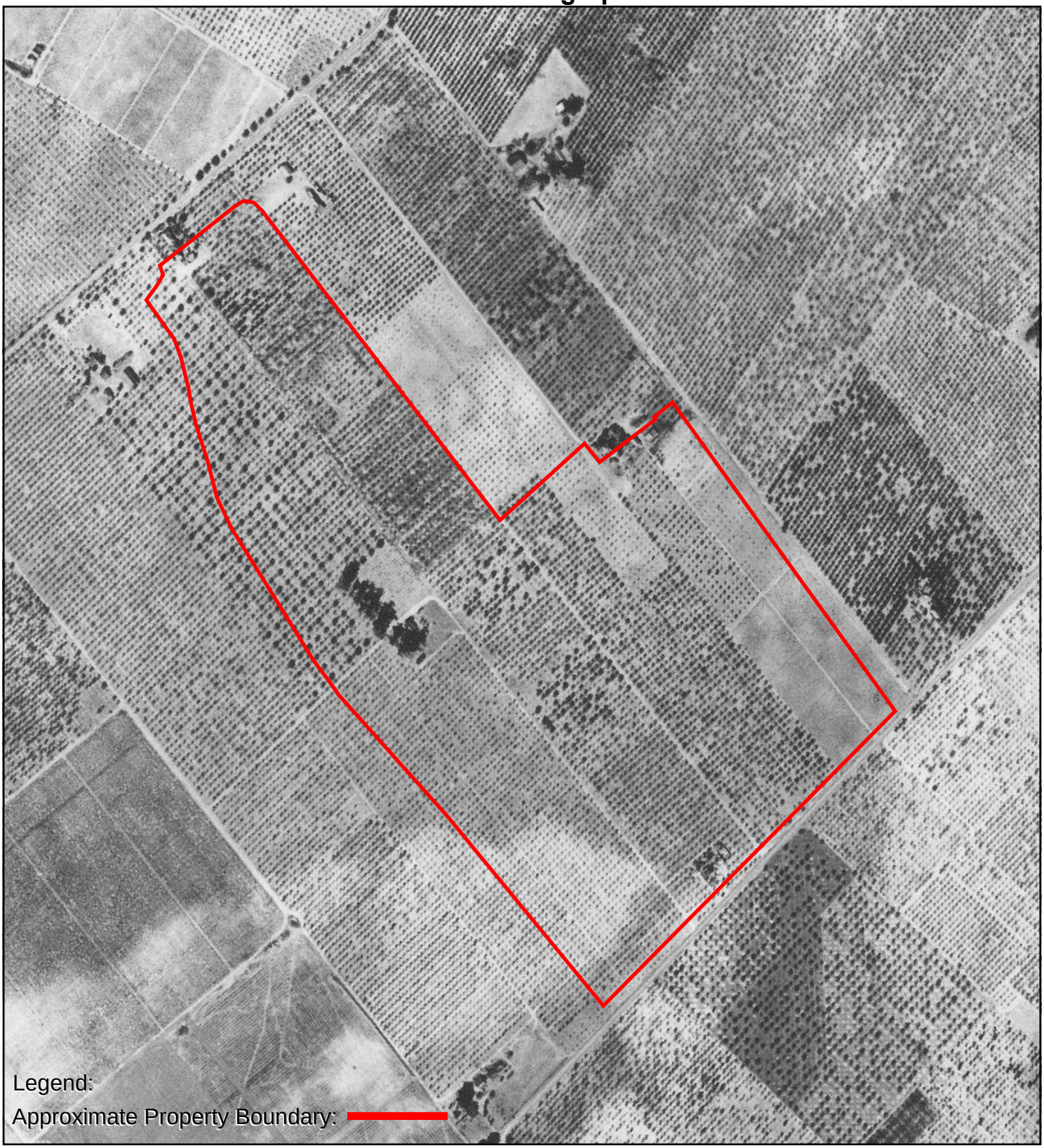
N

AERIAL PHOTOGRAPH - 1940

101, 1040 and 1045 Cochrane, Morgan Hill, CA 95037

Project Number: 388872

AEI Consultants



0 Feet 500 1000 2000

N

AERIAL PHOTOGRAPH - 1939

101, 1040 and 1045 Cochrane, Morgan Hill, CA 95037

Project Number: 388872

AEI Consultants

388872

101, 1040 and 1045 Cochrane

Morgan Hill, CA 95037

Inquiry Number: 5296707.3

May 16, 2018

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

05/16/18

Site Name:

388872
101, 1040 and 1045 Cochrane
Morgan Hill, CA 95037
EDR Inquiry # 5296707.3

Client Name:

AEI Consultants
2500 Camino Diablo
Walnut Creek, CA 94597
Contact: Christian Cagonot

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by AEI Consultants were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # 9578-4E60-96C4

PO # 161356

Project 388872

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

Sanborn® Library search results

Certification #: 9578-4E60-96C4

The Sanborn Library includes more than 1.2 million fire insurance maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow and others which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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388872
101, 1040 and 1045 Cochrane
Morgan Hill, CA 95037

Inquiry Number: 5296707.6
May 21, 2018

The EDR-City Directory Image Report

Environmental Data Resources Inc
6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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City Directory Images

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Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2014	☑	☑	EDR Digital Archive
2010	☑	☑	EDR Digital Archive
2005	☑	☑	EDR Digital Archive
2000	☑	☑	EDR Digital Archive
1995	☑	☑	EDR Digital Archive
1992	☑	☑	EDR Digital Archive
1986	☑	☑	Haines Criss-Cross Directory
1980	☑	☑	Haines Criss-Cross Directory
1975	☑	☑	Haines Criss-Cross Directory
1970	☐	☐	Haines Criss-Cross Directory

FINDINGS

TARGET PROPERTY STREET

101, 1040 and 1045 Cochrane
Morgan Hill, CA 95037

Year	CD Image	Source	
COCHRANE RD			
2014	pg A2	EDR Digital Archive	
2010	pg A5	EDR Digital Archive	
2005	pg A8	EDR Digital Archive	
2000	pg A11	EDR Digital Archive	
1995	pg A13	EDR Digital Archive	
1992	pg A15	EDR Digital Archive	
1986	pg A17	Haines Criss-Cross Directory	
1980	pg A19	Haines Criss-Cross Directory	
1975	pg A22	Haines Criss-Cross Directory	
1975	pg A23	Haines Criss-Cross Directory	
1970	-	Haines Criss-Cross Directory	Street not listed in Source

FINDINGS

CROSS STREETS

Year	*CD Image*	*Source*	
HALF RD			
2014	pg. A4	EDR Digital Archive	
2010	pg. A7	EDR Digital Archive	
2005	pg. A10	EDR Digital Archive	
2000	pg. A12	EDR Digital Archive	
1995	pg. A14	EDR Digital Archive	
1992	pg. A16	EDR Digital Archive	
1986	pg. A18	Haines Criss-Cross Directory	
1980	pg. A20	Haines Criss-Cross Directory	
1980	pg. A21	Haines Criss-Cross Directory	
1975	pg. A24	Haines Criss-Cross Directory	
1970	-	Haines Criss-Cross Directory	Street not listed in Source

City Directory Images

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

COCHRANE RD 2014

102	OCCUPANT UNKNOWN,
106	OCCUPANT UNKNOWN,
110	OCCUPANT UNKNOWN,
114	OCCUPANT UNKNOWN,
118	OCCUPANT UNKNOWN,
122	OCCUPANT UNKNOWN,
126	OCCUPANT UNKNOWN,
130	OCCUPANT UNKNOWN,
134	OCCUPANT UNKNOWN,
138	OCCUPANT UNKNOWN,
140	OCCUPANT UNKNOWN,
144	DOLLAR STOP
	OCCUPANT UNKNOWN,
148	OCCUPANT UNKNOWN,
152	OCCUPANT UNKNOWN,
156	GARCIA, OSCAR D
160	MACE, CAROL
164	MCVEY, JAMES C
225	DUKES, GEORGE W
	PROTOTYPES PLUS INC
315	JOAQUIN RODRIGUEZ
	MUNOZ, SONIA B
715	MADRONE VILLAGE SHOPPING CTR
775	BIKRAM YOGA MORGANHILL
	DEVINE JAZZ & WINE
	FIVE GUYS BURGERS & FRIES
780	MCDONALDS RESTAURANT
795	ANYTIME FITNESS
	N3 ENTERPRISES LLC
851	COCHRANE CO-BRANDS INC
	MONTEREY VNYRD FDMART CAR WASH
875	DENNYS
895	IN-N-OUT BURGERS
1007	MORGAN HILL RETAIL
1015	DSW INC
1019	PETCO ANIMAL SUPPLIES INC
1023	STAPLES INC
1031	DICKIES BARBECUE REST 236
	MENS WEARHOUSE INC
1039	CHILIS GRILL & BAR
1041	CALIFORNIA WIRELESS
	MIKO MIKO HAWIIAN GRILL
1045	RED ROBIN GOURMET BURGERS INC
1049	GO WIRELESS INC
	QUIZNOS CLASSIC SUBS
1050	ALVAREZ, ROSARIO
1053	COYOTE CREEK REALTY
	SPORTCILPS
1057	DISH A NETWORK
	GAMESTOP INC

COCHRANE RD 2014 (Cont'd)

1057	PAYLESS SHOESOURCE INC
1061	TARGET STORES INC
1140	ALBERTI, MAX R
1160	BAROUSSE, HAROLD L
	HANLEY, NANCY J
1485	OCCUPANT UNKNOWN,
1515	LIEU, DAVID T
1545	VARGAS, MARTIN
1575	CHAKAREVSKI, JAKOB A
1615	JACKSON, RALPH A
1645	DARLING, PATRICIA J
1675	LYNNE TRAN R E SERVICES
	SUMMIT TECH CONSULTING INC
	TRAN, LIEN B
1705	LEVINE, JOEL I
1735	OCCUPANT UNKNOWN,
1765	DYTKO, THOMAS J
1845	BELL, THOMAS J
	TRIPTY SINGH
1960	INMAN, MARY G
2280	BF COCHRANE LP
	BORELLO FARMS INC
	BORELLO S G & SONS INC
	OCCUPANT UNKNOWN,
	SAN SEBASTIAN COMMUNITY
2290	MAGUIRE, DANIEL J
	OCCUPANT UNKNOWN,
2300	STONE, CHERYL
2370	LOGAN, CECILIA M
17710	MANCIAS, ROJELIO A
17888	HOM, MY S
	HOO GEE NURSERY INC
	MY SUSAN LLC
17930	CONTIVAL, GORDON J
	GORDON CONTIVAL
17950	MCCLOUD, DAVID J
18150	SKOR, ROBERT B
18285	MARTINEZ, HARVEY F
	MORGAN HILL BOAT STORAGE
18290	OCCUPANT UNKNOWN,

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

HALF RD 2014

1280	OCCUPANT UNKNOWN,
1320	ESPINOZA, SALINA
1345	MARSTON, STEVE K
1420	HICKS, ERNEST W
1605	YANEZ, JOSE G
1615	ANDYS ORCHARD LLC
1685	MARIANI ORCHARDS
1710	KHARATZADEH, CONNIE J
1720	SCOTT FARMS
	SCOTT, RICHARD C
1770	NISHIKAWA, ROBERT T
1772	STEED, FRED
1780	JACOBSON BILL TRUCKING CO
	JACOBSON CHAD
1790	OCCUPANT UNKNOWN,
	STEED, LYNNE G
	STONE CONNECTION
1800	JV GROWERS CLINIC LLC
	VAUCHA, JOHN
2000	JOHN ZAUCHA CONSTRUCTION
	ZAUCHA, DAVID S
2010	VUKCEVICH, GEORGE B
2050	DIAMOND CONCRETE CUTTING INC
2090	FICARRA, ANGELA R
	MBML LLC
2130	SCHINDEWOLF, ROGER E

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

COCHRANE RD 2010

102	OCCUPANT UNKNOWN,
106	OCCUPANT UNKNOWN,
110	OCCUPANT UNKNOWN,
114	OCCUPANT UNKNOWN,
118	OCCUPANT UNKNOWN,
122	OCCUPANT UNKNOWN,
126	OCCUPANT UNKNOWN,
130	OCCUPANT UNKNOWN,
134	OCCUPANT UNKNOWN,
138	OCCUPANT UNKNOWN,
140	OCCUPANT UNKNOWN,
144	OCCUPANT UNKNOWN,
148	OCCUPANT UNKNOWN,
152	OCCUPANT UNKNOWN,
156	RODRIGUEZ, NATALIE
160	MACE, CAROL
164	MCVEY, JAMES C
225	AFRAIMI, RACHEL R
315	RODRIGUEZ, JOAQUIN S
755	PEET, S
775	DEVINE JAZZ & WINE
780	MCDONALDS RESTAURANT
795	ANYTIME FITNESS
	N3 ENTERPRISES LLC
851	COCHRANE CO-BRANDS INC
875	DENNYS
895	IN-N-OUT BURGERS
1015	DSW INC
1023	STAPLES INC
1031	DICKIES BARBECUE REST 236
	MENS WEARHOUSE INC
1039	CHILIS GRILL & BAR
1041	GREEN CLEANERS
	J & N WIRELESS
	JOYA SOCCER
1045	RED ROBIN GOURMET BURGERS
1049	COCHRANE DENTAL CARE
	GO WIRELESS
	JH WYNN DDSA DENTAL CORP
1050	PALOMERO, TERESA
1053	QUEEN B NAILS & SPA
	SPORTCILPS
1057	COLLECTIVE BRANDS INC
1061	KIOSK OPERATIONS
	TARGET CORPORATION
1140	ALBERTI, DAVID M
	VAILEY OAKS CONSTRUCTION
1160	MORGAN HILL SENIOR LIVING
	WESTMONT CONSTRUCTION INC
1485	OCCUPANT UNKNOWN,

COCHRANE RD 2010 (Cont'd)

1515	HERCULEAN INVESTMENTS CORP
	MENG SYDNEY S
	MENG, SYDNEY S
1545	VARGAS, MARTIN
1575	CHAKAREVSKI, JAKOB A
1615	JACKSON, RALPH A
1645	DARLING, PATRICIA
1675	BOREI CORPORATION
	LE, KHANH M
	LYNNE TRAN R E SERVICES
1705	LEVINE, JOEL I
1735	WILCOX, CHARLES E
1765	OCCUPANT UNKNOWN,
1820	RADIO FIESTA CORP
1845	SINGH, PARAMJEET
1960	INMAN, MARY G
2280	BORELLO FARMS INC
	BORELLO S G & SONS INC
	SHERIDAN, BRIAN W
2290	BURGMEIER, PAULA H
	GIANCOLA, JOE D
	OCCUPANT UNKNOWN,
2300	OCCUPANT UNKNOWN,
2370	LOGAN, CECILIA M
2390	COYLE, FRANCES J
17710	MANCIAS, ROJELIO A
17888	CHESAPEAKE BK LLC
	FLOWER MOUND LLC
	HOM MY SUI
	HOM, MY S
	HOO GEE NURSERY INC
	WAL G ROUND ROCK LLC
17930	CONTIVAL, GORDON J
17950	VEGA, RUFINO E
18150	SKOR, ROBERT B
18285	MARTINEZ, HARVEY F
	MORGAN HILL BOAT STORAGE
18290	OCCUPANT UNKNOWN,

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

HALF RD 2010

1105	OCCUPANT UNKNOWN,
1280	OCCUPANT UNKNOWN,
1320	ROMO, LUPE
1345	MARSTON, STEVE
1420	OCCUPANT UNKNOWN,
1605	YANEZ, JOSE G
1615	ANDYS ORCHARD LLC
1685	MARIANI ORCHARDS
1710	HIKIDA, RAY R
1720	SCOTT FARMS
	SCOTT, RICHARD C
1770	OCCUPANT UNKNOWN,
1780	JACOBSON BILL TRUCKING CO
	JACOBSON CHAD
1790	OCCUPANT UNKNOWN,
	SCHWEIZER, JOSEPH F
	STEED, LYNNE G
	STONE CONNECTION
1800	DUDOIT, EUGENE J
	FOODWEB MANAGEMENT INC
	JV GROWERS CLINIC LLC
	SOIL WEB INC
	SOILWEBCOM
1822	MENA, ROBERTO A
2000	JOHN ZAUCHA CONSTRUCTION
	ZAUCHA, JOHN C
2010	VUKCEVICH, GEORGE B
2050	DIAMOND CONCRETE CUTTING INC
2090	MCDONNELL, BARRY E
2130	SCHMIDT, WILLIAM J

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

COCHRANE RD 2005

225	OCCUPANT UNKNOWN,
315	BERMEA, ARTHUR C
645	PIONEER UNDERGROUND INC
780	MCDONALDS RSTRNT
851	MONTEREY VNYRD FDMART CAR WASH
990	MERVYNS LLC
1050	OCCUPANT UNKNOWN,
1140	ALBERTI, DAVID M
	VAILEY OAKS CONSTRUCTION
1195	DECKER, GINGER R
	GUGLIELMO PROPERTIES
	MILLERD-LOW, JEAN
	OCCUPANT UNKNOWN,
1515	HERCULEAN INVESTMENTS CORP
	MENG SYDNEY S
	MENG, SYDNEY
1545	SANDOVAL, SIGIFREDO S
1615	JACKSON, RALPH A
1645	CRAZY COYOTE
	KENNETT, JOHN H
1675	BLADE TECHNOLOGIES INC
	TRAN, LIEN B
1705	LEVINE, JOEL I
	RFMW LTD
1735	WILCOX, CHARLES E
1765	DYTKO, THOMAS J
1960	FANARA, DAVID P
2280	BORELLO FARMS INC
	BORELLO S G & SONS INC
	BORELLO, FRANCIS
	HERNANDEZ, GERARDO
	LOPEZ-PAREDES, JESUS
	NAVA, CONCEPCION
	SCIALABBA, BART
2290	BURGMEIER, PAULA H
2300	OCCUPANT UNKNOWN,
2370	STOPPEL, JANE M
2390	COYLE, FRANCES J
17710	MANCIAS, ROJELIO A
17880	HOO, GEE
17888	HOM MY SUI
	HOO GEE NURSERY INC
	HOO, GORDON T
	UNITED FLOWER GROWERS INC
17930	CONTIVAL, GORDON J
17950	RUFINO ALBERT VEGA
	VEGA, RUFINO E
17990	THOMAS, ANTHONY G
18150	SKOR, ROBERT B
18285	MARTINEZ, HARVEY E

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

COCHRANE RD 2005 (Cont'd)

18285 MORGAN HILL BOAT STORAGE
18290 OCCUPANT UNKNOWN,

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

HALF RD 2005

1280 OCCUPANT UNKNOWN,
1320 SANCHEZ, ROSLYN
1345 OCCUPANT UNKNOWN,
1420 LENTZ, STEPHEN L
1605 YANEZ, JOSE
1615 ANDYS ORCHARD LLC
GONZALEZ, ANTOLIN
1710 HIKIDA, RAY R
1720 SCOTT FARMS
SCOTT, RICHARD C
1770 DUNNE, RICHARD S
1780 JACOBSON BILL TRUCKING CO
JACOBSON, WILLIAM R
1790 STEED, FRED A
1800 JV GROWERS CLINIC LLC
NELSON, TERI L
SOIL WEB INC
SOILWEBCOM
1822 MENA, ROBERTO A
2000 JOHN ZAUCHA CONSTRUCTION
ZAUCHA, JOHN C
2010 VUKCEVICH, GEORGE B
2050 GIANCOLA, TONY R
2090 MCDONNELL, BARRY E
2130 SCHMIDT, WILLIAM J

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

COCHRANE RD 2000

218	BAY AREA CELLULAR TELEPHONE CO
225	HELLEBERG, KATE
315	OCCUPANT UNKNOWN,
645	OCCUPANT UNKNOWN,
	PIONEER UNDERGROUND INC
990	MAX MUSCLE
1020	FLORES, R
1140	ALBERTI, DAVID
	HOLT, RAMONA
	VAILEY OAKS CONSTRUCTION
	VALLEY OAKS CONSTRUCTION
1195	MILLERD-LOW, J
1320	OCCUPANT UNKNOWN,
1485	OCCUPANT UNKNOWN,
1615	JACKSON, RALPH A
1645	OCCUPANT UNKNOWN,
1675	HONG, DAO
1705	LEVINE, JOEL I
1735	WILCOX, CHARLES E
1765	EMERY, JOHN
1845	HOGARTH, BARRIE
1960	OCCUPANT UNKNOWN,
2280	BORELLO FARMS INC
	BORELLO, FRANCIS
	CONTRERAS, S
	IZGUIERDO, E
	PAREDES, JESUS
	RODARTE, EFREN
	S G BORELLO & SONS INC
	VELAZQUEZ, ANGEL
	WILLARD, CHRIS
2290	THOMAS, HAROLD
2300	OCCUPANT UNKNOWN,
2370	STOPPEL, JANE
17880	LEI, PHILIP
	LOO SHUN W NURSERY
	LUP DONG PRODUCE CO
17888	HOO, GORDON T
17930	CONTIVAL, GORDON J
17950	OCCUPANT UNKNOWN,
17990	HIFNER, RONALD
	OMEGA MAILING SERVICES
18150	SKOR, ROBERT B
18285	MARTINEZ, HARVEY E
	MORGAN HILL BOAT STORAGE
18290	SLEPCEVIC, DUSAN

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

HALF RD 2000

1615	MARIANI ORCHARDS
1710	HIKIDA FARMS
	HIKIDA, RAY
1720	SCOTT, RICHARD C
1770	DUNNE, RICHARD S
1780	JACOBSON BILL TRUCKING CO
	OCCUPANT UNKNOWN,
1790	STEED, FRED
1800	VILLARREAL, SUZANNE M
2010	ROBERTSON, GORDON I
2050	GIANCOLA TONY
	GIANCOLA, TONY
2090	BOERNER, DONALD A

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

COCHRANE RD 1995

104	PERFECT TEN HAIR & NAIL
114	QUILT BLOSSOMS
124	BROWN GROUP RETAIL INC
1140	VAILEY OAKS CONSTRUCTION
1320	PRUETT, HOBART
	RUGE, WILLIAM R
1765	JOHN EMERY CONSULTING INC
2280	BORELLO, FRANCIS
	S G BORELLO & SONS INC
2290	THOMAS, HAROLD
2370	STOPPEL, JANE
17880	LOO SHUN W NURSERY
17930	CONTIVAL, GORDON J
17950	OCCUPANT UNKNOWNN
18150	SKOR, ROBERT B
18285	MARTINEZ, HARVEY E
18290	SLEPCEVIC, DUSAN

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

HALF RD 1995

1035	OCCUPANT UNKNOWNN
1065	LANGWORTHY, W
1345	TRI CITY TILE
1615	MARIANI ORCHARDS
	MARIANI, SIMA
1685	MARIANI ORCHARDS
1710	OCCUPANT UNKNOWNN
1720	SCOTT, RICHARD C
1770	PEARSALL, DENNIS
1780	JACOBSON BILL TRUCKING CO
	JACOBSON, BILL
1790	MOORE DON CONTRACTOR
	MOORE, DONALD E
1800	OCCUPANT UNKNOWNN
2000	ZAUCHA, JOHN C
2010	LATALA, ANDREW
2050	PRATO, DOLORES
2090	OCCUPANT UNKNOWNN
2130	SCHMIDT, WILLIAM J JR

Target Street	Cross Street	Source
✓	-	EDR Digital Archive

COCHRANE RD 1992

114	QUILT BLOSSOMS
120	CASSARA CRIS MARCA DELEGANZA
132	GEARED FOR GOLF
315	BERMEA, TINGO A
645	SAN JOSE TRAP & SKEET CLUB
785	SULLIVANS HOT DOGS
1140	ALBERTI, DAVID
	BEERS, DON
	VAILEY OAKS CONSTRUCTION
1195	JOHNSON, D
	LOW, CAMERON
	MILLERD, L E
	MILLERDLOW, J
	PARKER, BEN
	WILSON, TONY
1320	RIVERA, ELENA
	RUGE, WILLIAM R
1950	SOUTH VALLEY ANIMAL HOSPITAL
	TECHNICON COMPUTERS INC
2280	BECERRA, MARIA
	BORELLO, FRANCIS
	S G BORELLO & SONS INC
2290	THOMAS, HAROLD
2300	AMCO LUMBER & SUPPLY
2370	STOPPEL, JANE
13202	PRUETT, HOBART
17930	CONTIVAL, GORDON J
18150	SKOR, ROBERT B
18285	MARTINEZ, HARVEY E

Target Street	Cross Street	Source
-	✓	EDR Digital Archive

HALF RD 1992

1035	LOPEZ, A
1105	ROUSE, B F
1615	MARIANI ORCHARDS
	MARIANI, SIMA
1685	MARIANI ORCHARDS
1710	HIKIDA FARMS
	HIKIDA, RAY
1720	SCOTT, RICHARD C
1770	NICHOLLS, KEN
1780	JACOBSON BILL TRUCKING CO
	JACOBSON, BILL
1790	MOORE DON CONTRACTOR
	MOORE, DONALD E
1800	ZAUCHA, JOHN
2000	FANTASTIC OF NORTHERN CAL
	ZAUCHA, JOHN C
2010	EUROCRAFT DEVELOPMENT INC
	ROBERTSON, GORDON
2050	GIANCOLA, TONY
2130	SCHMIDT, WILLIAM J JR

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

COCHRANE RD 1986

COCHRANE RD 95037
MORGAN HILL

145	LEONARD MIKE	778-2620	1
225	XXXX	00	
315	BERMEA ARTHUR	779-8969	+6
	BERMEA BLANCA	779-8969	+6
535	XXXX	00	
645	**★SANJSE TRAP&SKEET**	**779-9710**	**2**
784	XXXX	00	
785	**★SULLIVAN REAL EST**	**779-9569**	
800	XXXX	00	
950	XXXX	00	
1050	XXXX	00	
1060	XXXX	00	
1140	ALBERTI CARMEN P	779-2849	
	CONTRERAS RAFAEL	779-0751	0
	LANDEROS JOSE M	779-5835	0
	MACIAS ELIAS M	779-3189	4
1195	LOW CAMERON	779-9240	
	LOW KATHI	779-9240	
	MILLERD L E MRS	779-1071	8
	MILLERDLOW JEAN V	779-9240	8
	PETERSON RED	779-9240	8
1200	HIGA S	779-9983	
1320	LYNE H P	779-3760	
	MCDONALD A	779-7619	2
	PRUETT HOBART	779-2627	4
	RIVERA SYLVIA	779-6019	+6
	RUGE W ROBT	779-3760	
	RUGE WM R	779-3760	
1485	XXXX	00	
1624	XXXX	00	
1625	CRAWFORD G	779-4348	4
	YBARRA CHRISTINE	778-3543	+6
1820	XXXX	00	
1845	XXXX	00	
1940	XXXX	00	
1950	**★CARROLL EUGENE DVM**	**226-3111**	**+6**
	★KAYASHIMA LORI DVM	**226-3111**	**5**
	★KAYASHIMA LORI DVM	**779-3118**	**5**
	★MCCORMICK R H DVM	**226-3111**	**4**
	★MCCORMICK R H VMD	**779-3118**	**4**
	★VALLEY ANIMAL HOSP	**226-3111**	**1**
	★VALLEY ANIMAL HSPTL	**779-3118**	
1960	XXXX	00	
2280	BORELLO F V	778-2487	2
	BORELLO FRANCIS	779-2417	
2290	THOMAS DARRYL	778-3054	+6
	THOMAS HAROLD	779-3562	
2370	XXXX	00	

★ 9 BUS 39 RES 6 NEW

Target Street	Cross Street	Source
-	✓	Haines Criss-Cross Directory

HALF RD 1986

651	SIGONA JOHN	779-4782	7
652	VARGAS JOE H	779-3726	
658	ORTEGA R C	779-3418	
659	ORTA GUADALUPE	779-5395	7
	SAUCEDO E	778-1689	3
660	★M T NURSERY	779-8982	+6
10005	SAWYER HOUGHTON	463-0228	9
17435	XXXX	00	
17555	★DAVEY TREE	778-0089	4
17705	BUILDING		
	★AGEE CECIL H MD	779-0634	0
	★ANHDER LAMOINE DDS	779-2216	
	★CHIN LAWRENCE Y OD	779-4179	5
	★CHUNG RANDALL L OD	779-4179	
	★DAY H J DDS	779-3464	
	★EWING JANICE R	779-6660	+6
	★HAWKE ROBERT H DDS	779-4169	7
	★HEINTZ CAROL	779-6660	+6
	★HENDREN IVAN T DC	779-3176	7
	★HUANG JOHN Y MD	779-2779	0
	★I M S COMPUTER SYST	779-1868	4
	★ISAKSEN DALLAS DDS	779-4012	
	★JANIS JOEL N DDS	778-3135	3
	★KOHN MARVIN I MD	779-7372	7
	★LIFE PLANNING CNSLT	779-7677	5
	★MACKLEY RONALD DDS	779-8407	8
	★MCDONALD L DDS	779-9335	2
	★MULBERG HANS R INC	779-7901	+6
	★OLLENBURGER J D OD	779-4179	8
	★ORROCK WILLIAM DDS	779-6444	8
	★OSTLUND DONNA	779-7677	+6
	★PARK PLZ CROWN LAB	779-9637	9
	★PEARSON STEPHEN DDS	779-2129	7
	★REED WHALEN	779-1787	5
	★VRALSTED MOORE ASC	779-1710	5
A	★FAMILY COUNSELING	778-1358	3
A	MINERUA VICKI V MA	778-1358	+6
A	★SEYMOUR ROBT R MA	778-1358	+6
H	FRITTER C CHRIS RPT	779-4343	+6
H	★FRITTER&SCHULZ	779-4343	+6
H	★SCHULZ GLENN E RPT	779-4343	+6
I	★BASSETT CRAIG J	779-3232	
I	★BROWN WM H ATTYS	779-3232	
I	★BROWN WM H CPA	779-3232	
I	★MCCARTNEY KENNETH L	779-3313	1
I	★ROBINETT PHILIP CPA	779-6326	1
17705			
17835	ROBERTS T M	779-5593	5
17845	XXXX	00	
17855	XXXX	00	

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

COCHRANE RD 1980

COCHRANE RD 95037
MORGAN HILL

645	SANJOSE TRAP&SKEET	779-9710	4
784	XXXX	00	
785	SULLIVAN REAL EST	779-9569	5
	SULLIVANS LAST STND	779-7177	5
800	XXXX	00	
1050	PONCE ENGRACIA	779-6245	8
1060	XXXX	00	
1140	ALBERTI CARMEN P	779-2849	
	CONTRERAS RAFAEL	779-0751	+0
	LANDEROS JOSE M	779-5835	+0
1195	LOW KATHI	779-9240	9
	MILLERD L E MRS	779-1071	8
	MILLERDLOW JEAN V	779-9240	8
	PETERSON RED	779-9240	8
1200	HIGA S	779-9983	2
1320	DIAZCONTI ANTONIO	779-4739	7
	LYNE H P	779-3760	2
	PRUETT HOBART	779-2857	9
	RUGE W ROBERT	779-3760	8
	RUGE WM R	779-3760	
1485	RICARD GEORGE J	779-7007	6
1625	XXXX	00	
1820	XXXX	00	
1845	RONLYN MICROCOMPUTE	779-1991	9
	WILLIAMS RON	779-8655	9
1940	XXXX	00	
1950	CARROLL E R	226-3111	+0
	CARROLL EUGENE DVM	779-3118	4
	ECKSTEIN DAVID DVM	779-3118	7
	GOELDNER DEAN E DVM	779-3118	6
	GROSSMAN BRIAN S	226-3111	+0
	RUSTEBAKKE D A DVM	779-3118	7
	SEALS WILLIAM L	226-3111	+0
	VALLEY LRG ANML HOS	779-3118	6
	VALLY ANML HOSP	226-3111	+0
1960	XXXX	00	
2280	BORELLO FRANCIS	779-2417	4
2290	THOMAS HAROLD	779-3562	5
2390	COYLE ROBERT M	779-2747	2
2398	XXXX	00	

★ 13 BUS 27 RES 6 NEW

Target Street	Cross Street	Source
-	✓	Haines Criss-Cross Directory

HALF RD 1980

651	SIGONA JOHN	779-4782	7
652	VARGAS JOE H	779-3726	6
654	XXXX	00	
658	ORTEGA R C	779-3418	2
659	ORTA GUADALUPE	779-5395	7
660	HINOJOSA ROY	779-5919	+0

Target Street	Cross Street	Source
-	✓	Haines Criss-Cross Directory

HALF RD 1980

..HALE AV		95037 CONT..
	MISSION CASTELLANA	779-0555 +0
664	XXXX	00
10005	SAWYER HOUGHTON	463-0228 9
10015	SHEPARD DAVID B	463-0280 +0
17435	PASKVAN VINCE	779-4592
17511	XXXX	00
17705.....	BUILDING	
	AGEE CECIL H MD	779-0634 +0
	ANHDER LAMOINE DDS	779-2216 6
	DASHNAW T RPT	779-1343 8
	DAY H J DDS	779-3464 6
	FOLENDORF R A	779-3313 8
	HAWKE ROBERT H DDS	779-4169 7
	HENDREN IVAN T DC	779-3176 7
	HUANG JOHN Y MD	779-2779 +0
	ISAKSEN DALLAS DDS	779-4012 6
	KOHN MARVIN I MD	779-7372 7
	MACKLEY RONALD DDS	779-8407 8
	OLLENBURGER J D OD	779-4179 8
	ORROCK WILLIAM DDS	779-6444 8
	PARK PLZ CROWN&BRDG	779-9637 9
	PARK PLZ DNTL X RAY	779-1266 9
	PEARSON STEPHEN DDS	779-2129 7
	POPPER PAUL	779-0817 +0
	RED CARPET	226-1330 +0
	RED CARPET MRGN HL	683-2500 8
	RED CARPET MRGN HL	779-3183 8
	ROSS PETER W OD	779-4179 7
	SHELTON DAN R	778-1337 +0
	STUART RSDNTL TITLE	779-6348 +0
	WIENER KENNETH A OD	779-4179 7
	YELLICH GEO M DDS M	779-8486 +0
A	WALKER&LEE	779-4171 9
17705.....		
17835	XXXX	00

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

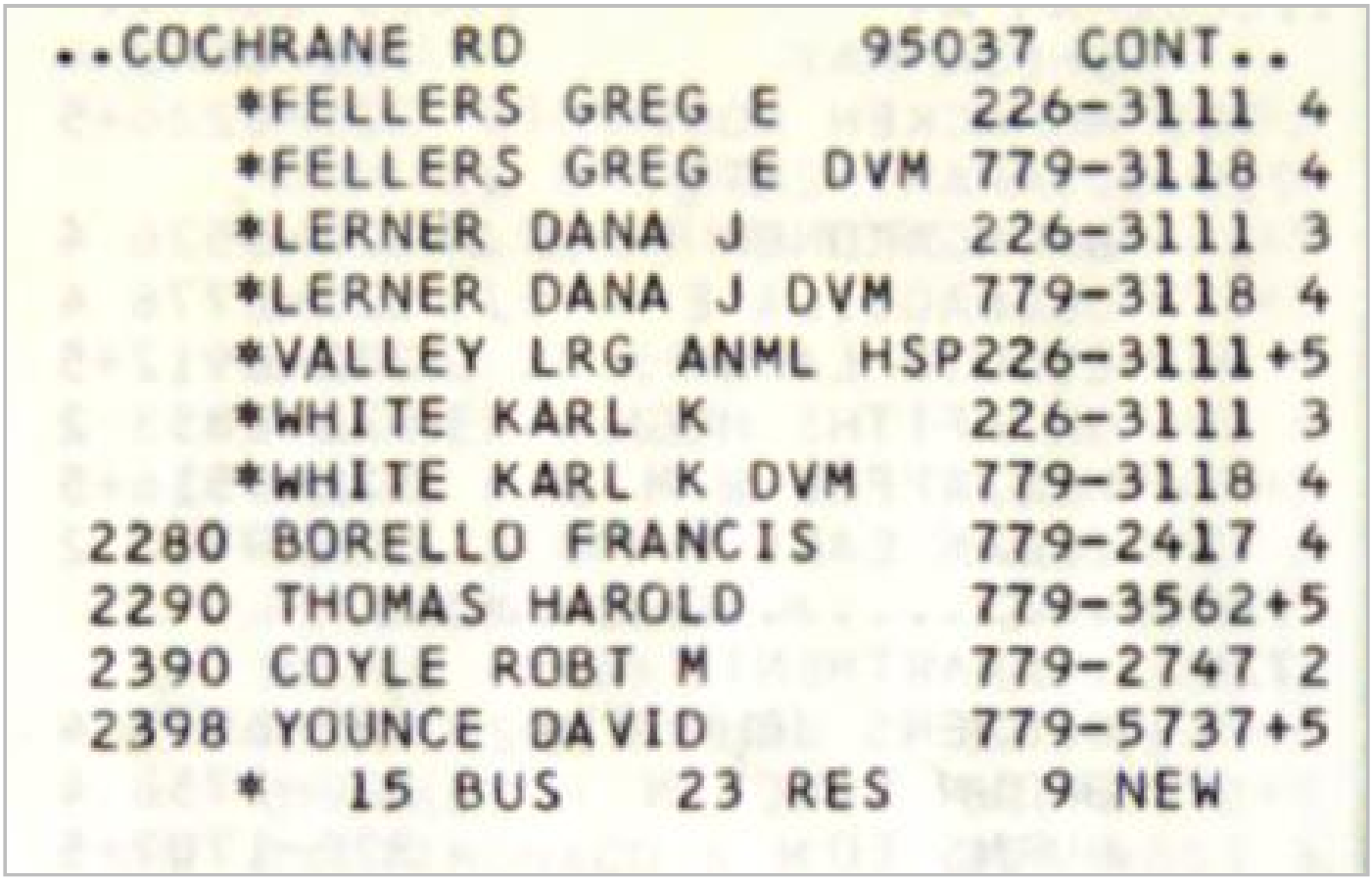
COCHRANE RD 1975

COCHRANE RD 95037 MORGAN HILL

```
 145*GRASS FARM THE          226-9775+5
 225  XXXX                   OO
 315  XXXX                   OO
 460  XXXX                   OO
 535 LINK WAYNE              779-4801
 645*SAN JOSE TRAP&SKEET     779-9710 4
 784  XXXX                   OO
 785*SULLIVAN REAL EST       779-9569+5
    *SULLIVANS LAST STND     779-7177+5
1060  XXXX                   OO
1140 ALBERTI CARMEN P        779-2849
1195 CARMICHAEL C M          779-3434 4
     FOGELBACH KEN           779-5778+5
     INGRAM JAS              779-5305+5
    *TWELVE ACRES RANCH      779-3434 4
1200 HIGA S                  779-9983 2
1320 CERDAN GUILLERNO        779-5148+5
    *HURD FARMS              779-5676 4
     LYNE H P                779-3760 2
   A RUGE WM R               779-3760
1485 GRAHAM THOS G           779-3553 4
1625 MARTINEZ EMILIO         779-4590 4
1820  XXXX                   OO
1845 DUTTO PETER             779-3966
1940  XXXX                   OO
1950*CARROLL EUGENE DVM       779-3118 4
    *CARROLL EUGENE R        226-3111 3
```

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

COCHRANE RD 1975



..COCHRANE RD 95037 CONT..

	*FELLERS GREG E	226-3111 4
	*FELLERS GREG E DVM	779-3118 4
	*LERNER DANA J	226-3111 3
	*LERNER DANA J DVM	779-3118 4
	*VALLEY LRG ANML HSP	226-3111+5
	*WHITE KARL K	226-3111 3
	*WHITE KARL K DVM	779-3118 4
2280	BORELLO FRANCIS	779-2417 4
2290	THOMAS HAROLD	779-3562+5
2390	COYLE ROBT M	779-2747 2
2398	YOUNCE DAVID	779-5737+5

* 15 BUS 23 RES 9 NEW

Target Street	Cross Street	Source
-	✓	Haines Criss-Cross Directory

HALF RD 1975

HALF RD 95037 MORGAN HILL

905	SHEHAN JUDITH A	779-9513+5
10358	IVEY IRBY	779-4393 2
1065	BAUMERT KATHLEEN	779-3262+5
	EASTES RUTH	779-2895
	FORD JESS J	779-7500+5
	LITTLEFIELD N V	779-9460 4
1105	HANN CHAS L	779-7068+5
1280	MOLICA PAUL J	779-7516+5
1320	ROMO ELSIE	779-5927+5
1345	LEONTI JOE	779-2207
1490	XXXX	OO
1605	GUNTER CLARENCE V	779-9040
1615	*MARIANI ORCHARDS	779-9637
	MARIANI SIMA	779-3369 4
1685	XXXX	CO
1710	HIKIDA RAY	779-5339 3
1720	LONG BENNY C	779-5622 4
1790	STEED FRED	779-2325+5
1800	ZAUCHA JOHN	779-3664 4

* 1 BUS 18 RES 7 NEW

APPENDIX E

REGULATORY AGENCY RECORDS

OFFICE OF COUNTY ASSESSOR — SANTA CLARA COUNTY, CALIFORNIA

BOOK 728 PAGE 30

P.M. 491–M–10

P.M. 594–M–7

MISSION VIEW (FMLY. PEET LANE) DRIVE

VACATED STREET 489.09 RES. Nº 4111

MURPHY LANE

De PAUL DRIVE

De PAUL DRIVE

ROAD

1 PCL. C 4.50 AC.

2 PCL. 2 10.00 AC. GR. 8.14 AC. NET

3 PCL. 1 13.88 AC.

4 PCL. 2 2.40 AC.

8 2.151 AC. PCL. A

9 10.42[illegible] AC. PCL. B

6 18.14 AC.

7 4.30 AC.

1" = 200'

P.M. 258 - M - 3

P.M. 669 - M - 34

28

29

31

32

33

SOUTH VALLEY FREEWAY 101

BOOK 726

CONDIT ROAD

HALF

S. C. V. W. D. Channel

TRA DET. MAP 262

LAWRENCE E. STONE – ASSESSOR
Cadastral map for assessment purposes only.
Compiled under R. & T. Code, Sec. 327.
Effective Roll Year 2017–2018

OFFICE OF COUNTY ASSESSOR — SANTA CLARA COUNTY, CALIFORNIA

BOOK	PAGE
728	31

MISSION VIEW DRIVE

L.L.A. 15454009
(FMLY. PEET LANE)

R. O. S. 70 / 52

P.M. 594-M-7

P.M. 594-M-7 ROAD

46 32 37 30

206.26 474.68 63.65 206.94 252.14 201.81 138.15 146.52 63.66 105.62 775.60 40' 73.99 13.33 317.50 113.54 371.19

12
0.95 AC.

6 PCL. A
2.43 AC.

13
24.55 AC.

5
1.35 AC.

15.06 362.02 90.30 59.15 32.31 59.15 51.93 306.11 492.10 328.31 1160 1140 148.07 79' 60.68 185.99 277.27

De PAUL DRIVE
18500/50/60/70/80/90
1295.98
1612.78

14
16.095 AC.NET.

15
34770 SF NET

49' 188.76 64.79 72.87 70.84 45° 1045 100 400 ℄ 100 400 ℄ 1040 101.95 97.92 ℄ 20 66.12 118.94 40.59 275.27 35.84 241.51 204.10 370.09 597.72 487.87 623.86 560.78 1514.04 ℄ (1513.98 ℄)

16
12.88 AC. GR.
12.683 AC. NET

LM 1 LM 2 LM 3
232.98 262.68 264.82
384.18 (371.91) 75.76
270.58 (270.32) 92.16 57.60

1
3.44 AC.

S.C.V.W.D. Channel

COCHRAN

FREEWAY BELOW

ROUTE 101

SOUTH VALLEY FREEWAY

BOOK 726

1" = 200'

TRA DET. MAP 261,262

LAWRENCE E. STONE – ASSESSOR
Cadastral map for assessment purposes only.
Compiled under R. & T. Code, Sec. 327.
Effective Roll Year 2017–2018

County of Santa Clara
Detailed Property Report
Thu May 17 2018

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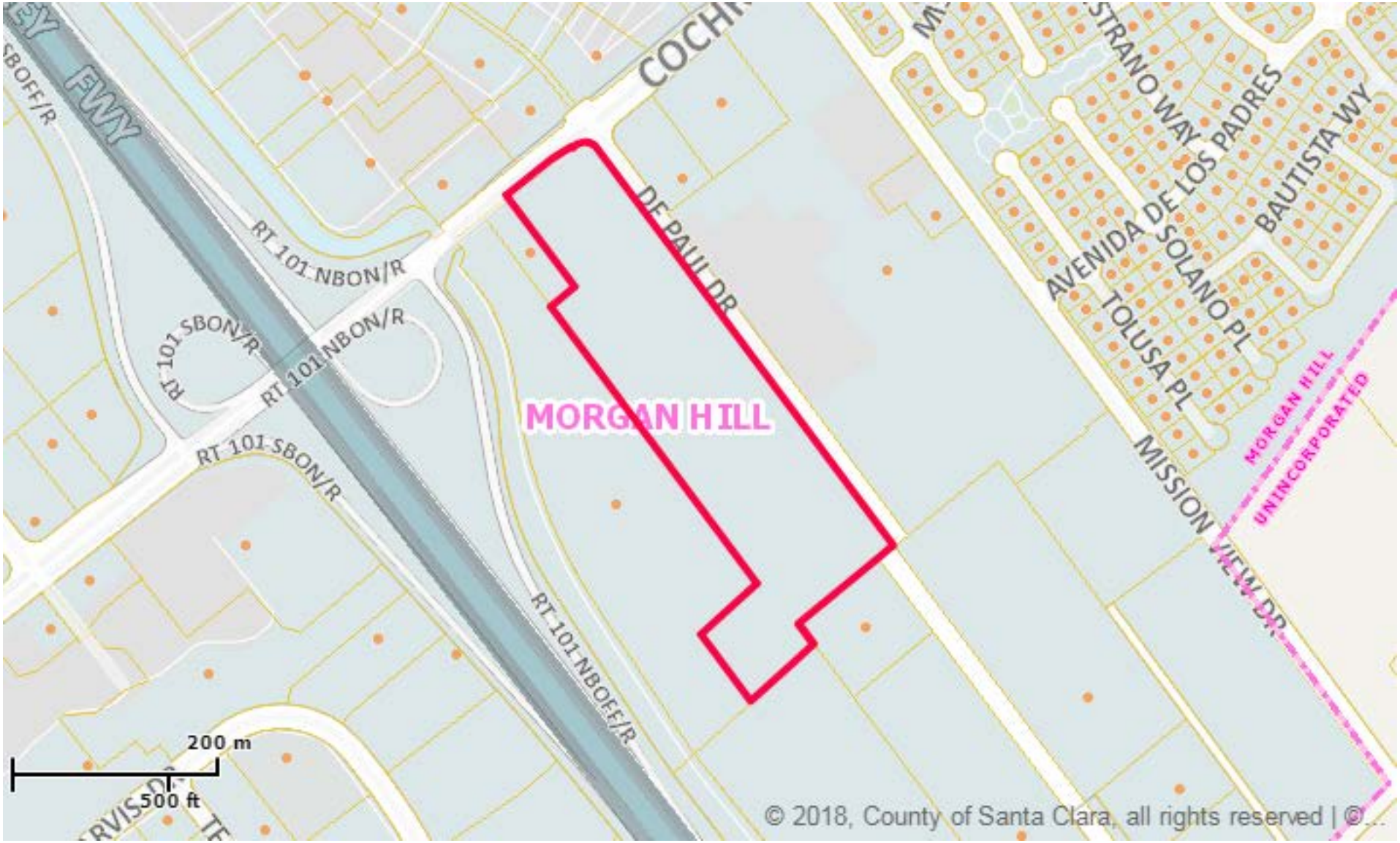
Property Location Information
APN:72831014
SITUS address:COCHRANE RD
City/State/Zip:MORGAN HILL, CA, 95037
Estimated Size:726,147 sq. ft. / 16.67 acres
City Zoning:n/a



Field	Value
APN	72831014
NUMBER_OF_SITUS_ADDRESS	1
OBJECTID	453614
SHAPE_Area	726147.4227216376
SHAPE_Length	4766.0320759313845
SITUS_CITY_NAME	MORGAN HILL
SITUS_HOUSE_NUMBER	
SITUS_HOUSE_NUMBER_SUFFIX	
SITUS_STATE_CODE	CA
SITUS_STREET_DIRECTION	
SITUS_STREET_NAME	COCHRANE
SITUS_STREET_TYPE	RD
SITUS_UNIT_NUMBER	
SITUS_ZIP_CODE	95037
TAX_RATE_AREA	4003

County of Santa Clara
Detailed Property Report
Thu May 17 2018

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Property Location Information
APN:72831015
SITUS address:145 COCHRANE RD
City/State/Zip:MORGAN HILL, CA, 95037
Estimated Size:36,652 sq. ft. / 0.84 acres
City Zoning:n/a

Field	Value
APN	72831015
NUMBER_OF_SITUS_ADDRESS	1
OBJECTID	453615
SHAPE_Area	36652.5053536719
SHAPE_Length	933.1796254061524
SITUS_CITY_NAME	MORGAN HILL
SITUS_HOUSE_NUMBER	145
SITUS_HOUSE_NUMBER_SUFFIX	
SITUS_STATE_CODE	CA
SITUS_STREET_DIRECTION	
SITUS_STREET_NAME	COCHRANE
SITUS_STREET_TYPE	RD
SITUS_UNIT_NUMBER	
SITUS_ZIP_CODE	95037
TAX_RATE_AREA	4003

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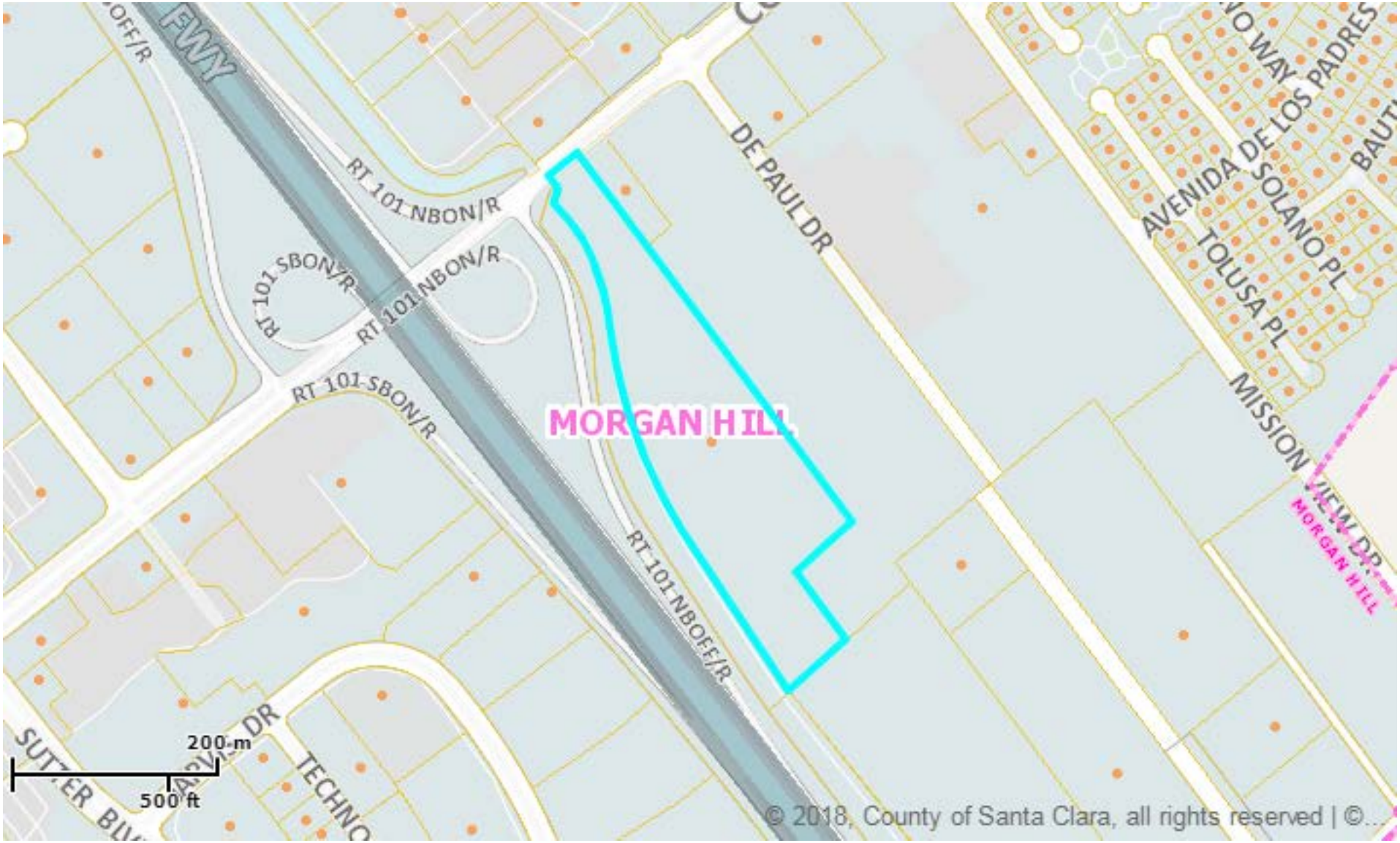
Property Location Information
APN:72831016
SITUS address:1040 COCHRANE RD
City/State/Zip:MORGAN HILL, CA, 95037
Estimated Size:547,954 sq. ft. / 12.57 acres
City Zoning:n/a



Field	Value
APN	72831016
NUMBER_OF_SITUS_ADDRESS	1
OBJECTID	453629
SHAPE_Area	547954.8669658359
SHAPE_Length	4200.1363667248625
SITUS_CITY_NAME	MORGAN HILL
SITUS_HOUSE_NUMBER	1040
SITUS_HOUSE_NUMBER_SUFFIX	
SITUS_STATE_CODE	CA
SITUS_STREET_DIRECTION	
SITUS_STREET_NAME	COCHRANE
SITUS_STREET_TYPE	RD
SITUS_UNIT_NUMBER	
SITUS_ZIP_CODE	95037
TAX_RATE_AREA	4003

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Property Location Information
APN:72830006
SITUS address:HALF RD
City/State/Zip:MORGAN HILL, CA, 95037
Estimated Size:804,133 sq. ft. / 18.46 acres
City Zoning:n/a

Field	Value
APN	72830006
NUMBER_OF_SITUS_ADDRESS	1
OBJECTID	453617
SHAPE_Area	804133.2159335763
SHAPE_Length	4271.567827784253
SITUS_CITY_NAME	MORGAN HILL
SITUS_HOUSE_NUMBER	
SITUS_HOUSE_NUMBER_SUFFIX	
SITUS_STATE_CODE	CA
SITUS_STREET_DIRECTION	
SITUS_STREET_NAME	HALF
SITUS_STREET_TYPE	RD
SITUS_UNIT_NUMBER	
SITUS_ZIP_CODE	95037
TAX_RATE_AREA	4003

County of Santa Clara
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Thu May 17 2018

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Property Location Information
APN:72830009
SITUS address:1065 HALF RD
City/State/Zip:MORGAN HILL, CA, 95037-2911
Estimated Size:449,848 sq. ft. / 10.32 acres
City Zoning:n/a

Field	Value
APN	72830009
NUMBER_OF_SITUS_ADDRESS	1
OBJECTID	418778
SHAPE_Area	449848.7072128134
SHAPE_Length	3389.201042425944
SITUS_CITY_NAME	MORGAN HILL
SITUS_HOUSE_NUMBER	1065
SITUS_HOUSE_NUMBER_SUFFIX	
SITUS_STATE_CODE	CA
SITUS_STREET_DIRECTION	
SITUS_STREET_NAME	HALF
SITUS_STREET_TYPE	RD
SITUS_UNIT_NUMBER	
SITUS_ZIP_CODE	95037-2911
TAX_RATE_AREA	4003

County of Santa Clara
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Thu May 17 2018

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Property Location Information
APN:72830003
SITUS address:1105 HALF RD
City/State/Zip:MORGAN HILL, CA, 95037
Estimated Size:597,741 sq. ft. / 13.72 acres
City Zoning:n/a

Field	Value
APN	72830003
NUMBER_OF_SITUS_ADDRESS	1
OBJECTID	20288
SHAPE_Area	597741.7576175435
SHAPE_Length	4930.226042093163
SITUS_CITY_NAME	MORGAN HILL
SITUS_HOUSE_NUMBER	1105
SITUS_HOUSE_NUMBER_SUFFIX	
SITUS_STATE_CODE	CA
SITUS_STREET_DIRECTION	
SITUS_STREET_NAME	HALF
SITUS_STREET_TYPE	RD
SITUS_UNIT_NUMBER	
SITUS_ZIP_CODE	95037
TAX_RATE_AREA	4003

County of Santa Clara
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Thu May 17 2018

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Property Location Information
APN:72830004
SITUS address:1105 HALF RD
City/State/Zip:MORGAN HILL, CA, 95037-0029
Estimated Size:102,733 sq. ft. / 2.35 acres
City Zoning:n/a

Field	Value
APN	72830004
NUMBER_OF_SITUS_ADDRESS	1
OBJECTID	399039
SHAPE_Area	102733.20475116646
SHAPE_Length	1300.9358212919606
SITUS_CITY_NAME	MORGAN HILL
SITUS_HOUSE_NUMBER	1105
SITUS_HOUSE_NUMBER_SUFFIX	
SITUS_STATE_CODE	CA
SITUS_STREET_DIRECTION	
SITUS_STREET_NAME	HALF
SITUS_STREET_TYPE	RD
SITUS_UNIT_NUMBER	
SITUS_ZIP_CODE	95037-0029
TAX_RATE_AREA	4003

County of Santa Clara
Detailed Property Report
Thu May 17 2018

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Property Location Information
APN:72830002
SITUS address:HALF RD
City/State/Zip:MORGAN HILL, CA, 95037
Estimated Size:363,359 sq. ft. / 8.34 acres
City Zoning:n/a

Field	Value
APN	72830002
NUMBER_OF_SITUS_ADDRESS	1
OBJECTID	378080
SHAPE_Area	363359.0578895588
SHAPE_Length	2751.81937054724
SITUS_CITY_NAME	MORGAN HILL
SITUS_HOUSE_NUMBER	
SITUS_HOUSE_NUMBER_SUFFIX	
SITUS_STATE_CODE	CA
SITUS_STREET_DIRECTION	
SITUS_STREET_NAME	HALF
SITUS_STREET_TYPE	RD
SITUS_UNIT_NUMBER	
SITUS_ZIP_CODE	95037
TAX_RATE_AREA	4003

County of Santa Clara
Detailed Property Report
Thu May 17 2018

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Property Location Information
APN:72830001
SITUS address:MISSION VIEW DR
City/State/Zip:MORGAN HILL, CA, 95037
Estimated Size:189,034 sq. ft. / 4.33 acres
City Zoning:n/a

Field	Value
APN	72830001
NUMBER_OF_SITUS_ADDRESS	1
OBJECTID	263052
SHAPE_Area	189034.3111572036
SHAPE_Length	1772.611725785452
SITUS_CITY_NAME	MORGAN HILL
SITUS_HOUSE_NUMBER	
SITUS_HOUSE_NUMBER_SUFFIX	
SITUS_STATE_CODE	CA
SITUS_STREET_DIRECTION	
SITUS_STREET_NAME	MISSION VIEW
SITUS_STREET_TYPE	DR
SITUS_UNIT_NUMBER	
SITUS_ZIP_CODE	95037
TAX_RATE_AREA	4003

COMMUNITY DEVELOPMENT DEPARTMENT
BUILDING DIVISION

FOR APPLICANT TO FILL IN
WITH BALL POINT PEN ONLY

City of Morgan Hill

APPLICATION & PERMIT

ELECTRIC PERMIT

PLUMBING PERMIT

MECHANICAL PERMIT

Signature of final on building permit indicates approval of certificate of occupancy.
Job card shall be posted on the job at all times of inspection to make the required entries thereon.

APPROVALS FOR ISSUANCE | APPROVALS FOR FINAL | PLANNING | BUILDING | FIRE | PUBLIC WORKS

FEE SUMMARY

63.00
BY
2.00

65 BY

$65 BY
9/13/91

Job Type: RSIGN Address: 3040 COCHRANE RD.
Permit #: 91 0513 Permit Type: B
Issued: 09/13/91
Owner: O'CONNOR HOSPITAL
Contractor: Owner/Builder
Description:
FREEWAY SIGN FOR ST. LOUISE HOSPITAL

DATE

Engineered Foundation Letter
Special Inspector Logs
Survey Letter
Insulation Certificate
Title 24 Compliance
Special Inspector Compliance
List of Subs

FINAL INSPECTION SIGN-OFFS

Fire
Planning
Pre-Treatment
Public Works

COMMENTS

DATE

Temporary Power Pole
Called PG&E
Temporary Elect. Service
Called PG&E
Temporary Gas Service
Called PG&E

JOB FINALED: 11/19/91
Date

Signature

INSPECTION	DATE	INSP.
Engineered Found.		
Setback-Ufer		
Footings-Steel		
Forms		
Block Foundation		
Fireplace-Footing		

POUR NO CONCRETE UNTIL ABOVE HAS BEEN SIGNED

Concrete Slab Floor		
Plumb(groundwork)		
Elect.(groundwork)		
Fill & Re-inforcing		

POUR NO CONCRETE UNTIL ABOVE HAS BEEN SIGNED

MASONRY WALL

Date	Sign	Date	Sign	Date	Sign
4		12		20	
8		16		24	

POUR NO CONCRETE UNTIL ABOVE HAS BEEN SIGNED

CARPORT		
Footing (concrete)		
Slab		
Frame		

GARAGE/DRIVEWAY		
Garage Slab(concrete)		
Driveway		

POUR NO CONCRETE OR PLACE ANY ASPHALT CONCRETE UNTIL ABOVE HAS BEEN SIGNED

Sewer		
Water		

PLACE NO FILL UNTIL ABOVE HAS BEEN SIGNED

********INSPECTION NOTES*************

INSPECTION	DATE	INSP.
UNDERFLOOR		
Gas		
Plumbing		
Heating		
Electrical		
Underpinning		

PLACE NO INSULATION UNTIL ABOVE HAS BEEN SIGNED

Insulation		

PLACE NO SUBFLOOR UNTIL ABOVE HAS BEEN SIGNED

ROOFING		
Shear Nail		
Roof Sheathing		
Sheet Metal		

APPLY NO ROOFING UNTIL ABOVE HAS BEEN SIGNED

Rough Gas		
Plumbing Top Out		
Rough Heating		
Rough Electrical		
Framing		

APPLY NO INSULATION UNTIL ABOVE HAS BEEN SIGNED

Wall Insulation		
Ceiling Insulation		

APPLY NO SHEETROCK UNTIL ABOVE HAS BEEN SIGNED

Sheetrock Nail		
Exterior Lath		

NO TAPE OR PLASTER UNTIL ABOVE HAS BEEN SIGNED

Gas Test		

COMMUNITY DEVELOPMENT DEPARTMENT
BUILDING DIVISION

FOR APPLICANT TO FILL IN
WITH BALL POINT PEN ONLY

City of Morgan Hill

APPLICATION & PERMIT

BUILDING PERMIT INFORMATION

APPROVALS

FINAL

Signature of final on building permit indicates approval of certificate of occupancy.
Job card shall be posted on the job at all times of inspection to make the required entries thereon.

BUILDING PERMIT

MECHANICAL PERMIT

FEE SUMMARY

PLANNING | PUBLIC WORKS | APPROVALS FOR ISSUANCE | APPROVALS FOR FINAL

Distribution: White (original) - Applicant; Yellow - Building Permit; Canary - Public Works Department; Pink - Planning Department; Goldenrod - Landscaping; Blue - Fire Department

Job Type: Address: 1040 COCHRANE RD.
Permit #: 91 0674 Permit Type: E
Issued: 10/22/91
Owner: SAINT LOUISE HOSPITAL
Contractor: Owner/Builder
Description:
METER FOR FREEWAY SIGN FOR SAINT LOUISE HOSP. - APN #727-12-030

	DATE
Engineered Foundation Letter	
Special Inspector Logs	
Survey Letter	
Insulation Certificate	
Title 24 Compliance	
Special Inspector Compliance	
List of Subs	

FINAL INSPECTION SIGN-OFFS

Fire	
Planning	
Pre-Treatment	
Public Works	

COMMENTS

DATE

Temporary Power Pole Called PG&E	
Temporary Elect. Service Called PG&E	
Temporary Gas Service Called PG&E	

JOB FINALED: 10/24/91 (Date) (Signature)

INSPECTION	DATE	INSP.
Engineered Found.		
Setback-Ufer		
Footings-Steel		
Forms		
Block Foundation		
Fireplace-Footing		

POUR NO CONCRETE UNTIL _____ ABOVE HAS BEEN SIGNED

Concrete Slab Floor		
Plumb(groundwork)		
Elect.(groundwork)		
Fill & Re-inforcing		

POUR NO CONCRETE UNTIL ABOVE HAS BEEN SIGNED

MASONRY WALL

Date	Sign	Date	Sign	Date	Sign
4		12		20	
8		16		24	

POUR NO CONCRETE UNTIL ABOVE HAS BEEN SIGNED

CARPORT

Footing (concrete)		
Slab		
Frame		

GARAGE/DRIVEWAY

Garage Slab(concrte)		
Driveway		

POUR NO CONCRETE OR PLACE ANY ASPHALT CONCRETE UNTIL ABOVE HAS BEEN SIGNED

Sewer		
Water		

PLACE NO FILL UNTIL ABOVE HAS BEEN SIGNED

********INSPECTION NOTES**********

INSPECTION	DATE	INSP.
UNDERFLOOR		
Gas		
Plumbing		
Heating		
Electrical		
Underpinning		

PLACE NO INSULATION UNTIL ABOVE HAS BEEN SIGNED

Insulation		

PLACE NO SUBFLOOR UNTIL ABOVE HAS BEEN SIGNED

ROOFING

Shear Nail		
Roof Sheathing		
Sheet Metal		

APPLY NO ROOFING UNTIL ABOVE HAS BEEN SIGNED

Rough Gas		
Plumbing Top Out		
Rough Heating		
Rough Electrical		
Framing		

APPLY NO INSULATION UNTIL ABOVE HAS BEEN SIGNED

Wall Insulation		
Ceiling Insulation		

APPLY NO SHEETROCK UNTIL ABOVE HAS BEEN SIGNED

Sheetrock Nail		
Exterior Lath		

NO TAPE OR PLASTER UNTIL ABOVE HAS BEEN SIGNED

Gas Test		

CITY OF MORGAN HILL

17555 PEAK AVENUE MORGAN HILL CALIFORNIA 95037

COMMUNITY DEVELOPMENT BUILDING DIVISION PLAN CHECK ROUTING FORM

Reviewing Department :	**Public Works**	**776-7337**
	Planning Dept.	**779-7248**
Permit No. 91-0513	**Building Dept.**	**779-7241**

Date: AUGUST 15, 1991

****

APPLICANT O'CONNOR HOSP./ST. LOUISE HOSP.

ADDRESS 18500 ST. LOUISE DR., MORGAN HILL

PHONE # 778-6669

PROJECT ADDRESS (Location) 18500 ST. LOUISE DR.

ASSESSORS PARCEL # 727-12-030

PROJECT DESCRIPTION NEW FREEWAY SIGN FOR HOSPITAL

All written comments must be completed and received by the Building Department by AUGUST 21, 1991

COMMENTS: This item was held up to get a determination from Jim Rudloff and the City Manager regarding requirement for ARB approval.

REVIEWED BY: Yasmin Hassan **DATE** 8/21/91 **OK TO ISSUE? YES / NO**

RE-CHECK BY: _____ **DATE** _____ **OK TO ISSUE? YES / NO**

c:\WP\MISC\ROUTEFRM

PUBLIC WORKS
AUG 16 1991
OF MORGAN HILL

CITY OF MORGAN HILL

17555 PEAK AVENUE MORGAN HILL CALIFORNIA 95037

COMMUNITY DEVELOPMENT BUILDING DIVISION PLAN CHECK ROUTING FORM

Reviewing Department :	Public Works	776-7337
	Planning Dept.	779-7248
Permit No. 91-0513	Building Dept.	779-7241
Date: AUGUST 15, 1991		

****

APPLICANT O'CONNOR HOSP./ST. LOUISE HOSP.

ADDRESS 18500 ST. LOUISE DR., MORGAN HILL

PHONE # 778-6669

PROJECT ADDRESS (Location) 18500 ST. LOUISE DR.

ASSESSORS PARCEL # 727-12-030

PROJECT DESCRIPTION NEW FREEWAY SIGN FOR HOSPITAL

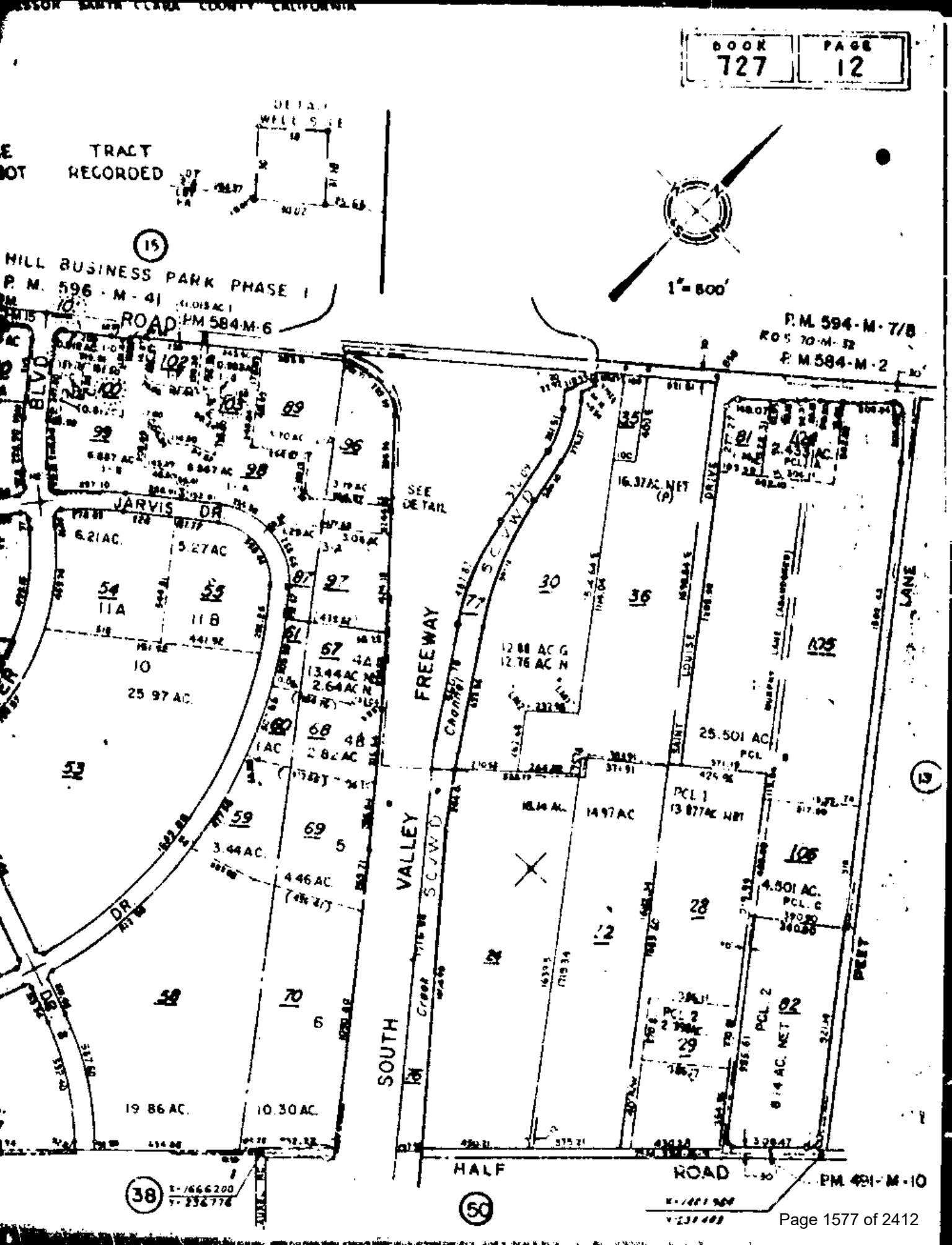
All written comments must be completed and received by the Building Department by AUGUST 21, 1991

COMMENTS: UNABLE TO DETERMINE EXACT LOCATION FROM LOCATION MAP. SIGN MUST BE CLEAR OF S.C.V.W.D. PROPERTY AND/OR ANY EASEMENTS. SEE ATTACHED ASSESSORS MAP.

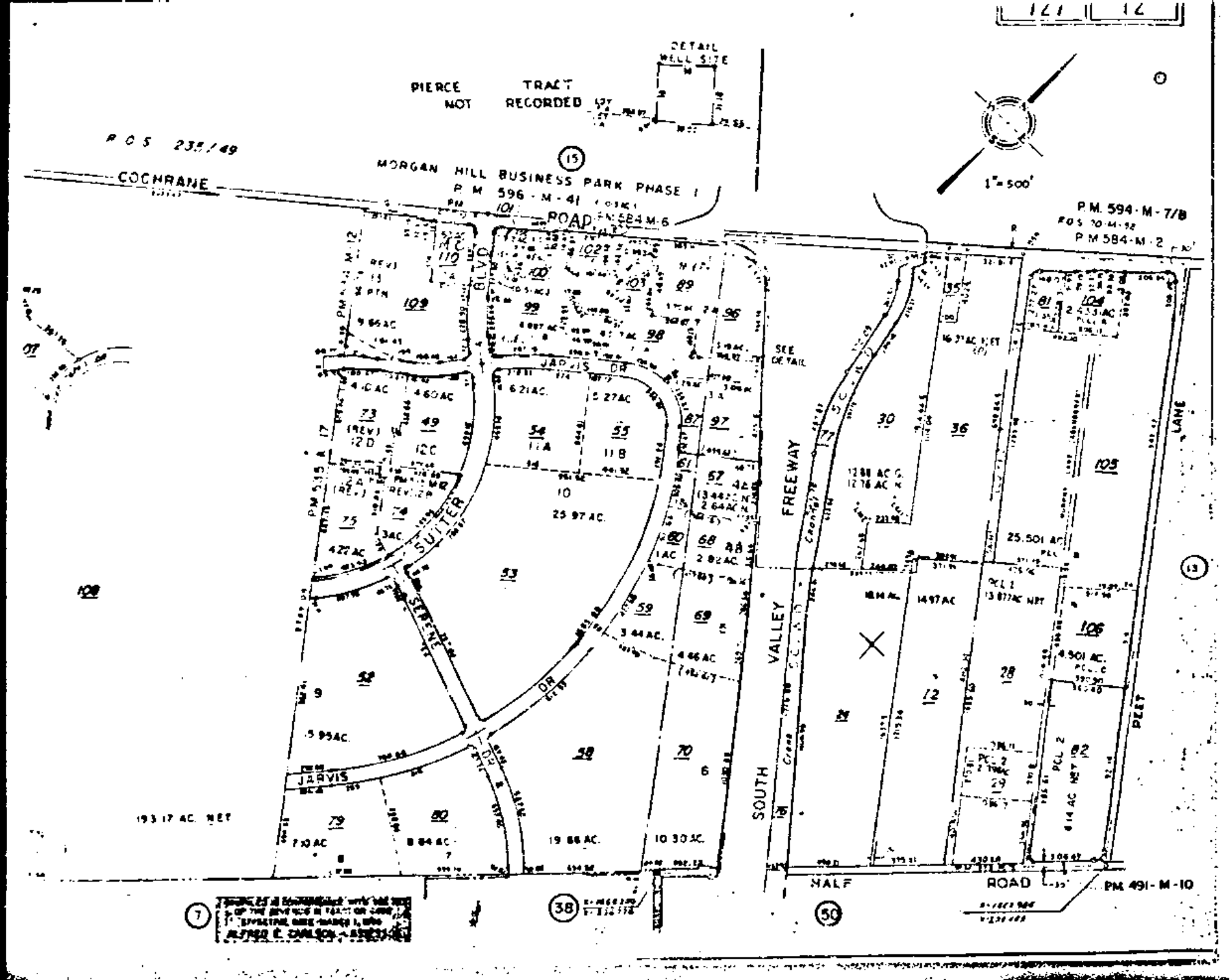
REVIEWED BY: D'Arrigucci DATE 8-19-91 OK TO ISSUE? (YES) / NO

RE-CHECK BY: _____ DATE _____ OK TO ISSUE? YES / NO

C:\WP\MISC\ROUTEFRM


TRACT
RECORDED
15
HILL BUSINESS PARK PHASE 1
P. M. 596 - M - 41
ROAD
PM 584-M-6
1"= 800'
P.M. 594-M-7/8
R.O.S. 70-M-32
P.M. 584-M-2
BLVD
JARVIS DR
6.21AC.
5.27AC
54
11A
55
11B
10
25.97 AC.
53
SEE DETAIL
SCVWD
FREEWAY
Channel
16.37AC. NET (P)
30
36
12.88 AC G
12.76 AC N
LOUISE
SAINT
LANE
425
25.501 AC.
PCL B
PCL 1
13.877AC NET
14.97 AC
105
4.501 AC.
PCL C
28
29
PCL 2
82
8.14 AC. NET
SOUTH VALLEY
Great
HALF
ROAD
PM 491-M-10
19.86 AC.
10.30 AC.
58
70
6
59
69
5
3.44AC.
4.46 AC.
68
48
2.82 AC
67
44
13.44 AC
2.64 AC N
1AC
97
87
61
80
38
50
19

SOUTH VALLEY FREEWAY
HALF ROAD
PM 481-M
PM 584-M-2
PM 584-M-6
PM 596-M-41
PM 594-M-7/8
HILL BUSINESS PARK PHASE I
DETAIL WELL SITE
NOT RECORDED TRACT
DO NOT REMOVE
1"= 500'
BOOK 727
PAGE 12


PIERCE TRACT NOT RECORDED
DETAIL WELL SITE
R O S 235/49
COCHRANE
MORGAN HILL BUSINESS PARK PHASE 1
P M 596 - M - 41
P M 584 - M - 6
ROAD
1"=500'
P M 594 - M - 7/8
R O S 70 - M - 52
P M 584 - M - 2
SEE DETAIL
SUTER
SERENE
DR
JARVIS
SOUTH VALLEY FREEWAY
LANE
PEET
HALF ROAD
P M 491 - M - 10
193.17 AC. NET
25.97 AC.
19.88 AC.
10.30 AC.
25.501 AC.
14.97 AC.
9.501 AC.
4.14 AC. NET

City of Morgan Hill
17555 Peak Avenue
Morgan Hill, CA 95037
408-779-7241

PERMIT NUMBER 951338

APPLICATION & PERMIT
BUILDING - ELECTRICAL - DEMOLITION
PLUMBING - MECHANICAL - GRADING

COMMUNITY DEVELOPMENT DEPARTMENT • BUILDING DIVISION

FOR APPLICANT TO FILL IN WITH BALL POINT PEN ONLY

BUILDING ADDRESS 1065 HALE RD APN 728-30-005
LOT NO R OF S TRACT
SIZE OF LOT NO OF BLDGS NOW ON LOT
USE OF EXISTING BLDG
OWNER MEL BARBER
MAIL ADDRESS 1660 MANTELLI
CITY GILROY ZIP 95020 TEL NO 847 3079
CONTRACTOR ABCO CONSTRUCTION TEL NO 779-7577
ADDRESS 14880 LLAGAS Ave
CITY SAN MARTIN ZIP 95046 STATE LIC NO 691297
ARCHITECT OR ENGINEER TEL NO STATE LIC NO
ADDRESS
CITY BUS. LIC. # 5513 EXP

LICENSED CONTRACTORS DECLARATION

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Div. 3 of the Business & Professions Code, and my license is in full force and effect.

Lic. Class C-21 Lic. No 691297 Exp. Date 6/96
Contractor Signature Laura Cullops

OWNER-BUILDER DECLARATION

I hereby affirm under penalty of perjury that I am exempt from the Contractors License Law for the following reason (Sec. 7031.5, Business & Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 commencing with section 7000) of Div. 3 of the Business & Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars ($500.):

☐ I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale. (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his or her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he or she did not build or improve for the purpose of sale.)

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law.).

☐ I am exempt under Sec. _____, B.&P.C. for this reason

Date _____ Owner _____

WORKERS' COMPENSATION DECLARATION

I hereby affirm under penalty of perjury one of the following declarations:

☐ I have and will maintain a certificate of consent to self-insure for workers' compensation, as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

☒ I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy # are:

Carrier: STATE FUND
Policy Number: 1401247-95 Date 6/96

(This section need not be completed if the permit is for one hundred dollars ($100) or less).

☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California, and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date _____ Applicant _____

WARNING: FAILURE TO SECURE WORKERS' COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS ($100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, & ATTORNEY'S FEES

CONSTRUCTION LENDING AGENCY

I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C.).

Lender's Name _____

Lender's Address _____

I certify that I have read this application and state that the above information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction, and hereby authorize representatives of this city to enter upon the above mentioned property for inspection purposes.

Signature of Applicant or Agent Laura A. Cullops Date 11-1-95

BUILDING PERMIT INFORMATION	Const Type	Occ. Group
DESCRIPTION OF WORK		
NEW ADD ALTER REPAIR (DEMOLISH)		
RE-ROOF CHIMNEY POOL GRADING		
SQ FT SIZE ?	SQ FT GARAGE	
NO OF STORIES	NO OF FAMILIES	
USE OF STRUCTURE DESCRIPTION OF WORK	HOUSE ONLY	

VALUATION 0 FEE 25.00

APPROVALS

	DATE	INSPECTOR'S SIG
FINAL		

ELECTRIC PERMIT

ITEM	NO	EACH	FEE
OUTLETS LTS REC SW		$	$
LIGHTING FIXTURES			
ELEC RANGES CLO DRYERS WATER HEATERS			
DISHWASHERS GARBAGE AUTO WASHERS DISPOSERS			
MOTORS, GEN H P			
UP TO INCL 0 - 1			
1 - 10			
10 - 50			
50 - 100			
100 - OVER			
POOL			
MISC			
FLAT FEE (RES)			
TEMP POWER			
SERVICE AMPS			
TEMP POLE			
SUB PANEL			
PERMIT			$
TOTAL FEE			$

PLUMBING PERMIT

NO	ITEM @	NO	ITEM @
	WATER CLOSET		LAUNDRY TUB
	BATH TUB		CLOTHES WASHER
	SHOWER		DISPOSER
	LAVATORY		FLOOR DRAIN
	SINK		FLOOR SINK
	DISHWASHER		DRINKING FOUNTAIN

		FEE
	TOTAL X	$
NO	MISCELLANEOUS ITEMS	
	HOUSE SEWER @	
	WATER HEATER	
	WATER SYSTEM	
	WATER SOFTENER	
	LAWN SPRINKLER	
	GAS SYSTEM (1-4 OUTLETS)	
	ADDITIONAL OUTLETS (over 4)	
	TEMP GAS METER	
	PERMIT	$
	TOTAL FEE	$

MECHANICAL PERMIT

NO	TYPE OF EQUIPMENT	PERMIT FEES
	CENTRAL HEAT - B.T.U. M EA	$
	GRAVITY SYSTEMS - B.T.U M EA	
	FLOOR FURNACES - B.T.U M EA	
	WALL HEATERS - B.T.U M EA	
	UNIT HEATERS - B.T.U M EA	
	BOILERS - H.P EA	
	AIR COND UNITS - H.P EA	
	REFRIGERATION UNITS - H.P EA	
	EVAPORATIVE COOLERS	
	VENTILATION FAN	
	AIR HANDLING UNIT C.F.M	
	RANGE HOOD/JENN AIRE	
	HEAT PUMP	
	PERMIT	$
	TOTAL FEE	$

Shall comply to air pollution requirements per AB 928 ☒ YES ☐ NO

Asbestos notification to BAAQMD ☒ YES ☐ NO ☐ EXEMPT

Job card shall be posted on the job at all times of inspection to make the required entries thereon.

FEE SUMMARY	
BUILDING	25.00
SEISMIC FEE	
MICROFILM	
ELECTRIC	
PLUMBING	
MECHANICAL	
HAZ MAT	
FIRE SPRINK	
GPM	.75
TOTAL FEE $	25.75

FIRE SPRINK Y ☐ N ☐
ENERGY T-24 Y ☐ N ☐

PERMIT VALIDATION
25.75
Ls 11/1/95
ISSUANCE DATE

BLDG	ELECT	PLG	MECH
X			

PERMIT EXPIRATION
PERMIT EXPIRES IF WORK IS NOT STARTED WITHIN 180 DAYS OF PERMIT ISSUANCE OR 180 DAYS FROM LAST CALLED INSPECTION.

APPROVALS FOR ISSUANCE
APPROVALS FOR FINAL
FIRE DEPT.
PRE TREATMENT
HAZ MAT
PLANNING
PUBLIC WORKS

AUTOMATED INSPECTION REQUEST SYSTEM TELEPHONE NUMBER: (408) 776-9108

Distribution White - Inspection Green - Permittee Canary - Finance Department Pink - Interim Record Goldenrod - Permittee

City of Morgan Hill
17555 Peak Avenue
Morgan Hill, CA 95037
408-779-7241

PERMIT NUMBER 951339

APPLICATION & PERMIT
BUILDING - ELECTRICAL - DEMOLITION
PLUMBING - MECHANICAL - GRADING

COMMUNITY DEVELOPMENT DEPARTMENT • BUILDING DIVISION

FOR APPLICANT TO FILL IN WITH BALL POINT PEN ONLY

BUILDING ADDRESS 1065 Half Rd. APN 728-30-005
LOT NO ___ R OF S ___ TRACT ___
SIZE OF LOT ___ NO OF BLDGS NOW ON LOT ___
USE OF EXISTING BLDG ___
OWNER Mel Barbieri
MAIL ADDRESS 7460 Mantelli Dr
CITY Gilroy ZIP 95020 TEL NO. 847-2079
CONTRACTOR A&D Construction TEL NO 779-7527
ADDRESS 14880 Llagas Ave
CITY San Martin ZIP 95046 STATE LIC NO 691297
ARCHITECT OR ENGINEER ___ TEL NO. ___ STATE LIC. NO. ___
ADDRESS ___
CITY BUS. LIC. # 5513 EXP. ___

LICENSED CONTRACTORS DECLARATION

I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Div. 3 of the Business & Professions Code, and my license is in full force and effect.

Lic. Class C-21 Lic. No 691297 Exp. Date 6-1-96
Contractor Signature James Allyn

OWNER-BUILDER DECLARATION

I hereby affirm under penalty of perjury that I am exempt from the Contractors License Law for the following reason. (Sec. 7031.5, Business & Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 commencing with section 7000) of Div. 3 of the Business & Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars ($500).):

☐ I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale. (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his or her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he or she did not build or improve for the purpose of sale.)

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☐ I am exempt under Sec. ___, B.&P.C. for this reason ___

Date ___ Owner ___

WORKERS' COMPENSATION DECLARATION

I hereby affirm under penalty of perjury one of the following declarations:

☐ I have and will maintain a certificate of consent to self-insure for workers' compensation, as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued.

☒ I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy # are:

Carrier: State Fund
Policy Number: 4401247-96 Exp. Date 6/1/96

(This section need not be completed if the permit is for one hundred dollars ($100) or less).

☐ I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California, and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date ___ Applicant ___

WARNING: FAILURE TO SECURE WORKERS' COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS ($100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, & ATTORNEY'S FEES

CONSTRUCTION LENDING AGENCY

I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C.).

Lender's Name ___
Lender's Address ___
I certify that I have read this application and state that the above information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction, and hereby authorize representatives of this city to enter upon the above mentioned property for inspection purposes.

Signature of Applicant or Agent James D. Allyn Date 11-1-95

ELECTRIC PERMIT

ITEM	NO.	EACH	FEE
OUTLETS LTS REC SW.		$	$
LIGHTING FIXTURES			
ELEC RANGES CLO DRYERS WATER HEATERS			
DISHWASHERS GARBAGE AUTO WASHERS DISPOSERS			
MOTORS, GEN H P			
UP TO INCL 0 - 1			
1 - 10			
10 - 50			
50 - 100			
100 - OVER			
POOL			
MISC			
FLAT FEE (RES)			
TEMP POWER			
SERVICE AMPS			
TEMP POLE			
SUB PANEL			
		PERMIT	$
		TOTAL FEE	$

PLUMBING PERMIT

NO	ITEM @	NO	ITEM @
	WATER CLOSET		LAUNDRY TUB
	BATH TUB		CLOTHES WASHER
	SHOWER		DISPOSER
	LAVATORY		FLOOR DRAIN
	SINK		FLOOR SINK
	DISHWASHER		DRINKING FOUNTAIN
			FEE
	TOTAL X		$
NO	MISCELLANEOUS ITEMS		
	HOUSE SEWER @		
	WATER HEATER		
	WATER SYSTEM		
	WATER SOFTENER		
	LAWN SPRINKLER		
	GAS SYSTEM (1-4 OUTLETS)		
	ADDITIONAL OUTLETS (over 4)		
	TEMP GAS METER		
		PERMIT	$
		TOTAL FEE	$

BUILDING PERMIT INFORMATION | Const Type | Occ. Group

DESCRIPTION OF WORK
NEW ADD ALTER REPAIR (DEMOLISH)
RE-ROOF CHIMNEY POOL GRADING
SQ. FT. SIZE (SQ FT GARAGE ?)
NO OF STORIES NO OF FAMILIES
USE OF STRUCTURE DESCRIPTION OF WORK GARAGE ONLY
VALUATION 0 FEE 25.00

APPROVALS

	DATE	INSPECTOR'S SIG
FINAL		

MECHANICAL PERMIT

NO	TYPE OF EQUIPMENT		PERMIT FEES
	CENTRAL HEAT - B.T.U	M E A	$
	GRAVITY SYSTEMS - B T U	M E A	
	FLOOR FURNACES - B T U	M E A	
	WALL HEATERS - B.T.U	M E A	
	UNIT HEATERS - B T U	M E A	
	BOILERS - H P	E A	
	AIR COND UNITS - H P.	E A	
	REFRIGERATION UNITS - H.P	E A	
	EVAPORATIVE COOLERS		
	VENTILATION FAN		
	AIR HANDLING UNIT	C F M	
	RANGE HOOD/EXHAUST AIRE		
	HEAT PUMP		
		PERMIT	$
		TOTAL FEE	$

Shall comply to air pollution requirements per AB 928 ☒ YES ☐ NO

Asbestos notification to BAAQMD ☒ YES ☐ NO ☐ EXEMPT

Job card shall be posted on the job at all times of inspection to make the required entries thereon.

FIRE DEPT. | PRE TREATMENT | HAZ MAT | PLANNING | PUBLIC WORKS | APPROVALS FOR ISSUANCE | APPROVALS FOR FINAL

FEE SUMMARY

BUILDING	25.00
SEISMIC FEE	
MICROFILM	
ELECTRIC	
PLUMBING	
MECHANICAL	
HAZ MAT	
FIRE SPRINK	
GPM	.75
TOTAL FEE $	25.75

FIRE SPRINK Y☐ N☐
ENERGY T-24 Y☐ N☐

PERMIT VALIDATION
25.75
la 11/1/95
ISSUANCE DATE

BLDG	ELECT	PLG	MECH
X			

PERMIT EXPIRATION
PERMIT EXPIRES IF WORK IS NOT STARTED WITHIN 180 DAYS OF PERMIT ISSUANCE OR 180 DAYS FROM LAST CALLED INSPECTION.

AUTOMATED INSPECTION REQUEST SYSTEM TELEPHONE NUMBER: (408) 776-9108

Distribution White - Inspection Green - Permittee Canary - Finance Department Pink - Interim Record Goldenrod - Permittee

CITY OF MORGAN HILL
BUILDING INSPECTION DIVISION
FOR INSPECTION ONLY CALL 776-9108

APPLICATION FOR BUILDING PERMIT

17555 Peak Avenue
Morgan Hill, CA 95037
Office (408) 779-7241

BUILDING ADDRESS	SUB DIVISION - TRACT #	LOT #	RECEIVED BY / DATE / PERMIT NUMBER
PROPERTY OWNER NAME / PHONE		APN / DATE ISSUED	
MAILING ADDRESS / CITY / STATE / ZIP		☐ BUILDING ☐ ELECTRICAL ☐ MECHANICAL ☐ PLUMBING ☐ GRADING ☐ SIGN ☐ BLDG SURVEY ☐ MOVE BLDG ☐ DEMOLITION ☐ POOL ☐ REROOF ☐ FENCE	
ARCHITECT NAME / LICENSE NO / PHONE		☐ NEW ☐ ADDITION ☐ ALTERATION ☐ REPAIR ☐ ACCESS BLDG ☐ RESIDENTIAL ☐ ASF ☐ DSF ☐ DUPLEX ☐ APT ☐ CONDO ☐ COMMERCIAL	
MAILING ADDRESS / CITY / STATE / ZIP		FLOOR AREA / VALUATION / PLAN NUMBER	
ENGINEER NAME / LICENSE NO / PHONE		GARAGE AREA / NO OF UNITS / MAX OCC / STORIES	
MAILING ADDRESS / CITY / STATE / ZIP		DECK AREA / GROUP / TYPE / BEDROOMS / UBC / NEC	
CONTRACTOR NAME / LICENSE NO / PHONE		PROPOSED WORK	
MAILING ADDRESS / CITY / STATE / ZIP			

I HEREBY AFFIRM THAT I AM LICENSED UNDER THE PROVISIONS OF CHAPTER 9 (COMMENCING WITH SECTION 7000) OF DIVISION 3 OF THE BUSINESS AND PROFESSIONS CODE, AND MY LICENSE IS IN FULL FORCE AND EFFECT

LICENSE CLASS / EXP DATE / STATE LICENSE NUMBER

SIGNATURE X / DATE

HAZARDOUS MATERIALS: YES NO — INDICATE IF THE INTENDED OCCUPANCY WILL USE CHEMICALS. INITIALING YES ACKNOWLEDGES THAT H&S CODE SECTIONS 25505, 25533 & 25534 AS WELL AS FILING DIRECTIONS WERE MADE AVAILABLE TO YOU

OWNER-BUILDER DECLARATION I HEREBY AFFIRM THAT I AM EXEMPT FROM THE CONTRACTOR'S LICENSE LAW FOR THE FOLLOWING REASON (SEC 7031.5, BUSINESS AND PROFESSIONS CODE: ANY CITY OR COUNTY WHICH REQUIRES A PERMIT TO CONSTRUCT, ALTER, IMPROVE, DEMOLISH, OR REPAIR ANY STRUCTURE, PRIOR TO ITS ISSUANCE, ALSO REQUIRES THE APPLICANT FOR SUCH PERMIT TO FILE A SIGNED STATEMENT THAT HE IS LICENSED PURSUANT TO THE PROVISIONS OF THE CONTRACTOR'S LICENSE LAW (CHAPTER 9 (COMMENCING WITH SECTION 7000) OF DIVISION 3 OF THE BUSINESS AND PROFESSIONS CODE) OR THAT HE IS EXEMPT THEREFROM AND THE BASIS FOR THE ALLEGED EXEMPTION. ANY VIOLATION OF SECTION 7031.5 BY ANY APPLICANT FOR A PERMIT SUBJECTS THE APPLICANT TO A CIVIL PENALTY OF NOT MORE THAN FIVE HUNDRED DOLLARS ($500).]

☐ I, AS OWNER OF THE PROPERTY, OR MY EMPLOYEES WITH WAGES AS THEIR SOLE COMPENSATION, WILL DO THE WORK, AND THE STRUCTURE IS NOT INTENDED OR OFFERED FOR SALE (SEC. 7044, BUSINESS AND PROFESSIONS CODE: THE CONTRACTOR'S LICENSE LAW DOES NOT APPLY TO AN OWNER OF PROPERTY WHO BUILDS OR IMPROVES THEREON, AND WHO DOES SUCH WORK HIMSELF OR THROUGH HIS OWN EMPLOYEES, PROVIDED THAT SUCH IMPROVEMENTS ARE NOT INTENDED OR OFFERED FOR SALE. IF, HOWEVER, THE BUILDING OR IMPROVEMENT IS SOLD WITHIN ONE YEAR OF COMPLETION, THE OWNER-BUILDER WILL HAVE THE BURDEN OF PROVING THAT HE DID NOT BUILD OR IMPROVE FOR THE PURPOSE OF SALE)

☐ I, AS OWNER OF THE PROPERTY, AM EXCLUSIVELY CONTRACTING WITH LICENSED CONTRACTORS TO CONSTRUCT THE PROJECT (SEC. 7044, BUSINESS AND PROFESSIONS CODE THE CONTRACTOR'S LICENSE LAW DOES NOT APPLY TO AN OWNER OF PROPERTY WHO BUILDS OR IMPROVES THEREON, AND WHO CONTRACTS FOR SUCH PROJECTS WITH A CONTRACTOR(S) LICENSED PURSUANT TO THE CONTRACTOR'S LICENSE LAW)

☐ ☆ AM EXEMPT UNDER SEC ..... B & P.C. FOR THIS REASON

SIGNATURE X / DATE

WORKERS' COMPENSATION DECLARATION I HEREBY AFFIRM THAT I HAVE A CERTIFICATE OF CONSENT TO SELF-INSURE, OR A CERTIFICATE OF WORKERS' COMPENSATION INSURANCE OR A CERTIFIED COPY THEREOF. (SEC. 3800, LAB. C)

POLICY NUMBER / CARRIER

CERTIFIED COPY IS HEREBY FURNISHED ☐ / EXP DATE / VERIFIED / B.I.D.

SIGNATURE X / DATE

CERTIFICATE OF EXEMPTION FROM WORKERS' COMPENSATION (THIS SECTION NEED NOT BE COMPLETED IF THE PERMIT IS FOR ONE HUNDRED DOLLARS ($100) OR LESS) I CERTIFY THAT IN THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED, I SHALL NOT EMPLOY ANY PERSON IN ANY MANNER SO AS TO BECOME SUBJECT TO THE WORKERS' COMPENSATION LAWS OF CALIFORNIA.

SIGNATURE X / DATE

NOTICE TO APPLICANT: IF AFTER MAKING THIS CERTIFICATE OF EXEMPTION YOU SHOULD BECOME SUBJECT TO THE WORKERS' COMPENSATION PROVISIONS OF THE LABOR CODE, YOU MUST FORTHWITH COMPLY WITH SUCH PROVISIONS OR THIS PERMIT SHALL BE DEEMED REVOKED.

I certify that I have read this application and state that the above information is correct. I agree to comply with all City and county ordinances and state laws relating to building construction, and hereby authorize representatives of this agency to enter upon the above mentioned property for inspection purposes. I will further agree to save, indemnify and keep harmless the City of Morgan Hill against liabilities, judgements, costs and expenses which may in any way accrue against said City in consequence of the granting of this permit and will pay all expenses including attorney's fees in connection therewith. All work performed by virtue of this permit must conform to plans and specifications and application filed by the owner or the authorized agent with the Building Inspection Div. This permit does not constitute approval of any violation of the above recited provisions nor of any state or city ordinance

SIGNATURE X / DATE

MINIMUM OF 24 HOUR NOTICE FOR INSPECTION - CALL (408) 776-9108

DEPARTMENT	PERMIT APPROVAL	CONDITIONAL APPROVAL	DATE
PW			
PLANNING DEPT			
FIRE DEPT			
HAZ MAT			
PRETREATMENT			
HEALTH			

CITY BUS. LIC. #

EXP DATE

PRE PAID PLAN CHECK FEES	DATE
BPC	GPA
EPC	
PPC	
MPC	
TOTAL	

NOTES

BUILDING INSPECTION DIVISION

ISSUED BY / DATE

CONSTRUCTION LENDING AGENCY. I HEREBY AFFIRM THAT THERE IS A CONSTRUCTION LENDING AGENCY FOR THE PERFORMANCE OF THE WORK FOR WHICH THIS PERMIT IS ISSUED. (SEC. 3097, CIV C.)

LENDER NAME

MAILING ADDRESS / CITY / STATE / ZIP

BUILDING	
PLAN CHECK	
ELECTRICAL	
MECHANICAL	
PLUMBING	
GRADING	
GPA	
M CROFILM	
SEISMIC	
INV FEE	
COPIES (BDPC)	
BUILDING SURVEY	
TOTAL	

☐ NO PLANS ☐ PLANS APPROVED

JOB LOCATION _____

CITY OF MORGAN HILL BUILDING DIVISION

TYPE OF INSPECTION	INSP CODE	DATE	INSPECTOR
TEMP ELECT POWER POLE	053		
TEMP GAS	052		
SOIL ENGINEER			
STRUCTURAL ENGINEER			
SETBACKS PAD CERTIFICATION	003		
EXCAVATION			
PIER HOLES	004		
FOOTING	006		
FOUNDATION FORMS & REBAR	005		
RETAINING WALL & REBAR	096		
BUILDING SEWER	058		
WATER SERVICE	062		
UNDER SLAB PLUMBING	007		
UNDER SLAB ELECTRICAL	008		
SLAB REINFORCEMENT	009		
UNDER FLOOR - FRAME	013		
PLUMBING	014		
MECHANICAL	015		
ELECTRICAL			
UNDERFLOOR INSULATION	016		
ROUGH - FRAME (E.M.P.)	020		
PLUMBING	023		
MECHANICAL	024		
ELECTRICAL	025		
INSULATION - WALLS - CEILING	028		
EXTERIOR SHEAR	019		
INTERIOR SHEAR	027		
ROOF FRAME	017		
ROOF SHEATHING	018		
FRAME WINDOW/SKYLIGHT	022		
WALL BOARD NAILING	031		
LATH OUTSIDE - WOOD SIDING	032		
STUCCO - SCRATCH			
STUCCO - BROWN			
MASONRY			
GROUTING LIFT	076		
FIREPLACE STEEL	066		
SUSPENDED CEILING	033		

TYPE OF INSPECTION	INSP CODE	DATE	INSPECTOR
FINAL			
BUILDING	045		
ELECTRIC	046		
GFCI			
PLUMBING	047		
MECHANICAL	048		
SOLAR			
GRADING	001		
FENCE	042		
RE ROOFING	088		
DEPARTMENTS FINALS - BLDG			
HEALTH			
FIRE DEPT.			
PUBLIC WORK DEPT. FEES $			
PUBLIC WORK INSPECTOR			
PLANNING DEPT.			
HOUSING			
PRE-TREATMENT			
POLICE DEPT.			
POOL			
POOL REINFORCING/PRE/GUNITE	030		
POOL PLUMBING	092		
DECK BONDING/ELECTRICAL	091		
PRE DECK	093		
BONDING	094		
POOL SPA FINAL	095		
HEATING (TITLE 24)			
5 FT. POOL ENCLOSURE			
GFCI			
SIGN	099		
SIGN WIRING			
GRADING	000		
DRIVE WAY	041		
GARAGE SLAB	040		
DECK	098		
PATIO COVER	084		
SOUNDWALL	097		
A/C FINAL	050		
WATER HEATER/FURNACE	068		

POST ON JOB SITE
THIS SIDE UP

INSPECTION REQUEST 776-9108
24 HR ADVANCE NOTICE REQUIRED
ALL WORK REQUIRES
A FINAL INSPECTION

TYPE OF INSPECTION	DATE	INSPECTOR
SANTA CLARA COUNTY FIRE DEPARTMENT (378-4010)		
FIRE HYDRANT LOCATION		
ROOF OPERATION		
FIRE ALARM SYSTEM		
[illegible]		
FIRE SPRINKLER SYSTEM		
FIRE DAMPER OPENING FRAMING		
[illegible]		
FIRE DAMPER INSTALLATION & TEST		
[illegible]		
FIRE ALARM SYSTEM		
FINAL INSPECTION		
COMMERCIAL KITCHEN HOOD SYSTEM		
FIRE SPRINKLER SYSTEM FINAL		
FIRE EXTINGUISHERS INSTALLED		
FIRE DEPT. KNOX BOX INSTALLED		
FIRE DEPARTMENT FINAL INSPECTION		

TO SCHEDULE INSPECTIONS WITH SANTA CLARA COUNTY FIRE DEPARTMENT, CALL 1-800-800-1793 OR 408-378-4010

ELEC METER AUTH.		
GAS TEST		
GAS METER AUTH.		

COMMENTS

Permit expires 6 months from last date of inspection.

INSPECTION	DATE	INSP.	INSPECTION 95/339	DATE	INSP.
Engineered Found.			UNDERFLOOR		
Setback-Ufer			Gas		
Footings-Steel			Plumbing		
Forms			Heating		
Block Foundation			Electrical		
Fireplace-Footing			Underpinning		

POUR NO CONCRETE UNTIL ABOVE HAS BEEN SIGNED

PLACE NO INSULATION UNTIL ABOVE HAS BEEN SIGNED

Concrete Slab Floor			Insulation		
Plumb (groundwork)					
Elect (groundwork)					
Fill & Re-inforcing					

POUR NO CONCRETE UNTIL ABOVE HAS BEEN SIGNED

PLACE NO SUBFLOOR UNTIL ABOVE HAS BEEN SIGNED

MASONRY WALL					
Date	Sign	Date	Sign	Date	Sign
4		12		20	
8		16		24	

ROOFING		
Shear Nail		
Roof Sheathing		
Sheet Metal		

APPLY NO ROOFING UNTIL ABOVE HAS BEEN SIGNED

POUR NO CONCRETE UNTIL ABOVE HAS BEEN SIGNED

Rough Gas		
Plumbing Top Out		
Rough Heating		
Rough Electrical		
Framing		

APPLY NO INSULATION UNTIL ABOVE HAS BEEN SIGNED

CARPORT		
Footing (concrete)		
Slab		
Frame		

GARAGE/DRIVEWAY		
Garage Slab(concrt)		
Driveway		

Wall Insulation		
Ceiling Insulation		

POUR NO CONCRETE OR PLACE ANY ASPHALT UNTIL ABOVE HAS BEEN SIGNED

APPLY NO SHEETROCK UNTIL ABOVE HAS BEEN SIGNED

Sewer		
Water		

Sheetrock nail		
Exterior Lath		

PLACE NO FILL UNTIL ABOVE HAS BEEN SIGNED

NO TAPE OR PLASTER UNTIL ABOVE HAS BEEN SIGNED

**********INSPECTION NOTES********** GAS TEST

FORMS\INSPSHET.BAK

INSPECTION	DATE	INSP.	INSPECTION 951338	DATE	INSP.
Engineered Found.			**UNDERFLOOR**		
Setback-Ufer			Gas		
Footings-Steel			Plumbing		
Forms			Heating		
Block Foundation			Electrical		
Fireplace-Footing			Underpinning		

POUR NO CONCRETE UNTIL ABOVE HAS BEEN SIGNED

PLACE NO INSULATION UNTIL ABOVE HAS BEEN SIGNED

Concrete Slab Floor			Insulation		
Plumb (groundwork)					
Elect (groundwork)					
Fill & Re-inforcing					

PLACE NO SUBFLOOR UNTIL ABOVE HAS BEEN SIGNED

POUR NO CONCRETE UNTIL ABOVE HAS BEEN SIGNED

ROOFING

Shear Nail		
Roof Sheathing		
Sheet Metal		

APPLY NO ROOFING UNTIL ABOVE HAS BEEN SIGNED

MASONRY WALL

Date	Sign	Date	Sign	Date	Sign
4		12		20	
8		16		24	

POUR NO CONCRETE UNTIL ABOVE HAS BEEN SIGNED

Rough Gas		
Plumbing Top Out		
Rough Heating		
Rough Electrical		
Framing		

APPLY NO INSULATION UNTIL ABOVE HAS BEEN SIGNED

CARPORT

Footing (concrete)		
Slab		
Frame		

GARAGE/DRIVEWAY

Garage Slab(concrt)		
Driveway		

Wall Insulation		
Ceiling Insulation		

POUR NO CONCRETE OR PLACE ANY ASPHALT UNTIL ABOVE HAS BEEN SIGNED

APPLY NO SHEETROCK UNTIL ABOVE HAS BEEN SIGNED

Sewer		
Water		

Sheetrock nail		
Exterior Lath		

PLACE NO FILL UNTIL ABOVE HAS BEEN SIGNED

NO TAPE OR PLASTER UNTIL ABOVE HAS BEEN SIGNED

*************INSPECTION NOTES************* **GAS TEST** _____ _____

FORMS\INSPSHET.BAK

BUILDING DEPT.
JAN - 3 1994
CITY OF MORGAN HILL

Dec. 27. 1993

Dave Gonzales
Building Inspector

Regarding clean up on property at 1065 Half Rd. I have been in the Process of cleaning up the grounds. a continual cleaning will be done as the weather permitts. There is a problem with outsiders dumping their garbage during the early morning hrs. It has been impossible to catch them.

The tires on the back of the land are being removed gradually. and about the lean to's that are in question if you will meet with me and point out the one that you are refering to I will have them removed.

Sincerly
Mel Barbaria
(408) 847-2079

CITY OF MORGAN HILL

APPLICATION FOR ELECTRIC PERM

DEPARTMENT OF BUILDING INSPECTION

No. 1

FOR APPLICANT TO FILL IN

ITEM		NUMBER	EACH $	FEE $
OUTLETS				
LTS. REC. SW.				
LIGHTING FIXTURES				
ELEC. RANGES CLO. DRYERS WATER HEATERS				
DISHWASHERS GARBAGE DISPOSERS AUTO. WASHERS				
MOTORS: OVER	INC. H.P.			
0	½			
½	2			
2	5			
5	15	1	7.00	7.00
15	50			
50	200			
OVER 200				
SIGNS				
LAMPS @ FA. TRANS. @ EA.				
MISC.				
SERVICE	UNDER 600V.			
	OVER 600V.			
TEMP. POLE				
WIRING PERMIT				5.00
TOTAL FEE				$ 12.00

I hereby certify that I have read this application and state that the above statements are agreed to comply with all City Ordinances and State laws regulating Electrical Wiring. I hereby state that all the work to be performed under this permit shall conform to the latest Edition of the Uniform Building Code and the Uniform Code for the Abatement of Dangerous Buildings as adopted by the City of Morgan Hill.

I HEREBY CERTIFY THAT I AM PROPERLY REGISTERED AND/OR LICENSED AS REQUIRED BY CITY OF MORGAN HILL AND STATE OF CALIFORNIA OR THAT I AM THE LEGAL OWNER OF THE ABOVE DESCRIBED RESIDENTIAL PROPERTY.

SIGNATURE OF PERMITTEE [signature]

(CONTRACTOR'S SIGNATURE MUST BE THAT OF LICENSEE)

BUILDING ADDRESS 1685 Half Rd. / Work for creek Pump on MOLAQUIERA

OWNER [illegible]

MAIL ADDRESS [illegible]

CITY [illegible] TEL. NO. [illegible]

ELECTRICIAN [illegible]

ADDRESS [illegible]

CITY [illegible] TEL. NO. [illegible]

STATE LICENSE NO. [illegible]

GROUP	USE ZONE	PROCESSED BY
1	R-1	[signature]

INSPECTION RECORD

APPROVALS	DATE	INSPECTOR'S SIG.
CONDUIT		
ROUGH WIRING		
SERVICE EQUIP.		
FIXTURES		
POWER		
UTILITY CO. NOTIFIED		
FINAL		

DISTRIBUTION: 1 - INSPECTION RECORD 2 - PERMITTEE 3 - FINANCE DEPARTMENT 4 - INTERIM RECORD

VALIDATION

Elec 5.00 Fees 5-28-75 MF

City of Morgan Hill
Building & Fire Prevention Division

17575 Peak Ave
Morgan Hill, CA 95037
(408)778-6480

Permit Number: BLD2016-00634

BUILDING ADDRESS	PARCEL/TRACT #	LOT #	APN
1105 HALF RD		2	728-30-004

Property Owner

LLAGAS LLC
440 N FIRST ST STE 200
SAN JOSE, CA 95112
Phone:

Contractor

Phone: MH Lic. #: Exp:

Architect

Phone: Lic . # Exp:

Engineer

Phone: Lic. #: Exp:

RECEIVED DATE: 04/27/16
ISSUED DATE: 04/27/16
PROJECT NAME:
VALUATION: $900.00
CONSTRUCTION TYPE:
OCCUPANCY GROUP: , ,
EXISTING USE: Single Family Res.
PROPOSED USE: Single Family Res.
FIRE SPRINKLERS:

Description of Work

INSTALL NEW 100 AMP 3 PHASE 240V IRRIGATION PEDESTAL

Plan Check Fees

Paid Plan Check Fees:

Building Data

Permit Type

BUILDING: N
ELECTRICAL: Y
MECHANICAL: N
PLUMBING: N
REROOF: N

Permit Fees

Bldg Standards Comm. Fee	$1.00
Electrical Permit Fee	$97.00
LRP Fee 15%	$14.55
Micro Film Fee-$2.00 per/Pg	$4.25
Paid Permit Fees:	$116.80

LICENSED CONTRACTOR'S DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect. License Number: Expiration Date:

SIGNATURE X_____ DATE_____

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the Contractors' License Law for the following reason(s) indicated below by the checkmark(s) I have placed next to the applicable item(s) (Sec. 7031.5, Business and Professions Code: Any city or county that requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for the permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors' License Law (Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code) or that he or she is exempt from licensure and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars ($500).):

(___) I, as owner of the property, or my employees with wages as their sole compensation, will do (__) all of or (__) portions of the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professions Code: The Contractors' State License Law does not apply to an owner of property who, through employees' or personal effort, builds or improves the property, provided that the improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the Owner-Builder will have the burden of proving that it was not built or improved for the purpose of sale.).

(X) I, as owner of the property, am exclusively contracting with licensed Contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors' State License Law does not apply to an owner of property who builds or improves thereon, and who contracts for the projects with a licensed Contractor pursuant to the Contractors' State License Law.).

(___) I am exempt from licensure under the Contractors' State License Law for the following reasons: _____

By my signature below I acknowledge that, except for my personal residence in which I must have resided for at least one year to completion of the improvements covered by this permit, I cannot legally sell a structure that I have built as an owner-builder if it has not been constructed in its entirety by licensed contractors. I understand that a copy of the applicable law, Section 7044 of the Business and Professions Code, is available upon request when this application is submitted or at the following Web site: http://www.leginfo.ca.gov/calaw/html.

SIGNATURE X _____ DATE 4/27/16

WORKERS' COMPENSATION DECLARATION WARNING: FAILURE TO SECURE WORKERS' COMPENSATION COVERAGE IS UNLAWFUL, AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS ($100,000), IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST, AND ATTORNEY'S FEES.

I hereby affirm under penalty of perjury one of the following declarations:

(___) I have and will maintain a certificate of consent to self-insure for workers' compensation, issued by the Director of Industrial Relations as provided for by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. Policy No.:_____

(___) I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier: _____ Policy No: _____ Expiration Date: _____

Name of Agent: _____ Phone# (_____)_____

(___) I certify that, in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California, and agree that, if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

SIGNATURE X _____ DATE _____

DECLARATION REGARDING CONSTRUCTION LENDING AGENCY: I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 8172, Civil Code). By my signature below, I certify to each of the following: I am the property owner or authorized to act on the property owner's behalf. I have read this application and the information I have provided is correct. I agree to comply with all applicable city and county ordinances and state laws relating to building construction. I authorize representatives of this city or county to enter the above-identified property for inspection purposes.

Lender's Name: _____ Lender's Address: _____

SIGNATURE X _____ DATE _____

I certify that I have read this application and state that the above information is correct. I agree to comply with all City and county ordinances and state laws relating to building construction, and hereby authorize representatives of this agency to enter upon the above-mentioned property for inspection purposes. I (we) further agree to save, indemnify, and keep harmless the City of Morgan Hill against liabilities, judgements, costs, and expenses which may in any way accrue against said City in consequence of the granting of this permit and will pay all expenses including attorney's fees in connection therewith. All work performed by virtue of this permit must conform to plans and specifications and application filed by the owner or his authorized agent with the Building Inspection Division. This permit does not constitute approval of any violation of the above recited provisions, nor of any state or city ordinance.

SIGNATURE X _____ DATE 4/27/16

CITY OF MORGAN HILL

Permit Application

Please Print Clearly

Building & Fire Prevention
17575 Peak Ave
Morgan Hill, CA 95037-4128
Phone: (408) 778-6480
Fax: (408) 779-7236
www.morganhill.ca.gov

Building Address 1105 Half Road Suite # _____

Assessor's Parcel # 728-30-004 Tract/PM # _____ Lot # _____

Geologic Hazard Zone: ☐ Yes ☐ No Flood Zone: ☐ Yes ☐ No Year Built _____

Property Owner:
Name LLagas LLC.
Mailing Address 440 North 1st St
City/State/Zip San Jose Ca 95112
Phone Number 408 390-0305
Email rickssinger
☒ Owner / Builder ☐ Owner w/ Contractor

Business Owner / Tenant:
Name _____
Mailing Address _____
City/State/Zip _____
Phone Number _____
Email _____

Architect / Designer:
Name _____
Mailing Address _____
City/State/Zip _____
Phone Number _____
Email _____
License # _____ Exp. Date: _____

Engineer:
Name _____
Mailing Address _____
City/State/Zip _____
Phone Number _____
Email _____
License # _____ Exp. Date: _____

Contractor:
Name Maier & Dougherty
Mailing Address 13505 Monterey Road
City/State/Zip San Martin Ca 95046
Phone Number 408 686 0988
Email Jeff-dougherty@yahoo.com
State License # _____ Exp. Date: _____
MH Bus. License # _____ Exp. Date: _____

Workers' Compensation Information:
Carrier _____
Name of Agent _____
Phone Number _____
Policy # _____ Exp. Date: _____

☐ Residential ☐ Commercial / Industrial Type: ☐ New ☐ Addition ☐ Alteration ☑ Repair ☐ Demolition

Description of Proposed Work: Replacement of Meter Base Like for Like for Agricultural Pump. 3ϕ 240

Construction Valuation $ $900
(Labor & Material)

Commercial Floor Area	_____ (sq ft)	Number of Units	_____	Existing Fire Sprinklers:	
Residential Floor Area	_____ (sq ft)	Number of Stories	_____	☐ Yes ☐ No	
Garage Floor Area	_____ (sq ft)	Number of Bedrooms	_____		
Deck	_____ (sq ft)	Number of Bathrooms	_____	Grading:	
Porch	_____ (sq ft)	Type of Construction	_____	Cubic Yards Cut:	_____
Patio Cover	_____ (sq ft)	Occupancy Group	_____	Cubic Yards Fill:	_____
Accessory Structure	_____ (sq ft)	Occupancy Load	_____		

Office Use Only

Date Submitted: 4-27-16 Permit #: 16-00634 Master Plan #: _____

Plan Check Fee: _____ LRP Fee: _____ Total: _____

Check Applicable

☐ Building ☑ Electrical ☐ Mechanical ☐ Plumbing ☐ Grading ☐ Fire

Electrical Permit

No. Receptacles/Outlets:_____ No. Switches:_____ No. Lighting Fixtures:_____ ☐ Conduit ☐ Conductors

☐ Disconnect ☐ EV Charger ☐ Generator ☐ Sign ☑ Irrigation Pedestal ☐ Meter Upgrade:_____ Amps

☐ Motors ☐ Photovoltaic ☐ Pool Pump ☐ Spa ☐ Sub Panels: _____No. ☐ Temp Power Pole

☐ Temp Service Panel ☐ Temp Power Distribution Systems: No._____ ☐ Other _____

Mechanical Permit

☐ Condensing Unit (A/C) ☐ Ducts ☐ Evaporator Coil ☐ Fans ☐ Furnace: _____ BTU's ☐ New ☐ Replacement

☐ Gas Fireplace ☐ Kitchen Hood ☐ Pool Equipment ☐ Other _____

Plumbing Permit *(Note: Additional Commercial Plumbing Maybe Be Subject To Public Works Impact Fees)*

☐ Re-pipe Fixtures: No. Sinks_____ No. Tubs _____ No. Showers_____ No. Toilets _____ No. Traps_____

☐ Back Flow ☐ Building Sewer ☐ Gas Test ☐ Gas Line: No. Outlets____ ☐ Gas Meter Upgrade ☐ Grease Interceptor

☐ Roof Drain ☐ Sewer Drain ☐ Sewer Lateral ☐ Storm Drain ☐ Thermal Solar ☐ Water Heater ☐ Water Service

☐ Other: _____

Fire Permit

☐ Fire Alarm ☐ Fire Sprinklers ☐ Suppression System ☐ Underground Piping/Hydrant System ☐ Other _____

Re-roof Permit *(Note: Class 'A' Roof Is Required For Any Home(s) Inside The Fire Hazard Zone)*

Removing _____ Installing _____ No. of Squares_____ Pound of Felt _____

Life Time of Roof: ☐ 30yr. ☐ 40yr. ☐ 50yr. Sheathing Thickness_____ ☐ New ☐ N/A

Skylight(s) / Sun Tunnel(s) Being Installed? No._____ ☐ New ☐ Replacement ☐ N/A

Plan Check Responses To Be Sent To (Please check only one)

☑ Owner ☐ Architect / Designer ☐ Engineer ☐ Contractor E-mail Address: ian.teresi@qcfarms.com

Print Name Ian Teresi Signature _____ Date 4/27/16

For Office Use Only

Fees:

Building Permit		Counter Plan Check		Business License	
Add't Plan Check		LRP Fee 15% - PC		Photo Copies	
Electrical	97.00	Microfilm	4.25	Permit Pouch	
Mechanical		CBSC	1.00	Other	
Plumbing		Investigation/Red Tag		Other	
Fire		Addressing		Other	
LRP Fee - 15%	14.55	Geotechnical		Other	
Seismic		Bldg Compliance		**Total Fees:**	116.80

CITY OF MORGAN HILL

Case Activity Listing

Case #: BLD2016-00634

1105 HALF RD

Activity	Description	Date 1	Date 2	Date 3	Disp	Done By	Updated By	Notes
BLDA0010	Application Received			04/27/2016		CT	4/27/2016 CT	
BLDB0500	(F) Issue Building Permit			04/27/2016	DONE	CT	4/27/2016 CT	
BLDF0715	Electrical Meter Authorization	04/28/2016	04/29/2016	04/29/2016	FAIL	STP	4/29/2016 STP	New Panel is located on outbuilding not pedestal. Appears to have replaced existing panel. Appears that the existing mast was re-used as well as conductors. No job card or installer/rep. on site at time of inspection. 0930-0945. **Dogs loose on site as well. CN left on residence near entrance
BLDF0826	Other	04/29/2016	05/03/2016	05/03/2016	DONE	STP	5/3/2016 STP	wrong insp. code. I will note that panel is on outbuilding not a pedestal. Conduit run to a panel w/disconnect for well pumps.
BLDF0715	Electrical Meter Authorization	05/03/2016		05/03/2016	DONE	STP	5/3/2016 STP	
BLDF0771	Electric Final	05/03/2016		05/03/2016	FNL	STP	5/3/2016 STP	ok for new panel only
BLDF1000	CASE FINAL			05/03/2016		STP	5/3/2016 STP	

City of Morgan Hill
~~County of Santa Clara~~

Department of Planning and Development
Development Services Office

County Government Center, East Wing
70 West Hedding Street, 7th Floor
San Jose, California 95110
(408) 299-5700 Fax (408) 279-8537

NOTICE TO PROPERTY OWNER

Dear Property Owner:
An application for a building permit has been submitted in your name listing yourself as the builder of the property improvements specified at 100 Hall Rd. Morgan Hill, CA 95037

We are providing you with an Owner-Builder Acknowledgment and Information Verification Form to make you aware of your responsibilities and possible risk you may incur by having this permit issued in your name as the Owner-Builder.

We will not issue a building permit until you have read and initialed your understanding of each provision, signed, and returned this form to us at our official address indicated. An agent of the owner cannot execute this notice unless you, the property owner, obtain the prior approval of the permitting authority.

OWNER-BUILDER'S ACKNOWLEDGMENT AND INFORMATION VERIFICATION FORM

DIRECTIONS: Read and initial each statement below to signify you understand or verify this information.

___1. I understand a frequent practice of unlicensed persons is to have the property owner obtain an "Owner-Builder" building permit that erroneously implies that the property owner is providing his or her own labor and material personally. I, as an Owner-Builder, may be held liable and subject to serious financial risk for any injuries sustained by an unlicensed person and his or her employees while working on my property. My homeowner's insurance may not provide coverage for those injuries. I am willfully acting as an Owner-Builder and am aware of the limits of my insurance coverage for injuries to workers on my property.

___2. I understand building permits are not required to be signed by property owners unless they are *responsible* for the construction and are not hiring a licensed Contractor to assume this responsibility.

___3. I understand as an "Owner-Builder" I am the responsible party of record on the permit. I understand that I may protect myself from potential financial risk by hiring a licensed Contractor and having the permit filed in his or her name instead of my own.

___4. I understand Contractors are required by law to be licensed and bonded in California and to list their license numbers on permits and contracts.

___5. I understand if I employ or otherwise engage any persons, other than California licensed Contractors, and the total value of my construction is at least five hundred dollars ($500), including labor and materials, I may be considered an "employer" under state and federal law.

___6. I understand if I am considered an "employer" under state and federal law, I must register with the state and federal government, withhold payroll taxes, provide workers' compensation disability insurance, and contribute to unemployment compensation for each "employee." I also understand my failure to abide by these laws may subject me to serious financial risk.

___7. I understand under California Contractors' State License Law, an Owner-Builder who builds single-family residential structures cannot legally build them with the intent to offer them for sale, unless *all* work is performed by licensed subcontractors and the number of structures does not exceed four within any calendar year, or all of the work is performed under contract with a licensed general building Contractor.

___8. I understand as an Owner-Builder if I sell the property for which this permit is issued, I may be held liable for any financial or personal injuries sustained by any subsequent owner(s) that result from any latent construction defects in the workmanship or materials.

___9. I understand I may obtain more information regarding my obligations as an "employer" from the Internal Revenue Service, the United States Small Business Administration, the California Department of Benefit Payments, and the California Division of Industrial Accidents. I also understand I may contact the California Contractors' State License Board (CSLB) at 1-800-321-CSLB (2752) or www.cslb.ca.gov for more information about licensed contractors.

___10. I am aware of and consent to an Owner-Builder building permit applied for in my name, and understand that I am the party legally and financially responsible for proposed construction activity at the following address:

_____

_____

___11. I agree that, as the party legally and financially responsible for this proposed construction activity, I will abide by all applicable laws and requirements that govern Owner-Builders as well as employers.

(OVER)

12. I agree to notify the issuer of this form immediately of any additions, deletions, or changes to any of the information I have provided on this form.

Licensed contractors are regulated by laws designed to protect the public. If you contract with someone who does not have a license, the Contractors' State License Board may be unable to assist you with any financial loss you may sustain as a result of a complaint. Your only remedy against unlicensed Contractors may be in civil court. It is also important for you to understand that if an unlicensed Contractor or employee of that individual or firm is injured while working on your property, you may be held liable for damages. If you obtain a permit as Owner-Builder and wish to hire Contractors, you will be responsible for verifying whether or not those Contractors are properly licensed and the status of their workers' compensation insurance coverage.

Before a building permit can be issued, this form must be completed and signed by the property owner and returned to the agency responsible for issuing the permit.

(Notarized) Signature of Property Owner — Date: 4/25/16

When the Permit Application and the Owner-Builder Declaration have been executed by a person other than the property owner, prior to issuing the permit, the following shall be completed by the property owner and returned to the agency responsible for issuing the permit:

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

AUTHORIZATION OF AGENT TO ACT ON PROPERTY OWNER'S BEHALF

Excluding the Notice to Property Owner, the execution of which I understand is my personal responsibility, I hereby authorize the following person(s) to act as my agent(s) to apply for, sign, and file the documents necessary to obtain an Owner-Builder Permit for my project.

Scope of Construction Project (or Description of Work):
Meter base replacement / construction

Project Location or Address:
1105 Half Rd
Morgan Hill Ca 95037

Name of Authorized Agent:
Ian Teresi

Address of Authorized Agent:
15500 Hill Rd
Morgan Hill CA 95037

Phone Number of Authorized Agent: 4085939919

I declare under penalty of perjury that I am the property owner for the address listed above and I personally filled out the above information and certify its accuracy.

(Notarized) Signature of Property Owner — Date: 4/25/16

NOTARY'S ALL PURPOSE ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of Santa Clara
On APRIL 25, 2016 before me, ESTHER R OLSON, NOTARY PUBLIC, (here insert name and title of the officer)
personally appeared RICHARD SINGER (Name(s) of Signer(s))

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

ESTHER R. OLSON
Commission # 2072022
Notary Public - California
Santa Clara County
My Comm. Expires Jul 18, 2018

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal

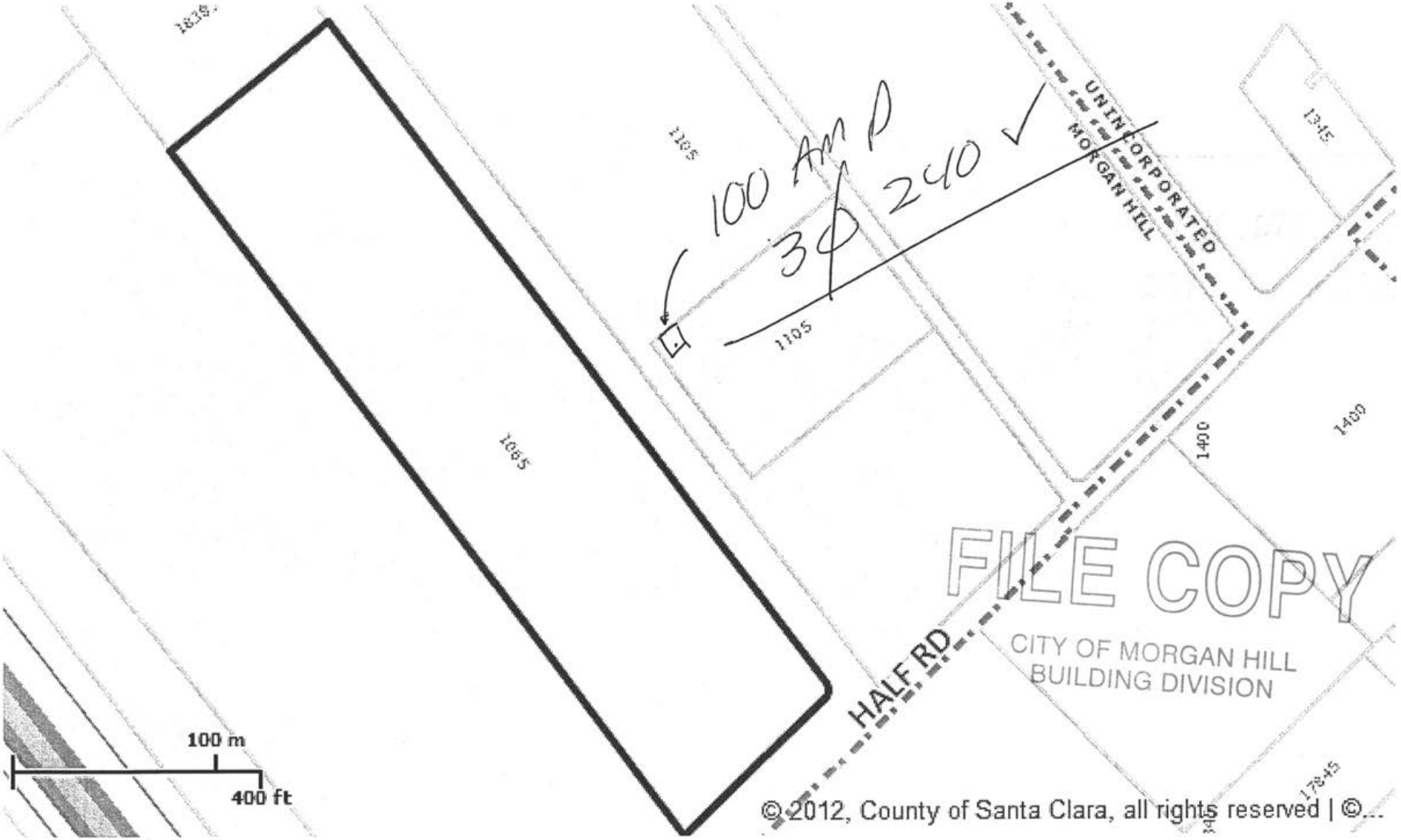
(SEAL)

Signature

County of Santa Clara
Detailed Property Report
Tue Apr 26 2016

DISCLAIMER: The GIS data is provided "AS IS". The COUNTY makes no warranties, express or implied, including without limitation, any implied warranties of merchantibility and/or fitness for a particular purpose, regarding the accuracy, completeness, value, quality, validity, merchantibility, suitability, and condition, of the GIS data. Users of COUNTY's GIS data are hereby notified that current public primary information sources should be consulted for verification of the data and information contained herein. Since the GIS data is dynamic, it will by its nature, be inconsistent with the official COUNTY assessment roll file produced by the Office of the Assessor. Any use of COUNTY's GIS data without consulting current Public Records for verification is done exclusively at the risk of the party making such use.

Property Location Information
APN:72830009
SITUS address:1065 HALF RD
City/State/Zip:MORGAN HILL, CA, 95037-2911
Estimated Size:449,847 sq. ft. / 10.32 acres
City Zoning:n/a



GeoTracker

1045 Cochrane Road, Morgan Hill, CA

Map Address

Map | Satellite

Sites and Facilities - INFO

- Cleanup Sites
  - LUST Cleanup Sites
  - Cleanup Program Sites
  - Military Cleanup Sites
  - DTSC Cleanup Sites
- Permitted Facilities
  - Waste Discharge Requirements (WDR) Sites
  - Permitted USTs - INFO
  - DTSC Hazardous Waste Sites
  - Land Disposal Sites
  - Irrigated Lands Regulatory Program Sites
  - Oil / Gas Sites
  - Confined Animal Sites
- Other Sites
  - Project Sites
  - Non-Case Information Sites
  - Sampling Points - Public
  - Field Points

☒ SIGNIFIES A CLOSED SITE

Tools

Map Coverages

TAKE A TOUR | VIEW ON GAMA

George Chiala Farms, Inc. - Tuscany (AW1307) (AGL020020782)
Cochrane Rd
MORGAN HILL, CA

Irrigated Lands Regulatory Program

Program Status: Terminated
RB Case #:

Red Robin Gourmet Burgers
Starbucks
Staples
Chili's Grill & Bar
DSW Designer Shoe Warehouse
MOD Pizza
DICK'S Sporting Goods
Health Center
Mariani Orchards
Andy's Orc
Hobby Lobby
Panda Express
McDonald's
Cochrane Plaza
Sitar Indian Cuisine
Extended Stay America - San Jose - Morgan Hill
Bank of America Financial Center
Big 5 Sporting Goods
Walmart Supercenter
Walmart Photo Center
Silicon Valley Flex Academy
NPI Solutions
Anritsu

Cochrane Rd
S Valley Frwy
101
Mission View Dr
Alcala Ct
Carmelo Ct
Mission Avenida
Padua Ct
San Antonio Way
San Antonio Dr
Capistrano Way
Avenida De Los Padres
Los Padres Pl
Sierra Pl
Solano Ct
Solano Pl
Tolusa Ct
Tolusa Pl
Bautista Way
Bautista Circle
Depaul Dr
Jarvis Dr
Technology Dr
Sutter Blvd
Murphy Ln
Half Rd

Map data ©2018 Google 50 m Terms of Use Report a map error

Public Viewer

Log Out | Change County

Map Layers | Query Tools | Enter search term (min 4 chars) | Help

Ready | Zoom Level: 14 of 19 (1:24,000) Closest Zoom for Pipelines | 37.154474, -121.646081 | COUNTY: SANTA CLARA

Identify - Total 1 record(s) found

15007

Attribute	Value
Category: PIPELINE ATTRIBUTES	
OPERATOR ID	15007
OPERATOR NAME	PACIFIC GAS & ELECTRIC CO
SYSTEM NAME	0822-01
SUBSYSTEM NAME	
PIPELINE ID	0822-01_0
MILES	0.86
COMMODITY CATEGORY	Natural Gas
COMMODITY DESCRIPTION	NATURAL GAS
INTERSTATE DESIGNATION	N
PIPELINE STATUS CODE	Active (filled)
REVISION DATE	03/15/2017
FRP SEQUENCE NUMBER	
Category: GENERAL CONTACT	
FIRST NAME	
LAST NAME	
TITLE	
ENTITY	PG&'E Customer Service
PHONE	(888) 743-7431
EMAIL	PipelineRequests@pge.com
ADDRESS	1850 Gateway Blvd. Mail Stop 6053E
CITY	Concord
STATE	CA
ZIP	94520

Department of Conservation

Lat: 37.14849, Long: -121.65660

Division of Oil, Gas & Geothermal Resources - Well Finder

Find By Location

Find My Current Location

or

Street: 1045 Cochrane Road

City: Morgan Hill

Zip: Find

Display a 1500 foot buffer

Buffer radius is limited to 10 mi (52800ft).

Find By API

Find By Lat, Long

Find By PLSS

Find By Oil/Gas Field

Data (Layers):

- Notices & Permits
- DOGGR Wells
  - Label: API# Well# Detailed
  - EPA Wells for Aquifer Exemption Review
    - Enhanced Oil Recovery Wells
    - Disposal Wells
- TR26 Onshore Seeps
- Oil/Gas Fields
- California Geologic Map
- DOGGR Districts
- Public Land Survey System
- Cities
- State Assembly Districts
- State Senate Districts
- Congressional Districts
- Counties

DOC Services

Notice: These data are current as of April 27, 2018

Topographic

1045 COCHRANE RD, Morgan Hill, CA, 95037

Coastal District

200m
600ft

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APPENDIX F

ASTM USER QUESTIONNAIRE

AEI Consultants

ASTM E 1527-13 USER QUESTIONNAIRE

To qualify for the protection offered under the EPA All Appropriate Inquiry (AAI) Standard, the User (entities seeking to use the ASTM E1527-13 Practice to complete an environmental site assessment of the property; i.e. Lenders and/or Borrowers) must provide the following information (if available) to the environmental professional. Failure to provide this information could result in a determination that AAI is not complete. This information should be the collective knowledge of the entities relying on the Phase I. **Please note that you are not being asked to evaluate the property, but rather to provide your knowledge of information on the property.**

Site Name/Address: Llagas, Morgan Hill properties (9 parcels) W/Cochrane Mission View Atelf

Property Owner (Name/Title/Company): Llagas, LLC.

Phone/Email: (408) 390-0323 ricksinger36@gmail.com

Key Site Personnel (Name/Title/Company): Rick Singer or Leata Phelps

Phone/Email: (408) 390-0323 (415) 271-628

Past Owner (Name/Title/Company) _____

Phone/Email: _____

1. Environmental cleanup liens that are filed or recorded against the property (40 CFR 312.25).
Did a search of recorded land title records (or judicial records where appropriate, see NOTE 1 below) identify any environmental liens filed or recorded against the property under federal, tribal, state or local law?

NOTE 1: In certain jurisdictions, federal, tribal, state, or local statutes, or regulations specify that environmental liens and AULs be filed in judicial records rather than in land title records. In such cases judicial records must be searched for environmental liens and AULs.

☐ Yes ☑ No If yes, please include an explanation in the space provided below:

2. Activity and land use limitations that are in place on the property or that have been filed or recorded against the property (40 CFR 312.26(a)(1)(v) and vi).
Did a search of recorded land title records (or judicial records where appropriate, see NOTE 1 above) identify any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law?

Engineering Controls are defined as physical modifications to a site or facility to reduce or eliminate the potential for exposure to hazardous substances or petroleum products in the soil or ground water on the property). Institutional Controls are defined as a legal or administrative restriction on the use of, or access to, a site or facility to 1) reduce or eliminate the potential for exposure to hazardous substances or petroleum products in the soil or ground water on the property, or 2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment.

☐ Yes ☑ No If yes, please include an explanation in the space provided below:

3. Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).
Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

☐ Yes ☑ No If yes, please include an explanation in the space provided below:

4. Relationship of the purchase price to the fair market value of the property if it were not contaminated (40 CFR 312.29).
Does the purchase price being paid for this property reasonably reflect the fair market value of the property?

☑ Yes ☐ No

If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?

☐ Yes ☐ No N/A

Comments:

5. Commonly known or reasonably ascertainable information about the property (40 CFR 312.30).
Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example:

a. Do you know the past uses of the property?
☑ Yes ☐ No

b. Do you know of specific chemicals that are present or once were present at the property?
☐ Yes ☑ No

c. Do you know of spills or other chemical releases that have taken place at the property?
☐ Yes ☑ No

d. Do you know of any environmental cleanups that have taken place at the property?
☐ Yes ☑ No

If yes for questions above, please include an explanation in the space provided below:

6. The degree of obviousness of the presence or likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).
Based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of releases at the property?

☐ Yes ☑ No If yes, please include an explanation in the space provided below:

Person Interviewed:

Name: Rick Singer

Title/Company/ Affiliation with Property: Haggas, LLC.

Signature: [signature]

Date: 5/15/18

Phone/Email: (408) 390-0313 ricksinger36@gmail.com

APPENDIX G

OTHER SUPPORTING DOCUMENTATION

AEI Consultants

ENVIRONMENTAL SITE ASSESSMENT QUESTIONNAIRE

Instructions: Please complete the following questionnaire to the best of your knowledge.

PROJECT/SITE INFORMATION			
Project Street Address(es):	101/Cochrane/MissionView/Hall Rd, Morgan Hill, CA (9 parcels)		
City: Morgan Hill	County: Santa Clara	State: CA	Zip:
Parcel Number(s): 728-31-14, 15, 16 and 728-30-1, 2, 3, 4, 6, 9			

CONTACT INFORMATION			
Contact	**Name**	**Phone Number**	**Years Associated w/Site**
Owner: ~~LLC~~	Hagas, LLC.		20
Site Contact:	Rick Singer	(408) 390-0323	19
Key Site Manager:			
Previous Owner(s), Operators and/or Occupants:			

PROPERTY USE AND SPECIFICATIONS	
☐ Single-Family Residential	☑ Vacant or undeveloped
☐ Multi-Family Residential	☑ Agricultural *specify type:* general
☐ Commercial Office	☐ Industrial *specify type:*
☐ Commercial Retail	☐ Other *specify type:*
Provide a general site description:	
Provide all known current/former addresses and/or parcel numbers:	
Total Property Size: Approx. 90 acres	Original Construction Date: N/A
Total Number of Buildings: 2 3 small homes	Was Construction Phased? ☐Yes ☐No ☐Unk
Total Sq. Ft. of Buildings: ? Less than 2000 ft	Dates of Renovations/Phases: N/A
Are there any plans for site redevelopment or change in use? ☑Yes ☐No If yes, please describe: In very beginning of open-ended discussions re development	
Are there any bodies of water on or immediately adjacent to the site? ☐Yes ☑No If yes, please describe:	
Electricity Provider: PG&E	Gas Provider: PG&E
Heating System Fuel Source(s): Elec. + Nat. Gas	Cooling System Power Source:
Potable Water Source/Provider: SCVWD	
Any waste water discharge at the site? ☑ Septic Tank/Leachfield ☐ Sanitary Sewer ☐ Other	Sanitary Sewer Provider (if applicable): N/A

OCCUPANTS/TENANTS		
Current Occupant(s)/Tenant(s)	**Length of occupancy**	**Brief description of on-site operations**
Hagas, LLC	20 years	Investment property
Marjan Orchards	20 years	Cherry tree harvests
Topliff Farms	6 months	Hay harvesting
SCVWD	6 months/yr	Staging area
Previous Occupant(s)/Tenant(s)	**Length of occupancy**	**Brief description of on-site operations**

Project Number:		Return via Fax:	
Project Manager:		Return via Email:	

AEI Consultants

Has the subject site ever been occupied by the following?
☐ Dry Cleaner ☐ Gas Station ☐ Printing Facility ☐ Manufacturing Facility
If yes, provide length of occupancy:

Have any previous investigations been performed at the subject property? ☐Yes ☑No
If Yes, are copies available? ☐Yes ☐No
If Yes, also note type and describe: ☐ Phase I ESA ☐ Phase II ☐ Asbestos ☐ Lead Paint ☐ Radon

ON-SITE ENVIRONMENTAL CONDITIONS

Are you aware of any of the following environmental conditions, **either current or former**, on the subject site?

NOTE: If applicable, please provide inventory records, inspection records and Safety Data Sheets (SDSs) to site inspector during site inspection.

Environmental Condition/Issue	Response	Notes on Yes Responses
Aboveground Storage Tanks	☐ Yes ☑ No	
Underground Storage Tanks	☐ Yes ☑ No	
Hazardous/Toxic Substances	☐ Yes ☑ No	
Stored Chemicals	☑ Yes ☐ No	Fertilizer (liquid)
Chemical Spills/Releases	☐ Yes ☑ No	
Dump Areas/Landfills	☐ Yes ☑ No	
Waste Treatment Systems	☑ Yes ☑ No	Small septic tanks?
Wastewater Discharges	☑ Yes ☐ No	Septic tank leach lines?
Floor Drains/Sumps/Clarifiers	☐ Yes ☑ No	
Pits, Ponds, Lagoons	☑ Yes ☐ No	Abandoned retention pond
Stained Soil/Vegetation	☑ Yes ☑ No	No stained / yes vegetation
Pesticide/Herbicide Use	☑ Yes ☐ No	Light farming use
Polychlorinated Biphenyls (PCBs)	☐ Yes ☑ No	
Electrical Transformers	☐ Yes ☑ No	
Hydraulic Lifts	☐ Yes ☑ No	
Elevators	☐ Yes ☑ No	
Asbestos	☐ Yes ☐ No	Unknown

Project Number:		Return via Fax:	
Project Manager:		Return via Email:	

AEI Consultants

Environmental Condition/Issue	Response	Notes on Yes Responses
Lead-Based Paint	☐ Yes ☐ No	Unknown
Oil/Gas Wells	☐ Yes ☑ No	
Environmental Cleanups	☐ Yes ☑ No	
Environmental Permits	☐ Yes ☑ No	

OTHER ENVIRONMENTAL CONDITIONS

Are you aware of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property?
☐ Yes ☑ No If yes, provide brief explanation.

Are you aware of any pending, threatened or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property?
☐ Yes ☑ No If yes, provide brief explanation.

Are you aware of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?
☐ Yes ☑ No If yes, provide brief explanation.

Are you aware of any incidents of flooding, leaks, or other water intrusion, and/or complaints related to indoor air quality?
☐ Yes ☑ No If yes, provide brief explanation.

Are you aware of any cases of extreme water damage or mold throughout the building(s)?
☑ Yes ☐ No If yes, provide brief explanation.
Minor roof leaks on small dwelling

Person completing questionnaire: Rick Singer

Title/Affiliation to the subject property: Manager

Number of years associated with the subject property: 20

Date: 5/15/18

Project Number:		Return via Fax:	
Project Manager:		Return via Email:	

Santa Clara County
Department of Planning and Development
Online Property Profile

Search by APN 728-31-014

Street Number | Street Name | Type:

Santa Clara County
Department of Planning and Development
Online Property Profile

COUNTY OF SANTA CLARA PLANNING OFFICE
70 W. HEDDING ST., SAN JOSE, CA 95110
(408) 299-5770

May 15, 2018 05:36:31 PM. The GIS data used in this analysis was compiled from various sources. While deemed reliable, the Planning Office assumes no liability.

Location and Jurisdiction

APN: 728-31-014
Site Address: Cochrane Rd
City/State/ZIP: Morgan Hill, CA 95037
Jurisdiction: Incorporated (MORGAN HILL)
Urban Service Area: Morgan Hill
Sphere of Influence: Morgan Hill
Supervisor District: 1
Special Districts:

- Fire Protection District: N/A
- Sanitary District: N/A
- Water District: N/A

Area Information

Recorded Size (*source: Assessor's office*): 0 acres

General Plan Land Use

Land Use Plan Designation: Consult city planning department

Zoning District

Zoning: Consult city planning department

APPENDIX H

QUALIFICATIONS

Elizabeth Scudero – Project Manager, Due Diligence

BA – Environmental Studies, University of California, Santa Cruz
BA – Feminist Studies (emphasis in Science, Technology, and Medicine), University of California, Santa Cruz

EPA accredited Asbestos Building Inspector
CA Certified Lead Sampling Technician

Ms. Scudero has been in the environmental service industry since 2013. She provides project management to ensure ASTM compliance and satisfaction of client requirements for Phase I Environmental Site Assessments, Environmental Transaction Screens, Regulatory Database Reviews, and Historical Records Reviews.

Project experience for Ms. Scudero includes:

- Phase I Environmental Site Assessments
- Limited Environmental Site Assessments
- Environmental Transaction Screens
- Records Research with Risk Assessments
- Regulatory Database Reviews
- Historical Records Reviews

In addition, prior to joining the environmental consulting industry, Ms. Scudero spent four years studying a diverse range of environmental disciplines including: restoration ecology, political ecology, environmental policy, agriculture and sustainable agriculture, environmental economics, environmental justice, and geography.

Ellen L. Caldaro – National Client Manager

B.S. – Environmental Science, concentration Biology, Long Island University
OSHA 40-hour HAZWOPER Training
Asbestos Inspector Training

Ms. Caldaro has been working in the environmental consulting and due diligence industry since 1993. Her project experience includes: Phase I Environmental Site Assessments (PHI), Phase II Limited Subsurface Investigations (PHII), Transaction Screens, Regulatory Database Reviews, Radon screening projects, asbestos sampling, lead-based paint sampling, air monitoring, and reviewing/evaluating Phase I reports. She has successfully completed assessments on a variety of industrial, commercial, and residential sites. Ms. Caldaro acts as a client liaison and her duties include management of portfolio projects involving numerous properties throughout the United States.

Project experience for Ms. Caldaro includes:

- Phase I Environmental Site Assessments, Phase II Limited Subsurface Investigations, Environmental Transaction Screens (ETS), Records Search with Risk Assessments (RSRA) and radon surveys
- Technical review of Phase I Site Assessments for compliance with ASTM, EPA's All Appropriate Inquiry (AAI) standards, Freddie Mac, Fannie Mae and individual client formats
- Design and implementation of appropriate scopes of work for Phase II soil and groundwater investigations for a variety of suspected contaminates for due diligence and liability purposes
- Groundwater Monitoring Well Installation and Monitoring Projects
- Design and implementation of an emergency drench shower and eye wash station compliance inspection program for a local hospital system

As a National Client Manager, Ms. Caldaro provides in-house technical guidance and review to ensure all projects meet ASTM, AAI standards, client's goals and scope requirements. In addition, Ms. Caldaro provides in-house training for new Project Mangers as well as promotional training for Senior Authors and National Client Managers.

Ms. Caldaro uses her experience in the environmental service industry for developing and understanding client goals to facilitate the delivery of consulting services to meet those needs.

APPENDIX I

LIST OF COMMONLY USED ABBREVIATIONS

UNITS

µg/L	Micrograms per Liter	**pCi/L**	PicoCuries per Liter
mg/kg	Milligrams per Kilogram	**ppb**	Parts per Billion
mg/L	Milligrams per Liter	**ppm**	Parts per Million

ABBREVIATIONS AND ACRONYMS

ACM	Asbestos-Containing Material	**NESHAP**	National Emission Standards for Hazardous Air Pollutants
ADJ	Adjacent site	**NFA**	No Further Action
AEI	AEI Consultants	**NFRAP**	No Further Remedial Action Planned
AHERA	Asbestos Hazard Emergency Response Act	**NLR**	No Longer Reporting
APN	Assessor's Parcel Number	**NOV**	Notice of Violation
AST	Aboveground Storage Tank	**NPL**	National Priorities List
AUL	Activity and Use Limitation	**O&M**	Operations and Maintenance
bgs	Below Ground Surface	**OEC**	Other Environmental Considerations
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes	**OSHA**	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response Compensation and Liability Act	**PCB**	Polychlorinated Biphenyl
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System	**PCE, PERC**	Perchloroethylene, Tetrachloroethylene, Tetrachloroethene
CESQGs	Conditionally Exempt Small Quantity Generators	**RCRA**	Resource Conservation and Recovery Act
COC	Contaminant of Concern	**REC**	Recognized Environmental Condition
CREC	Controlled Recognized Environmental Condition	**RP**	Responsible Party
EC	Engineering Controls	**SDS**	Safety Data Sheet
EDR	Environmental Data Resources, Inc.	**SEMS**	Superfund Enterprise Management System
EPA	Environmental Protection Agency	**SF**	Square Footage/Square Feet
ERIS	Environmental Risk Information Services	**SP**	Subject Property
ERNS	Emergency Response Notification System	**SQG**	Small Quantity Generator
ESA	Environmental Site Assessment	**SWLF**	Solid Waste Landfill
GPR	Ground-Penetrating Radar	**SVOC**	Semi-Volatile Organic Compound
HREC	Historical Recognized Environmental Condition	**TCE**	Trichloroethylene, Trichloroethene
HVAC	Heating, Ventilation and Air Conditioning	**TPH**	Total Petroleum Hydrocarbons
HWS	Hazardous Waste Site	**TPHd**	Total Petroleum Hydrocarbons (diesel range)
IC	Institutional Controls	**TPHg**	Total Petroleum Hydrocarbons (gasoline range)
LBP	Lead-Based Paint	**TPHo**	Total Petroleum Hydrocarbons (oil range)
LCP	Lead-Containing Paint	**TRPH**	Total Recoverable Petroleum Hydrocarbons
LLP	Landowner Liability Protection	**TSDF**	Treatment, Storage, and Disposal Facility
LQG	Large Quantity Generator	**USDA**	United States Department of Agriculture
LUST	Leaking Underground Storage Tank	**USGS**	United States Geological Survey
MCL	Maximum Contaminant Level	**UST**	Underground Storage Tank
MTBE	Methyl Tertiary Butyl Ether	**VCP**	Voluntary Cleanup Program
ND	None Detected	**VOC**	Volatile Organic Compound

APPENDIX J

REGULATORY DATABASE REPORT

ENVIRONMENTAL RISK INFORMATION SERVICES

DATABASE REPORT

Project Property:	*Fry Property* *1105 Half Road* *Morgan Hill CA 95037*
Project No:	*25019-019069.00*
Report Type:	*Database Report*
Order No:	*20190624041*
Requested by:	*Bureau Veritas North America, Inc.*
Date Completed:	*June 25, 2019*

Environmental Risk Information Services
A division of Glacier Media Inc.
1.866.517.5204 | info@erisinfo.com | erisinfo.com

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Executive Summary

Property Information:

Project Property:		*Fry Property* *1105 Half Road Morgan Hill CA 95037*
Project No:		*25019-019069.00*
Coordinates:		
	Latitude:	*37.150187*
	Longitude:	*-121.643234*
	UTM Northing:	*4,112,394.96*
	UTM Easting:	*620,484.90*
	UTM Zone:	*UTM Zone 10S*
Elevation:		*388 FT*

Order Information:

Order No:	*20190624041*
Date Requested:	*June 24, 2019*
Requested by:	*Bureau Veritas North America, Inc.*
Report Type:	*Database Report*

Historicals/Products:

Aerial Photographs	*Historical Aerials (Boundaries)*
Chain of Title & Lien Searches	*Environmental Lien Search*
City Directory Search	*CD - 2 Street Search*
ERIS Xplorer	*ERIS Xplorer*
Excel Add-On	*Excel Add-On*
Fire Insurance Maps	*US Fire Insurance Maps*
Physical Setting Report (PSR)	*PSR*
Topographic Map	*Topographic Maps*

Executive Summary: Report Summary

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Standard Environmental Records								
Federal								
NPL	Y	1	0	0	0	0	0	0
PROPOSED NPL	Y	1	0	0	0	0	0	0
DELETED NPL	Y	.5	0	0	0	0	-	0
SEMS	Y	.5	0	0	0	0	-	0
SEMS ARCHIVE	Y	.5	0	0	0	0	-	0
ODI	Y	.5	0	0	0	0	-	0
IODI	Y	.5	0	0	0	0	-	0
CERCLIS	Y	.5	0	0	0	0	-	0
CERCLIS NFRAP	Y	.5	0	0	0	0	-	0
CERCLIS LIENS	Y	PO	0	-	-	-	-	0
RCRA CORRACTS	Y	1	0	0	0	0	0	0
RCRA TSD	Y	.5	0	0	0	0	-	0
RCRA LQG	Y	.25	0	0	0	-	-	0
RCRA SQG	Y	.25	0	1	0	-	-	1
RCRA CESQG	Y	.25	0	0	0	-	-	0
RCRA NON GEN	Y	.25	0	0	2	-	-	2
FED ENG	Y	.5	0	0	0	0	-	0
FED INST	Y	.5	0	0	0	0	-	0
ERNS 1982 TO 1986	Y	PO	0	-	-	-	-	0
ERNS 1987 TO 1989	Y	PO	0	-	-	-	-	0
ERNS	Y	PO	0	-	-	-	-	0
FED BROWNFIELDS	Y	.5	0	0	0	1	-	1
FEMA UST	Y	.25	0	0	0	-	-	0
REFN	Y	.25	0	0	0	-	-	0
BULK TERMINAL	Y	.25	0	0	0	-	-	0
SEMS LIEN	Y	PO	0	-	-	-	-	0
SUPERFUND ROD	Y	1	0	0	0	0	0	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
State								
RESPONSE	Y	1	0	0	0	0	0	0
ENVIROSTOR	Y	1	0	0	0	2	6	8
DELISTED ENVS	Y	1	0	0	0	0	0	0
SWF/LF	Y	.5	0	0	0	0	-	0
HWP	Y	1	0	0	0	0	0	0
SWAT	Y	.5	0	0	0	0	-	0
LDS	Y	.5	0	0	0	0	-	0
LUST	Y	.5	0	0	0	0	-	0
DELISTED LST	Y	.5	0	0	0	0	-	0
UST	Y	.25	0	0	1	-	-	1
SWRCB SWF	Y	.5	0	0	0	0	-	0
UST CLOSURE	Y	.5	0	0	0	0	-	0
HHSS	Y	.25	0	0	1	-	-	1
AST	Y	.25	0	0	0	-	-	0
DELISTED TNK	Y	.25	0	1	0	-	-	1
CERS TANK	Y	.25	0	0	1	-	-	1
LUR	Y	.5	0	0	0	0	-	0
HLUR	Y	.5	0	0	0	0	-	0
DEED	Y	.5	0	0	0	0	-	0
VCP	Y	.5	0	0	0	1	-	1
CLEANUP SITES	Y	.5	0	0	0	0	-	0
DELISTED CTNK	Y	.25	0	0	0	-	-	0
HIST TANK	Y	.25	0	0	2	-	-	2
Tribal								
INDIAN LUST	Y	.5	0	0	0	0	-	0
INDIAN UST	Y	.25	0	0	0	-	-	0
DELISTED ILST	Y	.5	0	0	0	0	-	0
DELISTED IUST	Y	.25	0	0	0	-	-	0
County								
DELISTED COUNTY	Y	.25	0	0	0	-	-	0
SANJOSE HM	Y	.25	0	0	0	-	-	0
GILROY CUPA	Y	.25	0	0	0	-	-	0
SANTACLARA CUPA	Y	.25	0	1	3	-	-	4
SANTACLARA HSOL	Y	.5	0	0	0	0	-	0
SANTACLARA LO	Y	.5	0	0	0	0	-	0
SUNNYVALE CUPA	Y	.25	0	0	0	-	-	0

Additional Environmental Records

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
Federal								
FINDS/FRS	Y	PO	0	-	-	-	-	0
TRIS	Y	PO	0	-	-	-	-	0
HMIRS	Y	.125	0	0	-	-	-	0
NCDL	Y	.125	0	0	-	-	-	0
TSCA	Y	.125	0	0	-	-	-	0
HIST TSCA	Y	.125	0	0	-	-	-	0
FTTS ADMIN	Y	PO	0	-	-	-	-	0
FTTS INSP	Y	PO	0	-	-	-	-	0
PRP	Y	PO	0	-	-	-	-	0
SCRD DRYCLEANER	Y	.5	0	0	0	0	-	0
ICIS	Y	PO	0	-	-	-	-	0
FED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED FED DRY	Y	.25	0	0	0	-	-	0
FUDS	Y	1	0	0	0	0	0	0
MLTS	Y	PO	0	-	-	-	-	0
HIST MLTS	Y	PO	0	-	-	-	-	0
MINES	Y	.25	0	0	0	-	-	0
ALT FUELS	Y	.25	0	0	0	-	-	0
SSTS	Y	.25	0	0	0	-	-	0
PCB	Y	.5	0	0	0	0	-	0
State								
DRYCLEANERS	Y	.25	0	0	0	-	-	0
DELISTED DRYCLEANERS	Y	.25	0	0	0	-	-	0
DRYC GRANT	Y	.25	0	0	0	-	-	0
HWSS CLEANUP	Y	.5	0	0	0	0	-	0
DTSC HWF	Y	.5	0	0	0	0	-	0
INSP COMP ENF	Y	1	0	0	0	0	0	0
SCH	Y	1	0	0	0	0	0	0
CHMIRS	Y	PO	0	-	-	-	-	0
HAZNET	Y	PO	0	-	-	-	-	0
HIST CHMIRS	Y	PO	0	-	-	-	-	0
HIST MANIFEST	Y	PO	0	-	-	-	-	0
HIST CORTESE	Y	.5	0	0	0	0	-	0
CDO/CAO	Y	.5	0	0	0	0	-	0
CERS HAZ	Y	.125	0	0	-	-	-	0
DELISTED HAZ	Y	.5	0	0	0	1	-	1
GEOTRACKER	Y	.125	0	0	-	-	-	0
WASTE DISCHG	Y	.25	0	0	0	-	-	0
EMISSIONS	Y	.25	0	0	0	-	-	0

Database	Searched	Search Radius	Project Property	Within 0.12mi	.125mi to 0.25mi	0.25mi to 0.50mi	0.50mi to 1.00mi	Total
CDL	Y	.125	0	0	-	-	-	0

Tribal ***No Tribal additional environmental record sources available for this State.***

County ***No County additional environmental databases were selected to be included in the search.***

Total:	*0*	*3*	*10*	*5*	*6*	*24*

**** PO – Property Only***
**** 'Property and adjoining properties' database search radii are set at 0.25 miles.***

Executive Summary: Site Report Summary - Project Property

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number

No records found in the selected databases for the project property.

Executive Summary: Site Report Summary - Surrounding Properties

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
1	DELISTED TNK	ST. LOUISE HOSPITAL	18500 ST LOUISE DR Morgan Hill CA 95037	NNW	0.08 / 403.55	3	20
1	RCRA SQG	SAINT LOUISE HOSPITAL & HEALTH CENTER	18500 ST LOUISE DRIVE MORGAN HILL CA 95037 ***EPA Handler ID:*** CAD982401374	NNW	0.08 / 403.55	3	20
2	SANTACLARA CUPA	UNIMED MGMT SVCS SAN JOSE INC	18550 ST LOUISE DR MORGAN HILL CA 95037	NNW	0.12 / 648.72	3	21
3	UST	DE PAUL MEDICAL CENTER	18500 DE PAUL DR MORGAN HILL CA 95037 ***Facility ID:*** FA0258833	NW	0.13 / 666.58	3	21
4	CERS TANK	DE PAUL MEDICAL CENTER	18500 DE PAUL DR MORGAN HILL CA 95037 ***Site ID:*** 24271	NW	0.14 / 717.49	-1	21
4	SANTACLARA CUPA	COUNTY OF SANTA CLARA HHS - DE PAUL MEDICAL CENTER	18500 DE PAUL DR MORGAN HILL CA 95037	NW	0.14 / 717.49	-1	32
4	SANTACLARA CUPA	SAINT LOUISE HOSPITAL	18500 DE PAUL DR MORGAN HILL CA 95037	NW	0.14 / 717.49	-1	32
5	SANTACLARA CUPA	SAINT LOUISE CANCER CARE	18511 MISSION VIEW DR MORGAN HILL CA 95037	NNW	0.15 / 781.61	4	33
6	HIST TANK	LAWRENCE L. VASQUEZ	17825 CASA LANE MORGAN HILL CA	SE	0.16 / 838.02	-1	33
7	HHSS	BERT FINTON	17820 CASA LANE MORGAN HILL CA 95037	SE	0.19 / 988.80	0	33
7	HIST TANK	BERT FINTON	17820 CASA LANE MORGAN HILL CA	SE	0.19 / 988.80	0	33
8	RCRA NON GEN	MARIANI ORCHARDS	1515 HALF RD MORGAN HILL CA 95037 ***EPA Handler ID:*** CAL000386231	ENE	0.20 / 1,077.42	9	33

Map Key	DB	Company/Site Name	Address	Direction	Distance (mi/ft)	Elev Diff (ft)	Page Number
9	RCRA NON GEN	DCHS MEDICAL FOUNDATION	18550 DE PAUL DR STE 208 MORGAN HILL CA 95037 ***EPA Handler ID:*** CAL000397936	NW	0.22 / 1,175.61	0	34
10	FED BROWNFIELDS	Borello Property - Morgan Hill USD	Peet Road, east of Mission Avenida MORGAN HILL CA 95037	N	0.41 / 2,186.53	17	35
11	ENVIROSTOR	BORELLO PROPERTY	PEET ROAD, EAST OF MISSION AVENIDA MORGAN HILL CA 95037 ***Estor/EPA ID	Cleanup Status:*** 60002240 | ACTIVE AS OF 9/21/2015	NNE	0.47 / 2,455.97	21	38
12	DELISTED HAZ	AT&T Mobility - COCHRANE PLAZA FLAG POLE (USID51615)	144 COCHRANE PLZ MORGAN HILL CA 95037	W	0.47 / 2,478.48	-14	42
13	ENVIROSTOR	BORELLO PROPERTY	COCHRAN ROAD AND PEET ROAD MORGAN HILL CA 95037 ***Estor/EPA ID	Cleanup Status:*** 43010033 | CERTIFIED AS OF 11/3/2017	NNE	0.49 / 2,594.98	22	42
13	VCP	BORELLO PROPERTY	COCHRAN ROAD AND PEET ROAD MORGAN HILL CA 95037 ***Estor/EPA ID	Cleanup Status:*** 43010033 | CERTIFIED AS OF 11/3/2017	NNE	0.49 / 2,594.98	22	46
14	ENVIROSTOR	PHOTOTEK	18450 SUTTER BOULEVARD MORGAN HILL CA 95037 ***Estor/EPA ID	Cleanup Status:*** 71003458 | INACTIVE - NEEDS EVALUATION AS OF	WSW	0.51 / 2,670.18	-13	50
15	ENVIROSTOR	MADRONE LAND CORP./SAN JOSE TRAP & SKEET	645 COCHRANE RD. MORGAN HILL CA 95037 ***Estor/EPA ID	Cleanup Status:*** 43010016 | REFER: RWQCB AS OF 8/21/1996	W	0.57 / 3,002.04	-17	51
16	ENVIROSTOR	RYAN PROPERTIES	E. MAIN AVE. & EAST LANE MORGAN HILL CA 95037 ***Estor/EPA ID	Cleanup Status:*** 43010015 | NO FURTHER ACTION AS OF 7/10/2006	S	0.61 / 3,245.31	-18	51
17	ENVIROSTOR	ALIEN TECHNOLOGY CORPORATION	18410 BUTTERFIELD RD MORGAN HILL CA 95037 ***Estor/EPA ID	Cleanup Status:*** 71004096 | INACTIVE - NEEDS EVALUATION AS OF	WSW	0.78 / 4,097.22	-23	52
18	ENVIROSTOR	THE ESTATES AT SAN SEBASTIAN - PHASE I	PEET ROAD MORGAN HILL CA 95037 ***Estor/EPA ID	Cleanup Status:*** 60002246 | NO FURTHER ACTION AS OF 3/4/2016	NE	0.83 / 4,358.09	37	53
19	ENVIROSTOR	BORELLO ST. MARKS PROPERTY	COCHRAN ROAD AND SAINT MARKS AVENUE MORGAN HILL CA 95037 ***Estor/EPA ID	Cleanup Status:*** 60000323 | NO FURTHER ACTION AS OF 9/18/2006	NNE	0.85 / 4,479.37	15	54

Executive Summary: Summary by Data Source

Standard

Federal

RCRA SQG - RCRA Small Quantity Generators List

A search of the RCRA SQG database, dated Mar 4, 2019 has found that there are 1 RCRA SQG site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
SAINT LOUISE HOSPITAL & HEALTH CENTER	18500 ST LOUISE DRIVE MORGAN HILL CA 95037 ***EPA Handler ID**: CAD982401374*	NNW	0.08 / 403.55	1

RCRA NON GEN - RCRA Non-Generators

A search of the RCRA NON GEN database, dated Mar 4, 2019 has found that there are 2 RCRA NON GEN site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
MARIANI ORCHARDS	1515 HALF RD MORGAN HILL CA 95037 ***EPA Handler ID**: CAL000386231*	ENE	0.20 / 1,077.42	8

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
DCHS MEDICAL FOUNDATION	18550 DE PAUL DR STE 208 MORGAN HILL CA 95037 ***EPA Handler ID**: CAL000397936*	NW	0.22 / 1,175.61	9

FED BROWNFIELDS - The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database

A search of the FED BROWNFIELDS database, dated Jan 11, 2019 has found that there are 1 FED BROWNFIELDS site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
Borello Property - Morgan Hill USD	Peet Road, east of Mission Avenida MORGAN HILL CA 95037	N	0.41 / 2,186.53	10

State

ENVIROSTOR - EnviroStor Database

A search of the ENVIROSTOR database, dated Mar 11, 2019 has found that there are 8 ENVIROSTOR site(s) within approximately 1.00 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BORELLO PROPERTY	PEET ROAD, EAST OF MISSION AVENIDA MORGAN HILL CA 95037 ***Estor/EPA ID** | **Cleanup Status**: 60002240 | ACTIVE AS OF 9/21/2015*	NNE	0.47 / 2,455.97	11
BORELLO PROPERTY	COCHRAN ROAD AND PEET ROAD MORGAN HILL CA 95037 ***Estor/EPA ID** | **Cleanup Status**: 43010033 | CERTIFIED AS OF 11/3/2017*	NNE	0.49 / 2,594.98	13
THE ESTATES AT SAN SEBASTIAN - PHASE I	PEET ROAD MORGAN HILL CA 95037 ***Estor/EPA ID** | **Cleanup Status**: 60002246 | NO FURTHER ACTION AS OF 3/4/2016*	NE	0.83 / 4,358.09	18
BORELLO ST. MARKS PROPERTY	COCHRAN ROAD AND SAINT MARKS AVENUE MORGAN HILL CA 95037 ***Estor/EPA ID** | **Cleanup Status**: 60000323 | NO FURTHER ACTION AS OF 9/18/2006*	NNE	0.85 / 4,479.37	19

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
PHOTOTEK	18450 SUTTER BOULEVARD MORGAN HILL CA 95037 ***Estor/EPA ID** | **Cleanup Status**: 71003458 | INACTIVE - NEEDS EVALUATION AS OF*	WSW	0.51 / 2,670.18	14
MADRONE LAND CORP./SAN JOSE TRAP & SKEET	645 COCHRANE RD. MORGAN HILL CA 95037 ***Estor/EPA ID** | **Cleanup Status**: 43010016 | REFER: RWQCB AS OF 8/21/1996*	W	0.57 / 3,002.04	15
RYAN PROPERTIES	E. MAIN AVE. & EAST LANE MORGAN HILL CA 95037 ***Estor/EPA ID** | **Cleanup Status**: 43010015 | NO FURTHER ACTION AS OF 7/10/2006*	S	0.61 / 3,245.31	16
ALIEN TECHNOLOGY CORPORATION	18410 BUTTERFIELD RD MORGAN HILL CA 95037 ***Estor/EPA ID** | **Cleanup Status**: 71004096 | INACTIVE - NEEDS EVALUATION AS OF*	WSW	0.78 / 4,097.22	17

UST - Permitted Underground Storage Tank (UST) in GeoTracker

A search of the UST database, dated May 1, 2019 has found that there are 1 UST site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
DE PAUL MEDICAL CENTER	18500 DE PAUL DR MORGAN HILL CA 95037 ***Facility ID**: FA0258833*	NW	0.13 / 666.58	3

HHSS - Historical Hazardous Substance Storage Information Database

A search of the HHSS database, dated Aug 27, 2015 has found that there are 1 HHSS site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
BERT FINTON	17820 CASA LANE MORGAN HILL CA 95037	SE	0.19 / 988.80	7

DELISTED TNK - Delisted Storage Tanks

A search of the DELISTED TNK database, dated May 1, 2019 has found that there are 1 DELISTED TNK site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
ST. LOUISE HOSPITAL	18500 ST LOUISE DR Morgan Hill CA 95037	NNW	0.08 / 403.55	1

CERS TANK - California Environmental Reporting System (CERS) Tanks

A search of the CERS TANK database, dated May 6, 2019 has found that there are 1 CERS TANK site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
DE PAUL MEDICAL CENTER	18500 DE PAUL DR MORGAN HILL CA 95037	NW	0.14 / 717.49	4
	***Site ID**: 24271*			

VCP - Voluntary Cleanup Program

A search of the VCP database, dated Mar 11, 2019 has found that there are 1 VCP site(s) within approximately 0.50 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
BORELLO PROPERTY	COCHRAN ROAD AND PEET ROAD MORGAN HILL CA 95037	NNE	0.49 / 2,594.98	13
	***Estor/EPA ID**	**Cleanup Status**: 43010033 | CERTIFIED AS OF 11/3/2017*		

HIST TANK - Historical Hazardous Substance Storage Container Information - Facility Summary

A search of the HIST TANK database, dated May 27, 1988 has found that there are 2 HIST TANK site(s) within approximately 0.25 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
LAWRENCE L. VASQUEZ	17825 CASA LANE MORGAN HILL CA	SE	0.16 / 838.02	6
BERT FINTON	17820 CASA LANE MORGAN HILL CA	SE	0.19 / 988.80	7

County

SANTACLARA CUPA - Santa Clara County - CUPA Facilities List

A search of the SANTACLARA CUPA database, dated Apr 16, 2019 has found that there are 4 SANTACLARA CUPA site(s) within approximately 0.25 miles of the project property.

Equal/Higher Elevation	Address	Direction	Distance (mi/ft)	Map Key
UNIMED MGMT SVCS SAN JOSE INC	18550 ST LOUISE DR MORGAN HILL CA 95037	NNW	0.12 / 648.72	2
SAINT LOUISE CANCER CARE	18511 MISSION VIEW DR MORGAN HILL CA 95037	NNW	0.15 / 781.61	5

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
SAINT LOUISE HOSPITAL	18500 DE PAUL DR MORGAN HILL CA 95037	NW	0.14 / 717.49	4
COUNTY OF SANTA CLARA HHS - DE PAUL MEDICAL CENTER	18500 DE PAUL DR MORGAN HILL CA 95037	NW	0.14 / 717.49	4

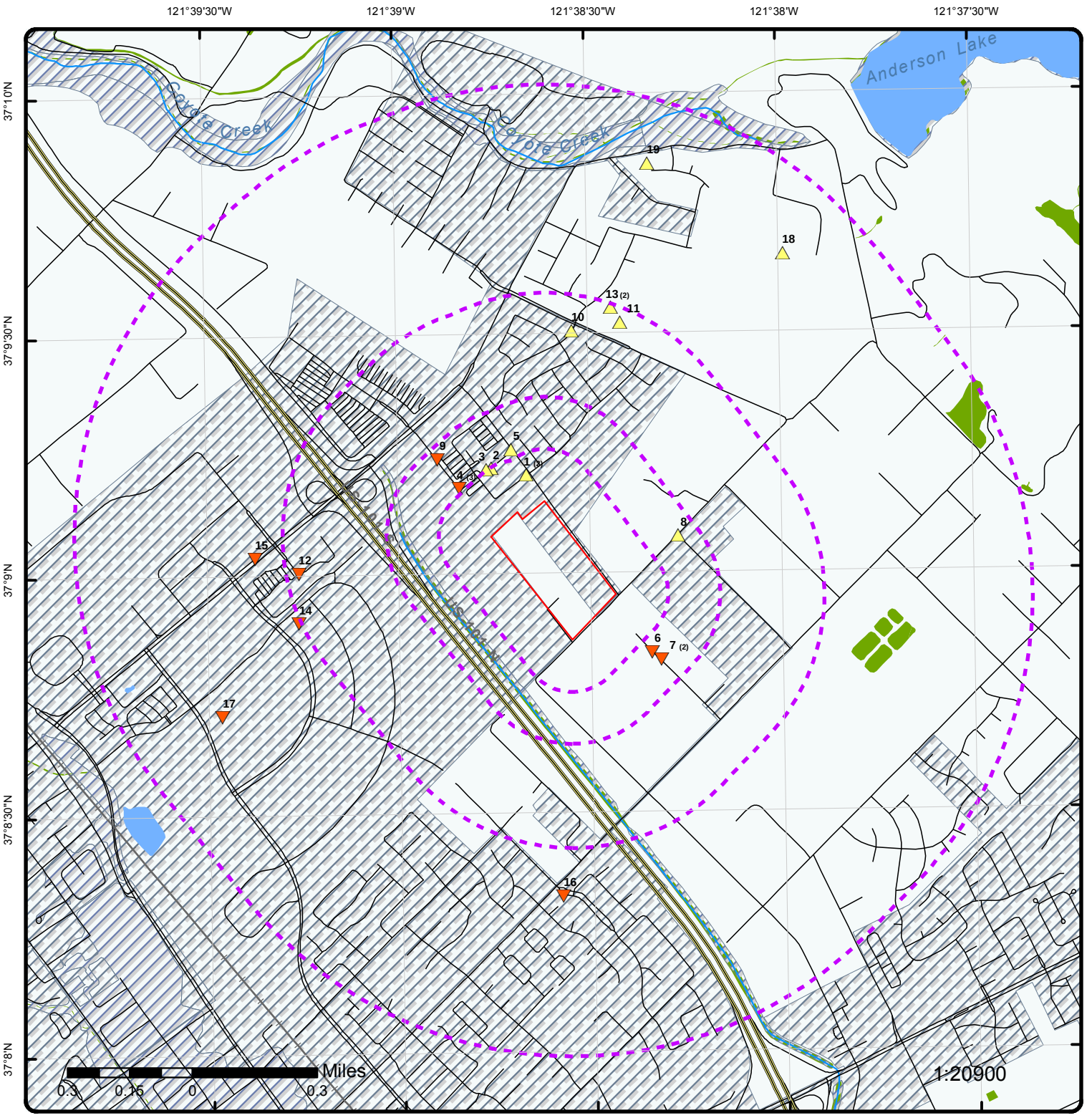
Non Standard

State

DELISTED HAZ - Delisted Environmental Reporting System (CERS) Hazardous Waste Sites

A search of the DELISTED HAZ database, dated Nov 29, 2018 has found that there are 1 DELISTED HAZ site(s) within approximately 0.50 miles of the project property.

Lower Elevation	Address	Direction	Distance (mi/ft)	Map Key
AT&T Mobility - COCHRANE PLAZA FLAG POLE (USID51615)	144 COCHRANE PLZ MORGAN HILL CA 95037	W	0.47 / 2,478.48	12



Map : 1 Mile Radius

Order No: 20190624041

Address: 1105 Half Road, Morgan Hill, CA, 95037

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

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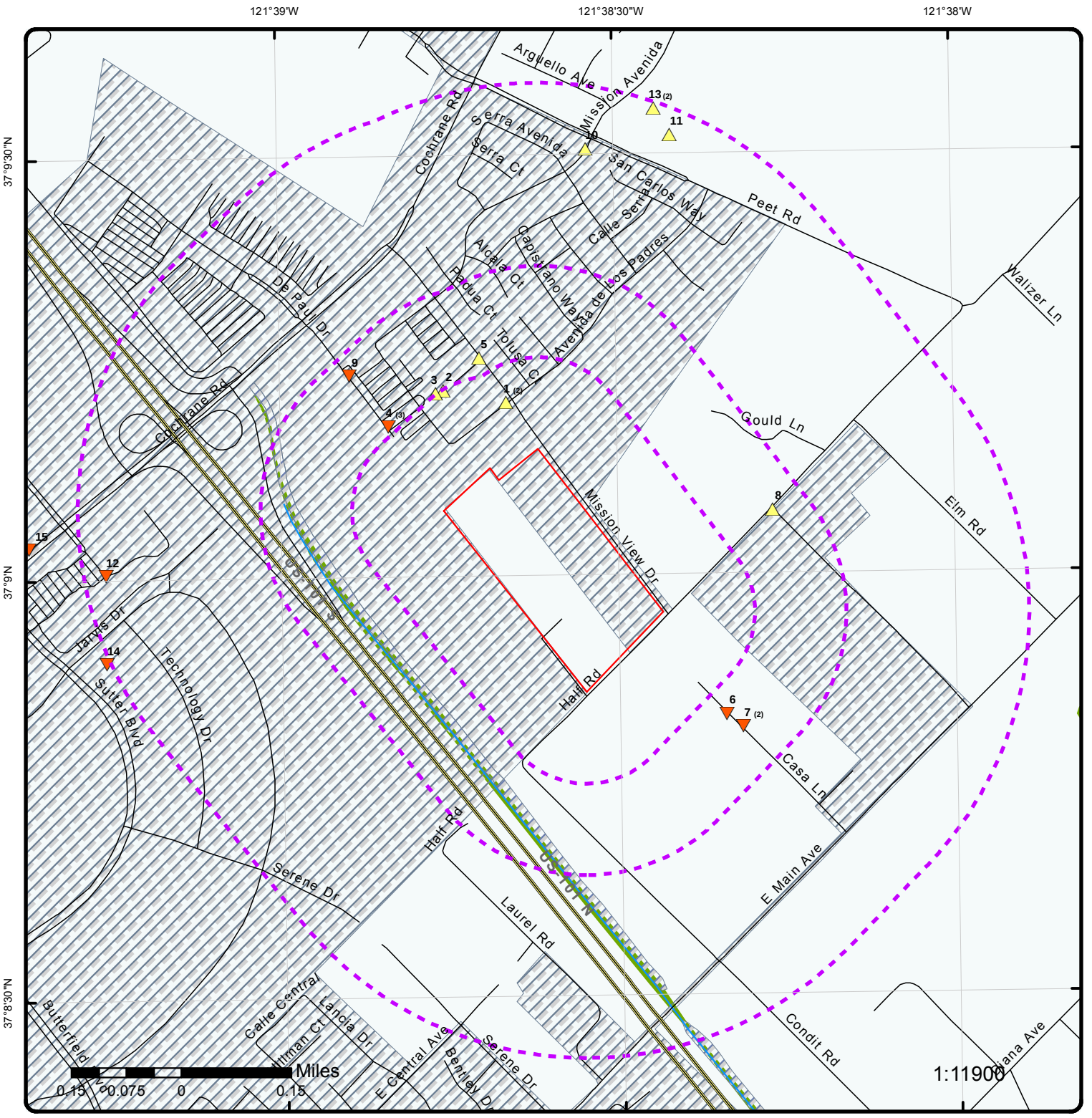


Map : 0.5 Mile Radius

Order No: 20190624041

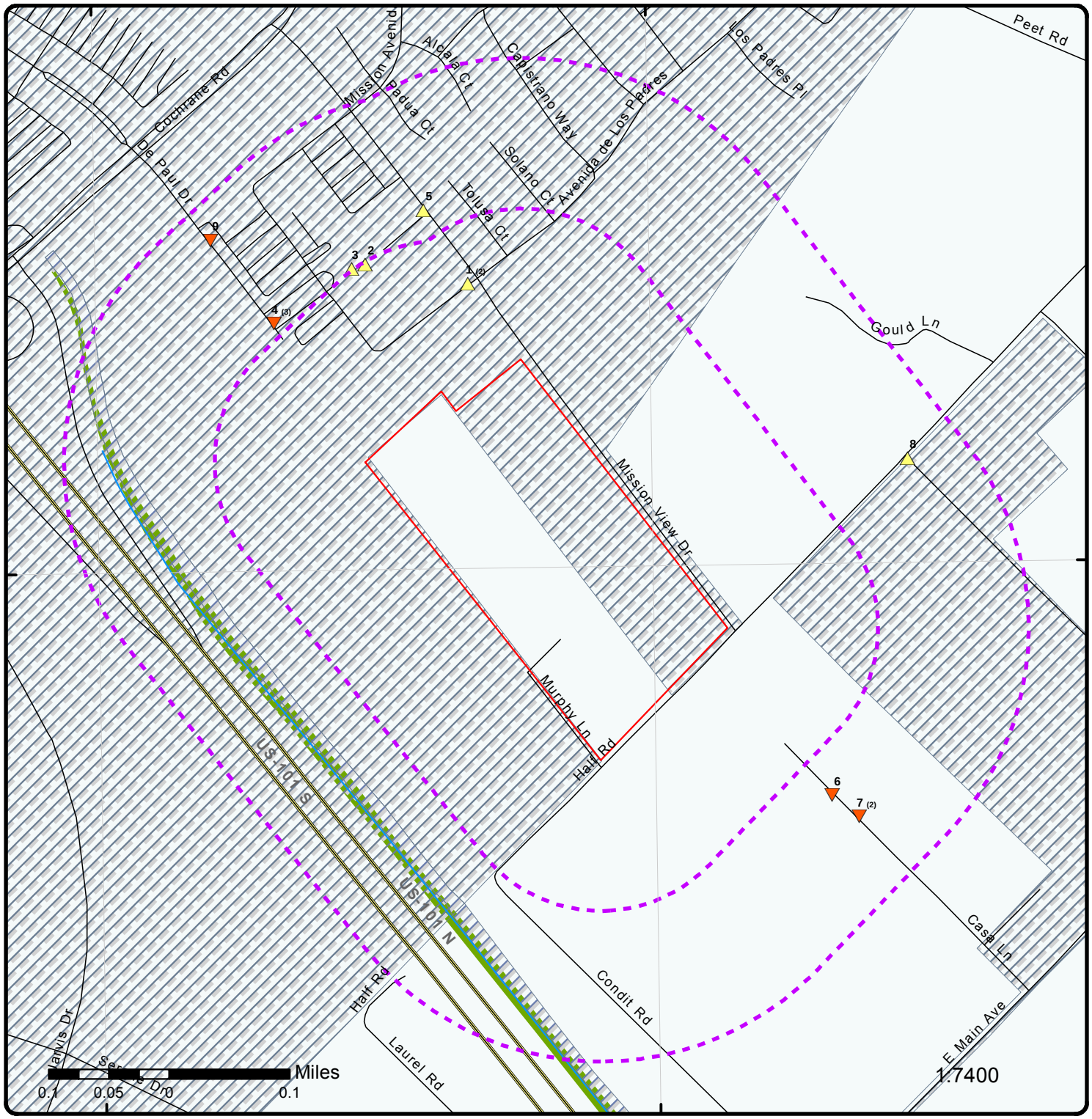
Address: 1105 Half Road, Morgan Hill, CA, 95037

ENVIRONMENTAL RISK INFORMATION SERVICES

Project Property	Rails	State Boundary	FWS Special Designation Areas
Buffer Outline	Major Highways	National Priority List Sites	State Brownfield Sites
Eris Sites with Higher Elevation	Major Highways Ramps	National Wetland	State Brownfield Areas
Eris Sites with Same Elevation	Major Roads	Indian Reserve Land	State Superfund Areas:Dept. of Defense
Eris Sites with Lower Elevation	Major Roads Ramps	Historic Fill	State Superfund Areas:NPL
Eris Sites with Unknown Elevation	Secondary Roads	100 Year Flood Zone	WQARF Areas
County Boundary	Secondary Roads Ramps	500 Year Flood Zone	Federal Lands: Dept. of Defense (owned/administered areas)
	Local Roads and Ramps		

Source: © 2016 ESRI

© ERIS Information Inc.



Map : 0.25 Mile Radius

Order No: 20190624041

Address: 1105 Half Road, Morgan Hill, CA, 95037

ENVIRONMENTAL RISK INFORMATION SERVICES

- Project Property
- **Buffer Outline**
- Eris Sites with Higher Elevation
- Eris Sites with Same Elevation
- Eris Sites with Lower Elevation
- Eris Sites with Unknown Elevation
- County Boundary
- Rails
- Major Highways
- Major Highways Ramps
- Major Roads
- Major Roads Ramps
- Secondary Roads
- Secondary Roads Ramps
- Local Roads and Ramps
- State Boundary
- National Priority List Sites
- National Wetland
- Indian Reserve Land
- Historic Fill
- 100 Year Flood Zone
- 500 Year Flood Zone
- FWS Special Designation Areas
- State Brownfield Sites
- State Brownfield Areas
- State Superfund Areas:Dept. of Defense
- State Superfund Areas:NPL
- WQARF Areas
- Federal Lands: Dept. of Defense (owned/administered areas)

Source: © 2016 ESRI

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Aerial (2017)

Address: 1105 Half Road, Morgan Hill, CA, 95037

Source: ESRI World Imagery

Order No: 20190624041

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES

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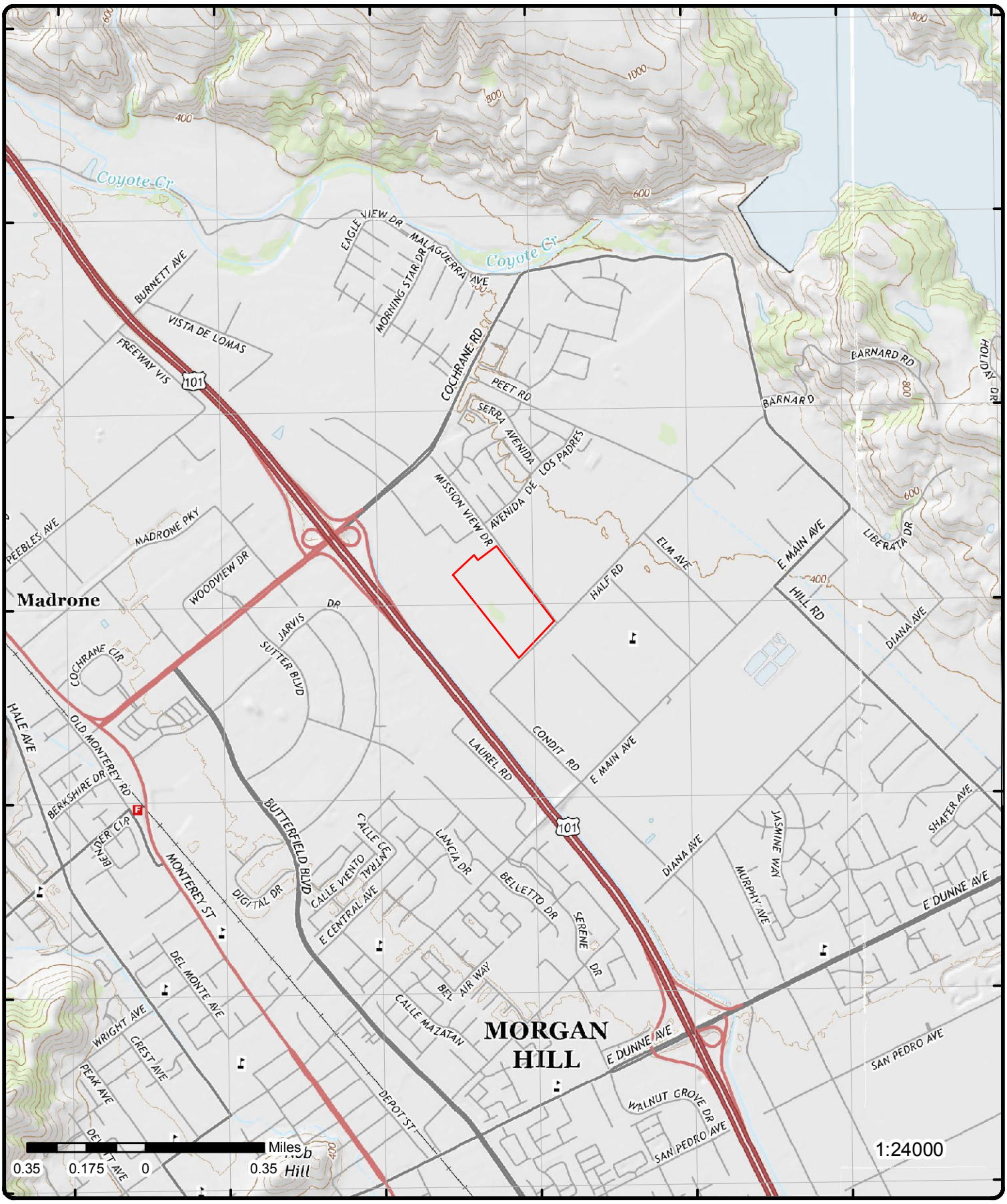

Topographic Map (2015)

Address: 1105 Half Road, Morgan Hill, CA, 95037

Quadrangle(s): Mount Sizer, CA; Mount Madonna, CA; Morgan Hill, CA; Gilroy, CA;

Source: USGS Topographic Map

Order No: 20190624041

ERIS ENVIRONMENTAL RISK INFORMATION SERVICES

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Detail Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	1 of 2	NNW	0.08 / 403.55	391.22 / 3	ST. LOUISE HOSPITAL 18500 ST LOUISE DR Morgan Hill CA 95037	DELISTED TNK

Delisted Storage Tanks

Facility ID:	85	**Latitude:**	37.154975
County:	Santa Clara	**Longitude:**	-121.64481
Permitting Agency:	CAMPBELL,CUPERTINO,LOS GATOS,MORGAN HILL		
Original Source:	UST		
Record Date:	30-JAN-2017		

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
1	2 of 2	NNW	0.08 / 403.55	391.22 / 3	SAINT LOUISE HOSPITAL & HEALTH CENTER 18500 ST LOUISE DRIVE MORGAN HILL CA 95037	RCRA SQG

EPA Handler ID:	CAD982401374
Gen Status Universe:	Small Quantity Generator
Contact Name:	ENVIRONMENTAL MANAGER
Contact Address:	18500 ST LOUISE DRIVE , , MORGAN HILL , CA, 95037 , US
Contact Phone No and Ext:	408-778-6654
Contact Email:	
Contact Country:	US
County Name:	SANTA CLARA
EPA Region:	09
Land Type:	Other
Receive Date:	19891201

Violation/Evaluation Summary

Note:	NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 19891201
Handler Name: SAINT LOUISE HOSPITAL & HEALTH CENTER
Generator Status Universe: Small Quantity Generator
Source Type: Notification

Owner/Operator Details

Owner/Operator Ind: Current Operator
Type: Private
Name: NOT REQUIRED
Date Became Current:
Date Ended Current:
Phone: 415-555-1212
Source Type: Notification
Street No:
Street 1: NOT REQUIRED
Street 2:
City: NOT REQUIRED
State: ME
Country:
Zip Code: 99999

Owner/Operator Ind: Current Owner
Type: Private
Name: SAINT LOUIS HEALTH CTR
Date Became Current:
Date Ended Current:
Phone: 415-555-1212
Source Type: Notification
Street No:
Street 1: NOT REQUIRED
Street 2:
City: NOT REQUIRED
State: ME
Country:
Zip Code: 99999

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
2	1 of 1	NNW	0.12 / 648.72	391.25 / 3	UNIMED MGMT SVCS SAN JOSE INC 18550 ST LOUISE DR MORGAN HILL CA 95037	SANTACLARA CUPA

Facility ID: FA0250984

PE: 2205
Description: GENERATES 100 KG YR TO <5 TONS/YR
Record ID: PR0364252

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
3	1 of 1	NW	0.13 / 666.58	391.01 / 3	DE PAUL MEDICAL CENTER 18500 DE PAUL DR MORGAN HILL CA 95037	UST

Facility ID: FA0258833
CERS ID: 10348057
County: Santa Clara
Latitude: 37.15363
Longitude: -121.64616
Permitting Agency: Santa Clara County Environmental Health
Note: Information related to facilities can be searched on Geo Tracker Website: https://geotracker.waterboards.ca.gov/search

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Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	1 of 3	NW	0.14 / 717.49	386.76 / -1	DE PAUL MEDICAL CENTER 18500 DE PAUL DR MORGAN HILL CA 95037	CERS TANK

Site ID: 24271
Latitude: 37.153625
Longitude: -121.646156

Regulated Programs

EI Description: Chemical Storage Facilities
EI ID: 10348057

EI Description: Underground Storage Tank
EI ID: 10348057

Violations

Violation Date: 11/14/2013 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: HSC 6.7 25281.5(b)(3) - California Health and Safety Code, Chapter 6.7, Section(s) 25281.5(b)(3)
Violation Notes:

Returned to compliance on 11/28/2013.

Violation Description:

Failure to conduct daily visual inspections each time the tank is operated, but not less than monthly, and maintain a log of inspection results for review of the CUPA.

Violations

Violation Date: 10/17/2016 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34
Violation Notes:

Returned to compliance on 12/07/2016. The most recent CERS submittal on 1/19/2016 does not include a UST Certification of Financial Responsibility (CFR) form. The facility uploaded to CERS an expired UST Financial Responsibility Insurance Policy # G24761253-002, exp: 9/5/2015. In addition, the CFO Letter was dated 12/4/2013 and incomplete for not identifying the following: Total Tangible Assets, Total Liabilities and Tangible Net Worth.

Violation Description:

Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance.

Violations

Violation Date: 11/14/2013 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Santa Clara County Environmental Health
Citation: HSC 6.95 Multiple - California Health and Safety Code, Chapter 6.95, Section(s) Multiple
Violation Notes:

Returned to compliance on 12/06/2013. Facility failed to submit a hazardous materials inventory, a hazardous materials storage map and site plan, emergency response plans/contingency plan, and employee training. DISREGARD CORRECTIVE ACTION TEXT BELOW REGARDING SUBMITTAL OF HARD COPY FORMS. SEE www.EHinfo.org/hazmat FOR DETAILS REGARDING ELECTRONIC REPORTING REQUIREMENTS. A FACILITY RECORD FOR THIS SITE HAS ALREADY BEEN CREATED ON THE CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS) WEBSITE AT http://cers.calepa.ca.gov. REQUEST ACCESS TO THAT CERS RECORD AND SUBMIT A REVISED HMBP WITHIN 30 DAYS..

Violation Description:

Business Plan Program - Administration/Documentation - General

Violations

Violation Date: 10/17/2016 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 16 2665 - California Code of Regulations, Title 23, Chapter 16, Section(s) 2665
Violation Notes:

Returned to compliance on 12/07/2016. The spill bucket was filled with 5-gallons of water, however after 60-minutes a noted loss was detected. The spill bucket's drain valve was removed and cleaned. The bucket was retested and a notable loss of liquid was observed.

Violation Description:

Failure of the overfill prevention system to meet one of the following requirements: Alert the transfer operator when the tank is 90 percent full by restricting the flow into the tank or triggering an audible and visual alarm; or Restrict delivery of flow to the tank at least 30 minutes before the tank overfills, provided the restriction occurs when the tank is filled to no more than 95 percent of capacity; and activate an audible alarm at least five minutes before the tank overfills; or Provide positive shut-off of flow to the tank when the tank is filled to no more than 95 percent of capacity; or Provide positive

shut-off of flow to the tank so that none of the fittings located on the top of the tank are exposed to product due to overfilling.

Violations

Violation Date: 10/17/2016 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 16 2712(f) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(f)
Violation Notes:

Returned to compliance on 12/07/2016. The 10/20/2015 Notice of Inspection, noting corrective actions taken was due to be received by 11/19/2015.

Violation Description:

Failure to implement the corrections specified in the inspection report within 30 calendar days of receiving an inspection report from either the CUPA or special inspector.

Violations

Violation Date: 10/17/2016 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 16 2632(d)(1)(C), 2641(h), 2711(a)(8) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2632(d)(1)(C), 2641(h), 2711(a)(8)
Violation Notes:

Returned to compliance on 12/07/2016. The UST Site Plan lists incorrect sensor model numbers for L-1, L-2 & L-3. The correct sensor numbers are L-1 794380-301, L-2 & L-3 794380-208.

Violation Description:

Failure to submit or update a plot plan.

Violations

Violation Date: 11/14/2013 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 16 2641(a) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(a)
Violation Notes:

Returned to compliance on 12/10/2013. Test boots on the transition sump were not pulled back to allow a leak from secondary containment piping to enter the sump. Shrader valves were closed and oriented towards 12 o'clock. Corrective action: Pull back test boot or ensure shrader valves are open and oriented toward 6 o'clock.

Violation Description:

Failure of sensor to be located in the proper position/location.

Violations

Violation Date: 10/17/2016 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 16 2715(a) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(a)
Violation Notes:

Returned to compliance on 12/07/2016. Designated Operator Michael Pietsch is not listed as a recognized Designated Operator for this site.

Violation Description:

Failure to notify the CUPA of the designated operator (DO) identification and/or change of the DO within 30 days.

Violations

Violation Date: 11/14/2013 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)
Violation Notes:

Returned to compliance on 12/06/2013. Current Monitoring Plan inaccurately identifies type of sensor for annular space monitoring. Plan identifies a 208 sensor monitors the annular space although a 301 is currently used. Additionally, Monitoring Plan states annular space is "dry" when in fact it is brine filled. Lastly, the plan does not have a date and is not signed by responsible party. DISREGARD CORRECTIVE ACTION TEXT BELOW REGARDING SUBMITTAL OF HARD COPY FORMS. SEE www.EHinfo.org/hazmat FOR DETAILS REGARDING ELECTRONIC REPORTING REQUIREMENTS. A FACILITY RECORD FOR THIS SITE HAS ALREADY BEEN CREATED ON THE CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS) WEBSITE AT http://cers.calepa.ca.gov. REQUEST ACCESS TO THAT CERS RECORD AND SUBMIT UST MONITORING PLAN(S) FOR APPROVAL.

Violation Description:

Failure to maintain on site an approved monitoring plan.

Violations

Violation Date: 11/14/2013 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: HSC 6.7 Multiple Sections - California Health and Safety Code, Chapter 6.7, Section(s) Multiple Sections
Violation Notes:

Returned to compliance on 12/06/2013. Facility and tank information pages were not signed below by a responsible party. Additionally facility does not include tank operator or owner information. Designated Operator inspections identify facility inaccurately as "O'connor De Paul Health Center".

Violation Description:

UST Program - Administration/Documentation - General

Violations

Violation Date: 11/14/2013 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Santa Clara County Environmental Health
Citation: 19 CCR 4 2729.5 - California Code of Regulations, Title 19, Chapter 4, Section(s) 2729.5
Violation Notes:

Returned to compliance on 12/06/2013.

Violation Description:

Failure to submit inventory reports (Activities, Owner/Operator, Hazardous Materials Descriptions and Map pages, if required. Documentation must be resubmitted (for facilities which exceed EPCRA thresholds) or re-certified (for facilities which do not exceed EPCRA thresholds) by March 1.

Violations

Violation Date: 11/14/2013 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: HSC 6.7 25292(e) - California Health and Safety Code, Chapter 6.7, Section(s) 25292(e)
Violation Notes:

Returned to compliance on 12/10/2013. Secondary containment testing on 11-04-11 indicate a failure in the secondary pipe (supply) with unknown source of failure and a failure in the penetration boots of the STP piping sump (supply and return). These failures remain uncorrected. A copy of the most recent secondary containment testing was obtained at time of inspection.

Violation Description:

Failure to maintain secondary containment, as evidenced by failure of secondary containment testing.

Violations

Violation Date: 11/14/2013 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 16 2715(b) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(b)
Violation Notes:

Returned to compliance on 12/06/2013. UST Owner failed to sign the "Underground Storage Tank System Owner Statements of Designated UST Operator and Understanding of and Compliance With UST Requirements". Additionally the facility is incorrectly named "City De Paul Health Center". Facility should be identified as De Paul Health Center.

Violation Description:

Failure to submit statement of UST compliance and/or Designated Operator current certification.

Violations

Violation Date: 11/14/2013 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 16 2715(f) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2715(f)
Violation Notes:

Returned to compliance on 12/11/2013. Facility was unable to provide any training documentation.

Violation Description:

Failure to comply with one or more of the following: provide training to facility employee(s) responsible for proper operation and maintenance every 12 months

and/or

train new employee(s) who are responsible for proper operation and maintenance within 30-days of hire

and/or

to have at least one employee present during operating hours that has been trained in the proper operation and maintenance of the UST system.

Violations

Violation Date: 10/21/2015 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 16 2666(c) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2666(c)
Violation Notes:

Returned to compliance on 05/24/2018. . No daily UST Alarm inspections (or dial-out alarm notification) has been conducted for this UST system. .

Violation Description:

Failure of line leak detector to detect a leak and/or failure of audible and visual alarm.

Violations

Violation Date: 10/17/2016 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 6.7 25284, 25286 - California Code of Regulations, Title 23, Chapter 6.7, Section(s) 25284, 25286
Violation Notes:

Returned to compliance on 12/07/2016. The field for "Isolation" on the Tank Information page under the heading for "Corrosion Protection" should be marked as "Yes". The field for "Piping System Type" on the Tank Information page under the heading for "Product / Waste Piping Construction" should be marked as "pressurized". The field for "Primary Containment" on the Tank Information page under the heading for "Product / Waste Piping Construction" should be marked as "Flexible".

Violation Description:

Failure to submit a complete and accurate application for a permit to operate a UST, or for renewal of the permit.

Violations

Violation Date: 10/20/2016 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Notes:

Returned to compliance on 12/07/2016. The UST Monitoring Plan for the most recent CERS submittal on 1/19/2016 contained the following errors and omissions: Tank Monitoring Section: --Leak Sensor Manufacturer: Veeder-Root --Leak Sensor Model #: 794380-301 --The box for Monthly Statistical Inventory Reconciliation was marked as YES when it should not be marked. Pipe Monitoring Section: --Leak Sensor Manufacturer: Veeder-Root --Leak Sensor Model #: 794380-208 --Pipeline Integrity Testing section was not completed (Frequency: Annually) --Visual Pipeline Monitoring box was not selected. --Visual Pipeline Monitoring Frequency was not identified.

Violation Description:

Failure to have an approved UST Monitoring Plan.

Violations

Violation Date: 10/16/2017 ***Violation Source:*** CERS
Violation Program: HMRRP ***Violation Division:*** Santa Clara County Environmental Health
Citation: HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2
Violation Notes:

Returned to compliance on 05/24/2018. Facility failed to electronically submit their annual update via CERS.

Violation Description:

Failure to annually review and electronically certify that the business plan is complete and accurate on or before the annual due date.

Violations

Violation Date: 10/21/2015 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 16 2636(f)(4) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(4)
Violation Notes:

Returned to compliance on 05/24/2018. . Annual Line Tightness Test has not been done on this UST system. .

Violation Description:

Failure to perform and/or pass the annual line integrity test for pressurized piping that does not utilize fail safe or shut down.

Violations

Violation Date: 11/14/2013 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 16 2712(i) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2712(i)
Violation Notes:

Returned to compliance on 12/06/2013. Response plan does not have name and title of responsible persons or name, title, and signature of owner/operator. SUBMIT ON CERS.

Violation Description:

Failure to submit, obtain approval, or maintain a complete/accurate response plan.

Violations

Violation Date: 10/17/2016 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health

Citation: 23 CCR 16 2636(f)(6) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2636(f)(6)
Violation Notes:

Returned to compliance on 12/07/2016. The UST system is no longer being utilized as an Emergency Generator Tank System and the piping is required to be monitored by an automatic line leak detector (LLD) capable of detecting a 3 gallon-per-hour leak rate at 10 p.s.i.g. within 1 hour.

Violation Description:

Failure to meet one or more of the following requirements in lieu of a line leak detector (LLD) for emergency generator tank systems:
Continuous monitoring system activates an audible and visual alarm.
Monitoring system is checked daily.
A log of daily checks is available for the CUPA to review.

Violations

Violation Date: 10/16/2017 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: 23 CCR 16 2641(h) - California Code of Regulations, Title 23, Chapter 16, Section(s) 2641(h)
Violation Notes:

Returned to compliance on 05/24/2018. The UST Monitoring Plan was not accepted for containing the following errors: --Missing the Mfg. name (Veeder-Root) for pipe monitoring. --Incorrect sensor model number (794380-208) for the pipe monitoring. --Did not check the box for Pipeline Integrity Testing. --Did not check the box for "Annually" for Pipeline frequency. --Did not check the box "Yes" for Visual Pipeline Monitoring. --Did not check the applicable box for the frequency for conducting the visual inspection of the aboveground piping.

Violation Description:

Failure to have an approved UST Monitoring Plan.

Violations

Violation Date: 11/14/2013 ***Violation Source:*** CERS
Violation Program: UST ***Violation Division:*** Santa Clara County Environmental Health
Citation: HSC 6.75 25299.30-25299.34 - California Health and Safety Code, Chapter 6.75, Section(s) 25299.30-25299.34
Violation Notes:

Returned to compliance on 12/06/2013. Facility was unable to provide a current Certificate of Financial Responsibility and the mechanism used.

Violation Description:

Failure to submit and maintain complete and current Certification of Financial Responsibility or other mechanism of financial assurance.

Enforcements

Enf Action Date: 11/14/2013 ***Enf Action Program:*** HMRRP
Enf Action Type: Notice of Violation (Unified Program) ***Enf Action Source:*** CERS
Enf Action Division: Santa Clara County Environmental Health
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:

Enf Action Date: 11/14/2013 ***Enf Action Program:*** UST
Enf Action Type: Notice of Violation (Unified Program) ***Enf Action Source:*** CERS
Enf Action Division: Santa Clara County Environmental Health
Enf Action Description: Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:

Evaluations

Eval Date: 10/23/2014
Violations Found: No
Eval General Type: Compliance Evaluation Inspection

Eval Type: Routine done by local agency
Eval Division: Santa Clara County Environmental Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

ON SITE FOR 2014 UST MONITORING SYSTEM TEST, CERTIFICATION, AND PERMIT INSPECTION DAVID LOPEZ, STATIONARY ENGINEER, DE PAUL GILBERT GARCIA, UST SERVICE TECH, TANKNOLOGY, ON SITE TO CONDUCT TEST ICC 8211864 EXP. 11/26/2014 VEEDER-ROOT #B42816 EXP. 3/13/2015 TLDT-5000 - VMI 3332 3/25/2015 SYSTEM SET-UP AND ALARM HISTORY PROVIDED DUSTO REPORTS REVIEWED, OK CERS REVIEW, DUSTO ? EXEMPT??? NOT APPROVED AND NO HARDCOPY ON SITE, OWNER OPERATOR ? OK FINANCIAL RESPONSIBILITY, THE PLACEMENT/STATUS OF THE RECORDS, NEEDS TO BE AJDUSTED. THE UST CERT OF FINANCIAL RESPONSIBILITY REQUIRES A DIFFERENT DOCUMENT, THE INSURANCE PLAN SHOULD BE IN THE SECTION UST Letter from Chief Financial Officer: Upload Document(s) DAVID LOPEZ SHOULD BE IDENTIFIED AS AN EMERGENCY CONTACT. ONE UST, I-1 SUPPLY AND RETURN PIPING, L-2 ONE TRANSITION SUMP. L-3 STP SHUT AND ISOLATED, NOT IN USE. DID NOT PRIME OR TEST AUTO SHUT-DOWN. L-1, L-2, L-3, ALL AUDIO AND [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/16/2017
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Santa Clara County Environmental Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

On-site for the annual UST monitoring certification with the functional testing that was completed by Darren Sciume from Tanknology, Inc. Mr. Sciume's certifications (ICC Service Technician and Veeder-Root) were verified to be current. Ben Nguyen, Chief Engineer was present during the functional testing. The monitoring panel displayed "All functions normal" at the beginning and end of the functional testing. The sump sensors (STP and Transition) were tested with water and provided audible and visible alarms. Additionally, brine-filled interstitial space provided alarm when sensor was removed from the brine. All liquid sensors dialed out via the Sensaphone 400 and communication was verified for each liquid sensor. Overfill protection is provided by a flapper valve in the fill tube. Confirmed that the site is conducting visual inspection of the aboveground piping as required (electronic work order). Annual Line Tightness Test was completed on 12/16/16. [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 11/14/2013
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Santa Clara County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

EFFECTIVE JANUARY 1, 2013, STATE LAW REQUIRES THAT HAZARDOUS MATERIALS BUSINESS PLAN (HMBP), HAZARDOUS WASTE TIERED PERMIT, AND CERTAIN UNDERGROUND STORAGE TANK (UST) SUBMITTALS (i.e., OPERATING PERMIT APPLICATIONS AND UST MONITORING PLANS) BE SUBMITTED ELECTRONICALLY VIA THE CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS) WEBSITE AT http://cers.calepa.ca.gov. HARD COPIES ARE NO LONGER ALLOWED FOR THOSE SUBMITTALS, SO PLEASE DISREGARD ANY PRE-PRINTED CORRECTIVE ACTION TEXT IN THIS NOTICE OF INSPECTION REGARDING HARD COPY FORMS. FACILITY RECORDS HAVE ALREADY BEEN CREATED IN CERS FOR MANY BUSINESSES. PLEASE SEARCH CERS AND REQUEST ACCESS TO THAT RECORD BEFORE CREATING A NEW FACILITY RECORD. SEE www.EHinfo.org/hazmat FOR MORE DETAILS REGARDING ELECTRONIC REPORTING REQUIREMENTS.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/23/2014
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Santa Clara County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

ON SITE FOR ANNUAL UST INSPECTION. CERS REVIEW FOR EMERGENCY RESPONSE PLAN AND SITE MAP IDENTIFIED THE "PLANS" SECTION OF THE CERS SUBMITTAL IS APPLICABLE WITH NO SUBMITTAL. IT IS SUGGESTED TO USE THE CERS TEMPLATE PROVIDED IN THE EMERGENCY RESPONSE PLAN (ERP) TEMPLATE, SUBMIT IN THE ERP, (ATTACHED) DAVID LOPEZ SHOULD BE IDENTIFIED AS AN EMERGENCY CONTACT THROUGHOUT THE CERS AND ER SYSTEM. John Walker of Saint Louise Regional Hospital (Gilroy, CA) TO BE NOTIFIED OF THE CERS UPDATE NEEDS.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/21/2015

Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Santa Clara County Environmental Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

I was on site, !0/20/2015, 18500 De Paul Dr, Morgan Hill, to conduct the 2015 UST Permit Inspection and records review and witness the UST Monitoring Certification. No facility representative on site. I called Luciano Costa, (408) 848-8649, while on site, there was no answer, left a message. Sent email to: lucianocosta@dochs.org Ben Nguyen, Chief Engineer, (408) 848-8635 contacted, and is now on site to provide access and records review. bennguyen@dochs.org Brian Self, Confidence UST Services, Inc. was on site to conduct the UST Monitoring System Certification. ICC # 8022804 Serv Tech Expires 6/8/2017, VR - Expires 6/25/2017 Spill Bucket testing, A drop in water level is observed. Serviced drain valve, re-test, 60 minutes, no drop observed. OK Monthly DUSTO Reports are with Ben Nguyen at his office, off-site. He provided the hard copy DUSTO reports today on site as requested. OK CERS Review, Submitted 7/15/2015, Submitted, Status change to " Under [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 11/30/2016
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Santa Clara County Environmental Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

On-site to witness the secondary containment testing of a STP sump, supply and return piping and a piping transition sump. All testing was completed by Jarrod Cooke, Service Technician from Tanknology, Inc. Mr. Cooke's ICC certification was verified to be current. Both piping runs (supply and return) were pressurized with nitrogen to 5-psi for 60-minutes with no loss of pressure; PASS. The tank's annular space is hydrostatically monitored and not required to be tested. The STP sump and piping transition sump were filled with water above the pressurized piping penetration and tested with a Tanknology VPLT accelerated tester for 30-mimutes. Final sump readings: STP Sump: -0.0013"; PASS Piping Transition Sump: -0.0003"; PASS Provide a copy the Secondary Containment Test Report by 12/30/16. Contact Ray Maiden at ray.maiden@cep.sccgov.org or by phone at 408-918-1980 for questions regarding this report.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/09/2018
Violations Found: No
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Santa Clara County Environmental Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

On-site to witness annual UST monitoring certification, spill bucket testing, and to perform an inspection of the underground storage tank system. Testing performed by Brent Bowen of Tanknology. Mr. Bowen holds valid ICC and Veeder-Root certifications. In addition, the following testing was performed: *Testing of overfill protection - Drop tube with flow restrictor (flapper) removed. Flapper manually moved and visually confirmed it closes all the way. Measurements were taking to determine how high restrictor is set in the tank and will be compared to the tank chart in order to determine if the restrictor is set at the proper level. Technician attempting to locate a tank chart. *Line tightness testing Alarms are communicated to staff off-site and communication was confirmed to be occurring at time of testing. UST system performed as designed without exception. Facility is transitioning to a suction under project SR0858378 in order to be complaint and avoid the [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/20/2016
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Santa Clara County Environmental Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

The annual UST monitoring certification began on 10/17/16 with the functional testing that was completed by Mike Gathright from Petro-Analytical Inc. Mr. Gathright's certifications (ICC Service Technician, Veeder-Root Level 2/3) were verified to be current. The inspection was completed on 10/20/16 with a review of the UST documents with Ben Nguyen, Chief Engineer. This report was revised on 12/6/16 to retract violation T861:EXEMPTION CONDITIONS: EGTS LLD. After a review of the Emergency Generator Tank System (EGTS) requirements this office has concluded that violation T861 was incorrectly cited. The operability of the emergency generator is not a requirement of maintaining EDTS status. Although the emergency generator is not currently being operated, the configuration to supply emergency power to the hospital remains unchanged. Richard Gilman, Stationary Engineer with

De Paul Medical Center was present during the functional testing on 10/17/16. Alarm [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 12/10/2013
Violations Found: No
Eval General Type: Other/Unknown
Eval Type: Other, not routine, done by local agency
Eval Division: Santa Clara County Environmental Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

Observed secondary containment testing, conducted by Jarrod Cooke, ICC Service Technician, Exp: 4/30/15, from Tanknology. Site set-up: 1-Diesel fuel tank with a brine filled annular space. Components tested: Secondary containment piping for both the supply and return lines, STP sump and transition sump. The secondary containment piping for both the supply and return lines were pressurized to 5-psi with nitrogen for 60-minutes with no loss of pressure---PASS. The STP sump was hydrostatically tested at the highest piping penetration for 30-minutes, using the VPLT precision test system---PASS. The transition sump was not tested due to a visible tear in the rock-guard boot. Facility must make required repairs and retest the transition sump by January 9, 2014. Contact this office at 408-918-3400 at least 48-hr prior to scheduling the retest.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 11/14/2013
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Santa Clara County Environmental Health
Eval Program: UST
Eval Source: CERS
Eval Notes:

On site 11-14-13 to oversee annual UST monitoring certification and spill bucket testing performed by Mr. Anthony VanGinkel of Tanknology. Mr. VanGinkel holds valid ICC and Veeder-Root certifications. Site consists of 1- 8,000 gallon regulated underground storage tank that provides fuel to a day tank in adjacent building that contains the generator. Additionally, the site has a STP sump, piping/transition sump, and an annular space that is constantly monitored by veeder root sensors. The panel used on-site is a Veeder Root TLS 300c Alarm Set-up: L1-Annular space sensor (Veeder Root 794380-301) L2-STP Sump sensor (Veeder Root 794380-208) L3-Piping/transition Sump sensor (Veeder Root 794380-208) Panel observed to be in ?All functions normal? and sumps were dry and clean upon arrival with the exception of the transition sump which had small amounts of water in some areas (<1/8 inch). The sump sensors (STP and Transition) were tested with water and provided audible [Truncated]; Note: data in [EVAL Notes] field for some records is truncated from the source.

Eval Date: 10/16/2017
Violations Found: Yes
Eval General Type: Compliance Evaluation Inspection
Eval Type: Routine done by local agency
Eval Division: Santa Clara County Environmental Health
Eval Program: HMRRP
Eval Source: CERS
Eval Notes:

Conducted a HMBP inspection with Ben Nguyen, Chief Engineer. The site inventory consists of one 8,000 gallon UST that supplies an emergency generator. The fuel gauge stated that there was approximately 5,500 gallons of diesel in the UST. The facility is reminded to update the Regional Water Quality Control phone number. It should be 510-622-2300. Facility is current with their required annual training (12/6/16). Contact Ray Maiden at 408-918-1980 or by email at ray.maiden@cep.sccgov.org for questions regarding this report.; Note: data in [EVAL Notes] field for some records is truncated from the source.

Affiliations

Affil Type Desc: Legal Owner
Entity Name: Verity Healthcare System
Entity Title:
Address: 18500 DE PAUL DR
City: MORGAN HILL
State: CA
Country: United States
Zip Code: 95037
Phone: (408) 848-2000

Affil Type Desc:	UST Permit Applicant
Entity Name:	Luciano Costa
Entity Title:	Director, Facilities
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	(408) 848-8649

Affil Type Desc:	Document Preparer
Entity Name:	Geoffery Tull
Entity Title:	
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	

Affil Type Desc:	Environmental Contact
Entity Name:	Geoffery Tull
Entity Title:	
Address:	9400 No Name Uno
City:	Gilroy
State:	CA
Country:	
Zip Code:	95020
Phone:	

Affil Type Desc:	Identification Signer
Entity Name:	Geoffery Tull
Entity Title:	Safety Officer
Address:	
City:	
State:	
Country:	
Zip Code:	
Phone:	

Affil Type Desc:	UST Tank Owner
Entity Name:	COUNTY OF SANTA CLARA
Entity Title:	
Address:	70 W Hedding St
City:	San Jose
State:	CA
Country:	United States
Zip Code:	95110
Phone:	(408) 299-4321

Affil Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	
Address:	9400 NO NAME UNO
City:	GILROY
State:	CA
Country:	
Zip Code:	95020
Phone:	

Affil Type Desc:	UST Property Owner Name
Entity Name:	COUNTY OF SANTA CLARA
Entity Title:	
Address:	70 W Hedding St
City:	San Jose
State:	CA
Country:	United States
Zip Code:	95110
Phone:	(408) 299-4321

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Affil Type Desc: Parent Corporation
Entity Name: County of Santa Clara - Health and Hospital System
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone:

Affil Type Desc: Operator
Entity Name: DePaul Medical Center
Entity Title:
Address:
City:
State:
Country:
Zip Code:
Phone: (408) 848-2000

Affil Type Desc: CUPA District
Entity Name: Santa Clara County Environmental Health
Entity Title:
Address: 1555 Berger Drive, Suite 300
City: San Jose
State: CA
Country:
Zip Code: 95112-2716
Phone: (408) 918-3400

Affil Type Desc: UST Tank Operator
Entity Name: County of Santa Clara - Health & Hospital System
Entity Title:
Address: 751 S Bascom Av
City: San Jose
State: CA
Country: United States
Zip Code: 95128
Phone: (408) 885-4160

Coordinates

Env Int Type Code: HMBP
Program ID: 10348057
Latitude: 37.153630
Longitude: -121.646160
Coord Name:
Ref Point Type Desc: Center of a facility or station.

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	2 of 3	NW	0.14 / 717.49	386.76 / -1	COUNTY OF SANTA CLARA HHS - DE PAUL MEDICAL CENTER 18500 DE PAUL DR MORGAN HILL CA 95037	SANTACLARA CUPA

Facility ID: FA0258833

PE: BP01
Description: HMBP FACILITY, 1-3 CHEMICALS
Record ID: PR0379114

PE: 2399
Description: UNDERGROUND STORAGE TANK PROGRAM RECORD
Record ID: PR0379115

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
4	3 of 3	NW	0.14 / 717.49	386.76 / -1	SAINT LOUISE HOSPITAL 18500 DE PAUL DR MORGAN HILL CA 95037	SANTACLARA CUPA

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Facility ID: FA0251300

PE: 2263
Description: CONDITIONALLY EXEMPT (CE)
Record ID: PR0364922

PE: 2206
Description: GENERATES 5 TO <25 TONS/YR
Record ID: PR0315417

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5 | 1 of 1 | NNW | 0.15 / 781.61 | 392.05 / 4 | SAINT LOUISE CANCER CARE
18511 MISSION VIEW DR
MORGAN HILL CA 95037 | SANTACLARA CUPA

Facility ID: FA0250647

PE: 2271
Description: SILVER WASTE ONLY <100 KG/MO
Record ID: PR0364072

---

6 | 1 of 1 | SE | 0.16 / 838.02 | 387.30 / -1 | LAWRENCE L. VASQUEZ
17825 CASA LANE
MORGAN HILL CA | HIST TANK

Owner Name: LAWRENCE L. VASQUEZ
Owner Street: 17845 CASA LANE
Owner City: MORGAN HILL
Owner State: CA
Owner Zip: 95037
No of Containers: 1
County: SANTA CLARA
Facility State: CA
Facility Zip: 95037

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7 | 1 of 2 | SE | 0.19 / 988.80 | 387.77 / 0 | BERT FINTON
17820 CASA LANE
MORGAN HILL CA 95037 | HHSS

County: Santa Clara
Pdf File Url: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002cebb.pdf

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7 | 2 of 2 | SE | 0.19 / 988.80 | 387.77 / 0 | BERT FINTON
17820 CASA LANE
MORGAN HILL CA | HIST TANK

Owner Name: BERT FINTON
Owner Street: 17820 CASA LANE
Owner City: MORGAN HILL
Owner State: CA
Owner Zip: 95037
No of Containers: 1
County: SANTA CLARA
Facility State: CA
Facility Zip: 95037

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8 | 1 of 1 | ENE | 0.20 / 1,077.42 | 396.87 / 9 | MARIANI ORCHARDS
1515 HALF RD
MORGAN HILL CA 95037 | RCRA NON GEN

EPA Handler ID: CAL000386231
Gen Status Universe: No Report
Contact Name: MITCH MARIANI
Contact Address: 1685 HALF RD , , MORGAN HILL , CA, 95037 ,
Contact Phone No and Ext: 408-612-7411
Contact Email: MARIANIORCHARDS@YAHOO.COM
Contact Country:
County Name: SANTA CLARA
EPA Region: 09
Land Type:
Receive Date: 20130614

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	Yes
Transfer Facility:	No
Onsite Burner Exemption:	No
Furnace Exemption:	No
Underground Injection Activity:	No
Commercial TSD:	No
Used Oil Transporter:	No
Used Oil Transfer Facility:	No
Used Oil Processor:	No
Used Oil Refiner:	No
Used Oil Burner:	No
Used Oil Market Burner:	No
Used Oil Spec Marketer:	No

Hazardous Waste Handler Details

Sequence No:	1
Receive Date:	20130614
Handler Name:	MARIANI ORCHARDS
Generator Status Universe:	No Report
Source Type:	Implementer

Owner/Operator Details

Owner/Operator Ind:	Current Operator	***Street No:***	
Type:	Other	***Street 1:***	1685 HALF RD
Name:	MITCH MARIANI	***Street 2:***	
Date Became Current:		***City:***	MORGAN HILL
Date Ended Current:		***State:***	CA
Phone:	408-612-7411	***Country:***	
Source Type:	Implementer	***Zip Code:***	95037

Owner/Operator Ind:	Current Owner	***Street No:***	
Type:	Other	***Street 1:***	1685 HALF RD
Name:	MITCH MARIANI	***Street 2:***	
Date Became Current:		***City:***	MORGAN HILL
Date Ended Current:		***State:***	CA
Phone:	408-779-5467	***Country:***	
Source Type:	Implementer	***Zip Code:***	95037

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
9	1 of 1	NW	0.22 / 1,175.61	387.80 / 0	DCHS MEDICAL FOUNDATION 18550 DE PAUL DR STE 208 MORGAN HILL CA 95037	RCRA NON GEN

EPA Handler ID:	CAL000397936
Gen Status Universe:	No Report
Contact Name:	BETH RUF
Contact Address:	400 RACE ST , , SAN JOSE , CA, 95126-0000 ,
Contact Phone No and Ext:	408-357-1085
Contact Email:	BETHRUF@VERITYMED.ORG
Contact Country:	
County Name:	SANTA CLARA
EPA Region:	09

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Land Type:
Receive Date: 20140617

Violation/Evaluation Summary

Note: NO RECORDS: As of Mar 2019, there are no Compliance Monitoring and Enforcement (violation) records associated with this facility (EPA ID).

Handler Summary

Importer Activity: No
Mixed Waste Generator: No
Transporter Activity: Yes
Transfer Facility: No
Onsite Burner Exemption: No
Furnace Exemption: No
Underground Injection Activity: No
Commercial TSD: No
Used Oil Transporter: No
Used Oil Transfer Facility: No
Used Oil Processor: No
Used Oil Refiner: No
Used Oil Burner: No
Used Oil Market Burner: No
Used Oil Spec Marketer: No

Hazardous Waste Handler Details

Sequence No: 1
Receive Date: 20140617
Handler Name: DCHS MEDICAL FOUNDATION
Generator Status Universe: No Report
Source Type: Implementer

Owner/Operator Details

Owner/Operator Ind: Current Operator
Type: Other
Name: BETH RUF
Date Became Current:
Date Ended Current:
Phone: 408-357-1085
Source Type: Implementer
Street No:
Street 1: 400 RACE ST
Street 2:
City: SAN JOSE
State: CA
Country:
Zip Code: 95126-0000

Owner/Operator Ind: Current Owner
Type: Other
Name: VERITY MEDICAL FOUNDATION
Date Became Current:
Date Ended Current:
Phone: 408-278-3000
Source Type: Implementer
Street No:
Street 1: 400 RACE ST
Street 2:
City: SAN JOSE
State: CA
Country:
Zip Code: 95126

10	*1 of 1*	*N*	*0.41 / 2,186.53*	*405.14 / 17*	***Borello Property - Morgan Hill USD*** ***Peet Road, east of Mission Avenida*** ***MORGAN HILL CA 95037***	***FED BROWNFIELDS***

Type of Funding: Hazardous
Acres Property ID: 198121
Property Size(Acres): 9
Local Property No: 728-55-15; 728-55-16; 728-55-17
Ownership Entity: Private
Current Owner: Lupine Investors, LLC

Did Ownership Change:	N
Sfllp Fact into the Owship:	
Latitude:	37.1584306
Longitude:	-121.6423629
Horizontal Collection Mthd:	Address Matching-House Number
Source Map Scale:	
Reference Point:	Entrance Point of a Facility or Station
Horiz Reference Datum:	North American Datum of 1983
Cleanup Required:	Y
Cntmnt Fnd Ctrl Sbstncs:	
Cntmnt Fnd Petroleum:	
Cntmnt Fnd Asbestos:	
Cntmnt Fnd Lead:	
Cntmnt Fnd Pahs:	
Cntmnt Fnd Pcbs:	
Cntmnt Fnd Vocs:	
Cntmnt Fnd Selenium:	
Cntmnt Fnd Iron:	
Cntmnt Fnd Arsenic:	
Cntmnt Fnd Cadmium:	
Cntmnt Fnd Chromium:	
Cntmnt Fnd Copper:	
Cntmnt Fnd Mercury:	
Cntmnt Fnd Nickel:	
Cntmnt Fnd Pesticides:	Yes
Cntmnt Fnd Svocs:	
Cntmnt Fnd Other Metals:	
Cntmnt Fnd Other:	
Cntmnt Fnd Other Descr :	
Cntmnt Fnd Unknown:	
Cntmnt Fnd None:	
Cntmnt Clnd Up Ctl Sbst:	
Cntmnt Clnd Up Petroleum:	
Cntmnt Clnd Up Asbestos:	
Cntmnt Clnd Up Lead:	
Cntmnt Clnd Up PAHs:	
Cntmnt Clnd Up PCBs:	
Cntmnt Clnd Up VOCs:	
Cntmnt Clnd Up Selenium:	
Cntmnt Clnd Up Iron:	
Cntmnt Clnd Up Arsenic:	
Cntmnt Clnd Up Cadmium:	
Cntmnt Clnd Up Chromium:	
Cntmnt Clnd Up Copper:	
Cntmnt Clnd Up Mercury:	
Cntmnt Clnd Up Nickel:	
Cntmnt Clnd Up Pesticides:	
Cntmnt Clnd Up Svocs:	
Cntmnt Clnd Oth Metals:	
Cntmnt Clnd Up Other:	
Cntmnt Clnd Up Oth Desc:	
Cntmnt Clnd Up Unknown:	
Cntmnt Clnd Up None:	
Media Affected Air:	
Media Affected Sediments:	
Media Affected Soil:	Y
Media Affect Drnking Wtr:	
Media Affected Grnd Wtr:	
Media Affctd Surf Wtr:	
Media Affctd Bldg Matrls:	
Media Affected Indoor Air:	
Media Affected None:	
Media Affected Unknown:	
Media Clnd Up Air:	
Media Clnd Up Sediments:	
Media Clnd Up Soil:	
Media Clnd Up Drnk Wtr:	
Media Clnd Up Grnd Wtr:	
Media Clnd Up Surf Wtr:	

Media Clnd Up Bldg Mats:	
Media Clnd Up Indoor Air:	
Media Clnd Up Unknown:	
St Tribal Prg ID No:	
Further Action Cleanup:	
Enrollment St Tribal Prg:	
Institutional Ctrl ICs Req:	U
IC Catgry Proprietary Ctrls:	
IC Catgry Informational Dev:	
IC Catgry Govmntal Ctrls:	
IC Catgry Enfrc Prmt Tls:	
ICs in Place:	N
Date ICs in Place:	
Photographs are Available:	Y
Video is Available:	N
Description History:	The Site is located at the northeastern corner of the intersection of Peet Road and Mission Avenida in Morgan Hill, California, in the County of Santa Clara. The site was used for agricultural purposes from prior to 1939 until sometime between 1998 and 2005. The site also had three existing and former structures of such an age that building maintenance may have introduced pesticides and/or metals to shallow soil. Recent investigations indicated concentrations of organochlorine pesticide in soil that exceed health risk-based screening levels. The site was previously owned by Mr. Stanly Borello for over 50 years.

--Details--

Grant Recipient Name:	California Department of Toxic Substances Control
Accomplishment Counted:	1
Cooperative Agrment No:	00T89301
Type Brownfields Grant:	Section 128(a) State/Tribal
Assessment Phase:	Phase II Environmental Assessment
Assessment Start Date:	01/21/2016 00:00:00
Assessment Compltn Dt:	05/06/2016 00:00:00
Srce of Assessment Fund:	US EPA - State & Tribal Section 128(a) Funding
Entity Prov Assmnt Fund:	EPA
Assessment Funding Amt:	15000
Cleanup Start Date:	
Cleanup Completion Date:	
Acres Cleaned Up:	
Cleanup Funding Source:	
Entity Prvd Cleanup Fund:	
Cleanup Funding Amount:	
Redevelopment Start Dt:	
No of Clnup/Redev Jobs:	
Acre/Grnspace Created:	
Src of Redev Funding:	
Entity Prvd Redev Funds:	
Redev Funding Amount:	
Highlights:	
IC Data Address:	
Redev Completion Date:	
Past Use Greenspace Arces:	9
Past Use Residential Arces:	
Past Use Commercial Arces:	
Past Use Industrial Arces:	
Past Use Multistory Arces:	
Future Use Multistory Arces:	
Future Use Greenspace:	
Future Use Residential:	
Future Use Commercial:	9
Future Use Industrial:	
2010 Below Poverty No:	55
2010 Below Poverty Pct:	2.8%
2010 Median Income:	24537
2010 Low Income No:	171
2010 Low Income Pct:	8.8%
2010 Vacant Housing No:	17
2010 Vac Housing Pct:	3.4%
2010 Unemployed No:	61
2010 Unemployed:	3.2%

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
11	1 of 1	NNE	0.47 / 2,455.97	409.17 / 21	BORELLO PROPERTY PEET ROAD, EAST OF MISSION AVENIDA MORGAN HILL CA 95037	ENVIROSTOR

Estor/EPA ID:	60002240	**Permit Renewal Lead:**	
Site Code:	204285	**Project Manager:**	MELLAN SONGCO
Nat Priority List:	NO	**Supervisor:**	JOSE SALCEDO
Acres:	9 ACRES	**Public Partici Spclst:**	ASHA SETTY
Special Program:		**Census Tract:**	6085512308
Funding:	SCHOOL DISTRICT	**County:**	SANTA CLARA
Assembly District:	, 30	**Latitude:**	37.1586973939173
Senate District:	, 17	**Longitude:**	-121.640272476196

School District: MORGAN HILL UNIFIED SCHOOL DISTRICT
APN: 72850007
Cleanup Status: ACTIVE AS OF 9/21/2015
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
Site Type: SCHOOL
Office: NORTHERN CALIFORNIA SCHOOLS & SANTA SUSANA
Past Use that Caused Contam: AGRICULTURAL - ORCHARD, AGRICULTURAL - ROW CROPS
Potential Media Affected: SOIL, UNDER INVESTIGATION
Potential Contamin of Concern:

METALS, ORGANOCHLORINE PESTICIDES (8081 OCPS), POLYCHLORINATED BIPHENYLS (PCBS), UNCATEGORIZED

Site History:

The Borello Property is a Targeted Site Investigation (TSI) project under a grant from the U.S. Environmental Protection Agency (USEPA). The Borello Property is located at Peet Road, east of Mission Avenida in Morgan Hill, Santa Clara County, California (Site). According to the TSI application, the Morgan Hill Unified School District (District) selected the approximately nine-acre Site for the future elementary school. The Site is owned by the Lupine Investors, LLC. The District plans to construct a new elementary school at the Site with approximately 27 classrooms for 600 students. The District anticipates beginning construction in summer 2017 with school opening in August 2018.

The Site was used as an orchard from the early 1900s through September 2004. Currently, two structures are located at the Site, a milk barn (currently used as a workshop and storage building) and a real estate sales office (temporary structure). A former barn was located on the northwestern portion of the Site. Soil stockpiles are located on the northwestern portion of the Site. Ultramafic outcrops are mapped within ½ mile of the Site. In 2005, the Site (part of the 14-acre Borello property) was remediated to reduce the concentrations of organochlorine pesticides (OCPs) at the agricultural field (DTSC Project Code 201563). However, subsequent investigations in 2014 and early 2016 confirmed that elevated concentrations of dieldrin remain at the Site.

On January 21, 2016, DTSC and their consultant, Geocon, conducted a site visit and a scoping meeting with the District and their consultants (McKim Design Group and School Site Solutions). The TSI PEA covers Geocon's review of available documents, a human health screening evaluation based on data reported by others, and the preparation of the TSI PEA Report.

On March 17, 2016, DTSC received the TSI PEA Report for review and approval. The following are the conclusions of the TSI PEA based on previous soil sampling activities completed at the Site: - Arsenic concentrations in surface soil samples from the agricultural field (ranging from 6.7 to 12 milligram per kilogram (mg/kg)), around the milk barn (ranging from <1.7 to 1.7 mg/kg), and around the area of the former barn (ranging from 3.5 to 11 mg/kg) are within the regional background arsenic concentrations in soil; - Maximum lead concentration detected at the Site is 17 mg/kg, which is below the California Human Health Screening Level of 80 mg/kg; - Elevated concentration of dieldrin were detected at various depths in the agricultural field area that exceeded the United States Environmental Protection Agency Regional Screening Level of 0.034 mg/kg for dieldrin in soil based on residential land use scenario; - OCP concentrations detected around the milk barn and the area of the former barn are below their respective screening levels; - NOA was not detected above the DTSC's NOA Tiered Response Action Process of 0.01 percent by weight by transmission electron microscopy; and, - Soils beneath the stockpiles should be sampled and analyzed for chemicals of potential concern. If the soil stockpiles are to be used as on-site fill material, the stockpiles will need to be evaluated following the DTSC Information Advisory Clean Imported Fill Material dated October 2001. The result of the human health screening evaluation for the detected OCPs indicates a cumulative cancer risk of 4.26x10-6, which exceeds the DTSC's point of departure of one in one million (1x10-6). While the total non-cancer hazard index was calculated as 1.23x10-2, which is below DTSC's point of departure (1.0). The TSI PEA concludes further action is needed to reduce or eliminate the potential impact of dieldrin in soils at the Site. On April 6, 2016, DTSC issued comments on the draft PEA Report.

On April 21, 2016, the District notified the DTSC that it had complied with all public review and comment requirements for the TSI PEA Report pursuant to Education Code section 17213.1(a)(6)(A). The District made the TSI PEA Report available for public review and comment from March 16, 2016 through April 14, 2016, and a public hearing was held on April 5, 2016. No public comments were received regarding the TSI PEA Report. On May 4, 2016, DTSC concurred with the conclusions of the TSI PEA Report and approved the TSI PEA Report.

On September 26, 2016, DTSC received the draft Removal Action Workplan (RAW-McCloskey Consultant Inc.) addressing the remediation of the OCP-impacted soil (specifically chlordane and dieldrin) for review and comment. The objective of the RAW is to mitigate potential risk to human health and the environment by the excavation and off-site disposal of approximately 22,665 bank cubic yards of impacted soil exceeding the cleanup levels for chlordane and dieldrin to an appropriately permitted off-site disposal facility. On October 24, 2016 and November 16, 2016, DTSC provided comments on the draft RAW.

On January 21, 2017, DTSC was notified by the District that the soil stockpile at the Site will not be removed by the owner and is now part of the RAW. On February 14, 2017, the District's consultant notified DTSC that additional samples will be collected at the site (specifically the soil stockpile and some portions of the agricultural area) for additional characterization. The additional sampling data information will be provided to DTSC in a tech memo for review and approval. DTSC did no receive the tech memo.

On May 4, 2017, DTSC received the draft Updated RAW (Cleary Consultant Inc.). The draft Updated RAW is considered to be a new draft RAW due to the fact that the District change consultants after DTSC's review of the first draft (McCloskey Consultant Inc.) and did not provide a complete response to comments table. DTSC reviewed the draft Updated RAW in its entirety, as a new draft submittal. The draft Updated RAW also includes additional sampling results conducted in Area A, Area B and the stockpile. On May 25, 2017, DTSC issued comments on the draft Updated RAW.

The objective of the RAW is to mitigate potential risk to human health and the environment by the excavation and off-site disposal of approximately 19,700 cubic yards (approximately 17,000 cubic yards from the former agricultural field area and approximately 2,700 cubic yards from the upper three feet of the stockpile material) of soil containing concentrations of dieldrin and chlordane that exceed the unrestricted land use cleanup goal. Pursuant to CEQA requirements, the District prepared an Initial Study/Mitigated Negative Declaration (MND) to address the school construction project including the expected Site cleanup. The MND was made available for public comment concurrently with the revised draft RAW. DTSC will complete a Statement of Findings and a Notice of Determination once the District has approved the MND.

On June 30,2017, DTSC has determined that the revised draft RAW is adequate for public review. The formal 30-day public comment period for the revised draft RAW was from July 7, 2017 through August 7, 2017. A public meeting was held at Community and Cultural Center in Morgan Hill on July 27, 2017. DTSC received comments from 24 parties (note that some parties sent multiple and/or duplicate comments) during the public comment period. The comments were evaluated with respect to the RAW and DTSC forwarded response to public comments to the parties who submitted comments and provided sufficient contact information. Based on the comments received, DTSC determined that minor modifications of the RAW were necessary and worked with the District to finalize the document. On November 16, 2017, DTSC approved the revised RAW for implementation. DTSC issued the response to comments on November 17 and 20, 2017.

The District's CEQA document was challenged by A Voice for Choice (petitioner) in September 2017. The District acquired the Site in December 2017. In March 2018, during a phone conversation, the District indicated that the court is waiting for the petitioner to narrow the scope of their challenge. The initial court date of March 12, 2018 was continued to April 6, 2018 because petitioner had not narrowed the scope on that date.

Multiple delays in hearing the CEQA challenge; currently scheduled for August 31, 2018. The implementation of the DTSC-approved RAW is pending until this issue is resolved.

Status: ACTIVE
Program Type: SCHOOL CLEANUP
CalEnviroScreen Score: 41-45%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60002240

Completed Activities

Title: DTSC Response to comments on Draft RAW letters
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&enforcement_id=60440578
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Correspondence
Date Completed: 11/17/2017
Comments:

Title: Lawsuit CEQA Requirements
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Correspondence
Date Completed: 11/9/2017
Comments:

Title: Public Notice
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&doc_id=60427253
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Public Notice
Date Completed: 6/30/2017
Comments:

Title: SFPD 4.15
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&doc_id=60433572
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: 4.15 Request
Date Completed: 8/30/2017
Comments:

Title: Public Records Act Request
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&enforcement_id=60436389
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Correspondence
Date Completed: 10/6/2017
Comments:

Title: Public Records Act Request
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Correspondence
Date Completed: 5/24/2017
Comments: On May 24, 2017, DTSC received a PRA from a group called A Voice for Choice.

Title: Borello Property Proposed School - Public Meeting Transcripts
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&doc_id=60431074
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Other Report
Date Completed: 8/4/2017
Comments:

Title: Community Profile
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&doc_id=60414638
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Community Profile
Date Completed: 6/29/2017
Comments: On January 5, 2017, PPS finalized the Community Profile.

Title: TSI PEA site visit and scoping meeting
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&enforcement_id=60405051
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Inspections/Visit (Non LUR)
Date Completed: 1/21/2016
Comments: On January 21, 2016, DTSC (M. Songco and V. Mathrani) conducted a site visit with D. Easter (DTSC consultant, Geocon), the District (C. Fajardo, A. Espinosa) and their consultants (K. McKim -McKim Design Group and J. Dominguez-School Site Solutions) followed by a scoping meeting at the District office.

Title: Other Reports
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&doc_id=60402310
Area Name:
Area Link:
Sub Area:
Sub Area Link:

Document Type: Other Report
Date Completed: 10/28/2015
Comments: On October 22, 2015, DTSC received the following documents as background information: Borello Pipeline Study, School Site Constraint Report, MCI Borello Phase II Report and Borello MND_Public Review Version.

Title: Removal Action Workplan
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&doc_id=60418151
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Removal Action Workplan
Date Completed: 11/16/2017
Comments:

Title: Letter to Assembly Member Cabarello on Borello Proposed Cleanup
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&enforcement_id=60436188
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Correspondence
Date Completed: 10/2/2017
Comments:

Title: Community Update
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&doc_id=60427251
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Fact Sheets
Date Completed: 6/30/2017
Comments:

Title: SCA
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&enforcement_id=60408439
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: School Cleanup Agreement
Date Completed: 5/25/2016
Comments: Fully Executed SCA sent to District 05/25/16.

Title: Initial Study/Mitigated Negative Declaration
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&enforcement_id=60427505
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: CEQA - Responsible Agency Review
Date Completed: 11/16/2017
Comments:

Title: Public Meeting presentation
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&doc_id=60431089
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Other Report
Date Completed: 8/4/2017
Comments:

Title: Preliminary Environmental Assessment Report
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&doc_id=60402126
Area Name:
Area Link:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 5/6/2016
Comments: On May 4, 2016, DTSC approved the TSI PEA Report with a further action determination.

Title: TSI Application
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002240&doc_id=60401133
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Application
Date Completed: 9/22/2015
Comments: Application for Targeted Site Investigation.

12	1 of 1	W	0.47 / 2,478.48	373.59 / -14	AT&T Mobility - COCHRANE PLAZA FLAG POLE (USID51615) 144 COCHRANE PLZ MORGAN HILL CA 95037	DELISTED HAZ

Siteid: 373132
Latitude: 37.150310
Longitude: -121.653510
Original Source: CHAZ
Record Date: 30-MAY-2017

13	1 of 2	NNE	0.49 / 2,594.98	410.16 / 22	BORELLO PROPERTY COCHRAN ROAD AND PEET ROAD MORGAN HILL CA 95037	ENVIROSTOR

Estor/EPA ID: 43010033
Site Code: 201563
Nat Priority List: NO
Acres: 14 ACRES
Special Program: VOLUNTARY CLEANUP PROGRAM
Funding: SITE PROPONENT
Assembly District: 30
Senate District: 17
School District:
Permit Renewal Lead:
Project Manager: NICOLE YUEN
Supervisor: MARK PIROS
Public Partici Spclst:
Census Tract: 6085512308
County: SANTA CLARA
Latitude: 37.15923
Longitude: -121.64066
APN: 72834026, 778-34-3
Cleanup Status: CERTIFIED AS OF 11/3/2017
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
Site Type: VOLUNTARY CLEANUP
Office: CLEANUP BERKELEY
Past Use that Caused Contam: AGRICULTURAL - ORCHARD
Potential Media Affected: SOIL
Potential Contamin of Concern:

DIELDRIN, TOXAPHENE

Site History:

The former Borello property was cultivated with apricot and cherry orchards as early as the early-1900s through 2004. Environmental sampling conducted in 2004 in support of the 2005 sale of the property and proposed redevelopment for residential purposes identified the presence of organochlorine pesticides in the soil. In May 2005, under DTSC oversight, an environmental consultant applied in-situ bioremediation treatment products to break down the organochlorine pesticides. Based on the soil confirmation samples, DTSC certified the completion of the removal action in October 2005. In 2014, soil sampling and analysis was conducted to evaluate site conditions prior to developing the property for an elementary school, public park, and residential use. Organochlorine pesticides (dieldrin and toxaphene) were present in soil samples from the eastern 2 acres of this Site (a 3.04 acre portion of the former 14-acre Borello property that was remediated in 2005). The 2017 Removal Action Workplan for the Site now calls for the excavation and disposal of approximately 6,900 cubic yards of soil.

Status: CERTIFIED
Program Type: VOLUNTARY CLEANUP
CalEnviroScreen Score: 41-45%

Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033

Completed Activities

Title: Public Notice
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=60424241
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Public Notice
Date Completed: 6/13/2017
Comments: The Public Notice serves as the official notice of the beginning of the public comment period for the Draft Removal Action Workplan and was placed in the Morgan Hill Times on 6/23/2017.

Title: Voluntary Cleanup Agreement
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&enforcement_id=60420878
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Voluntary Cleanup Agreement
Date Completed: 2/3/2017
Comments: Voluntary Cleanup Agreement between Lupine Investors, LLC and DTSC to oversee the cleanup at the site

Title: Additional Phase II Environmental Site Assessment
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=6012146
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Site Characterization Report
Date Completed: 4/28/2004
Comments: Report detailing shallow soil sampling. This report was provided as background. No DTSc approval letter exists.

Title: CEQA - Responsible Agency Review
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&enforcement_id=60424243
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: CEQA - Responsible Agency Review
Date Completed: 8/17/2017
Comments: DTSC filed a California Environmental Quality Act (CEQA) Notice of Determination with the State Clearinghouse after the Final Removal Action Workplan was approved on August 17, 2017. DTSC relied on the City of Morgan Hill's Initial Study/Mitigated Negative Declaration and Addendum for the Lupine Annexation and Rezone Project to comply with CEQA.

Title: Community Profile
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=60423221
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Community Profile
Date Completed: 6/8/2017
Comments: The community profile summarizes the responses to the community survey conducted by DTSC, includes demographic information regarding the surrounding community, and identifies recommended public participation activities.

Title: Certification
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&enforcement_id=60424244
Area Name: Altimira Residential Parcels

Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Certification
Date Completed: 11/3/2017
Comments: DTSC certified that all removal actions have been satisfactorily completed in accordance with the Removal Action Workplan approved by DTSC on August 17, 2017.

Title: Work Notice
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=60430960
Area Name: PROJECT WIDE
Area Link:
Sub Area:
Sub Area Link:
Document Type: Work Notice
Date Completed: 8/18/2017
Comments:

Title: CEQA
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&enforcement_id=5017046
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: CEQA - Notice of Exemption
Date Completed: 6/30/2005
Comments: NOE

Title: RAW
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=6008403
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Removal Action Workplan
Date Completed: 6/30/2005
Comments: Removal Action Workplan approved which identifies bio-remediaton as the preferred cleanup method. Through the addition of Factor and fertilizers, the population of soil bacteria will grow and consume the residual pesticides as a source of food. When the remediation of the soil is complete, the bacterial populations will return back to normal levels. Residential cleanup levels are expected to be achieved within 6 months.

Title: Fact Sheet
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=60424235
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Fact Sheets
Date Completed: 6/14/2017
Comments: The Community Update announces the public comment period for the Draft Removal Action Workplan, discusses the Site history and environmental investigations, and summarizes the proposed cleanup actions. The Community Update was mailed to the neighboring community at the beginning of the public comment period.

Title: VCA
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&enforcement_id=5016306
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Voluntary Cleanup Agreement
Date Completed: 9/24/2004
Comments: Voluntary Cleanup Agreement (VCA) signed.

Title: Workplan for Feasibility Evaluation for Bio-Remediaion of Pesticide-Impacted Soil
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=6012148

Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Pilot Study/Treatability Workplan
Date Completed: 6/15/2004
Comments: Pilot study workplan to evaluate the effectiveness of the bio-remediating toxaphene impacted soils.

Title: RAW Implementation Fieldwork
Title Link:
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Fieldwork
Date Completed: 10/2/2017
Comments: Removal Action Workplan implementation was completed with the final round of confirmation sampling that was performed on 10/2/2017.

Title: Removal Action Completion Report
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=60433206
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Removal Action Completion Report
Date Completed: 11/2/2017
Comments:

Title: Removal Action Workplan
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=60424233
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Removal Action Workplan
Date Completed: 8/17/2017
Comments: The Final Removal Action Workplan (RAW) identifies excavation of an estimated 6,500 cubic yards of pesticide-impacted soil and off-site disposal at a permitted landfill as the remedy for the Site. Modifications were made in the Final RAW in response to comments on the Draft RAW that were received during the public comment period; the Responsiveness Summary that is included as Appendix E provides responses to the comments and identifies where the modifications were made in the Final RAW.

Title: Certification
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&enforcement_id=5016309
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Certification
Date Completed: 10/7/2005
Comments:

Title: Bio-Remediation Feasibility Evaluation Summary
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=6012149
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Pilot/Treatability Study Report
Date Completed: 11/30/2004
Comments: Results of the pilot study. Bio-remediation factor appears to work.

Title: Removal Action Completion Report

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=5016308
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Removal Action Completion Report
Date Completed: 10/7/2005
Comments: Approved report documenting the in-situ treatment of the pesticide contaminated soils.

Title: Fact Sheet and Public Notice: Proposed Remediation Plan Available for Review
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=6011386
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Fact Sheets
Date Completed: 5/1/2005
Comments:

Title: Community Profile Report
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=6012147
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Community Profile
Date Completed: 4/1/2005
Comments: Community Profile report

13	2 of 2	NNE	0.49 / 2,594.98	410.16 / 22	**BORELLO PROPERTY** **COCHRAN ROAD AND PEET ROAD** **MORGAN HILL CA 95037**	VCP

Estor/EPA ID: 43010033
Site Code: 201563
Nat Priority List: NO
Acres: 14 ACRES
Special Program: VOLUNTARY CLEANUP PROGRAM
Funding: SITE PROPONENT
Assembly District: 30
Senate District: 17
School District:
Permit Renewal Lead:
Project Manager: NICOLE YUEN
Supervisor: MARK PIROS
Public Partici Spclst:
Census Tract: 6085512308
County: SANTA CLARA
Latitude: 37.15923
Longitude: -121.64066
APN: 72834026, 778-34-3
Cleanup Status: CERTIFIED AS OF 11/3/2017
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
Site Type: VOLUNTARY CLEANUP
Office: CLEANUP BERKELEY
Past Use that Caused Contam: AGRICULTURAL - ORCHARD
Potential Media Affected: SOIL
Potential Contamin of Concern:

DIELDRIN, TOXAPHENE

Site History:

The former Borello property was cultivated with apricot and cherry orchards as early as the early-1900s through 2004. Environmental sampling conducted in 2004 in support of the 2005 sale of the property and proposed redevelopment for residential purposes identified the presence of organochlorine pesticides in the soil. In May 2005, under DTSC oversight, an environmental consultant applied in-situ bioremediation treatment products to break down the organochlorine pesticides. Based on the soil confirmation samples, DTSC certified the completion of the removal action in October 2005. In 2014, soil sampling and analysis was conducted to evaluate site conditions prior to developing the property for an elementary school, public park, and residential use. Organochlorine pesticides (dieldrin and toxaphene) were present in soil samples from the eastern 2 acres of this Site (a 3.04 acre portion of the former 14-acre Borello property that was remediated in 2005). The 2017 Removal Action Workplan for the Site now calls for the excavation and disposal of approximately 6,900 cubic yards of soil.

Status: CERTIFIED
Program Type: VOLUNTARY CLEANUP
CalEnviroScreen Score: 41-45%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033

Completed Activities

Title: Additional Phase II Environmental Site Assessment
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=6012146
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Site Characterization Report
Date Completed: 4/28/2004
Comments: Report detailing shallow soil sampling. This report was provided as background. No DTSc approval letter exists.

Title: RAW Implementation Fieldwork
Title Link:
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Fieldwork
Date Completed: 10/2/2017
Comments: Removal Action Workplan implementation was completed with the final round of confirmation sampling that was performed on 10/2/2017.

Title: Community Profile
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=60423221
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Community Profile
Date Completed: 6/8/2017
Comments: The community profile summarizes the responses to the community survey conducted by DTSC, includes demographic information regarding the surrounding community, and identifies recommended public participation activities.

Title: Removal Action Workplan
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=60424233
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Removal Action Workplan
Date Completed: 8/17/2017
Comments: The Final Removal Action Workplan (RAW) identifies excavation of an estimated 6,500 cubic yards of pesticide-impacted soil and off-site disposal at a permitted landfill as the remedy for the Site. Modifications were made in the Final RAW in response to comments on the Draft RAW that were received during the public comment period; the Responsiveness Summary that is included as Appendix E provides responses to the comments and identifies where the modifications were made in the Final RAW.

Title: Workplan for Feasibility Evaluation for Bio-Remediaion of Pesticide-Impacted Soil
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=6012148
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Pilot Study/Treatability Workplan
Date Completed: 6/15/2004
Comments: Pilot study workplan to evaluate the effectiveness of the bio-remediating toxaphene impacted soils.

Title: Public Notice
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=60424241
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Public Notice
Date Completed: 6/13/2017
Comments: The Public Notice serves as the official notice of the beginning of the public comment period for the Draft Removal Action Workplan and was placed in the Morgan Hill Times on 6/23/2017.

Title: Fact Sheet and Public Notice: Proposed Remediation Plan Available for Review
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=6011386
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Fact Sheets
Date Completed: 5/1/2005
Comments:

Title: Fact Sheet
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=60424235
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Fact Sheets
Date Completed: 6/14/2017
Comments: The Community Update announces the public comment period for the Draft Removal Action Workplan, discusses the Site history and environmental investigations, and summarizes the proposed cleanup actions. The Community Update was mailed to the neighboring community at the beginning of the public comment period.

Title: Certification
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&enforcement_id=60424244
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Certification
Date Completed: 11/3/2017
Comments: DTSC certified that all removal actions have been satisfactorily completed in accordance with the Removal Action Workplan approved by DTSC on August 17, 2017.

Title: Community Profile Report
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=6012147
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Community Profile
Date Completed: 4/1/2005
Comments: Community Profile report

Title: Removal Action Completion Report
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=5016308
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Removal Action Completion Report
Date Completed: 10/7/2005
Comments: Approved report documenting the in-situ treatment of the pesticide contaminated soils.

Title: CEQA
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&enforcement_id=5017046
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: CEQA - Notice of Exemption
Date Completed: 6/30/2005
Comments: NOE

Title: Removal Action Completion Report
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=60433206
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Removal Action Completion Report
Date Completed: 11/2/2017
Comments:

Title: VCA
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&enforcement_id=5016306
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Voluntary Cleanup Agreement
Date Completed: 9/24/2004
Comments: Voluntary Cleanup Agreement (VCA) signed.

Title: Voluntary Cleanup Agreement
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&enforcement_id=60420878
Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Voluntary Cleanup Agreement
Date Completed: 2/3/2017
Comments: Voluntary Cleanup Agreement between Lupine Investors, LLC and DTSC to oversee the cleanup at the site

Title: Certification
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&enforcement_id=5016309
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Certification
Date Completed: 10/7/2005
Comments:

Title: Bio-Remediation Feasibility Evaluation Summary
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=6012149
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Pilot/Treatability Study Report
Date Completed: 11/30/2004
Comments: Results of the pilot study. Bio-remediation factor appears to work.

Title: CEQA - Responsible Agency Review
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&enforcement_id=60424243

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Area Name: Altimira Residential Parcels
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971496&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: CEQA - Responsible Agency Review
Date Completed: 8/17/2017
Comments: DTSC filed a California Environmental Quality Act (CEQA) Notice of Determination with the State Clearinghouse after the Final Removal Action Workplan was approved on August 17, 2017. DTSC relied on the City of Morgan Hill's Initial Study/Mitigated Negative Declaration and Addendum for the Lupine Annexation and Rezone Project to comply with CEQA.

Title: RAW
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=6008403
Area Name: Borello Property
Area Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010033&ou_id=1971497&hideside=True&printerfriendly=True
Sub Area:
Sub Area Link:
Document Type: Removal Action Workplan
Date Completed: 6/30/2005
Comments: Removal Action Workplan approved which identifies bio-remediaton as the preferred cleanup method. Through the addition of Factor and fertilizers, the population of soil bacteria will grow and consume the residual pesticides as a source of food. When the remediation of the soil is complete, the bacterial populations will return back to normal levels. Residential cleanup levels are expected to be achieved within 6 months.

Title: Work Notice
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010033&doc_id=60430960
Area Name: PROJECT WIDE
Area Link:
Sub Area:
Sub Area Link:
Document Type: Work Notice
Date Completed: 8/18/2017
Comments:

14	1 of 1	WSW	0.51 / 2,670.18	374.80 / -13	**PHOTOTEK** **18450 SUTTER BOULEVARD** **MORGAN HILL CA 95037**	ENVIROSTOR

Estor/EPA ID: 71003458
Site Code:
Nat Priority List: NO
Acres: NONE SPECIFIED
Special Program:
Funding:
Assembly District: 30
Senate District: 17
School District:
Permit Renewal Lead:
Project Manager:
Supervisor:
Public Partici Spclst:
Census Tract: 6085512311
County: SANTA CLARA
Latitude: 37.148342
Longitude: -121.654384
APN: NONE SPECIFIED
Cleanup Status: INACTIVE - NEEDS EVALUATION AS OF
Cleanup Oversight Agencies: NONE SPECIFIED
Site Type: TIERED PERMIT
Office: CLEANUP BERKELEY
Past Use that Caused Contam: NONE SPECIFIED
Potential Media Affected: NONE SPECIFIED
Potential Contamin of Concern:

NONE SPECIFIED

Site History:

Facility Comments: Authorization to operate per ammended notification issued by CUPA on 5/26/04

Status: INACTIVE - NEEDS EVALUATION
Program Type: TIERED PERMIT
CalEnviroScreen Score: 46-50%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=71003458

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Completed Activities

Title: Letter in Response to Closure of 1-PBR Unit
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=71003458&enforcement_id=60303184
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Correspondence
Date Completed: 7/11/2012
Comments:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
15	1 of 1	W	0.57 / 3,002.04	371.10 / -17	MADRONE LAND CORP./SAN JOSE TRAP & SKEET 645 COCHRANE RD. MORGAN HILL CA 95037	ENVIROSTOR

Estor/EPA ID: 43010016
Site Code:
Nat Priority List: NO
Acres: NONE SPECIFIED
Special Program:
Funding:
Assembly District: 30
Senate District: 17
School District:
APN: NONE SPECIFIED
Cleanup Status: REFER: RWQCB AS OF 8/21/1996
Cleanup Oversight Agencies: NONE SPECIFIED
Site Type: * HISTORICAL
Office: CLEANUP BERKELEY
Past Use that Caused Contam: NONE SPECIFIED
Potential Media Affected: NONE SPECIFIED
Potential Contamin of Concern:

LEAD, WASTE OIL & MIXED OIL

Site History:

Permit Renewal Lead:
Project Manager:
Supervisor:
Public Partici Spclst:
Census Tract: 6085512311
County: SANTA CLARA
Latitude: 37.1506299
Longitude: -121.6562659

Status: REFER: RWQCB
Program Type: HISTORICAL
CalEnviroScreen Score: 46-50%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010016

Completed Activities

Title: Site Screening
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Screening
Date Completed: 11/10/1992
Comments:

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB
16	1 of 1	S	0.61 / 3,245.31	370.10 / -18	RYAN PROPERTIES E. MAIN AVE. & EAST LANE MORGAN HILL CA 95037	ENVIROSTOR

Estor/EPA ID: 43010015
Site Code: 201524
Nat Priority List: NO

Permit Renewal Lead:
Project Manager:
Supervisor: DENISE TSUJI

Map Key	Number of Records	Direction	Distance (mi/ft)	Elev/Diff (ft)	Site	DB

Acres: 20 ACRES
Special Program: EPA - PASI
Funding:
Assembly District: 30
Senate District: 17
School District:
Public Partici Spclst:
Census Tract: 6085512312
County: SANTA CLARA
Latitude: 37.1387666666667
Longitude: -121.643055555556
APN: NONE SPECIFIED
Cleanup Status: NO FURTHER ACTION AS OF 7/10/2006
Cleanup Oversight Agencies: NONE SPECIFIED
Site Type: EVALUATION
Office: CLEANUP BERKELEY
Past Use that Caused Contam: AGRICULTURAL - ROW CROPS
Potential Media Affected: NO MEDIA AFFECTED
Potential Contamin of Concern:

NO CONTAMINANTS FOUND

Site History:

The site is a 20-acre parcel, formerly used for agricultural production.

Status: NO FURTHER ACTION
Program Type: EVALUATION
CalEnviroScreen Score: 26-30%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43010015

Completed Activities

Title: PA/SI Grant Site Screening
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010015&doc_id=6011865
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Screening
Date Completed: 1/10/2000
Comments: Site screening approved by USEPA. No further action required under CERCLA. Post-removal concentrations of contaminants (lead, DDE, DDT, and dieldrin) were below CHHSLs.

Title: Site Screening
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=43010015&doc_id=5003716
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Site Screening
Date Completed: 8/13/1996
Comments: Completed Site Screening. A variety of chemicals were present in non-hazardous levels (>TTLC) : arsenic to 91 ppm, chromium to 62 ppm, lead to 480 ppm, zinc to 190 ppm, and extractable hydrocarbons (motor oil) to 45,000 ppm. Pesticides including DDT and dieldrin are present below soluble limits. The former farm vacant, a large garbage pile, and auto painting wastes were reported on site. The buyer wants the seller to get a signoff from the City who in turn, referred the site to DTSC.

17	1 of 1	WSW	0.78 / 4,097.22	364.92 / -23	ALIEN TECHNOLOGY CORPORATION 18410 BUTTERFIELD RD MORGAN HILL CA 95037	ENVIROSTOR

Estor/EPA ID: 71004096
Site Code:
Nat Priority List: NO
Acres: NONE SPECIFIED
Special Program:
Funding:
Assembly District: 30
Senate District: 17
School District:
Permit Renewal Lead:
Project Manager:
Supervisor:
Public Partici Spclst:
Census Tract: 6085512311
County: SANTA CLARA
Latitude: 37.1451352
Longitude: -121.6577632

APN: NONE SPECIFIED
Cleanup Status: INACTIVE - NEEDS EVALUATION AS OF
Cleanup Oversight Agencies: NONE SPECIFIED
Site Type: TIERED PERMIT
Office: CLEANUP BERKELEY
Past Use that Caused Contam: NONE SPECIFIED
Potential Media Affected: NONE SPECIFIED
Potential Contamin of Concern:

NONE SPECIFIED

Site History:

Facility Comments: No Phase I checklist received.

Status: INACTIVE - NEEDS EVALUATION
Program Type: TIERED PERMIT
CalEnviroScreen Score: 46-50%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=71004096

18	1 of 1	NE	0.83 / 4,358.09	424.70 / 37	THE ESTATES AT SAN SEBASTIAN - PHASE I PEET ROAD MORGAN HILL CA 95037	ENVIROSTOR

Estor/EPA ID: 60002246
Site Code: 202055
Nat Priority List: NO
Acres: 38.8 ACRES
Special Program:
Funding: SITE PROPONENT
Assembly District: , 30
Senate District: , 17
School District:
Permit Renewal Lead:
Project Manager: NICOLE YUEN
Supervisor: MARK PIROS
Public Partici Spclst:
Census Tract: 6085512308
County: SANTA CLARA
Latitude: 37.1610476929148
Longitude: -121.633149708923
APN: 72834026
Cleanup Status: NO FURTHER ACTION AS OF 3/4/2016
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
Site Type: VOLUNTARY CLEANUP
Office: CLEANUP BERKELEY
Past Use that Caused Contam: AGRICULTURAL - ORCHARD, AGRICULTURAL - ROW CROPS
Potential Media Affected: SOIL
Potential Contamin of Concern:

CHLORDANE, DIELDRIN

Site History:

Organochlorine pesticides from past agricultural use were detected in the shallow soil samples that were collected from the Site, and dieldrin was identified as the primary chemical of potential concern (COPC), with chlordane as a secondary COPC. The other organochlorine pesticides that were detected in soil were at relatively low concentrations. Arsenic was also detected in the samples collected from the Site in 2011 at concentrations ranging from 1.8 to 13 milligrams per kilogram (mg/kg). Dieldrin was detected in 53 soil samples at concentrations ranging from not detected to 96 micrograms per kilogram (µg/kg); eighteen of the 53 soil samples had dieldrin concentrations that exceeded their respective residential U.S. Environmental Protection Agency Regional Screening Level (RSL). A statistical evaluation of the dieldrin concentrations in soil was performed as part of the Human Health Screening Risk Evaluation and the 95 percent upper confidence limit of the mean concentration (95% UCL) was calculated using several statistical methods. The highest calculated 95% UCL was 30.43 µg/kg, which is below the residential RSL of 34 µg/kg. Based on this evaluation, it was concluded that the presence of dieldrin in onsite soil did not pose a human health risk for future residential receptors. The other reported pesticide concentrations were below levels of concern for residential development. Arsenic concentrations were consistent with naturally-occurring background concentrations in Santa Clara County.

Impacted soil was removed at two sampling locations where chlordane was detected at concentrations of 4,800 and 1,100 µg/kg. The final excavations each measured approximately 26 feet in length by 10 feet in width by 18 inches in depth. A total of approximately 30 cubic yards of soil was removed from the Site and disposed as non-hazardous waste at a permitted, off-Site landfill. The sampling performed following the soil removal work confirmed that chlordane concentrations in the remaining soil in the excavation areas are at or are below the residential RSL for chlordane.

Status: NO FURTHER ACTION
Program Type: VOLUNTARY CLEANUP
CalEnviroScreen Score: 41-45%

Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60002246

Completed Activities

Title: Preliminary Endagerment Assessment Report (Equivalent)
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002246&doc_id=60401694
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 3/4/2016
Comments: DTSC reviewed a Phase I Environmental Site Assessment and risk evaluation reports prepared for the site. Dieldrin from past agricultural use was detected in soil samples collected from across the site and was identified as the primary chemical of potential concern. However, based on the risk evaluation it was concluded that the presence of dieldrin in soil does not pose a human health risk for future residential receptors. Soil was removed at two sampling locations where chlordane was detected at concentrations of 1,110 and 4,800 micrograms per kilogram. Arsenic was detected in soil at concentrations consistent with naturally-occurring background concentrations in Santa Clara County. DTSC concluded that no further action is required at the Site and that the planned residential development is acceptable.

Title: Lead Agency Determination Letter
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002246&enforcement_id=60401585
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Correspondence
Date Completed: 10/1/2015
Comments: Letter sent to project proponent providing notification that DTSC was determined to be the appropriate lead agency.

Title: Request for Agency Oversight Application
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002246&doc_id=60401582
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Application
Date Completed: 9/22/2015
Comments: Request for Agency Oversight Application

Title: Voluntary Cleanup Agreement
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60002246&enforcement_id=60401587
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Voluntary Cleanup Agreement
Date Completed: 10/15/2015
Comments: Voluntary Cleanup Agreement for DTSC to oversee Preliminary Endangerment Assessment (equivalent).

19	1 of 1	NNE	0.85 / 4,479.37	403.51 / 15	BORELLO ST. MARKS PROPERTY COCHRAN ROAD AND SAINT MARKS AVENUE MORGAN HILL CA 95037	ENVIROSTOR

Estor/EPA ID: 60000323
Site Code: 201662
Nat Priority List: NO
Acres: 13.6 ACRES
Special Program: VOLUNTARY CLEANUP PROGRAM
Funding: SITE PROPONENT
Assembly District: 30
Senate District: 17
School District:
APN: NONE SPECIFIED

Permit Renewal Lead:
Project Manager: ALLAN FONE
Supervisor: KAREN TOTH
Public Partici Spclst:
Census Tract: 6085512308
County: SANTA CLARA
Latitude: 37.1642396385542
Longitude: -121.638985

Cleanup Status: NO FURTHER ACTION AS OF 9/18/2006
Cleanup Oversight Agencies: DTSC - SITE CLEANUP PROGRAM - LEAD AGENCY
Site Type: VOLUNTARY CLEANUP
Office: CLEANUP BERKELEY
Past Use that Caused Contam: AGRICULTURAL - ROW CROPS
Potential Media Affected: SOIL
Potential Contamin of Concern:

ORGANOCHLORINE PESTICIDES (8081 OCPS)

Site History:

Former agriculture area (orchards and organic farming) to be developed into residential.

Status: NO FURTHER ACTION
Program Type: VOLUNTARY CLEANUP
CalEnviroScreen Score: 41-45%
Summary Link: http://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=60000323

Completed Activities

Title: Voluntary Clean-up Agreement
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60000323&enforcement_id=6009568
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Voluntary Cleanup Agreement
Date Completed: 6/29/2006
Comments:

Title: VCA Complete
Title Link:
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: *Voluntary Cleanup Agreement Completion
Date Completed: 9/18/2006
Comments:

Title: Endangerment Assessment Report for Borello St. Marks Site
Title Link: http://www.envirostor.dtsc.ca.gov/public/final_documents2?global_id=60000323&doc_id=6012010
Area Name:
Area Link:
Sub Area:
Sub Area Link:
Document Type: Preliminary Endangerment Assessment Report
Date Completed: 9/18/2006
Comments: The site does not appear to pose a threat to human health or the environment under a residential land use scenario. Therefore, DTSC determines that no further action is necessary with respect to investigation and remediation of hazardous substances at the property. If previously unidentified contamination is discovered at the site, additional assessment, investigation and/or cleanup may be required.

Unplottable Summary

Total: 1 Unplottable sites

DB	Company Name/Site Name	Address	City	Zip	ERIS ID
GEOTRACKER	GEORGE CHIALA FARMS, INC. - HALF RANCH (AW1307)	CORNER OF HALF ROAD AND CONDIT AVE	MORGAN HILL CA		875372805

Unplottable Report

Site: ***GEORGE CHIALA FARMS, INC. - HALF RANCH (AW1307)***
CORNER OF HALF ROAD AND CONDIT AVE MORGAN HILL CA

GEOTRACKER

Global ID:	AGL020028072	***Latitude:***	
Status:	TERMINATED	***Longitude:***	
Status Date:		***County:***	SANTA CLARA
Site Code:			
Site Facility Type:	IRRIGATED LANDS REGULATORY PROGRAM		

Sites from GeoTracker Search

Oil Field:
Oil Field Operator:

Appendix: Database Descriptions

Environmental Risk Information Services (ERIS) can search the following databases. The extent of historical information varies with each database and current information is determined by what is publicly available to ERIS at the time of update. ERIS updates databases as set out in ASTM Standard E1527-13, Section 8.1.8 Sources of Standard Source Information:

"Government information from nongovernmental sources may be considered current if the source updates the information at least every 90 days, or, for information that is updated less frequently than quarterly by the government agency, within 90 days of the date the government agency makes the information available to the public."

Standard Environmental Record Sources

Federal

National Priority List: NPL

National Priorities List (Superfund)-NPL: EPA's (United States Environmental Protection Agency) list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial action under the Superfund program. The NPL, which EPA is required to update at least once a year, is based primarily on the score a site receives from EPA's Hazard Ranking System. A site must be on the NPL to receive money from the Superfund Trust Fund for remedial action.

Government Publication Date: Apr 11, 2019

National Priority List - Proposed: PROPOSED NPL

Includes sites proposed (by the EPA, the state, or concerned citizens) for addition to the NPL due to contamination by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.

Government Publication Date: Apr 11, 2019

Deleted NPL: DELETED NPL

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Government Publication Date: Apr 11, 2019

SEMS List 8R Active Site Inventory: SEMS

The Superfund Program has deployed the Superfund Enterprise Management System (SEMS), which integrates multiple legacy systems into a comprehensive tracking and reporting tool. This inventory contains active sites evaluated by the Superfund program that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted.

Government Publication Date: Apr 11, 2019

SEMS List 8R Archive Sites: SEMS ARCHIVE

The Superfund Enterprise Management System (SEMS) Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Government Publication Date: Apr 11, 2019

Inventory of Open Dumps, June 1985: ODI

The Resource Conservation and Recovery Act (RCRA) provides for publication of an inventory of open dumps. The Act defines "open dumps" as facilities which do not comply with EPA's "Criteria for Classification of Solid Waste Disposal Facilities and Practices" (40 CFR 257).

Government Publication Date: Jun 1985

EPA Report on the Status of Open Dumps on Indian Lands: IODI

Public Law 103-399, The Indian Lands Open Dump Cleanup Act of 1994, enacted October 22, 1994, identified congressional concerns that solid waste open dump sites located on American Indian or Alaska Native (AI/AN) lands threaten the health and safety of residents of those lands and contiguous areas. The purpose of the Act is to identify the location of open dumps on Indian lands, assess the relative health and environment hazards posed by those sites, and provide financial and technical assistance to Indian tribal governments to close such dumps in compliance with Federal standards and regulations or standards promulgated by Indian Tribal governments or Alaska Native entities.

Government Publication Date: Dec 31, 1998

Comprehensive Environmental Response, Compensation and Liability Information System - CERCLIS: CERCLIS

Superfund is a program administered by the United States Environmental Protection Agency (EPA) to locate, investigate, and clean up the worst hazardous waste sites throughout the United States. CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL. The EPA administers the Superfund program in cooperation with individual states and tribal governments; this database is made available by the EPA.

Government Publication Date: Oct 25, 2013

CERCLIS - No Further Remedial Action Planned: CERCLIS NFRAP

An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time. The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Government Publication Date: Oct 25, 2013

CERCLIS Liens: CERCLIS LIENS

A Federal Superfund lien exists at any property where EPA has incurred Superfund costs to address contamination ("Superfund site") and has provided notice of liability to the property owner. A Federal CERCLA ("Superfund") lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 30, 2014

RCRA CORRACTS-Corrective Action: RCRA CORRACTS

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. At these sites, the Corrective Action Program ensures that cleanups occur. EPA and state regulators work with facilities and communities to design remedies based on the contamination, geology, and anticipated use unique to each site.

Government Publication Date: Mar 4, 2019

RCRA non-CORRACTS TSD Facilities: RCRA TSD

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. This database includes Non-Corrective Action sites listed as treatment, storage and/or disposal facilities of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Government Publication Date: Mar 4, 2019

RCRA Generator List: RCRA LQG

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Large Quantity Generators (LQGs) generate 1,000 kilograms per month or more of hazardous waste or more than one kilogram per month of acutely hazardous waste.

Government Publication Date: Mar 4, 2019

RCRA Small Quantity Generators List: RCRA SQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Small Quantity Generators (SQGs) generate more than 100 kilograms, but less than 1,000 kilograms, of hazardous waste per month.

Government Publication Date: Mar 4, 2019

RCRA Conditionally Exempt Small Quantity Generators List: RCRA CESQG

RCRA Info is the EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Conditionally Exempt Small Quantity Generators (CESQG) generate 100 kilograms or less per month of hazardous waste or one kilogram or less per month of acutely hazardous waste.

Government Publication Date: Mar 4, 2019

RCRA Non-Generators: RCRA NON GEN

RCRA Info is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. RCRA Info replaces the data recording and reporting abilities of the Resource Conservation and Recovery Information System (RCRIS) and the Biennial Reporting System (BRS). A hazardous waste generator is any person or site whose processes and actions create hazardous waste (see 40 CFR 260.10). Non-Generators do not presently generate hazardous waste.

Government Publication Date: Mar 4, 2019

Federal Engineering Controls-ECs: FED ENG

Engineering controls (ECs) encompass a variety of engineered and constructed physical barriers (e.g., soil capping, sub-surface venting systems, mitigation barriers, fences) to contain and/or prevent exposure to contamination on a property. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Sep 20, 2018

Federal Institutional Controls- ICs: FED INST

Institutional controls are non-engineered instruments, such as administrative and legal controls, that help minimize the potential for human exposure to contamination and/or protect the integrity of the remedy. Although it is EPA's (United States Environmental Protection Agency) expectation that treatment or engineering controls will be used to address principal threat wastes and that groundwater will be returned to its beneficial use whenever practicable, ICs play an important role in site remedies because they reduce exposure to contamination by limiting land or resource use and guide human behavior at a site.

Government Publication Date: Sep 20, 2018

Emergency Response Notification System: ERNS 1982 TO 1986

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1982-1986

Emergency Response Notification System: ERNS 1987 TO 1989

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories.

Government Publication Date: 1987-1989

Emergency Response Notification System: ERNS

Database of oil and hazardous substances spill reports controlled by the National Response Center. The primary function of the National Response Center is to serve as the sole national point of contact for reporting oil, chemical, radiological, biological, and etiological discharges into the environment anywhere in the United States and its territories. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Mar 21, 2019

The Assessment, Cleanup and Redevelopment Exchange System (ACRES) Brownfield Database: FED BROWNFIELDS

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and takes development pressures off greenspaces and working lands. This database is made available by the United States Environmental Protection Agency (EPA).

Government Publication Date: Jan 11, 2019

FEMA Underground Storage Tank Listing: FEMA UST

The Federal Emergency Management Agency (FEMA) of the Department of Homeland Security maintains a list of FEMA owned underground storage tanks.

Government Publication Date: Dec 31, 2017

Petroleum Refineries: REFN

List of petroleum refineries from the U.S. Energy Information Administration (EIA) Refinery Capacity Report. Includes operating and idle petroleum refineries (including new refineries under construction) and refineries shut down during the previous year located in the 50 States, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, and other U.S. possessions. Survey locations adjusted using public data.

Government Publication Date: Jul 17, 2018

Petroleum Product and Crude Oil Rail Terminals: BULK TERMINAL

List of petroleum product and crude oil rail terminals made available by the U.S. Energy Information Administration (EIA). Includes operable bulk petroleum product terminals located in the 50 States and the District of Columbia with a total bulk shell storage capacity of 50,000 barrels or more, and/or the ability to receive volumes from tanker, barge, or pipeline; also rail terminals handling the loading and unloading of crude oil that were active between 2017 and 2018. Petroleum product terminals comes from the EIA-815 Bulk Terminal and Blender Report, which includes working, shell in operation, and shell idle for several major product groupings. Survey locations adjusted using public data.

Government Publication Date: Jan 18, 2019

LIEN on Property: SEMS LIEN

The EPA Superfund Enterprise Management System (SEMS) provides LIEN information on properties under the EPA Superfund Program.

Government Publication Date: Apr 11, 2019

Superfund Decision Documents: SUPERFUND ROD

This database contains a listing of decision documents for Superfund sites. Decision documents serve to provide the reasoning for the choice of (or) changes to a Superfund Site cleanup plan. The decision documents include Records of Decision (ROD), ROD Amendments, Explanations of Significant Differences (ESD), along with other associated memos and files. This information is maintained and made available by the US EPA (Environmental Protection Agency).

Government Publication Date: Apr 11, 2019

State

State Response Sites: RESPONSE

A list of identified confirmed release sites where the Department of Toxic Substances Control (DTSC) is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk. This database is state equivalent NPL.

Government Publication Date: Mar 11, 2019

EnviroStor Database: ENVIROSTOR

The EnviroStor Data Management System is made available by the Department of Toxic Substances Control (DTSC). Includes Corrective Action sites, Tiered Permit sites, Historical Sites and Evaluation/Investigation sites. This database is state equivalent CERCLIS.

Government Publication Date: Mar 11, 2019

Delisted State Response Sites: DELISTED ENVS

Sites removed from the list of State Response Sites made available by the EnviroStor Data Management System, Department of Toxic Substances Control (DTSC).

Government Publication Date: Mar 11, 2019

Solid Waste Information System (SWIS): SWF/LF

The Solid Waste Information System (SWIS) database made available by the Department of Resources Recycling and Recovery (CalRecycle) contains information on solid waste facilities, operations, and disposal sites throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites.

Government Publication Date: May 13, 2019

EnviroStor Hazardous Waste Facilities: HWP

A list of hazardous waste facilities including permitted, post-closure and historical facilities found in the Department of Toxic Substances Control (DTSC) EnviroStor database.

Government Publication Date: Mar 11, 2019

Sites Listed in the Solid Waste Assessment Test (SWAT) Program Report: SWAT

In a 1993 Memorandum of Understanding, the State Water Resources Control Board (SWRCB) agreed to submit a comprehensive report on the Solid Waste Assessment Test (SWAT) Program to the California Integrated Waste Management Board (CIWMB). This report summarizes the work completed to date on the SWAT Program, and addresses both the impacts that leakage from solid waste disposal sites (SWDS) may have upon waters of the State and the actions taken to address such leakage.

Government Publication Date: Dec 31, 1995

Land Disposal Sites: LDS

Land Disposal Sites in GeoTracker, the State Water Resources Control Board (SWRCB)'s data management system. The Land Disposal program regulates of waste discharge to land for treatment, storage and disposal in waste management units. Waste management units include waste piles, surface impoundments, and landfills.

Government Publication Date: Apr 10, 2019

Leaking Underground Fuel Tank Reports: LUST

List of Leaking Underground Storage Tanks within the Cleanup Sites data in GeoTracker database. GeoTracker is the State Water Resources Control Board's (SWRCB) data management system for managing sites that impact groundwater, especially those that require groundwater cleanup (Underground Storage Tanks, Department of Defense and Site Cleanup Program) as well as permitted facilities such as operating Underground Storage Tanks. The Leak Prevention Program that overlooks LUST sites is the SWRCB in California's Environmental Protection Agency.

Government Publication Date: Apr 10, 2019

Delisted Leaking Storage Tanks: DELISTED LST

List of Leaking Underground Storage Tanks (LUST) cleanup sites removed from GeoTracker, the State Water Resources Control Board (SWRCB)'s database system, as well as sites removed from the SWRCB's list of UST Case closures.

Government Publication Date: Apr 10, 2019

Permitted Underground Storage Tank (UST) in GeoTracker: UST

List of Permitted Underground Storage Tank (UST) sites made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA).

Government Publication Date: May 1, 2019

Solid Waste Disposal Sites with Waste Constituents Above Hazardous Waste Levels: SWRCB SWF

This is a list of solid waste disposal sites identified by California State Water Resources Control Board with waste constituents above hazardous waste levels outside the waste management unit.

Government Publication Date: Sep 20, 2006

Proposed Closure of Underground Storage Tank Cases: UST CLOSURE

List of UST cases that are being considered for closure by either the California Environmental Protection Agency, State Water Resources Control Board or the Executive Director that have been posted for a 60-day public comment period.

Government Publication Date: Mar 11, 2019

Historical Hazardous Substance Storage Information Database: HHSS

The Historical Hazardous Substance Storage database contains information collected in the 1980s from facilities that stored hazardous substances. The information was originally collected on paper forms, was later transferred to microfiche, and recently indexed as a searchable database. When using this database, please be aware that it is based upon self-reported information submitted by facilities which has not been independently verified. It is unlikely that every facility responded to the survey and the database should not be expected to be a complete inventory of all facilities that were operating at that time. This database is maintained by the California State Water Resources Control Board's (SWRCB) Geotracker.

Government Publication Date: Aug 27, 2015

Aboveground Storage Tanks: AST

A statewide list from 2009 of aboveground storage tanks (ASTs) made available by the Cal FIRE Office of the State Fire Marshal (OSFM). This list is no longer maintained or updated by the Cal FIRE OSFM.

Government Publication Date: Aug 31, 2009

Delisted Storage Tanks: DELISTED TNK

This database contains a list of storage tank sites that were removed by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency (EPA) and the Cal FIRE Office of State Fire Marshal (OSFM).

Government Publication Date: May 1, 2019

California Environmental Reporting System (CERS) Tanks: CERS TANK

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: May 6, 2019

Site Mitigation and Brownfields Reuse Program Facility Sites with Land Use Restrictions: LUR

The Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents land use restrictions that are active. Some sites have multiple land use restrictions.

Government Publication Date: Mar 11, 2019

Hazardous Waste Management Program Facility Sites with Deed / Land Use Restrictions: HLUR

The Department of Toxic Substances Control (DTSC) Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Government Publication Date: Apr 17, 2019

Deed Restrictions and Land Use Restrictions: DEED

List of Deed Restrictions, Land Use Restrictions and Covenants in GeoTracker made available by the State Water Resources Control Board (SWRCB) in California's Environmental Protection Agency. A deed restriction (land use covenant) may be required to facilitate the remediation of past environmental contamination and to protect human health and the environment by reducing the risk of exposure to residual hazardous materials.

Government Publication Date: Apr 17, 2019

Voluntary Cleanup Program: VCP

List of sites in the Voluntary Cleanup Program made available by the Department of Toxic Substances and Control (DTSC). The Voluntary Cleanup Program was designed to respond to lower priority sites. Under the Voluntary Cleanup Program, DTSC enters site-specific agreements with project proponents for DTSC oversight of site assessment, investigation, and/or removal or remediation activities, and the project proponents agree to pay DTSC's reasonable costs for those services.

Government Publication Date: Mar 11, 2019

GeoTracker Cleanup Program Sites: CLEANUP SITES

A list of Cleanup Program sites in the state of California made available by The State Water Resources Control Board (SWRCB) of the California Environmental Protection Agency (EPA). SWRCB tracks leaking underground storage tank cleanups as well as other water board cleanups.

Government Publication Date: Apr 17, 2019

Delisted California Environmental Reporting System (CERS) Tanks: DELISTED CTNK

This database contains a list of Aboveground Petroleum Storage and Underground Storage Tank sites that were removed from in the California Environmental Protection Agency (CalEPA) Regulated Site Portal.

Government Publication Date: May 6, 2019

Historical Hazardous Substance Storage Container Information - Facility Summary: HIST TANK

The State Water Resources Control Board maintained the Hazardous Substance Storage Containers listing and inventory in th 1980s. This facility summary lists historic tank sites where the following container types were present: farm motor vehicle fuel tanks; waste tanks; sumps; pits, ponds, lagoons, and others; and all other product tanks. This set, published in May 1988, lists facility and owner information, as well as the number of containers. This data is historic and will not be updated.

Government Publication Date: May 27, 1988

Tribal

Leaking Underground Storage Tanks (LUSTs) on Indian Lands: INDIAN LUST

LUSTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Underground Storage Tanks (USTs) on Indian Lands: INDIAN UST

USTs on Tribal/Indian Lands in Region 9, which includes California.

Government Publication Date: Dec 31, 2017

Delisted Tribal Leaking Storage Tanks: DELISTED ILST

Leaking Underground Storage Tank facilities which have been removed from the Regional Tribal LUST lists made available by the EPA.

Government Publication Date: Oct 14, 2017

Delisted Tribal Underground Storage Tanks: DELISTED IUST

Underground Storage Tank facilities which have been removed from the Regional Tribal UST lists made available by the EPA.

Government Publication Date: Oct 14, 2017

County

Delisted County Records: DELISTED COUNTY

Records removed from county or CUPA databases. Records may be removed from the county lists made available by the respective county departments because they are inactive, or because they have been deemed to be below reportable thresholds.

Government Publication Date: Jun 18, 2019

Santa Clara County - City of San Jose Hazardous Material Facilities: SANJOSE HM

A list of facilities with hazardous materials, including underground and aboveground tanks. This list is maintained by the City of San Jose Fire Department.

Government Publication Date: Apr 28, 2019

Santa Clara County - Gilroy City CUPA Facilities List: GILROY CUPA

The Gilroy City Fire Marshal's office maintains a list of CUPA Facilities located in Gilroy City.

Government Publication Date: Jan 30, 2019

Santa Clara County - CUPA Facilities List: SANTACLARA CUPA

A list of facilities associated with various Certified Unified Program Agency (CUPA) programs in Santa Clara County. This list is made available by Santa Clara County Department of Environmental health (DEH). DEH's Hazardous Materials Compliance Division (HMCD) is CUPA for the county with jurisdiction within the Cities of Los Altos Hills, Monte Sereno, and Saratoga; and in all unincorporated areas of Santa Clara County, including Moffett Field, San Martin, and Stanford.

Government Publication Date: Apr 16, 2019

Santa Clara County - Historic Solvent Case Listing: SANTACLARA HSOL

The Santa Clara Valley Water District was responsible for the oversight of solvent and toxic release cases and maintained a list of historic solvent cases in Santa Clara County.

Government Publication Date: Aug 22, 2016

Santa Clara County - Local Oversight Program Listing: SANTACLARA LO

A list of Leaking Underground Storage Tanks (LUST) facilities in Santa Clara County Provided by Santa Clara Department of Environmental Health (DEH). Since July 1, 2004 the DEH has served as the oversight agency for investigations and clean-up of petroleum releases from underground storage tanks through implementation of the Local Oversight Program (LOP) contract with the State Water Resources Control Board.

Government Publication Date: Jun 14, 2017

Santa Clara County - Sunnyvale City CUPA List: SUNNYVALE CUPA

A list of facilities associated with various Certified Unified Program Agency (CUPA) programs in Sunnyvale City, Santa Clara County. This list is made available by the Fire Prevention & Hazardous Materials division of the Sunnyvale Department of Public Safety.

Government Publication Date: Apr 17, 2019

Additional Environmental Record Sources

Federal

Facility Registry Service/Facility Index: FINDS/FRS

The US Environmental Protection Agency (EPA)'s Facility Registry System (FRS) is a centrally managed database that identifies facilities, sites or places subject to environmental regulations or of environmental interest. FRS creates high-quality, accurate, and authoritative facility identification records through rigorous verification and management procedures that incorporate information from program national systems, state master facility records, data collected from EPA's Central Data Exchange registrations and data management personnel.

Government Publication Date: Apr 23, 2019

Toxics Release Inventory (TRI) Program: TRIS

The EPA's Toxics Release Inventory (TRI) is a database containing data on disposal or other releases of over 650 toxic chemicals from thousands of U.S. facilities and information about how facilities manage those chemicals through recycling, energy recovery, and treatment. One of TRI's primary purposes is to inform communities about toxic chemical releases to the environment.

Government Publication Date: Dec 31, 2017

Hazardous Materials Information Reporting System: HMIRS

US DOT - Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) Incidents Reports Database taken from Hazmat Intelligence Portal, U.S. Department of Transportation.

Government Publication Date: Jan 8, 2019

National Clandestine Drug Labs: NCDL

The U.S. Department of Justice ("the Department") provides this data as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy.

Government Publication Date: Jul 18, 2018

Toxic Substances Control Act: TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The CDR enables EPA to collect and publish information on the manufacturing, processing, and use of commercial chemical substances and mixtures (referred to hereafter as chemical substances) on the TSCA Chemical Substance Inventory (TSCA Inventory). This includes current information on chemical substance production volumes, manufacturing sites, and how the chemical substances are used. This information helps the Agency determine whether people or the environment are potentially exposed to reported chemical substances. EPA publishes submitted CDR data that is not Confidential Business Information (CBI).

Government Publication Date: Jun 30, 2017

Hist TSCA: HIST TSCA

The Environmental Protection Agency (EPA) is amending the Toxic Substances Control Act (TSCA) section 8(a) Inventory Update Reporting (IUR) rule and changing its name to the Chemical Data Reporting (CDR) rule.

The 2006 IUR data summary report includes information about chemicals manufactured or imported in quantities of 25,000 pounds or more at a single site during calendar year 2005. In addition to the basic manufacturing information collected in previous reporting cycles, the 2006 cycle is the first time EPA collected information to characterize exposure during manufacturing, processing and use of organic chemicals. The 2006 cycle also is the first time manufacturers of inorganic chemicals were required to report basic manufacturing information.

Government Publication Date: Dec 31, 2006

FTTS Administrative Case Listing: FTTS ADMIN

An administrative case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

FTTS Inspection Case Listing: FTTS INSP

An inspection case listing from the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA) and Toxic Substances Control Act (TSCA), together known as FTTS. This database was obtained from the Environmental Protection Agency's (EPA) National Compliance Database (NCDB). The FTTS and NCDB was shut down in 2006.

Government Publication Date: Jan 19, 2007

Potentially Responsible Parties List: PRP

Early in the cleanup process, the Environmental Protection Agency (EPA) conducts a search to find the potentially responsible parties (PRPs). EPA looks for evidence to determine liability by matching wastes found at the site with parties that may have contributed wastes to the site.

Government Publication Date: Dec 20, 2018

State Coalition for Remediation of Drycleaners Listing: SCRD DRYCLEANER

The State Coalition for Remediation of Drycleaners (SCRD) was established in 1998, with support from the U.S. Environmental Protection Agency (EPA) Office of Superfund Remediation and Technology Innovation. Coalition members are states with mandated programs and funding for drycleaner site remediation. Current members are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Government Publication Date: Nov 08, 2017

Integrated Compliance Information System (ICIS): ICIS

The Integrated Compliance Information System (ICIS) is a system that provides information for the Federal Enforcement and Compliance (FE&C) and the National Pollutant Discharge Elimination System (NPDES) programs. The FE&C component supports the Environmental Protection Agency's (EPA) Civil Enforcement and Compliance program activities. These activities include Compliance Assistance, Compliance Monitoring and Enforcement. The NPDES program supports tracking of NPDES permits, limits, discharge monitoring data and other program reports.

Government Publication Date: Nov 18, 2016

Drycleaner Facilities: FED DRYCLEANERS

A list of drycleaner facilities from the Integrated Compliance Information System (ICIS). The Environmental Protection Agency (EPA) tracks facilities that possess NAIC and SIC codes that classify businesses as drycleaner establishments.

Government Publication Date: May 29, 2018

Delisted Drycleaner Facilities: DELISTED FED DRY

List of sites removed from the list of Drycleaner Facilities (sites in the EPA's Integrated Compliance Information System (ICIS) with NAIC or SIC codes identifying the business as a drycleaner establishment).

Government Publication Date: May 29, 2018

Formerly Used Defense Sites: FUDS

Formerly Used Defense Sites (FUDS) are properties that were formerly owned by, leased to, or otherwise possessed by and under the jurisdiction of the Secretary of Defense prior to October 1986, where the Department of Defense (DoD) is responsible for an environmental restoration. This list is published by the U.S. Army Corps of Engineers.

Government Publication Date: Oct 23, 2018

Material Licensing Tracking System (MLTS): MLTS

A list of sites that store radioactive material subject to the Nuclear Regulatory Commission (NRC) licensing requirements. This list is maintained by the NRC. As of September 2016, the NRC no longer releases location information for sites. Site locations were last received in July 2016.

Government Publication Date: Nov 1, 2018

Historic Material Licensing Tracking System (MLTS) sites: HIST MLTS

A historic list of sites that have inactive licenses and/or removed from the Material Licensing Tracking System (MLTS). In some cases, a site is removed from the MLTS when the state becomes an "Agreement State". An Agreement State is a State that has signed an agreement with the Nuclear Regulatory Commission (NRC) authorizing the State to regulate certain uses of radioactive materials within the State.

Government Publication Date: Jan 31, 2010

Mines Master Index File: MINES

The Master Index File (MIF) contains mine identification numbers issued by the Department of Labor Mine Safety and Health Administration (MSHA) for mines active or opened since 1971. Note that addresses may or may not correspond with the physical location of the mine itself.

Government Publication Date: Nov 30, 2018

Alternative Fueling Stations: ALT FUELS

List of alternative fueling stations made available by the US Department of Energy's Office of Energy Efficiency & Renewable Energy. Includes Biodiesel stations, Ethanol (E85) stations, Liquefied Petroleum Gas (Propane) stations, Ethanol (E85) stations, Natural Gas stations, Hydrogen stations, and Electric Vehicle Supply Equipment (EVSE). The National Renewable Energy Laboratory (NREL) obtains information about new stations from trade media, Clean Cities coordinators, a Submit New Station form on the Station Locator website, and through collaborating with infrastructure equipment and fuel providers, original equipment manufacturers (OEMs), and industry groups.

Government Publication Date: Apr 8, 2019

Registered Pesticide Establishments: SSTS

List of active EPA-registered foreign and domestic pesticide-producing and device-producing establishments based on data from the Section Seven Tracking System (SSTS). The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 7 requires that facilities producing pesticides, active ingredients, or devices be registered. The list of establishments is made available by the EPA.

Government Publication Date: Sep 1, 2018

Polychlorinated Biphenyl (PCB) Notifiers: PCB

Facilities included in the national list of facilities that have notified the United States Environmental Protection Agency (EPA) of Polychlorinated Biphenyl (PCB) activities. Any company or person storing, transporting or disposing of PCBs or conducting PCB research and development must notify the EPA and receive an identification number.

Government Publication Date: Mar 20, 2019

State

Dry Cleaning Facilities: DRYCLEANERS

A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial, linen supply, commercial laundry, dry cleaning and pressing machines - Coin Operated Laundry and Dry Cleaning. This is provided by the Department of Toxic Substance Control.

Government Publication Date: Apr 16, 2019

Delisted Drycleaners: DELISTED DRYCLEANERS

Sites removed from the list of drycleaner related facilities that have EPA ID numbers, made available by the California Department of Toxic Substance Control.

Government Publication Date: Apr 16, 2019

Non-Toxic Dry Cleaning Incentive Program: DRYC GRANT

A list of grant recipients of the Non-Toxic Dry Cleaning Incentive Program made available by the California Air Resources Board (CARB). The program provides grants to eligible dry cleaning businesses to assist them in transitioning away from PERC machines to alternative non-toxic and non-smog forming technologies.

Government Publication Date: Feb 28, 2018

Hazardous Waste and Substances Site List - Site Cleanup: HWSS CLEANUP

The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements in providing information about the location of hazardous materials release sites. This list is published by California Department of Toxic Substance Control.

Government Publication Date: Apr 23, 2019

List of Hazardous Waste Facilities Subject to Corrective Action: DTSC HWF

This is a list of hazardous waste facilities identified in Health and Safety Code (HSC) § 25187.5. These facilities are those where Department of Toxic Substances Control (DTSC) has taken or contracted for corrective action because a facility owner/operator has failed to comply with a date for taking corrective action in an order issued under HSC § 25187, or because DTSC determined that immediate corrective action was necessary to abate an imminent or substantial endangerment.

Government Publication Date: Jul 18, 2016

EnviroStor Inspection, Compliance, and Enforcement: INSP COMP ENF

A list of permitted facilities with inspections and enforcements tracked in the Department of Toxic Substance Control (DTSC) EnviroStor.

Government Publication Date: Apr 19, 2019

School Property Evaluation Program Sites: SCH

A list of sites registered with The Department of Toxic Substances Control (DTSC) School Property Evaluation and Cleanup (SPEC) Division. SPEC is responsible for assessing, investigating and cleaning up proposed school sites. The Division ensures that selected properties are free of contamination or, if the properties were previously contaminated, that they have been cleaned up to a level that protects the students and staff who will occupy the new school.

Government Publication Date: Mar 11, 2019

California Hazardous Material Incident Report System (CHMIRS): CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS). This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Apr 2, 2019

Hazardous Waste Manifest Data: HAZNET

A list of hazardous waste manifests received each year by Department of Toxic Substances Control (DTSC). The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Oct 24, 2016

Historical California Hazardous Material Incident Report System (CHMIRS): HIST CHMIRS

A list of reported hazardous material incidents, spills, and releases from the California Hazardous Material Incident Report System (CHMIRS) prior to 1993. This list has been made available by the California Office of Emergency Services (OES).

Government Publication Date: Jan 1, 1993

Historical Hazardous Waste Manifest Data: HIST MANIFEST

A list of historic hazardous waste manifests received by the Department of Toxic Substances Control (DTSC) from year the 1980 to 1992. The volume of manifests is typically 900,000 - 1,000,000 annually, representing approximately 450,000 - 500,000 shipments.

Government Publication Date: Dec 31, 1992

Historical Cortese List: HIST CORTESE

List of sites which were once included on the Cortese list. The Hazardous Waste and Substances Sites (Cortese) List is a planning document used by the State, local agencies and developers to comply with the California Environmental Quality Act requirements for providing information about the location of hazardous sites.

Government Publication Date: Nov 13, 2008

Cease and Desist Orders and Cleanup and Abatement Orders: CDO/CAO

The California Environment Protection Agency "Cortese List" of active Cease and Desist Orders (CDO) and Cleanup and Abatement Orders (CAO). This list contains many CDOs and CAOs that do NOT concern the discharge of wastes that are hazardous materials. Many of the listed orders concern, as examples, discharges of domestic sewage, food processing wastes, or sediment that do not contain hazardous materials, but the Water Boards' database does not distinguish between these types of orders.

Government Publication Date: Feb 16, 2012

California Environmental Reporting System (CERS) Hazardous Waste Sites: CERS HAZ

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator. The CalEPA oversees the statewide implementation of the Unified Program which applies regulatory standards to protect Californians from hazardous waste and materials.

Government Publication Date: May 6, 2019

Delisted Environmental Reporting System (CERS) Hazardous Waste Sites: DELISTED HAZ

This database contains a list of sites that were removed from the California Environmental Protection Agency (CalEPA) in the following regulatory programs: Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, RCRA LQ HW Generator.

Government Publication Date: Nov 29, 2018

Sites in GeoTracker: GEOTRACKER

GeoTracker is the State Water Resource Control Boards' data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater. This is a list of sites in GeoTracker that aren't otherwise categorized as LUST, Land Disposal Sites (LDS), Cleanup Sites, or sites having Waste Discharge Requirements (WDR). This listing includes program types such as Underground Injection Control (UIC), Confined Animal Facilities (CAF), Irrigated Lands Regulatory Program, plans, and non-case information.

Government Publication Date: Apr 17, 2019

Waste Discharge Requirements: WASTE DISCHG

List of sites in California State Water Resources Control Board (SWRCB) Waste Discharge Requirements (WDRs) Program in California, made available by the SWRCB via GeoTracker. The WDR program regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

Government Publication Date: Apr 10, 2019

Toxic Pollutant Emissions Facilities: EMISSIONS

A list of criteria and toxic pollutant emissions data for facilities in California made available by the California Environmental Protection Agency - Air Resources Board (ARB). Risk data may be based on previous inventory submittals. The toxics data are submitted to the ARB by the local air districts as requirement of the Air Toxics "Hot Spots" Program. This program requires emission inventory updates every four years.

Government Publication Date: Dec 31, 2017

Clandestine Drug Lab Sites: CDL

The Department of Toxic Substances Control (DTSC) maintains a listing of drug lab sites. DTSC is responsible for removal and disposal of hazardous substances discovered by law enforcement officials while investigating illegal/clandestine drug laboratories.

Government Publication Date: Dec 31, 2017

Tribal

No Tribal additional environmental record sources available for this State.

County

No County additional environmental databases were selected to be included in the search.

Definitions

Database Descriptions: This section provides a detailed explanation for each database including: source, information available, time coverage, and acronyms used. They are listed in alphabetic order.

Detail Report: This is the section of the report which provides the most detail for each individual record. Records are summarized by location, starting with the project property followed by records in closest proximity.

Distance: The distance value is the distance between plotted points, not necessarily the distance between the sites' boundaries. All values are an approximation.

Direction: The direction value is the compass direction of the site in respect to the project property and/or center point of the report.

Elevation: The elevation value is taken from the location at which the records for the site address have been plotted. All values are an approximation. Source: Google Elevation API.

Executive Summary: This portion of the report is divided into 3 sections:

'Report Summary'- Displays a chart indicating how many records fall on the project property and, within the report search radii.

'Site Report Summary'-Project Property'- This section lists all the records which fall on the project property. For more details, see the 'Detail Report' section.

'Site Report Summary-Surrounding Properties'- This section summarizes all records on adjacent properties, listing them in order of proximity from the project property. For more details, see the 'Detail Report' section.

Map Key: The map key number is assigned according to closest proximity from the project property. Map Key numbers always start at #1. The project property will always have a map key of '1' if records are available. If there is a number in brackets beside the main number, this will indicate the number of records on that specific property. If there is no number in brackets, there is only one record for that property.

The symbol and colour used indicates 'elevation': the red inverted triangle will dictate 'ERIS Sites with Lower Elevation', the yellow triangle will dictate 'ERIS Sites with Higher Elevation' and the orange square will dictate 'ERIS Sites with Same Elevation.'

Unplottables: These are records that could not be mapped due to various reasons, including limited geographic information. These records may or may not be in your study area, and are included as reference.

Appendix F

Noise Analysis

THE CROSSWINDS AT MORGAN HILL PROJECT
NOISE AND VIBRATION ASSESSMENT

Morgan Hill, California

April 26, 2022

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Project: 20-161

INTRODUCTION

The project proposes a residential development at the northwest corner of the Half Road and Mission View Drive intersection in Morgan Hill, California. The 31-acre project site consists of the Assessor's Parcel Numbers 728-30-001, 728-30-002, 728-30-003, and 728-30-004. The project site is mostly undeveloped and consists of grassland and boxed nursery trees. A vacant single-family residence constructed in the 1950s is located on the southwestern section of the site. The project proposes to construct a total of 269 new residential units: 56 single-family, 64 duets, and 149 condominiums. There would be a total of 40 below-market-rate (BMR) units. The project would provide 606 parking spaces, including 538 covered spaces and 68 uncovered spaces. The project site would be accessed via three vehicular connections: two site entries from DePaul Drive and one entry from Mission View Drive. DePaul Drive is proposed to be extended approximately 2,000 feet south along the project site's eastern frontage to provide direct access to the project site.

This report evaluates the project's potential to result in significant noise and vibration impacts with respect to applicable California Environmental Quality Act (CEQA) guidelines. The report is divided into three sections: 1) the Setting Section provides a brief description of the fundamentals of environmental noise and groundborne vibration, summarizes applicable regulatory criteria, and discusses the results of the ambient noise monitoring survey completed to document existing noise conditions; 2) the General Plan Consistency Section discusses land use compatibility utilizing policies in the City's General Plan; and, 3) the Impacts and Mitigation Measures Section describes the significance criteria used to evaluate project impacts, provides a discussion of each project impact, and presents measures, where necessary, to mitigate the impacts of the project on sensitive receptors in the vicinity.

SETTING

Fundamentals of Environmental Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its *loudness*. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A *decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 1.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level (dBA).* This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This *energy-equivalent sound/noise descriptor* is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level* (*CNEL*) is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The *Day/Night Average Sound Level* (L_{dn} or *DNL*) is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Effects of Noise

Sleep and Speech Interference

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noises of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have been shown to affect sleep. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA L_{dn}/CNEL. Typically, the highest steady traffic noise level during the daytime is about equal to the L_{dn}/CNEL and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12-17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57-62 dBA L_{dn}/CNEL with open windows and 65-70 dBA L_{dn}/CNEL if the windows are closed. Levels of 55-60 dBA are common along collector streets and secondary arterials, while 65-70 dBA is a typical value for a primary/major arterial. Levels of 75-80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to

be able to have their windows closed; those facing major roadways and freeways typically need special glass windows.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn}/CNEL as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 50 dBA L_{dn}/CNEL. At a L_{dn}/CNEL of about 60 dBA, approximately 12 percent of the population is highly annoyed. When the L_{dn}/CNEL increases to 70 dBA, the percentage of the population highly annoyed increases to about 25-30 percent of the population. There is, therefore, an increase of about 2 percent per dBA between a L_{dn}/CNEL of 60-70 dBA. Between a L_{dn}/CNEL of 70-80 dBA, each decibel increase increases by about 3 percent the percentage of the population highly annoyed. People appear to respond more adversely to aircraft noise. When the L_{dn}/CNEL is 60 dBA, approximately 30-35 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about 3 percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase results in about a 4 percent increase in the percentage of the population highly annoyed.

Fundamentals of Groundborne Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One method is the Peak Particle Velocity (PPV). The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. In this report, a PPV descriptor with units of mm/sec or in/sec is used to evaluate construction generated vibration for building damage and human complaints. Table 3 displays the reactions of people and the effects on buildings that continuous or frequent intermittent vibration levels produce. The guidelines in Table 3 represent syntheses of vibration criteria for human response and potential damage to buildings resulting from construction vibration.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related groundborne vibration levels. Because of the impulsive nature of such activities, the use of the PPV descriptor has been routinely used to measure and assess groundborne vibration and almost exclusively to assess the potential of vibration to cause damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life, are evaluated against different vibration limits. Human perception to vibration varies with the individual and is a function of physical

setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as paint flaking or minimal extension of cracks in building surfaces; minor, including limited surface cracking; or major, that may threaten the structural integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher. The damage criteria presented in Table 3 include several categories for ancient, fragile, and historic structures, the types of structures most at risk to damage. Most buildings are included within the categories ranging from "Historic and some old buildings" to "Modern industrial/commercial buildings". Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

The annoyance levels shown in Table 3 should be interpreted with care since vibration may be found to be annoying at lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage.

TABLE 1 Definition of Acoustical Terms Used in this Report

Term	Definition
Decibel, dB	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 p.m. and 7:00 a.m.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 p.m.to 10:00 p.m. and after addition of 10 decibels to sound levels measured in the night between 10:00 p.m. and 7:00 a.m.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

TABLE 2 Typical Noise Levels in the Environment

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	

Source: Technical Noise Supplement (TeNS), California Department of Transportation, September 2013.

TABLE 3 Reactions of People and Damage to Buildings from Continuous or Frequent Intermittent Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Virtually no risk of damage to normal buildings
0.25	Strongly perceptible to severe	Threshold at which there is a risk of damage to historic and some old buildings.
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential dwellings such as plastered walls or ceilings
0.5	Severe - Vibrations considered unpleasant	Threshold at which there is a risk of damage to newer residential structures

Source: Transportation and Construction Vibration Guidance Manual, California Department of Transportation, September 2013.

Regulatory Background

The State of California and the City of Morgan Hill have established regulatory criteria that are applicable in this assessment. The CEQA Guidelines, Appendix G, are used to assess the potential significance of impacts pursuant to local General Plan policies, Municipal Code standards, or the applicable standards of other agencies. A summary of the applicable regulatory criteria is provided below.

State CEQA Guidelines. The CEQA contains guidelines to evaluate the significance of effects of environmental noise attributable to a proposed project. Under CEQA, noise impacts would be considered significant if the project would result in:

(a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local General Plan or Noise Ordinance, or applicable standards of other agencies;

(b) Generation of excessive groundborne vibration or groundborne noise levels; or

(c) For a project located within the vicinity of a private airstrip or an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, if the project would expose people residing or working in the project area to excessive noise levels.

Pursuant to court decisions, the impacts of site constraints, such as exposure of the proposed project to excessive levels of noise and vibration, are not included in the Impacts and Mitigation Section of

this report. These items are discussed in a separate section addressing the project's consistency with the policies set forth in the City's General Plan.

2019 California Building Code, Title 24, Part 2. The current version of the California Building Code (CBC) requires interior noise levels attributable to exterior environmental noise sources to be limited to a level not exceeding 45 dBA L_{dn}/CNEL in any habitable room.

City of Morgan Hill General Plan. The Safety, Services and Infrastructure Chapter in the Morgan Hill 2035 General Plan sets forth policies with the goal of minimizing the impact of noise on people through noise reduction and suppression techniques, and through appropriate land use policies in the City of Morgan Hill. The following policies are applicable to the proposed project:

Policy SSI-8.1- *Exterior Noise Level Standards:* Require new development projects to be designed and constructed to meet acceptable exterior noise level standards (as shown in Table SSI-1) as follows:

- Apply a maximum exterior noise level of 60 dBA L_{dn} in residential areas where outdoor use is a major consideration (e.g., backyards in single-family housing developments and recreation areas in multi-family housing projects). Where the City determines that providing an L_{dn} of 60 dBA or lower cannot be achieved after the application of reasonable and feasible mitigation, an L_{dn} of 65 dBA may be permitted.

- Indoor noise levels should not exceed an L_{dn} of 45 dBA in new residential housing units.

- Noise levels in new residential development exposed to an exterior L_{dn} 60 dBA or greater should be limited to a maximum instantaneous noise level (e.g., trucks on busy streets, train warning whistles) in bedrooms of 50 dBA. Maximum instantaneous noise levels in all other habitable rooms should not exceed 55 dBA. The maximum outdoor noise level for new residences near the railroad shall be 70 dBA L_{dn}, recognizing that train noise is characterized by relatively few loud events.

Policy SSI-8.2- *Impact Evaluation:* The impact of proposed development project on existing land uses should be evaluated in terms of the potential for adverse community response based on significant increase in existing noise levels, regardless of compatibility guidelines.

Policy SSI-8.5- *Traffic Noise Level Standards:* Consider noise level increases resulting from traffic associated with new projects significant if: a) the noise level increase is 5 dBA L_{dn} or greater, with a future noise level of less than 60 dBA L_{dn}, or b) the noise level increase is 3 dBA L_{dn} or greater, with a future noise level of 60 dBA L_{dn} or greater.

Policy SSI-8.6- *Stationary Noise Level Standards:* Consider noise levels produced by stationary noise sources associated with new projects significant if they substantially exceed existing ambient noise levels.

Policy SSI-8.7- *Other Noise Sources:* Consider noise levels produced by other noise sources (such as ballfields) significant if an acoustical study demonstrates they would substantially exceed ambient noise levels.

Policy SSI-8.9- *Site Planning and Design:* Require attention to site planning and design techniques other than sound walls to reduce noise impacts, including: a) installing earth berms, b) increasing the distance between the noise source and the receiver; c) using non-sensitive structures such as parking lots, utility areas, and garages to shield noise-sensitive areas; d) orienting buildings to shield outdoor spaces from the noise source; and e) minimizing the noise at its source.

Policy SSI-9.1- *Techniques to Reduce Traffic Noise:* Use roadway design, traffic signalization, and other traffic planning techniques (such as limiting truck traffic in residential areas) to reduce noise caused by speed or acceleration of vehicles.

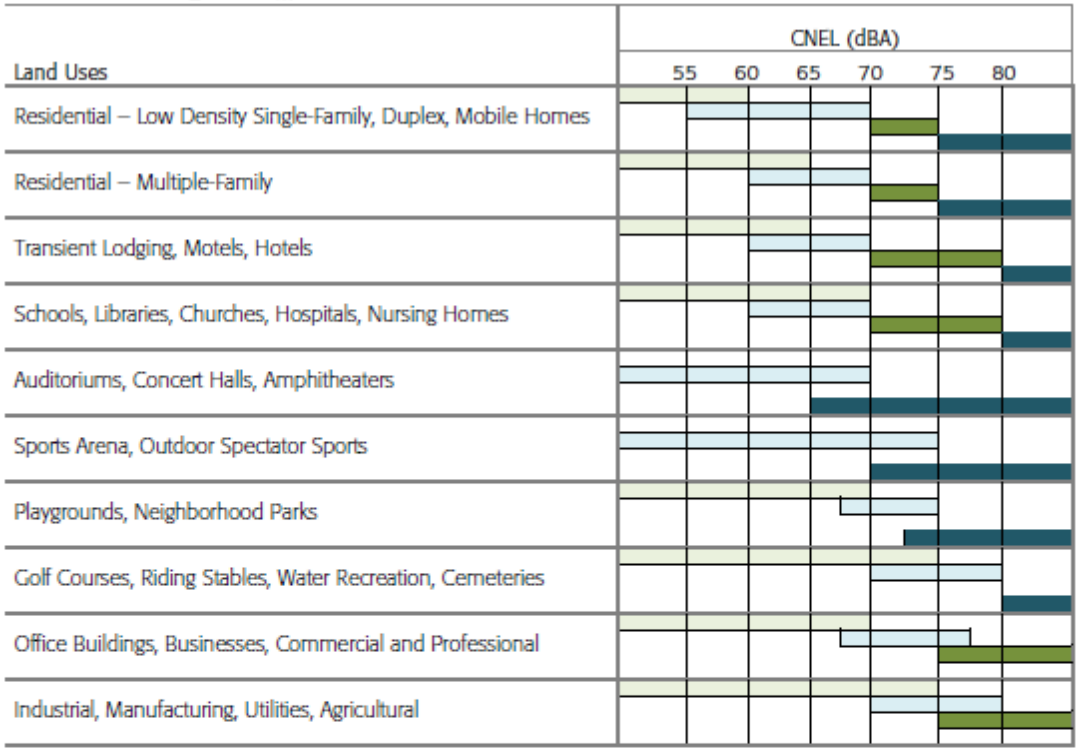
Policy SSI-9.3- *Sound Wall Design:* The maximum height of sound walls shall be eight feet. Residential projects adjacent to the freeway shall be designed to minimize sound wall height through location of a frontage road, use of two sound walls or other applicable measures. Sound wall design and location shall be coordinated for an entire project area and shall meet Caltrans noise attenuation criteria for a projected eight-lane freeway condition. If two sound walls are used, the first shall be located immediately adjacent to the freeway right-of-way and the second shall be located as necessary to meet Caltrans noise requirements for primary outdoor areas. The minimum rear yard setback to the second wall shall be 20 feet.

Policy SSI-9.5- *Noise Studies for Private Development:* In order to prevent significant noise impacts on neighborhood residents which are related to roadway extensions or construction of new roadways, require completion of a detailed noise study during project-level design to quantify noise levels generated by projects such as the Murphy Avenue extension to Mission View Drive and the Walnut Grove Extension to Diana Avenue. The study limits should include noise sensitive land uses adjacent to the project alignment as well as those along existing segments that would be connected to new segments. A significant impact would be identified where traffic noise levels would exceed the "normally acceptable" noise level standard for residential land uses and/or where ambient noise levels would be substantially increased with the project. Project specific mitigation measures could include, but not be limited to, considering the location of the planned roadway alignment relative to existing receivers in the vicinity, evaluating the use of noise barriers to attenuate project-generated traffic noise, and/or evaluating the use of "quiet pavement" to minimize traffic noise levels at the source. Mitigation should be designed to reduce noise levels into compliance with "normally acceptable" levels for residential noise and land use compatibility.

Policy SSI-9.6- *Earth Berms:* Allow and encourage earth berms in new development projects as an alternative to sound walls if adequate space is available.

Policy SSI-9.7- *Sound Barrier Design:* Require non-earthen sound barriers to be landscaped, vegetated, or otherwise designed and/or obscured to improve aesthetics and discourage graffiti and other vandalism.

TABLE SSI-1 STATE OF CALIFORNIA LAND USE COMPATIBILITY GUIDELINES FOR COMMUNITY NOISE ENVIRONMENTS



Normally Acceptable:
Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable:
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and the needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable:
New construction or development should generally be discouraged. If new construction does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable:
New construction or development generally should not be undertaken.

Source: Governor's Office of Planning and Research, General Plan Guidelines 2003.

City of Morgan Hill Municipal Code. The City of Morgan Hill's Municipal Code Chapter 8.28 states that "It is unlawful and a misdemeanor for any person to make or continue, or cause to be made or continued, any loud, disturbing, unnecessary or unusual noise or any noise which annoys, disturbs, injures or endangers the comfort, health, repose, peace or safety of other persons within the city." The following sections of the code would be applicable to the project:

D. 1. Construction activities as limited below. "Construction activities" are defined as including but not limited to excavation, grading, paving, demolition, construction, alteration or repair of any building, site, street or highway, delivery or removal of construction material to a site, or movement of construction materials on a site. Construction activities are prohibited other than between the hours of seven a.m. and eight p.m., Monday through Friday and between the hours of nine a.m. to six p.m. on Saturday. Construction activities may not occur on Sundays or federal holidays. No third person, including but not limited to landowners, construction company owners, contractors, subcontractors, or employers, shall permit or allow any person working on construction activities which are under their ownership, control or direction to violate this provision. Construction activities may occur in the following cases without violation of this provision:

a. In the event of urgent necessity in the interests of the public health and safety, and then only with a permit from the chief building official, which permit may be granted for a period of not to exceed three days or less while the emergency continues and which permit may be renewed for periods of three days or less while the emergency continues.

b. If the chief building official determines that the public health and safety will not be impaired by the construction activities between the hours of eight p.m. and seven a.m., and that loss or inconvenience would result to any party in interest, the chief building official may grant permission for such work to be done between the hours of eight p.m. and seven a.m. upon an application being made at the time the permit for the work is issued or during the progress of the work.

c. The city council finds that construction by the resident of a single residence does not have the same magnitude or frequency of noise impacts as a larger construction project. Therefore, the resident of a single residence may perform construction activities on that home during the hours in this subsection, as well as on Sundays and federal holidays from nine a.m. to six p.m., provided that such activities are limited to the improvement or maintenance undertaken by the resident on a personal basis.

d. Public work projects are exempt from this section and the public works director shall determine the hours of construction for public works projects.

e. Until November 30, 1998, construction activities shall be permitted between the hours of ten a.m. to six p.m. on Sundays, subject to the following conditions. No power-driven vehicles, equipment or tools may be used during construction

activities, except on the interior of a building or other structure which is enclosed by exterior siding (including windows and doors) and roofing, and which windows and doors are closed during construction activities. Construction activities must be situated at least one hundred fifty feet from the nearest occupied dwelling. No delivery or removal of construction material to a site, or movement of construction materials on a site, is permitted. No activity, including but not limited to the playing of radios, tape players, compact disc players or other devices, which creates a loud or unusual noise which offends, disturbs or harasses the peace and quiet of the persons of ordinary sensibilities beyond the confines of the property from which the sound emanates is allowed.

2. If it is determined necessary in order to ensure compliance with this section, the chief building official may require fences, gates or other barriers prohibiting access to a construction site by construction crews during hours in which construction is prohibited by this subsection. The project manager of each project shall be responsible for ensuring the fences, gates or barriers are locked and/or in place during hours in which no construction is allowed. This subsection shall apply to construction sites other than public works projects or single dwelling units which are not a part of larger projects.

Existing Noise Environment

The 31-acre project site is located at the northwest corner of the Half Road and Mission View Drive intersection in Morgan Hill, California. The surrounding properties include the DePaul Health Center and a senior living center (north of the project site), Terra Mia at Mission Ranch Residential Subdivision and orchards (east of site, opposite Mission View Drive), commercial uses (north of site, opposite Cochrane Road), single-family residences and vacant land (south of site, opposite Half Road), and Live Oak High School (southeast of the site, opposite Half Road and Mission View Drive).

The noise environment at the site and in the surrounding area results primarily from vehicular traffic along US 101. Local traffic along Mission View Drive and Half Road also contribute to the existing noise environment. In addition, occasional aircraft flyovers associated with nearby San Martin Airport and San José International Airport have some contribution to the noise environment.

A noise monitoring survey consisting of two long-term (LT-1 and LT-2) and two short-term (ST-1 and ST-2) noise measurements was made for a previous project (Morgan Hill Technology Center), which included the proposed residential development. These measurements were made between Tuesday, April 9, 2019 and Thursday, April 11, 2019. All measurement locations are shown in Figure 1.

Long-term noise measurement LT-1 was made approximately 65 feet south of the centerline of Cochrane Road, just east of DePaul Drive. Hourly average noise levels at LT-1 typically ranged from 66 to 72 dBA L_{eq} during daytime hours (7:00 a.m. and 10:00 p.m.) and from 55 to 68 dBA L_{eq} during nighttime hours (10:00 p.m. and 7:00 a.m.). The day-night average noise level on

Wednesday, April 10, 2019 was 71 dBA L_{dn}. The daily trend in noise levels at LT-1 is shown in Figures 2 through 4.

LT-2 was made southeast of the Half Road/Condit Road intersection, approximately 400 feet east of the centerline of the nearest through lane along northbound US 101. Hourly average noise levels at LT-2 typically ranged from 66 to 71 dBA L_{eq} during daytime hours and from 61 to 71 dBA L_{eq} during nighttime hours. The day-night average noise level on Wednesday, April 10, 2019 was 73 dBA L_{dn}. The daily trend in noise levels at LT-2 is shown in Figures 5 through 7.

Short-term noise measurements were made on Tuesday, April 9, 2019 between 10:30 a.m. and 11:10 a.m. ST-1 was made in a single 10-minute interval, while ST-2 was made in two consecutive 10-minute intervals. The results of the measurements are summarized in Table 4.

Short-term noise measurement ST-1 was made from the sidewalk along Mission View Drive, approximately 35 feet from the centerline of the roadway. Passenger cars generated the majority of the noise at ST-1, with maximum instantaneous noise levels from vehicles ranging from 66 to 74 dBA. One jet flyover was also observed, producing a maximum instantaneous noise level of 61 dBA. The 10-minute L_{eq} measured at ST-1 was 64 dBA $L_{eq(10\text{-}min)}$. ST-2 was made at the end of DePaul Drive. During the first 10-minute interval, an emergency vehicle drove by, generating maximum instantaneous noise levels of 74 dBA. The siren from this vehicle contaminated the short-term measurement during this 10-minute period. To capture typical ambient noise levels, a second 10-minute measurement was made at this location. Typical vehicle pass-bys produced maximum instantaneous noise levels that ranged from 55 to 61 dBA, and jet flyovers were observed to generate maximum instantaneous noise levels ranging from 61 to 65 dBA. The 10-minute average noise levels measured at ST-2 ranged from 58 dBA $L_{eq(10\text{-}min)}$ without the emergency vehicle to 62 dBA $L_{eq(10\text{-}min)}$ with the emergency vehicle.

FIGURE 1 Noise Measurement Locations

Source: Google Earth 2021.

FIGURE 2 Daily Trend in Noise Levels at LT-1, Tuesday, April 9, 2019

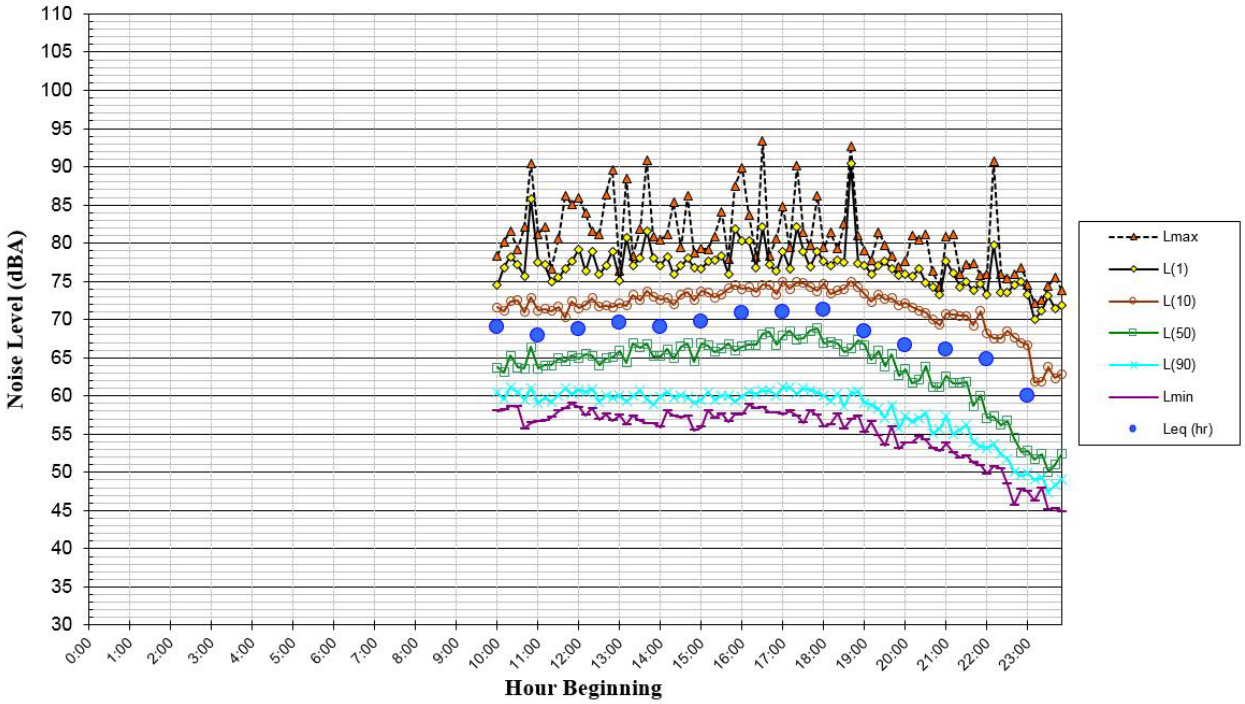


FIGURE 3 Daily Trend in Noise Levels at LT-1, Wednesday, April 10, 2019

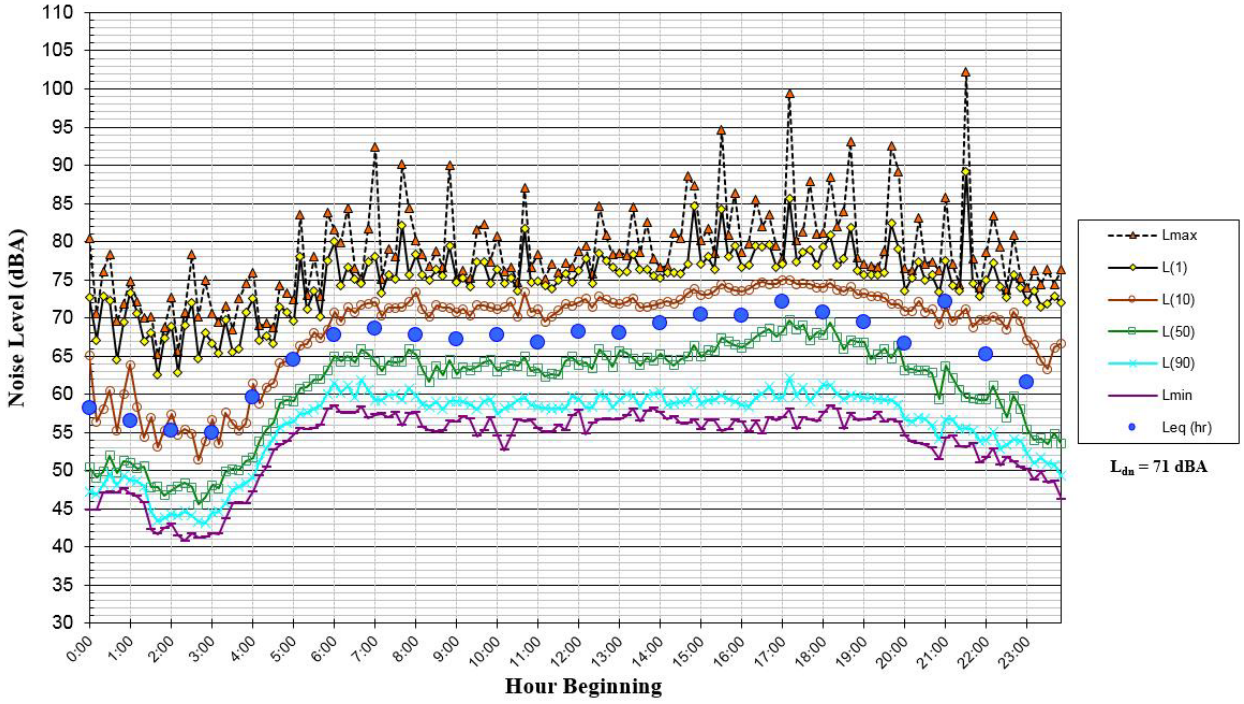


FIGURE 4 Daily Trend in Noise Levels at LT-1, Thursday, April 11, 2019

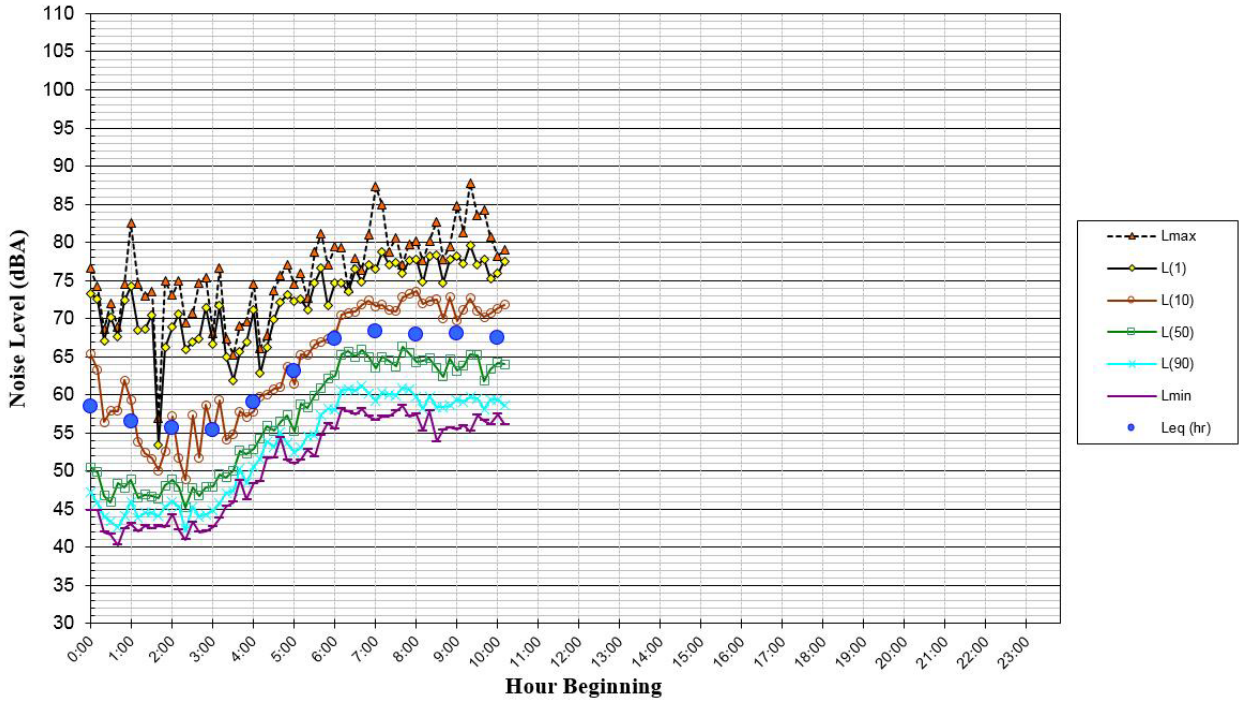


FIGURE 5 Daily Trend in Noise Levels at LT-2, Tuesday, April 9, 2019

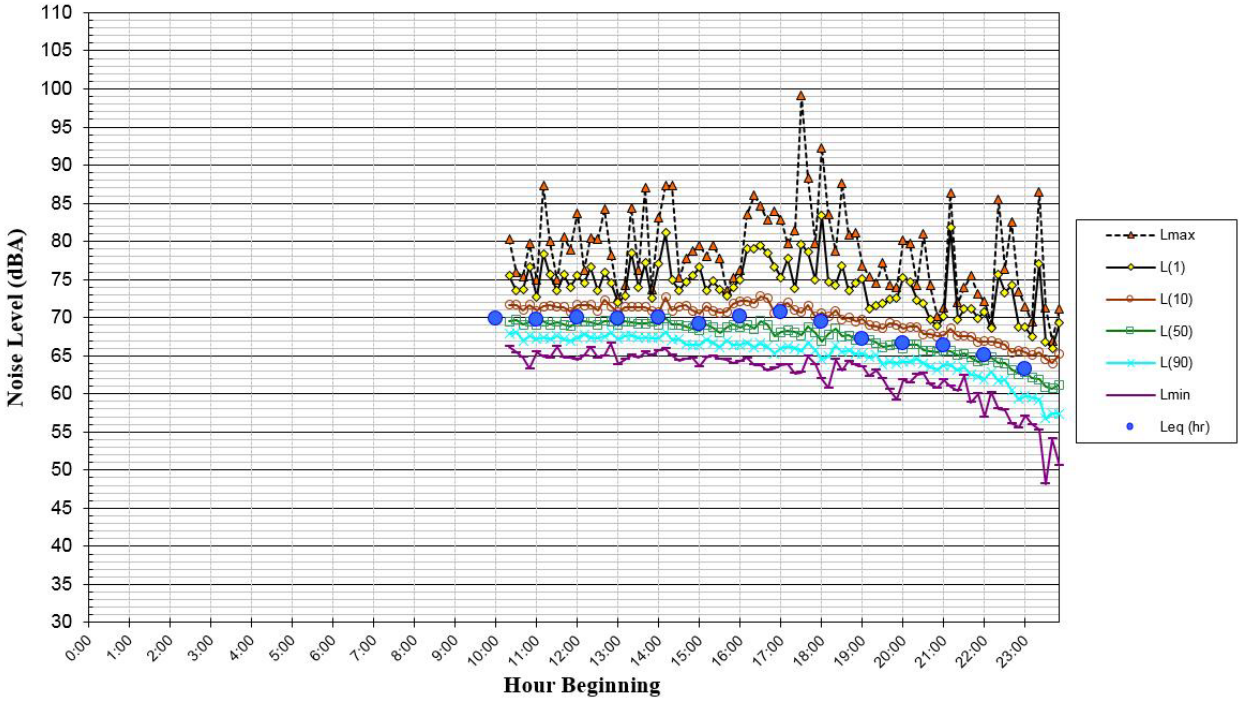


FIGURE 6 Daily Trend in Noise Levels at LT-2, Wednesday, April 10, 2019

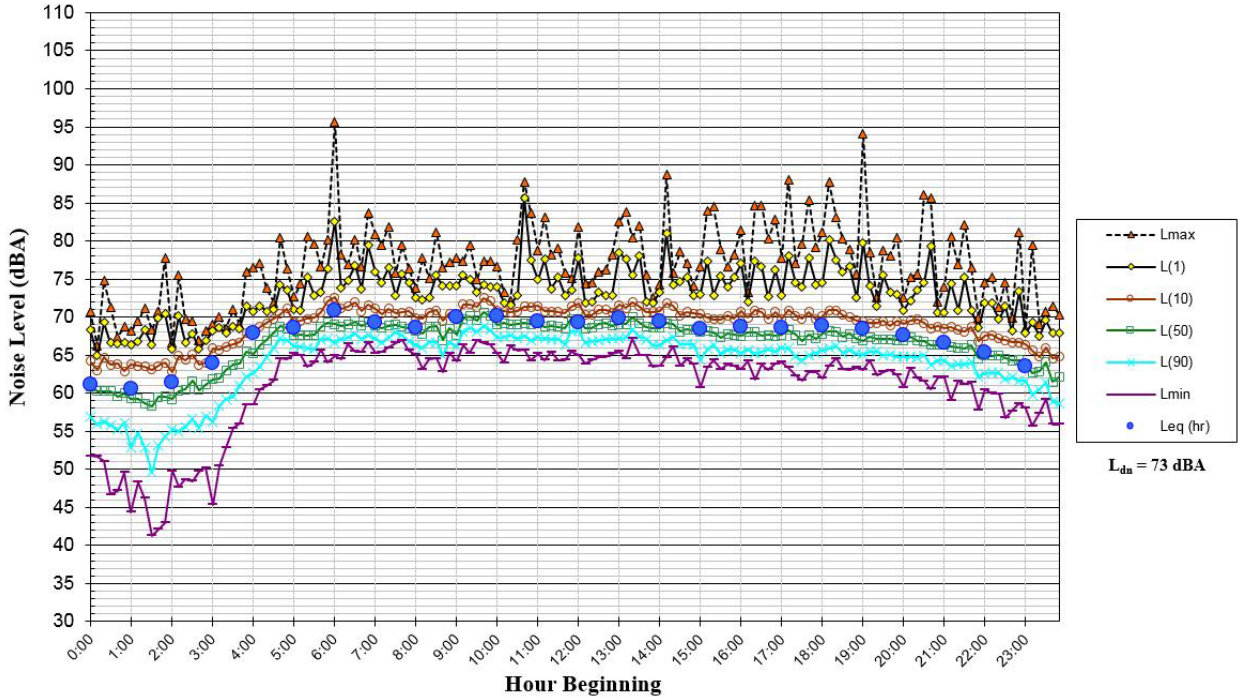


FIGURE 7 Daily Trend in Noise Levels at LT-2, Thursday, April 11, 2019

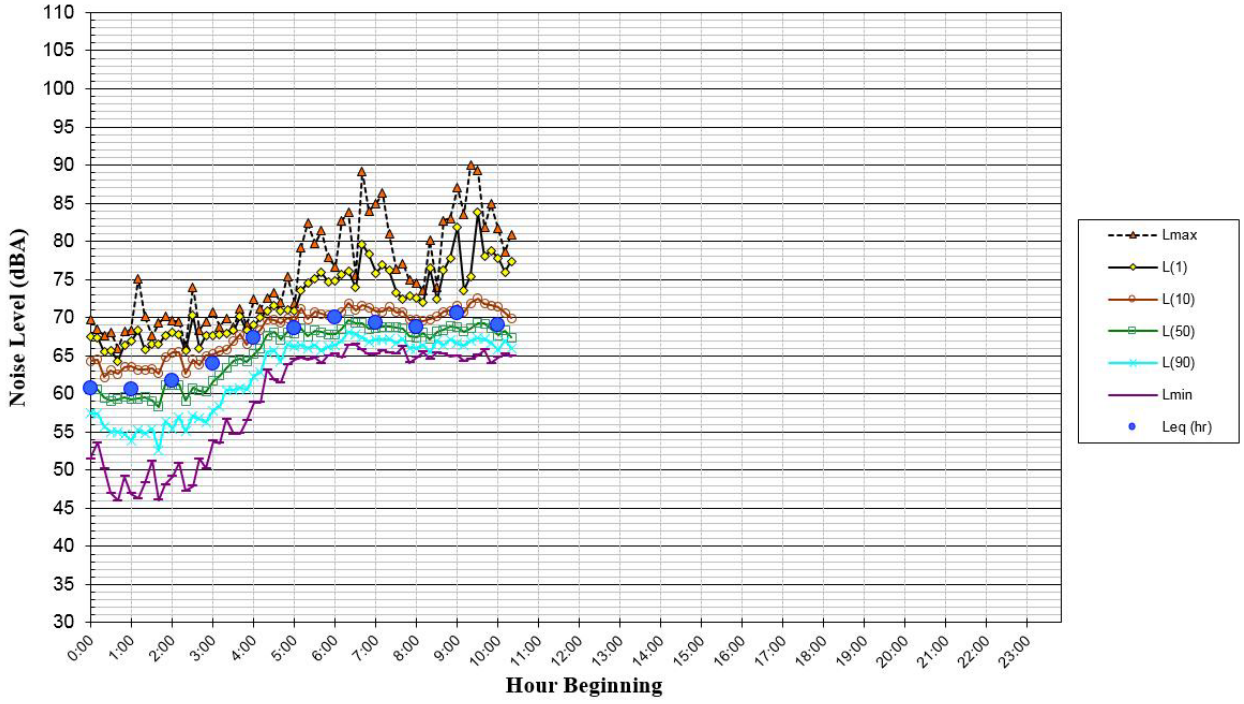


TABLE 4 Summary of Short-Term Noise Measurements (dBA)

Noise Measurement Location	Date, Time	Measured Noise Level, dBA					
		L_{max}	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	$L_{eq(10\text{-}min)}$
ST-1: ~35 feet east of the centerline of Mission View Drive	4/9/2019, 10:30-10:40	74	73	69	59	55	64
ST-2: End of DePaul Drive	4/9/2019, 10:50-11:00	76	75	62	58	56	62
	4/9/2019, 11:00-11:10	64	61	59	57	55	58

PLAN CONSISTENCY ANALYSIS

Noise and Land Use Compatibility Assessment

The future noise environment at the project site would continue to result primarily from traffic along US 101. The traffic study completed for the proposed project by *Hexagon Transportation Consultants* did not include future traffic volumes for US 101. To estimate the future noise increase at the project site, US 101 peak hour volumes from the Caltrans website[1] were used to estimate the noise level increase expected by the year 2035, assuming a typical 1% to 2% increase in traffic volumes each year. The future noise increase calculated along US 101 would be up to 2 dBA L_{dn} by the year 2035.

[1] http://www.dot.ca.gov/trafficops/census/docs/2016_aadt_volumes.pdf

Additionally, the project's traffic study included peak hour turning movements for local intersections surrounding the project site and throughout the City of Morgan Hill. Along with the projected 2035 peak hour volumes estimated for US 101, these traffic volumes were used as inputs in SoundPLAN, version 8.2, to estimate the worst-case scenario 2035 noise levels. SoundPLAN is a three-dimensional ray-tracing computer modeling program. Calculations in SoundPLAN accounted for the source of noise (traffic), the frequency spectra of the noise source, and the topography of the area. Posted traffic speed were used for each roadway. At a distance of 75 feet from the centerline of each roadway, the future exterior noise levels would be 65 dBA L_{dn} along DePaul Drive, 67 dBA L_{dn} along Mission View Road, and 67 dBA L_{dn} along Half Road.

Future Exterior Noise Environment

Policy SSI-8.1 and Table SSI-1 of the City's General Plan states that noise levels at outdoor use areas of residential land uses should be maintained at or below 60 dBA L_{dn} to be considered normally acceptable with the noise environment. The exterior noise standard would be applied at common outdoor use areas and private backyards, but the exterior noise standard would not be applied at small private decks or balconies that may be proposed by the project. For neighborhood parks and playgrounds, the exterior noise standard is 70 dBA L_{dn}.

The site plan indicates that the single-family detached homes along the eastern and southern boundaries of the project site and the duplexes located on the interior of the site would have privacy fences or barrier walls surrounding the private backyards. Each privacy fence was assumed to be continuous from grade to top, with no cracks or gaps, and be constructed from materials having a minimum surface density of three lbs/ft^2. While a height was not specified in the site plan, conservative heights of 6 feet were assumed for this analysis. These privacy fences were included as inputs to the SoundPLAN model, along with the proposed residential buildings.

The site plan shows several neighborhood parks and playground uses: a basketball court and activity area just east of the court along the western boundary, two smaller open space areas and a seating area along the northern boundary, an open space in the southeastern corner, and an open space and playground at the center of the site. A receptor was positioned at the center of each of these spaces. Along the western boundary, future exterior noise levels at the basketball court and activity area would be 66 to 67 dBA L_{dn}. The two smaller open space areas and the seating area along the northern boundary would be partially shielded from surrounding traffic noise by intervening project buildings. At the center of these spaces, the future exterior noise levels would range from below 60 to 62 dBA L_{dn}. The open space at the southeastern corner of the project site would have direct line-of-sight to traffic noise along both Mission View Drive and Half Road, with future exterior noise levels up to 70 dBA L_{dn} at the center of the space. The open space and playground located at the center of the project site would be partially shielded from the surrounding project buildings. At the center of these spaces, the future exterior noise levels would be 61 dBA L_{dn}. All neighborhood parks and playground uses proposed by the project would meet the City's exterior noise thresholds and would not require additional attenuation.

The backyards of the single-family detached homes located adjacent to the surrounding roadways would have the most exposure to traffic noise. Due to the orientation of the residences, there would be additional attenuation from the buildings at most of the backyards; however, some backyards

would be facing the roadways, such as units 55 and 56 in the southwestern corner of the project site. With a 6-foot privacy fence, the future exterior noise levels at the centers of these backyards would be 65 dBA L_{dn}. The backyards of units 43 through 53, which are located along the southern boundary would have future exterior noise levels at or below 60 dBA L_{dn}, assuming privacy fences of 6 feet tall. The backyards of units 41 and 42 would also have less shielding. At the centers of these backyards, the future exterior noise levels would be 61 and 60 dBA L_{dn}, respectively. Along the eastern boundary, the backyards of units 1 through 40 would be approximately 95 to 145 feet from the centerline of Mission View Drive with partial shielding from the residences and the privacy fences. At these distances and with the partial shielding, future exterior noise levels would be at or below 60 dBA L_{dn}.

All duplexes are located along the interior of the site. The backyards of these units would be surrounded by privacy fences, as well as the surrounding residential structures. With the partial shielding and location of these units, the future exterior noise levels at the center of these backyards would be at or below 60 dBA L_{dn}.

The three-story condominiums are attached buildings along the western boundary of the project site. The orientation of these buildings shows garage access on one side of the building and the front door access on the other. While there is open area between the buildings, these open spaces would be the location of the front door access walkways and would not be considered common outdoor use areas subject to the exterior noise thresholds established by the City. These buildings would not include outdoor use areas.

At the center of the project, there is also a common use pool area. While the site plan does show the pool area to include a fence surrounding the space, this fence is not assumed to be solid and would not provide attenuation. At the center of this outdoor use area, the future exterior noise levels would be 61 dBA L_{dn}.

The proposed neighborhood parks and playground areas would be compatible with the City's noise thresholds. With the inclusion of 6-foot privacy fences, the backyards for the single-family detached units would be compatible with the City's noise thresholds for all units except 41, 55, and 56. The backyards of the duplex units would be compatible with the City's thresholds. The exterior noise levels at the common use pool would exceed the City's 60 dBA L_{dn} standard. Backyards of units 41, 55, and 56 and the common use pool area would require noise control measures to meet the 60 dBA L_{dn} threshold. Alternatively, the City could permit the project to be constructed without additional attenuation under a conditionally acceptable condition. The backyards of the three units and the pool area at which the normally threshold is exceeded would meet the conditionally acceptable threshold established in the City's General Plan. Since the majority of the outdoor use areas at the project site do meet the normally acceptable threshold, the City could provide conditionally acceptable permission for the project.

Recommended Measures to Reduce Exterior Noise Levels

Methods available to reduce exterior noise levels include site planning alternatives (e.g., increased setbacks and using the proposed buildings as noise barriers), the construction of traditional noise barriers, or a combination of the above. For the proposed project, orienting residential units 41,

55, and 56 to face the opposite direction would help to provide additional shielding by project buildings. This would further reduce exterior noise levels. Assuming this option is not feasible, the optimal solution would be to construct privacy fences taller than 6 feet.

Eight-foot tall privacy fences were modeled in SoundPLAN for the backyards of units 41, 55, and 56. At unit 41, the 8-foot tall fence would reduce exterior noise levels to at or below 60 dBA L_{dn}. However, the 8-foot tall fence would reduce exterior noise levels to 62 dBA L_{dn} at units 55 and 56, which would still exceed the City's threshold of 60 dBA L_{dn}. Assuming a privacy fence of 10-feet tall, the exterior noise levels at units 55 and 56 would be reduced to 60 dBA L_{dn}. Therefore, the backyard fences at unit 41 would need to be a minimum height of 8 feet to meet the City's threshold, and the backyard fences at units 55 and 56 would need to be a minimum height of 10 feet to meet the City's threshold.

For the pool area, positioning additional project buildings to the west of the outdoor use area would provide additional attenuation, but assuming this would not be feasible, constructing a solid fence or barrier along the western boundary of the pool area (or completely surrounding the pool area) would be recommended to reduce exterior noise levels. The barrier shall be continuous from grade to top, with no cracks or gaps, and be constructed from materials having a minimum surface density of three lbs/ft^2. With a western barrier of minimum height of 5 feet, future exterior noise levels at the pool area would be at or below 60 dBA L_{dn}.

With the implementation of an 8-foot privacy fence at unit 41, a 10-foot privacy fence at units 55 and 56, and a 5-foot western barrier at the pool area, the City's normally acceptable threshold of 60 dBA L_{dn} for residential uses would be achieved at the center of each outdoor use area. The final recommendations shall be confirmed when detailed site plans and grading plans are available.

Future Interior Noise Environment

A noise standard of 45 dBA L_{dn} would apply to residential interiors.

Standard residential construction provides approximately 15 dBA of exterior-to-interior noise reduction, assuming the windows are partially open for ventilation. Standard construction with the windows closed provides approximately 20 to 25 dBA of noise reduction in interior spaces. Where exterior noise levels range from 60 to 65 dBA L_{dn}, the inclusion of adequate forced-air mechanical ventilation is often the method selected to reduce interior noise levels to acceptable levels by closing the windows to control noise. Where noise levels exceed 65 dBA L_{dn}, forced-air mechanical ventilation systems and sound-rated construction methods are normally required. Such methods or materials may include a combination of smaller window and door sizes as a percentage of the total building façade facing the noise source, sound-rated windows and doors, sound-rated exterior wall assemblies, and mechanical ventilation so windows may be kept closed at the occupant's discretion.

The condominium buildings G through W are located along the western boundary of the project site, with western façades ranging from 75 to 100 feet from the centerline of DePaul Drive. At these distances, rooms facing DePaul Drive and US 101 would be exposed to future exterior noise levels ranging from 67 to 72 dBA L_{dn}. The northern and southern façades of these buildings would

be partially shielded by the adjacent buildings. Rooms along these façades would be exposed to future exterior noise levels ranging from 63 to 69 dBA L_{dn}.

Single-family detached residences 55 and 56 are located in the southwestern corner of the project site, adjacent to DePaul Drive and Half Road. While first-floor rooms in the rear of the residence would be partially shielded by the privacy fence, rooms in the upper level and along the other façades of the structure would have direct line-of-sight to the roadways. With setbacks of 55 feet from the centerline of DePaul Drive, rooms along the western façades of residences 55 and 56 would be exposed to future exterior noise levels ranging from 66 to 72 dBA L_{dn}. With a setback of 70 feet from the centerline of Half Road, rooms along the southern façade of residence 56 would be exposed to future exterior noise levels of 69 dBA L_{dn}.

Along the southern boundary of the site, residential units 41 through 54 would have setbacks of about 75 to 170 feet from the centerline of Half Road. The southern façades of the residences adjacent to Half Road would have direct line-of-sight (units 41, 44, 45, 48, 49, 52, and 53), while the buildings set back one row would have partial shielding from the intervening residences (units 42, 43, 46, 47, 50, 51, and 54). The rooms along the southern façades facing Half Road would be exposed to future exterior noise levels of 68 to 69 dBA L_{dn}. Additionally, units 41 and 42 have direct line-of-sight to Mission View Drive, with setbacks of approximately 265 to 275 feet from the centerline of the roadway. Rooms located along the eastern façades of units 41 and 42 would be exposed to future exterior noise levels of 63 to 66 dBA L_{dn}.

The residences along the eastern boundary of the project site (units 1, 4, 5, 8, 9, 12, 13, 16, 17, 20, 21, 24, 25, 28, 29, 32, 33, 36, 37, and 40) have direct line-of-sight to Mission View Drive, while the second row of residences along the eastern boundary (units 2, 3, 6, 7, 10, 11, 14, 15, 18, 19, 22, 23, 26, 27, 30, 31, 34, 35, 38, and 39) would be partially shielded from the roadway by the intervening buildings. The eastern façades of the residences facing Mission View Drive (units 1, 4, 5, 8, 9, 12, 13, 16, 17, 20, 21, 24, 25, 28, 29, 32, 33, 36, 37, and 40) would have setbacks ranging from 75 to 85 feet from the centerline of the roadway. Rooms along these façades would be exposed to future exterior noise levels of 68 to 70 dBA L_{dn}. The second row units would be exposed to future exterior noise levels of 63 to 66 dBA L_{dn}. Additionally, units 39 and 40 have direct line-of-sight to Half Road, with setbacks of approximately 130 to 140 feet from the centerline of Half Road. Rooms located along the southern façades of units 39 and 40 would be exposed to future exterior noise levels of 66 to 67 dBA L_{dn}.

The condominium buildings located along the northern boundary of the site (buildings A, B, E, and F) would have some direct line-of-sight to Half Road and Mission View Drive. The exterior-racing façades of building A would be exposed to future exterior noise levels ranging from 60 to 62 dBA L_{dn}. The exterior-racing façades of buildings B and E would be exposed to future exterior noise levels at or below 60 dBA L_{dn}. The exterior-racing façades of building F would be exposed to future exterior noise levels ranging from below 60 dBA L_{dn} along the eastern façade to 67 dBA L_{dn} along the western façade.

Assuming a 15 dBA exterior-to-interior noise reduction, future interior noise levels would be up to 57 dBA L_{dn} along DePaul Drive, up to 54 dBA L_{dn} along Half Road, and up to 55 dBA L_{dn} along

Mission View Drive. These interior noise levels would exceed the 45 dBA L_{dn} threshold and would require noise insulation features.

Noise Insulation Features to Reduce Future Interior Noise Levels

The following noise insulation features shall be incorporated into the proposed project to reduce interior noise levels to 45 dBA L_{dn} or less:

- Preliminary calculations indicate that residential units nearest to DePaul Drive along the western boundary of the project site, adjacent to DePaul Drive (single-family residential units 55 and 56 and condominium units within 150 feet of the centerline of the roadway), would require windows and doors with a minimum rating of 31 STC with adequate forced-air mechanical ventilation to meet the interior noise threshold of 45 dBA L_{dn}. For the condominium units beyond 150 feet, the minimum STC rating for windows and doors would be 28.

- The first row of residential units located along the southern boundary of the project site, adjacent to Half Road (units 41, 44, 45, 48, 49, 52, and 53), would require windows and doors with minimum STC ratings of 30 with the incorporation of suitable forced-air mechanical ventilation to meet the City's 45 dBA L_{dn} threshold. The second row of residences (units 42, 43, 46, 47, 50, 51, and 54) would require the incorporation of suitable forced-air mechanical ventilation with standard construction materials to meet the City's interior noise threshold.

- The first row of residential units located along the eastern boundary of the project site, adjacent to Mission View Drive (units 1, 4, 5, 8, 9, 12, 13, 16, 17, 20, 21, 24, 25, 28, 29, 32, 33, 36, 37, and 40), and the second row residential unit 39 would require windows and doors with minimum STC ratings of 30 with the incorporation of suitable forced-air mechanical ventilation to meet the City's 45 dBA L_{dn} threshold. The second row of residences (units 2, 3, 6, 7, 10, 11, 14, 15, 18, 19, 22, 23, 26, 27, 30, 31, 34, 35, and 38) would require windows and doors with minimum STC ratings of 28 with the incorporation of suitable forced-air mechanical ventilation to meet the City's interior noise threshold.

- Building F along the northern boundary would require windows and doors with minimum STC ratings of 28 with the incorporation of suitable forced-air mechanical ventilation to meet the City's 45 dBA L_{dn} threshold. Buildings A and E along the northern boundary would satisfy the interior noise threshold with the incorporation of suitable forced-air mechanical ventilation and standard construction materials.

- Residential structures on the interior of the site would require a suitable form of forced-air mechanical ventilation, as determined by the local building official, with standard construction materials to achieve the interior noise standards.

The implementation of these noise insulation features would reduce interior noise levels to 45 dBA L_{dn} or less.

NOISE IMPACTS AND MITIGATION MEASURES

Significance Criteria

The following criteria were used to evaluate the significance of environmental noise resulting from the project:

- A significant noise impact would be identified if the project would generate a substantial temporary or permanent noise level increase over ambient noise levels at existing noise-sensitive receptors surrounding the project site and that would exceed applicable noise standards presented in the General Plan or Municipal Code at existing noise-sensitive receptors surrounding the project site.

    - Hourly average noise levels during construction that would exceed 60 dBA L_{eq} at residential land uses or exceed 70 dBA L_{eq} at commercial land uses and exceed the ambient noise environment by at least 5 dBA L_{eq} for a period of more than one year would constitute a significant temporary noise increase in the project vicinity.

    - A significant permanent noise level increase would occur if project-generated traffic would result in: a) a noise level increase of more than 3 dBA L_{dn} and the total day-night average noise level exceeding the "normally acceptable" category at an existing noise environment meeting the "normally acceptable" threshold; b) a noise level increase of more than 5 dBA L_{dn} and the total day-night average noise level remains "normally acceptable" at an existing noise environment meeting the "normally acceptable" threshold; c) a noise level increase of more than 3 dBA L_{dn} at a "conditionally acceptable" existing noise environment; or d) a noise level increase of more than 3 dBA L_{dn} at an "unacceptable" existing noise environment.

    - A significant noise impact would be identified if the project would expose persons to or generate noise levels that would exceed applicable noise standards presented in the General Plan or Municipal Code.

- A significant impact would be identified if the construction of the project would generate excessive vibration levels surrounding receptors. Groundborne vibration levels exceeding 0.3 in/sec PPV would have the potential to result in cosmetic damage to normal buildings.

- A significant noise impact would be identified if the project would expose people residing or working in the project area to excessive noise levels.

Impact 1a: **Temporary Construction Noise.** Existing noise-sensitive land uses would be exposed to a temporary increase in ambient noise levels due to project construction activities. The incorporation of construction best management practices as part of the project's Noise Control Plan would result in a **less-than-significant** temporary noise impact.

Noise impacts resulting from construction depend upon the noise generated by various pieces of construction equipment, the timing and duration of noise-generating activities, and the distance

between construction noise sources and noise-sensitive areas. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (e.g., early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise-sensitive land uses, or when construction lasts over extended periods of time. The proposed project would not require pile driving, which can cause excessive noise.

Chapter 8.28 of the City of Morgan Hill's Municipal Code establishes allowable hours of construction between 7:00 a.m. and 8:00 p.m., Monday through Friday, and between the hours of 9:00 a.m. to 6:00 p.m. on Saturday. Construction activities may not occur on Sundays or federal holidays. Construction for the proposed project is anticipated to take place during these allowable hours.

While noise thresholds for temporary construction are not provided in the City's General Plan or Municipal Code, the Fundamentals section of this report provides a threshold of 45 dBA for speech interference indoors. Assuming a 15 dBA exterior-to-interior reduction for standard residential construction and 25 dBA exterior-to-interior reduction for standard commercial, this would correlate to an exterior threshold of 60 dBA L_{eq} at residential land uses and 70 dBA L_{eq} at commercial land uses. Additionally, temporary construction would be annoying to surrounding land uses if the ambient noise environment increased by at least 5 dBA L_{eq} for an extended period of time. Therefore, the temporary construction noise impact would be considered significant if project construction activities produced noise levels exceeding 60 dBA L_{eq} at residential land uses or 70 dBA L_{eq} at commercial land uses and the ambient noise environment by 5 dBA L_{eq} or more for a period longer than one year at surrounding receptors.

For the residences located to the east of the project site, opposite Mission View Drive, and southeast of the site, opposite Mission View Drive and Half Road, daytime ambient noise levels would be represented by ST-1, which was 64 dBA L_{eq}. The ambient noise environment for the existing residences along US 101 to the southwest of the site, opposite Half Road, would be represented by measurements made at LT-2, which ranged from 66 to 71 dBA L_{eq} during daytime hours. LT-1 would represent the ambient noise environment for the medical facility to the north of the project site. The daytime ambient noise levels at these uses would range from 66 to 72 dBA L_{eq}.

The typical range of maximum instantaneous noise levels for the proposed project would be 70 to 90 dBA L_{max} at a distance of 50 feet (see Table 5). Table 6 shows typical hourly average construction-generated noise levels measured at a distance of 50 feet from the center of the site during busy construction periods (e.g., earth moving equipment, impact tools, etc.). As shown in Table 6, typical residential developments generate construction noise levels ranging from 72 to 88 dBA L_{eq} at a distance of 50 feet from the center of the active site. Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of the distance between the source and receptor. Shielding by buildings or terrain often result in lower construction noise levels at distant receptors; however, for purposes of assessing a worst-case scenario, construction noise levels in this report are estimated assuming no attenuation due to intervening buildings.

Construction activities for the proposed project would be completed in stages. During each stage of construction, there would be a different mix of equipment operating, and noise levels would

vary by stage and vary within stages, based on the amount of equipment in operation and the location at which the equipment is operating. Demolition, site preparation, and grading/excavation for the proposed project shall be completed for the entire project site. However, the trenching and exterior and interior building construction shall be completed in three phases, which are identified in Figure 8. Equipment expected to be used in each construction stage are summarized in Table 7, along with the quantity of each piece of equipment. For the purposes of assuming worst-case conditions, all pieces of equipment shown per stage are assumed to be operating simultaneously. Note that the number of excavators proposed in the trenching stages for each phase was 1.5; however, for purposes of worst-case conditions, 2 excavators were assumed for modeling purposes.

In addition to the residential development phases, the proposed project includes the construction of the DePaul Drive extension, which would continue south along the western boundary of the project site, ending in a cul-de-sac just north of Half Road. Table 7 also shows the stages and equipment to be used during the construction of the roadway extension. Note, these stages would overlap with the residential development; however, the construction site for the roadway extension would not be located on the project site and therefore would have different distances to the off-site receptors.

FHWA's Roadway Construction Noise Model (RCNM) was used to calculate the hourly average noise levels for each stage of construction, assuming every piece of equipment would operate simultaneously, which would represent the worst-case scenario. Based on the hourly average noise levels calculated with RCNM, construction noise levels for each construction stage was estimated at a distance of 50 feet from the center of the active construction site and are shown in Table 7. Construction noise levels shown do not assume shielding from potential intervening buildings or temporary or permanent sound walls.

Table 8 summarizes the construction noise levels propagated from the center of the active construction site to the nearest property line of the surrounding land uses, except for the medical center and the high school. Noise levels at these existing land uses were calculated at the nearest noise-sensitive outdoor areas where extensive use would occur. For the stages occurring on the entire project site, the center of the active construction site was positioned at the geometrical center of the entire site, while the center of the active construction site would be positioned at the geometrical center of the specific phase, as shown in Figure 8. The DePaul extension construction source location was positioned at the centerline of the roadway along the alignment nearest to each specific receptor.

Additionally, an offsite sewer line would be constructed as part of the proposed project. This sewer line would be constructed during the grading/excavation phase of the project and would run along the north side of Half Road and the east side of Condit Road, connecting to the existing sewer line at East Main Avenue. Total construction of the sewer line would last 18 days. The only existing residences that would be subject to noise from the construction of the offsite sewer line would be the single-family residences located west of Condit Road near the Half Road intersection, approximately 25 feet or more from the work area. However, due to the close proximity of Highway 101 and the short duration of the sewer line construction, noise levels due to the offsite

sewer construction would not substantially increase over those noise level shown in the tables for the grading/excavation phase of the project.

An alternative construction method, which includes underground water tanks, may potentially be used for this project. This work would be completed by hand, as they are modular systems, during the grading/excavation phase. With this approach, the number of work days for this phase would increase to 18 days, and the total time of construction would increase by 16 days. Additionally, the grading/excavation phase would include one additional excavator. As shown in the table below, this alternative would result in up to a 1 dBA increase during this phase of construction.

TABLE 5 Construction Equipment, 50-foot Noise Emission Limits

Equipment Category	L_{max} Level (dBA)[1,2]	Impact/Continuous
Arc Welder	73	Continuous
Auger Drill Rig	85	Continuous
Backhoe	80	Continuous
Bar Bender	80	Continuous
Boring Jack Power Unit	80	Continuous
Chain Saw	85	Continuous
Compressor[3]	70	Continuous
Compressor (other)	80	Continuous
Concrete Mixer	85	Continuous
Concrete Pump	82	Continuous
Concrete Saw	90	Continuous
Concrete Vibrator	80	Continuous
Crane	85	Continuous
Dozer	85	Continuous
Excavator	85	Continuous
Front End Loader	80	Continuous
Generator	82	Continuous
Generator (25 KVA or less)	70	Continuous
Gradall	85	Continuous
Grader	85	Continuous
Grinder Saw	85	Continuous
Horizontal Boring Hydro Jack	80	Continuous
Hydra Break Ram	90	Impact
Impact Pile Driver	105	Impact
Insitu Soil Sampling Rig	84	Continuous
Jackhammer	85	Impact
Mounted Impact Hammer (hoe ram)	90	Impact
Paver	85	Continuous
Pneumatic Tools	85	Continuous
Pumps	77	Continuous
Rock Drill	85	Continuous
Scraper	85	Continuous
Slurry Trenching Machine	82	Continuous
Soil Mix Drill Rig	80	Continuous
Street Sweeper	80	Continuous
Tractor	84	Continuous
Truck (dump, delivery)	84	Continuous

Equipment Category	L_{max} Level (dBA)[1,2]	Impact/Continuous
Vacuum Excavator Truck (vac-truck)	85	Continuous
Vibratory Compactor	80	Continuous
Vibratory Pile Driver	95	Continuous
All other equipment with engines larger than 5 HP	85	Continuous

Notes: [1] Measured at 50 feet from the construction equipment, with a "slow" (1 sec.) time constant.

[2] Noise limits apply to total noise emitted from equipment and associated components operating at full power while engaged in its intended operation.

[3]Portable Air Compressor rated at 75 cfm or greater and that operates at greater than 50 psi.

TABLE 6 Typical Ranges of Construction Noise Levels at 50 Feet, L_{eq} (dBA)

	Domestic Housing		Office Building, Hotel, Hospital, School, Public Works		Industrial Parking Garage, Religious Amusement & Recreations, Store, Service Station		Public Works Roads & Highways, Sewers, and Trenches	
	I	II	I	II	I	II	I	II
Ground Clearing	83	83	84	84	84	83	84	84
Excavation	88	75	89	79	89	71	88	78
Foundations	81	81	78	78	77	77	88	88
Erection	81	65	87	75	84	72	79	78
Finishing	88	72	89	75	89	74	84	84

I - All pertinent equipment present at site.
II - Minimum required equipment present at site.

Source: U.S.E.P.A., Legal Compilation on Noise, Vol. 1, p. 2-104, 1973.

FIGURE 8 Construction Phasing for the Proposed Project

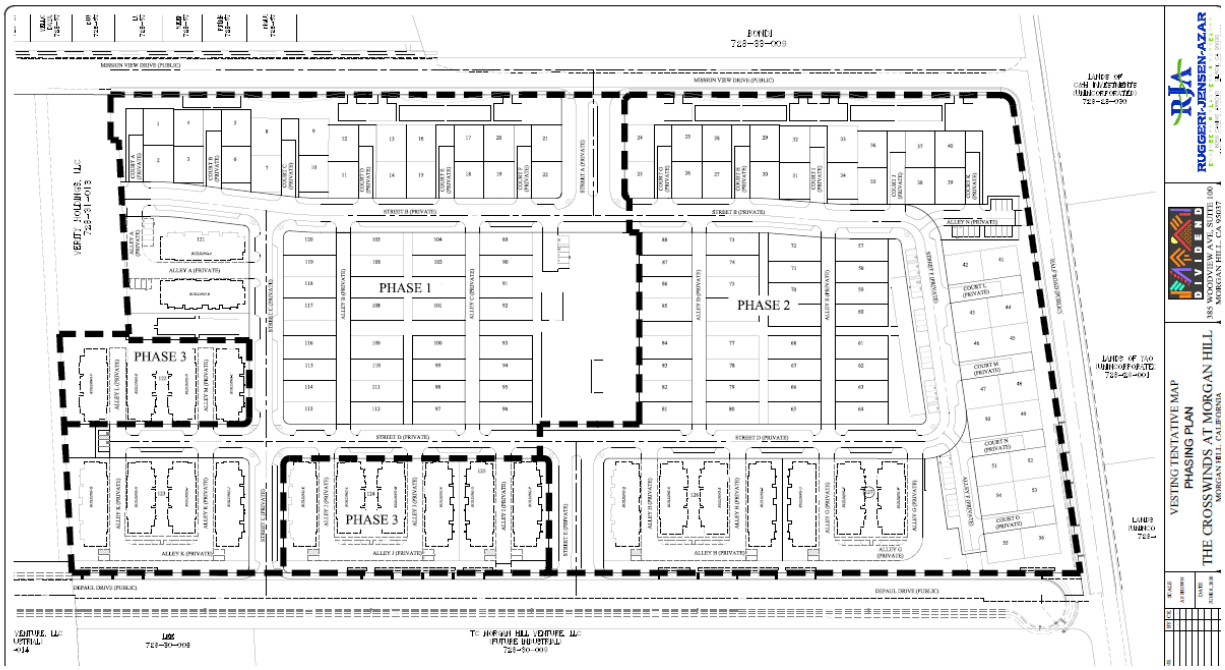


TABLE 7 Estimated Construction Noise Levels during the Construction of the Proposed Residential Development

Stage of Construction	Time Duration	Construction Equipment (Quantity)	Calculated Hourly Average Noise Levels at 50 feet
Demolition (full site)	4 days	Excavator (1)	77 dBA L_{eq}
Site Preparation (full site)	5 days	Grader (1) Scraper (3)	86 dBA L_{eq}
Grading/ Excavating (full site)	15 days 18 days[e]	Excavator (1)[e] Grader (1) Scraper (3) Tractor/Loader/Backhoe (1) Compactor (1)	87 dBA L_{eq}[f]
Trenching – Underground (Phase 1)	35 days	Tractor/Loader/Backhoe (1) Excavator (1.5[a])	83 dBA L_{eq}
Building Exterior (Phase 1)	175 days	Forklift (1) Tractor/Loader/Backhoe (1)	80 to 85 dBA L_{eq}[b]
Building Interior (Phase 1)	40 days	Air Compressor (4) Paving Equipment (1) Roller (1) Grader (1)	86 to 87 dBA L_{eq}[c]
Paving (Phase 1)	16 days	Cement and Mortar Mixer (2) Paver (1) Paving Equipment (1) Roller (1) Tractor/Loader/Backhoe (2) Grader (2)	88 to 91 dBA L_{eq}[d]
Trenching – Underground (Phase 2)	35 days	Tractor/Loader/Backhoe (1) Excavator (1.5[a])	83 dBA L_{eq}

Stage of Construction	Time Duration	Construction Equipment (Quantity)	Calculated Hourly Average Noise Levels at 50 feet
Building Exterior (Phase 2)	175 days	Forklift (1) Tractor/Loader/Backhoe (1)	80 dBA L_{eq}
Building Interior (Phase 2)	40 days	Air Compressor (5) Paving Equipment (1) Roller (1) Grader (1)	86 to 87 dBA L_{eq}[c]
Paving (Phase 2)	16 days	Cement and Mortar Mixer (2) Paver (1) Paving Equipment (1) Roller (1) Tractor/Loader/Backhoe (2) Grader (2)	88 to 91 dBA L_{eq}[d]
Trenching – Underground (Phase 3)	25 days	Tractor/Loader/Backhoe (1) Excavator (1.5[a])	83 dBA L_{eq}
Building Exterior (Phase 3)	75 days	Forklift (1) Tractor/Loader/Backhoe (1)	80 dBA L_{eq}
Building Interior (Phase 3)	40 days	Air Compressor (5) Paving Equipment (1) Roller (1) Grader (1)	86 to 87 dBA L_{eq}[c]
Paving (Phase 3)	12 days	Cement and Mortar Mixer (2) Paver (1) Paving Equipment (1) Roller (1) Tractor/Loader/Backhoe (2) Grader (2)	88 to 91 dBA L_{eq}[d]
Grading/ Excavating (DePaul Drive Extension)	15 days	Grader (1) Scraper (1) Tractor/Loader/Backhoe (1) Compactor (1)	86 dBA L_{eq}
Trenching – Underground (DePaul Drive Extension)	35 days	Tractor/Loader/Backhoe (1) Excavator (1.5[a])	83 dBA L_{eq}
Paving (DePaul Drive Extension)	16 days	Cement and Mortar Mixer (2) Paver (1) Paving Equipment (1) Roller (1) Tractor/Loader/Backhoe (2) Grader (2)	88 dBA L_{eq}

[a] List of equipment provided at the time of this study proposed 1.5 excavators; however, for purposes of modeling the worst-case scenario, 2 excavators were assumed in this analysis.
[b] Range of estimated noise levels represent the equipment for the building exterior stage of Phase 1 alone and during the overlapping period with the trenching stage of Phase 1.
[c] Range of estimated noise levels represent the equipment for the building interior stage alone of each phase and during the overlapping period with the building exterior stage.
[d] Range of estimated noise levels represent the equipment for the paving stage along of each phase and during the overlapping period with the building exterior and interior stages.
[e] Changes to grading/excavation would occur during the construction alternative only.
[f] The additional excavator in the grading/excavation would result in an increase of 1 dBA.

TABLE 8 Estimated Construction Noise Levels at Nearby Land Uses during the Construction of the Proposed Residential Development

Stage of Construction	Calculated Hourly Average Noise Levels, L_{eq} (dBA)									
	East Residences		South Residences		High School		West Residences		Medical Facility	
	Distance	Hourly L_{eq}	Distance	Hourly L_{eq}	Distance	Hourly L_{eq}	Distance	Hourly L_{eq}	Distance	Hourly L_{eq}
Demolition (full site)	635 feet	55 dBA	870 feet	52 dBA	1,635 feet	46 dBA	1,530 feet	47 dBA	1,170 feet	49 dBA
Site Preparation (full site)	635 feet	64 dBA	870 feet	61 dBA	1,635 feet	56 dBA	1,530 feet	56 dBA	1,170 feet	59 dBA
Grading/ Excavating (full site)	635 feet	65 dBA[d]	870 feet	63 dBA[d]	1,635 feet	57 dBA[d]	1,530 feet	58 dBA[d]	1,170 feet	60 dBA[d]
Trenching – Underground (Phase 1)	400 feet	65 dBA	1,215 feet	55 dBA	1,900 feet	51 dBA	1,850 feet	52 dBA	795 feet	59 dBA
Building Exterior (Phase 1)	400 feet	62-67 dBA[a]	1,215 feet	53-57 dBA[a]	1,900 feet	49-53 dBA[a]	1,850 feet	49-53 dBA[a]	795 feet	56-61 dBA[a]
Building Interior (Phase 1)	400 feet	68-69 dBA[b]	1,215 feet	59-60 dBA[b]	1,900 feet	55-56 dBA[b]	1,850 feet	55-56 dBA[b]	795 feet	62-63 dBA[b]
Paving (Phase 1)	400 feet	70-73 dBA[c]	1,215 feet	60-63 dBA[c]	1,900 feet	56-59 dBA[c]	1,850 feet	57-59 dBA[c]	795 feet	64-67 dBA[c]
Trenching – Underground (Phase 2)	920 feet	58 dBA	525 feet	62 dBA	1,270 feet	55 dBA	1,330 feet	54 dBA	1,530 feet	53 dBA
Building Exterior (Phase 2)	920 feet	55 dBA	525 feet	60 dBA	1,270 feet	52 dBA	1,330 feet	52 dBA	1,530 feet	51 dBA
Building Interior (Phase 2)	920 feet	61-62 dBA[b]	525 feet	66-67 dBA[b]	1,270 feet	58-59 dBA[b]	1,330 feet	58-59 dBA[b]	1,530 feet	57-58 dBA[b]
Paving (Phase 2)	920 feet	63-65 dBA[c]	525 feet	68-70 dBA[c]	1,270 feet	60-63 dBA[c]	1,330 feet	60-62 dBA[c]	1,530 feet	58-61 dBA[c]
Trenching – Underground (Phase 3)	675 feet	60 dBA	1,180 feet	55 dBA	1,920 feet	51 dBA	1,565 feet	53 dBA	465 feet	64 dBA

Stage of Construction	Calculated Hourly Average Noise Levels, L_{eq} (dBA)									
	East Residences		South Residences		High School		West Residences		Medical Facility	
	Distance	Hourly L_{eq}	Distance	Hourly L_{eq}	Distance	Hourly L_{eq}	Distance	Hourly L_{eq}	Distance	Hourly L_{eq}
Building Exterior (Phase 3)	675 feet	58 dBA	1,180 feet	53 dBA	1,920 feet	49 dBA	1,565 feet	50 dBA	465 feet	60 dBA
Building Interior (Phase 3)	675 feet	64-65 dBA[b]	1,180 feet	59-60 dBA[b]	1,920 feet	55-56 dBA[b]	1,565 feet	57-58 dBA[b]	465 feet	67-68 dBA[b]
Paving (Phase 3)	675 feet	65-68 dBA[c]	1,180 feet	61-63 dBA[c]	1,920 feet	56-59 dBA[c]	1,565 feet	58-61 dBA[c]	465 feet	69-71 dBA[c]
Grading/ Excavating (DePaul Drive Extension)	935 feet	60 dBA	665 feet	63 dBA	1,380 feet	57 dBA	585 feet	64 dBA	340 feet	69 dBA
Trenching – Underground (DePaul Drive Extension)	935 feet	57 dBA	665 feet	60 dBA	1,380 feet	54 dBA	585 feet	62 dBA	340 feet	66 dBA
Paving (DePaul Drive Extension)	935 feet	63 dBA	665 feet	66 dBA	1,380 feet	59 dBA	585 feet	67 dBA	340 feet	71 dBA

[a] Range of estimated noise levels represent the equipment for the building exterior stage of Phase 1 alone and during the overlapping period with the trenching stage of Phase 1.
[b] Range of estimated noise levels represent the equipment for the building interior stage alone of each phase and during the overlapping period with the building exterior stage.
[c] Range of estimated noise levels represent the equipment for the paving stage along of each phase and during the overlapping period with the building exterior and interior stages of each phase.
[d] The additional excavator in the grading/excavation would result in an increase of 1 dBA.

When construction activities occur near noise-sensitive receptors surrounding the site, construction noise levels would potentially exceed 60 dBA L_{eq} at nearby residences or 70 dBA L_{eq} at nearby commercial uses and exceed existing ambient conditions by 5 dBA L_{eq} or more. According to Table 8, construction noise levels during the majority of project construction would not exceed ambient conditions by more than 5 dBA L_{eq}. Therefore, extended exposure to excessive construction noise at the nearest noise-sensitive receptors would be minimal.

Reasonable regulation of the hours of construction, as well as regulation of the arrival and operation of heavy equipment and the delivery of construction material, are necessary to protect the health and safety of persons, promote the general welfare of the community, and maintain the quality of life. Construction activities will be conducted in accordance with the provisions of the City's General Plan and the Municipal Code, which limits temporary construction work to between the hours of 7:00 a.m. and 8:00 p.m. Monday through Friday and between 9:00 a.m. to 6:00 p.m. on Saturday. Construction is prohibited on Sundays and federal holidays. Further, the City shall require the construction crew to adhere to the following construction best management practices to reduce construction noise levels emanating from the site and minimize disruption and annoyance at existing noise-sensitive receptors in the project vicinity.

Construction Best Management Practices

Develop a construction noise control plan, including, but not limited to, the following construction best management controls:

- Equipment and trucks used for construction shall use the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds);

- Impact tools (e.g., jackhammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools; and

- Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or include other measures.

- Construct temporary noise barriers, where feasible, to screen stationary noise-generating equipment. Temporary noise barrier fences would provide a 5 dBA noise reduction if the noise barrier interrupts the line-of-sight between the noise source and receptor and if the barrier is constructed in a manner that eliminates any cracks or gaps.

- Unnecessary idling of internal combustion engines should be strictly prohibited.

- Construction staging areas shall be established at locations that will create the greatest distance between the construction-related noise sources and noise-sensitive receptors nearest the project site during all project construction. Locate material stockpiles, as well as maintenance/equipment staging and parking areas, as far as feasible from residential receptors.

- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.

- Where feasible, temporary power service from local utility companies should be used instead of portable generators.

- Locate cranes, if used, as far from adjoining noise-sensitive receptors as possible.

- During final grading, substitute graders for bulldozers, where feasible. Wheeled heavy equipment are quieter than track equipment and should be used where feasible.

- Substitute nail guns for manual hammering, where feasible.

- Avoid the use of circular saws, miter/chop saws, and radial arm saws near the adjoining noise-sensitive receptors. Where feasible, shield saws with a solid screen with material having a minimum surface density of 2 lbs/ft^2 (e.g., such as ¾" plywood).

- Maintain smooth vehicle pathways for trucks and equipment accessing the site, and avoid local residential neighborhoods as much as possible.

- During interior construction, the exterior windows facing noise-sensitive receptors should be closed.

- During interior construction, locate noise-generating equipment within the building to break the line-of-sight to the adjoining receptors.

- The contractor shall prepare a detailed construction schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.

- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler, etc.) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

The implementation of the reasonable and feasible controls outlined above would reduce construction noise levels emanating from the site, minimizing disruption and annoyance. With the implementation of these controls, as well as the Municipal Code limits on allowable construction hours, and considering that construction is temporary, the impact would be reduced to a less-than-significant level.

Mitigation Measure 1a: No further mitigation required.

Impact 1b: **Permanent Noise Level Increase.** The proposed project would not result in a substantial permanent noise level increase due to project-generated traffic at the existing noise-sensitive land uses in the project vicinity. This is a **less-than-significant** impact.

A significant permanent noise increase would occur if the project would substantially increase noise levels at existing sensitive receptors in the project vicinity. A substantial increase would occur if: a) the noise level increase is 5 dBA L_{dn} or greater, with a future noise level of less than 60 dBA L_{dn} at residences; or b) the noise level increase is 3 dBA L_{dn} or greater, with a future noise level of 60 dBA L_{dn} or greater at residences. According to the 2035 noise contours included in the Morgan Hill 2035 Draft Environmental Impact Report,[2] the surrounding residences would have future noise levels exceeding 60 dBA L_{dn}. Therefore, a significant impact would occur if traffic due to the proposed project would permanently increase ambient levels by 3 dBA L_{dn}. For reference, a 3 dBA L_{dn} noise increase would be expected if the project would double existing traffic volumes along a roadway.

The traffic study completed for the proposed project included peak hour turning movements for 13 intersections in the project vicinity. When the existing plus project scenario is compared to the existing scenario, the noise level increase due to the proposed project is calculated to be 1 dBA L_{dn} or less along every roadway segment in the project vicinity. Therefore, the project would not result in a noise level increase 3 dBA L_{dn} or more. The project-generated traffic noise would not result in a substantial, permanent noise level increase at noise-sensitive receptors. This would be a less-than-significant impact.

Mitigation Measure 1b: **No mitigation required.**

Impact 1c: **Noise Levels in Excess of Standards.** The proposed project is not expected to generate noise in excess of standards established in the City's General Plan and Municipal Code at sensitive receptors surrounding the site. **This would be a less-than-significant**.

Under the City of Morgan Hill's Noise Element and Municipal Code, noise levels produced by the operation of the mechanical equipment would be considered significant if noise levels substantially exceed existing ambient noise levels.

Various mechanical equipment, such as heating, ventilation, and air conditioning (HVAC) units, are typical for residential dwellings. At the time of this study, the type, size, number, and generated noise levels of such units were unknown. Additionally, the locations of potential HVAC units on the project site is unavailable at this time. For purposes of assessing the worst-case scenario, each residential unit is assumed to have an HVAC system, and the units would be located along the exterior building façades at the rear of side of the structures.

Typical noise levels produced by residential HVAC units would range from 53 to 63 dBA at 3 feet during operation. These types of units typically cycle on and off continuously during daytime and nighttime hours. Therefore, multiple units clustered in the same general vicinity are usually

[2] Placeworks, "Morgan Hill 2035 DEIR," January 13, 2016.

operating simultaneously at any given time. The detached single-family residences are located along the eastern boundary of the project site in clusters of two or four units. Assuming up to three HVAC units would operate simultaneously at any given time for a 24-hour period, the estimated day-night average noise level at 3 feet would be up to 74 dBA DNL. The property lines of the nearest existing residences located east of the project site, opposite Mission View Drive, are approximately 120 feet from the nearest façades of the proposed single-family units along the eastern project site. At this distance, the hourly average noise levels would be up to 36 dBA L_{eq}, assuming up to three units operating simultaneously, and the day-night average noise level would be 58 dBA L_{dn}. According to ST-1 and the existing noise contours shown in the City's General Plan, the ambient noise levels at these residences would be 64 dBA L_{eq} and would exceed 60 dBA L_{dn}. Therefore, the proposed project would not exceed ambient noise levels at the residences to the east of the site.

All other surrounding land uses would be 150 feet or more from the nearest proposed residential building façades on the project site. Therefore, mechanical equipment noise generated at the site would be below 36 dBA L_{eq} on an hourly basis and would be below 58 dBA L_{dn} on a 24-hour basis. Ambient noise levels at existing noise-sensitive uses surrounding the site would not be exceeded by project-generated noise at the project site. This would be a less-than-significant impact.

Mitigation Measure 1c: None required.

Impact 2: Exposure to Excessive Groundborne Vibration. Construction-related vibration is not expected to exceed 0.3 in/sec PPV at existing buildings surrounding the project site. This is a **less-than-significant** impact.

The construction of the project may generate perceptible vibration when heavy equipment or impact tools (e.g. jackhammers, hoe rams) are used. While equipment and phasing information was not available at the time of this study, the proposed project is not expected to require pile driving, which can cause excessive vibration.

The California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for buildings structurally sound and designed to modern engineering standards, which typically consist of buildings constructed since the 1990s. Conservative vibration limits of 0.3 in/sec PPV has been used for buildings that are found to be structurally sound but where structural damage is a major concern (see Table 3 above for further explanation). For historical buildings or buildings that are documented to be structurally weakened, a cautious limit of 0.08 in/sec PPV is often used to provide the highest level of protection. No historical buildings or buildings that are documented to be structurally weakened adjoin the project site. For the purposes of this study, groundborne vibration levels exceeding the conservative 0.3 in/sec PPV limit at the existing residential and commercial buildings surrounding the site would have the potential to result in a significant vibration impact.

Table 9 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet. Project construction activities, such as drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles,

compactors, etc.), may generate substantial vibration in the immediate vicinity. Jackhammers typically generate vibration levels of 0.035 in/sec PPV, and drilling typically generates vibration levels of 0.09 in/sec PPV at a distance of 25 feet. Vibration levels would vary depending on soil conditions, construction methods, and equipment used. Table 9 also summarizes the distances to the 0.08 in/sec PPV threshold for historical buildings and to the 0.3 in/sec PPV threshold for all other buildings.

TABLE 9 Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 ft. (in/sec)	Minimum Distance to Meet 0.08 in/sec PPV (feet)	Minimum Distance to Meet 0.3 in/sec PPV (feet)
Clam shovel drop		0.202	58	18
Hydromill (slurry wall)	in soil	0.008	3	1
	in rock	0.017	6	2
Vibratory Roller		0.210	60	19
Hoe Ram		0.089	28	9
Large bulldozer		0.089	28	9
Caisson drilling		0.089	28	9
Loaded trucks		0.076	24	8
Jackhammer		0.035	12	4
Small bulldozer		0.003	1	<1

Source: Transit Noise and Vibration Impact Assessment Manual, Federal Transit Administration, Office of Planning and Environment, U.S. Department of Transportation, FTA Report No. 0123, September 2018, as modified by Illingworth & Rodkin, Inc., January 2021.

Worst-case scenario vibration levels were estimated at the nearest building façades surrounding the site, as measured from project's boundaries. The nearest buildings surrounding the site range from 65 to 425 feet from the nearest boundaries of the project site. At these distances, construction vibration levels would be at or below 0.073 in/sec PPV for all potential equipment used at the site. The proposed offsite sewer line construction work would be about 75 feet from the nearest residential buildings, which would expose the buildings to vibration levels up to 0.063 in/sec PPV. The 0.3 in/sec PPV threshold would not be exceeded during construction activities at the project site. This would be a less-than-significant impact.

Mitigation Measure 2: None required.

Impact 3: Excessive Aircraft Noise. The project site is located more than four miles from a public airport or private-use airport and would not expose people residing or working in the project area to excessive noise levels. This is a **less-than-significant** impact.

San Martin Airport is a public non-towered airport located about 4.87 miles southeast of the project site. According to the Santa Clara County Airport Land Use Commission (ALUC)'s Comprehensive Land Use Plan for this airport, [3] the project site lies outside the 2022 55 dBA CNEL noise contour. While aircraft flyovers would at times be audible at project site, noise levels

[3] Santa Clara County Airport Land Use Commission, "Comprehensive Land Use Plan Santa Clara County: South County Airport," September 10, 2008 and amended November 16, 2016.

due to aircraft would not result in future exterior noise levels of 60 dBA L_{dn}/CNEL or more, and therefore, both the exterior and interior noise levels resulting from aircraft would be compatible with the proposed project.

Norman Y. Mineta San José International Airport is approximately 20 miles north of the project site. The project site lies outside the 2027 noise contour figure for the airport, which is shown in the airport's Master Plan.[4] The proposed project would be compatible with the aircraft noise generated from the nearest airports. This is a less-than-significant impact.

Mitigation Measure 3: **None required.**

[4]City of San José, "Norman Y. Mineta San José International Airport Master Plan Update Project: Eighth Addendum to the Environmental Impact Report," February 10, 2010.

Cumulative Impacts

Cumulative noise impacts would include either cumulative traffic noise increases under future conditions or temporary construction noise from cumulative construction projects.

A significant cumulative traffic noise increase would occur if two criteria are met: 1) if the cumulative traffic noise level increase was 3 dBA L_{dn} or greater for future levels exceeding 60 dBA L_{dn} or was 5 dBA L_{dn} or greater for future levels at or below 60 dBA L_{dn}; and 2) if the project would make a "cumulatively considerable" contribution to the overall traffic noise increase. A "cumulatively considerable" contribution would be defined as an increase of 1 dBA L_{dn} or more attributable solely to the proposed project.

The traffic study prepared for the proposed project included traffic scenarios for cumulative 2035 (no project) and cumulative 2035 plus project conditions. Cumulative traffic noise level increases were calculated by comparing the traffic volumes of both cumulative scenarios to existing traffic volumes.

A 3 dBA L_{dn} or more noise level increase was calculated for both cumulative scenarios (with and without the proposed project) along the following roadway segments: Mission View Drive, south of Cochrane Road; Mission View Drive, north and south of Avenida De Los Padres; Mission View Drive, north of Half Road; Half Road, west of Mission View Drive; Condit Road, north of Main Avenue; and Diana Avenue, west of Condit Road. Since a 3 dBA L_{dn} or more increase was calculated for both cumulative scenarios, the project's contribution to the overall noise level increase would be less than 1 dBA L_{dn}. All other roadway segments would result in a noise level increase of 2 dBA L_{dn} or less. Therefore, the proposed project would not result in a cumulative traffic noise increase under the proposed project.

There are no known approved projects surrounding the project site that would be constructed during the same timeframe as the proposed project. Therefore, the noise-sensitive receptors surrounding the project site would not be subject to cumulative construction impacts.

Appendix G

Transportation Impact Analysis

HEXAGON TRANSPORTATION CONSULTANTS, INC.

The Crosswinds Residential Development

Traffic Impact Analysis

Prepared for:

City of Morgan Hill

October 7, 2021

Hexagon Transportation Consultants, Inc.
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Hexagon Job Number: 20RD15
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Executive Summary

This report presents the results of the transportation analysis (TA) conducted for the proposed Crosswinds residential development in Morgan Hill, California. The 30.5-acre project site is currently vacant and is generally bounded by Half Road to the south, Mission View Drive to the east, future extension of DePaul Drive to the west, and Avenida De Los Padres to the north. The project as proposed will consist of a total of 269 residential units comprised of 149 condos, 56 detached single-family, and 64 duet units. The project would include the extension of DePaul Drive to the south with termination as a cul-de-sac just north of Half Road. Access to the project site would be provided via a full access driveway along Mission View Drive and two full access driveways along the future DePaul Drive extension.

Transportation Analysis Scope

The TA consists of a California Environmental Quality Act (CEQA) required vehicle-miles-traveled (VMT) analysis and a supplemental traffic operations analysis that demonstrates the project's consistency with the *Morgan Hill 2035 General Plan* goals and policies.

CEQA Transportation Analysis Scope

The CEQA VMT impact analysis was completed using the Valley Transportation Authority's (VTA) VMT tool. The City of Morgan Hill is currently developing the framework for new transportation policies based on VMT as the primary measure of transportation impacts. The new policies will replace the City's current transportation policies that are based on levels of service per the Morgan Hill 2035 General Plan. However, since the City has not formally adopted its own city-specific VMT policies, this study utilizes VMT analysis methodology and impact thresholds recommended in the Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018.

Traffic Operations Analysis Scope

The current General Plan, *Morgan Hill 2035 General Plan,* adopted in July 2016 uses Level of Service (LOS) as its primary metric for the evaluation of the projected operation of the City's roadway system. Therefore, a traffic operations analysis based upon peak hour intersection level of service analysis is included for consistency with the General Plan goals and policies. The traffic operations analysis supplements the CEQA required VMT analysis. However, the determination of project impacts per CEQA requirements is based solely on the VMT analysis.

CEQA VMT Analysis

The results of the VMT analysis using the VTA's VMT Evaluation Tool indicate that the existing VMT for residential uses in the project vicinity is 30.46 VMT per capita.

The results also indicate that the project is projected to generate VMT per capita (27.41), which would exceed the OPR's recommended impact threshold of 20.94 VMT per capita. Therefore, the project would result in an impact on the transportation system based on OPR's VMT impact criteria.

VMT Impacts and Mitigation

Using OPR's impact thresholds, the project would need to implement VMT reduction measures to achieve a 24% reduction (27.41 to 20.94) in its VMT per capita for the proposed residential uses to reduce its impact to less than significant levels.

OPR's recommended 15% below existing VMT impact threshold encourages developments in transit-rich, highly mixed-use areas to implement design features and trip reduction measures to take advantage of existing multi-model infrastructure and land use mixes in reducing trip making and/or trip lengths. However, many communities such as Morgan Hill have very limited multi-modal transportation infrastructure and lack a mix of complementary land uses. The lack of employment in these communities along with minimal transit options results in a greater number and longer commute trips. Therefore, it is highly unlikely that developments like the proposed project in these cities can achieve OPR's recommended 15% reduction in VMT. Therefore, absent of the City adopting its own City-specific VMT policies and impact thresholds, the proposed project's VMT impact must be deemed significant and unavoidable.

Per its condition of approval, the City will however require that the project implement and/or incorporate in its design the following VMT reduction measures to encourage the use of multi-modal travel and reduce the number and length of vehicular trips:

1. The management entity/HOA shall provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director prior to issuance of occupancy.

2. The project must improve the surrounding pedestrian network by including sidewalks which terminate at the common property line, allowing for connections to the adjacent property in the event there is development in the future. Continuous sidewalks are proposed along the project frontages. The proposed frontage improvements along Mission View Drive, Half Road, and De Paul Drive include sidewalk improvements; each of the street sections will be wide enough to accommodate future bicycle lanes.

3. The proposed development will include 64 bicycle parking spaces.

Traffic Operations Analysis

Project Trip Generation

Based on the recommended rates for single-family detached housing (Land Use #210) and the size of the proposed project, it is estimated that the proposed project would generate 2,539 daily trips, with 199

trips (50 inbound and 149 outbound) occurring during the AM peak hour and 266 trips (168 inbound and 98 outbound) occurring during the PM peak hour.

Intersection Operations Analyses

The results of the traffic operations analysis indicate that based on the City's operating standards, the proposed project would have an adverse effect on intersection operations at the following four study intersections under Year 2030 Cumulative with project conditions.

6. Mission View Drive and Cochrane Road (AM & PM Peak Hours)
8. Mission View Drive and Half Road (unsignalized) (AM & PM Peak Hours)
9. Condit Road and Main Avenue (PM Peak Hour)
10. Condit Road and Diana Avenue (unsignalized) (AM Peak Hour)

Adverse Intersection Operations Effects and Potential Improvements

The adverse intersection operation effects identified under Year 2030 Cumulative with project conditions are discussed below. Included are descriptions of the adverse effects on intersection operations and potential improvement measures that may be included as part of the project's Conditions of Approval. However, the identified roadway operations and improvements are not required or considered project impacts per CEQA guidelines.

6. Cochrane Road and Mission View Drive

This intersection is projected to operate at an unacceptable LOS F and E during the AM and PM peak hours, respectively, under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project would cause the critical delay to increase by more than four seconds and the volume-to-capacity ratio (V/C) to increase by more than 0.01 during both the AM and PM peak hours. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The addition of a second northbound left-turn lane on Mission View Drive and a cycle length adjustment would be necessary to improve intersection operations. The addition of the second northbound left-turn lane will require lane striping and signal modification but will fit within the existing curb-to-curb pavement width on Mission View Drive. Implementation of this improvement would improve the intersection's level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project conditions.

8. Mission View Drive and Half Road

This intersection is projected to operate at an unacceptable LOS F during the PM peak hour under Year 2030 Cumulative without and with project conditions. Furthermore, this intersection is projected to operate at an acceptable LOS D during the AM peak hour under Year 2030 Cumulative without conditions and degrade to LOS E with the addition of project traffic. Additionally, the peak-hour traffic signal warrant checks indicate that the intersection would have traffic volumes that meet thresholds that warrant signalization during both the AM and PM peak hours under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The signalization of the intersection would be necessary to improve intersection operations. Implementation of a traffic signal at this location would improve the level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project. This intersection is

under the jurisdiction of both the City of Morgan Hill and Santa Clara County. Therefore, implementation of the recommended improvements will require City and County approval.

9. Main Avenue and Condit Road

This intersection is projected to operate at an unacceptable LOS F during the PM peak hour under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project would cause the critical delay to increase by more than four seconds and the volume-to-capacity ratio (V/C) to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The addition of an exclusive southbound right-turn lane on Condit Road would be necessary to improve intersection operations. The addition of the right-turn lane will require signal modifications and lane striping on the southbound approach. Implementation of this improvement would improve the intersection's level of service to LOS D during the PM peak hour under Year 2030 Cumulative with project conditions. This intersection is under the jurisdiction of both the City of Morgan Hill and Santa Clara County. Therefore, implementation of the recommended improvements will require City and County approval.

10. Condit Road and Diana Avenue

This intersection is projected to operate at an unacceptable LOS E during the AM peak hour under Year 2030 Cumulative without and with project conditions. Additionally, the peak-hour traffic signal warrant checks indicate that the intersection would have traffic volumes that meet thresholds that warrant signalization during the AM peak hour under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The signalization of the intersection would be necessary to improve intersection operations. Implementation of this improvement would improve the intersection's level of service to LOS B during the AM peak hour under Year 2030 Cumulative with project conditions.

Freeway Segment Level of Service Analysis

The results of the freeway segment level of service analysis indicate that ten directional mixed-flow lanes and one directional HOV lane on the freeway segments analyzed are projected to operate at an unacceptable LOS F during at least one peak hour under existing conditions and would continue to operate at LOS F conditions with the addition of traffic due to proposed project.

Improvement of freeway segment operations would require freeway widening to construct additional through lanes, thereby increasing freeway capacity. VTA's Valley Transportation Plan (VTP) 2040 identifies freeway express lane projects along US 101 between Cochrane Road and Whipple Avenue. The planned improvements consist of the conversion of the existing HOV lane to an express lane and the construction of a second express lane in each direction on US 101. These improvements would increase the capacity of the freeway and help to address the deficiency in freeway operations. However, it is not feasible for an individual development project to bear responsibility for implementing such extensive transportation system improvements due to constraints in the acquisition and cost of right-of-way.

Other Transportation Issues

Site Access

The project would include the extension of DePaul Drive to the south with termination as a cul-de-sac just north of Half Road. Access to the project site would be provided via a full access driveway along Mission View Drive and two full access driveways along the DePaul Drive extension.

On-Site Circulation

An internal private street network would provide access to each of the residential units from the proposed entrances along Mission View Drive and DePaul Drive. Most of the streets that front homes include on-street parallel parking. The internal streets would provide continuous access to each area of residential units.

Travel way on street is typically a minimum of 26 feet. The travel way on the internal streets is shown to be at least 20 feet wide. The narrower travel width will provide adequate width for two-way travel on each of the streets and will promote reduced travel speeds within the site. However, the straight nature of the internal roadways could result in drivers traveling at greater speeds than recommended. Therefore, it may be desirable to implement speed-reducing measures along the internal roadways. These measures could include the installation of speed bumps/humps along the internal roadways and/or bulb-outs at intersections and mid-block.

The project site plan shows sidewalks along the project's frontages along Mission View Drive and DePaul Drive and the internal street network on-site. However, there are no sidewalks provided along the west side of Mission View Drive between the project site and Cochrane Road. In conjunction with the existing sidewalks along the east side of Mission View Drive, the proposed sidewalks on Mission View Drive along the project frontage would provide a connection between the project site and bus stops along Mission View Drive and pedestrian destinations along Cochrane Road. There also are no sidewalks along either side of DePaul Drive between the project site and Cochrane Road. Therefore, there will be no sidewalk connection between the project site and Cochrane Road.

The project site should be designed following City of Morgan Hill design standards and provide adequate width and turn-radii at and along all drive/parking aisles to allow for two-way circulation and adequate circulation of larger vehicles (such as emergency trucks, garbage truck, and delivery trucks) throughout the project site. Adhering to the City of Morgan Hill standards and requirements, and implementing the above recommendations, the proposed site access points and layout of the surface parking areas would be adequate to accommodate the circulation of both passenger and emergency vehicles.

Emergency Vehicle Access and Circulation

The 20-foot-wide internal roadway would provide emergency vehicles (fire trucks) sufficient space to access each of the residential units on-site. There are several dead-end drive aisles that would not provide sufficient space for emergency vehicles to turn around. However, the dead-ends will be located along short segments of roadways. Thus, vehicles would be able to back out of the roadways.

Intersection Operations Analysis

The queuing analysis also indicates that the maximum vehicle queue for northbound left-turn movement at the Cochrane Road and Mission View Drive intersection currently exceeds the provided turn pocket storage space during the AM and PM peak hours under existing conditions.

The addition of project traffic is not projected to lengthen the projected queue during the AM peak hour. However, the addition of project traffic is projected to lengthen the projected queue by one vehicle or 25 feet during the PM peak hour under existing plus project conditions, which would exceed the existing storage capacity by 75 feet.

Recommendation: The northbound left-turn pocket can be lengthened by 250 feet to accommodate the projected queue during the AM peak hour. However, a second northbound left-turn lane is recommended to improve intersection operations.

Project Driveway Operations

The results of the project driveway operations analysis indicate that all three project driveways are projected to operate at acceptable levels of service (LOS D or better) during each of the peak hours analyzed and to have traffic conditions that fall below the thresholds that warrant signalization. Additionally, the 95th percentile queues at the project driveways are projected to be at most 25 feet.

Recommendation: A center-striped median is currently provided along Mission View Drive north of the project site. The current width of Mission View Drive along the project frontage is not adequate to provide a left-turn pocket into the project driveway. Mission View Drive would need to be widened along its east side, opposite the project frontage, to provide a striped left-turn pocket into the project site. Similarly, left-turn lanes should be striped at the project driveways along DePaul Drive if a center-striped median is planned.

Sight Distance

Based on Caltrans requirements, the available sight distance at the project site driveways on DePaul Drive and Mission View Drive would be adequate.

Recommendation: The site design should ensure design features, in particular, the landscaping and signage along the project site frontage and at the project site driveways, would not interfere with the sight distance at the proposed site driveway.

Parking

Based on Tables 18.72-2 and 18.72-3 of Section 18.72.030 of the Morgan Hill City Code, the project would be required to provide 2 covered parking spaces per residential unit and one guest parking space is required for every four residential units. The project would be required to provide 538 resident and 68 guest parking spaces for the proposed 269 residential units. The project is proposing to provide two covered parking spaces for each residential unit for a total of 538 parking spaces and 271 on-street parking spaces within the internal street network. Therefore, the provided number of parking spaces would satisfy the City's parking requirement.

Transit, Pedestrian, and Bicycle Analysis

The project site is served by Local Route 87 with bus stops along Mission View Drive and Half Road. In addition, Express Route 168 also provides service along Cochrane Road west of US 101. These two bus routes provide a connection to the Morgan Hill Caltrain Station. A conservative mode split in

Morgan Hill would be a three percent transit share. Assuming up to three percent transit mode share for the project equates to no more than six and eight transit riders during the AM and PM peak hours, respectively.

VTA has recommended that a new bus stop for Route 87 be installed along Mission View Drive on the project frontage just south of the project entrance. VTA also has suggested a new bus stop be installed on the northbound side of Mission View Drive if a controlled crosswalk were to be installed at the project entrance along Mission view Drive. However, this analysis showed no need for signal control at the project entrance. It is recommended that the project coordinate with VTA to identify the specific placement of a new bus stop along Mission View Drive and allow for adequate space along its frontage on Mission View to accommodate the installation of a bus stop including wider sidewalks, lighting, landscaping, and passenger pad.

Sidewalks are provided along the east side of Mission View Drive and the north side of Cochrane Road in the immediate project area. However, sidewalks along the south side of Cochrane Road are intermittent, with no sidewalk currently provided between the US 101 northbound ramps and De Paul Drive, and a short segment west of Mission View Drive. The project would provide sidewalks along its entire frontages along Mission View Drive, Half Road, and DePaul Drive and result in a continuous connection to the existing sidewalks on the east side of Mission View Drive to provide a safe connection between the project site and other surrounding land uses in the area. Controlled crossings at the intersections of Cochrane Road with Mission View Drive and DePaul Drive would provide a connection between the project area and retail uses on the north side of Cochrane Road.

Bike lanes are currently provided along the entire lengths of Cochrane Road and Main Avenue. An unpaved bike path, the Madrone Channel Trail, runs along the east side of US 101, between Tennant Avenue and Cochrane Road. It is expected that bicycle trips would comprise no more than one percent of the total project-generated trips. Thus, the project could potentially generate no more than three new bicycle trips during each of the peak hours. The demand generated by the proposed project could be accommodated by the existing bicycle facilities in the vicinity of the project site.

Freeway Ramp Analysis

Freeway On-Ramp Queuing Analysis

The analysis indicates that project traffic would not lengthen the projected 15-minute interval queue lengths at either of the subject Cochrane Road on-ramps under existing plus project conditions. Short vehicle queues, less than 10 vehicles, currently occur at the ramps, however, the queues dissipate during the 15-minute intervals because the demand volume is less than the service rate of the freeway ramp meters.

The volumes on the northbound diagonal on-ramp from westbound Cochrane Road are projected to be greater than the service rate of the ramp meter during the AM peak hour under Year 2030 Cumulative with project conditions. Therefore, queues are projected to develop on the northbound diagonal on-ramp. Trips from the proposed project will result in an increase in the projected queue by two vehicles. However, the projected queues on the metered northbound diagonal on-ramp can be accommodated entirely on the ramp.

Freeway Off-Ramp Queuing Analysis

The results of the analysis show that the 95th percentile queue lengths at each of the US 101 off-ramps to Cochrane Road are projected to be accommodated entirely on the ramps and would not extend back and disrupt the freeway mainline.

1. Introduction

This report presents the results of the Transportation Analysis (TA) conducted for the proposed Crosswinds residential development in Morgan Hill, California. The 30.5-acre project site is currently vacant and is generally bounded by Half Road to the south, Mission View Drive to the east, future extension of DePaul Drive to the west, and Avenida De Los Padres to the north. The project as proposed will consist of a total of 269 residential units comprised of 149 condos, 56 detached single-family, and 64 duet units. The project would include the extension of DePaul Drive to the south with termination as a cul-de-sac just north of Half Road. Access to the project site would be provided via a full access driveway along Mission View Drive and two full access driveways along the future DePaul Drive extension. The project site location and the surrounding study area are shown in Figure 1. The project site plan is shown in Figure 2.

Scope of Study

The TA consists of a California Environmental Quality Act (CEQA) required vehicle-miles-traveled (VMT) analysis and a supplemental traffic operations analysis that demonstrates the project's consistency with the *Morgan Hill 2035 General Plan* goals and policies.

CEQA Transportation Analysis Scope

Historically, traffic impact analysis has focused on the identification of traffic impacts and potential roadway improvements based on delay to relieve traffic congestion that may result due to proposed/planned growth. However, with the adoption of Senate Bill (SB) 743 legislation, public agencies are required (effective July 2020) to base transportation impacts on Vehicle-Miles-Traveled (VMT) rather than level of service that typically uses delay as its metric. The change in measurement is intended to better evaluate the effects on the state's goals for climate change and multi-modal transportation. Therefore, to adhere to the state's legislation, all new development projects are required to analyze transportation impacts using the VMT metric.

The CEQA VMT impact analysis was completed using the Valley Transportation Authority's (VTA) VMT tool. The City of Morgan Hill is currently developing the framework for new transportation policies based on VMT as the primary measure of transportation impacts. The new policies will replace the City's current transportation policies that are based on levels of service per the Morgan Hill 2035 General Plan. However, since the City has not formally adopted its own city-specific VMT policies, this study utilizes VMT analysis methodology and impact thresholds recommended in the Governor's Office of

Figure 1
Site Location and Study Intersections

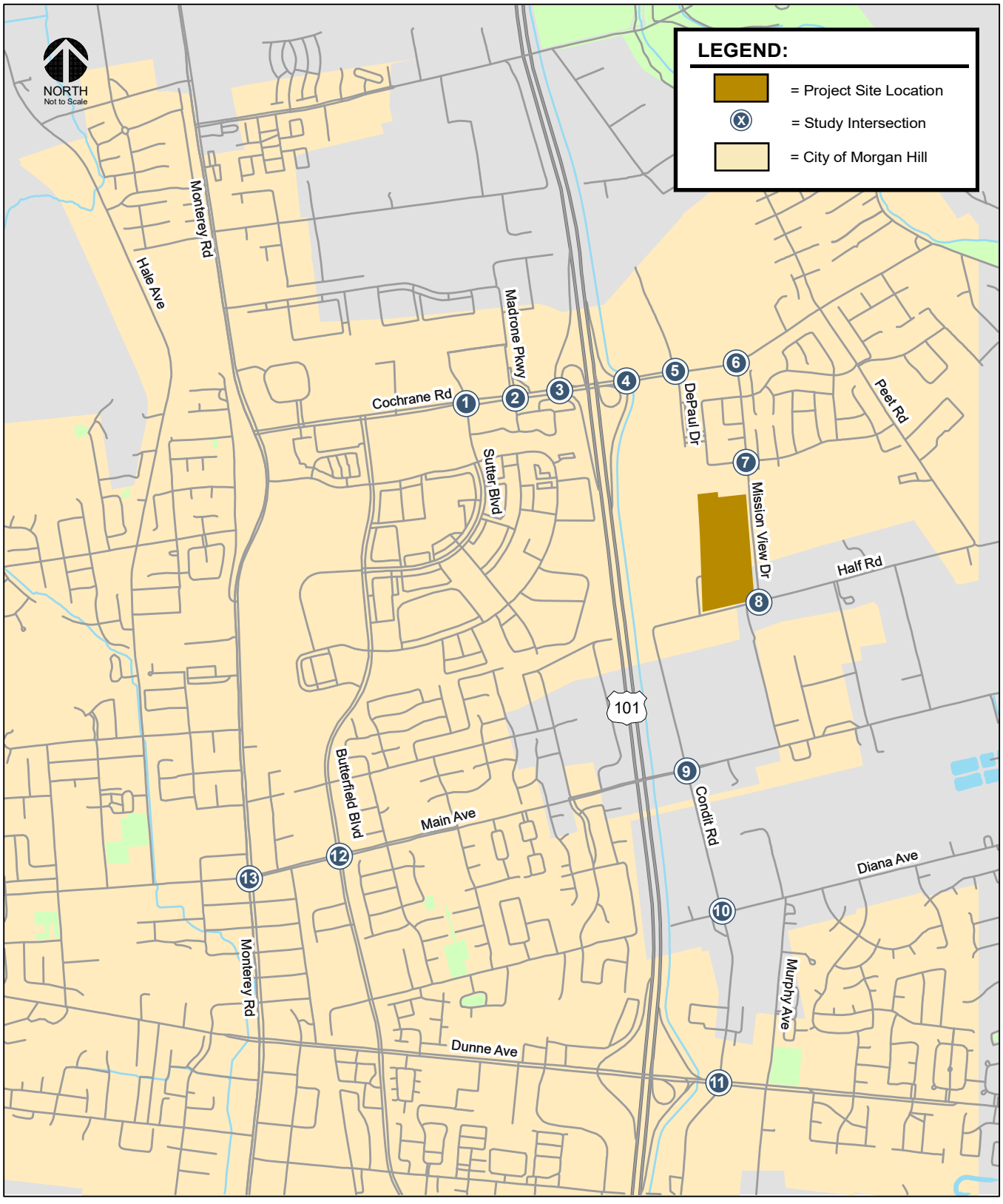
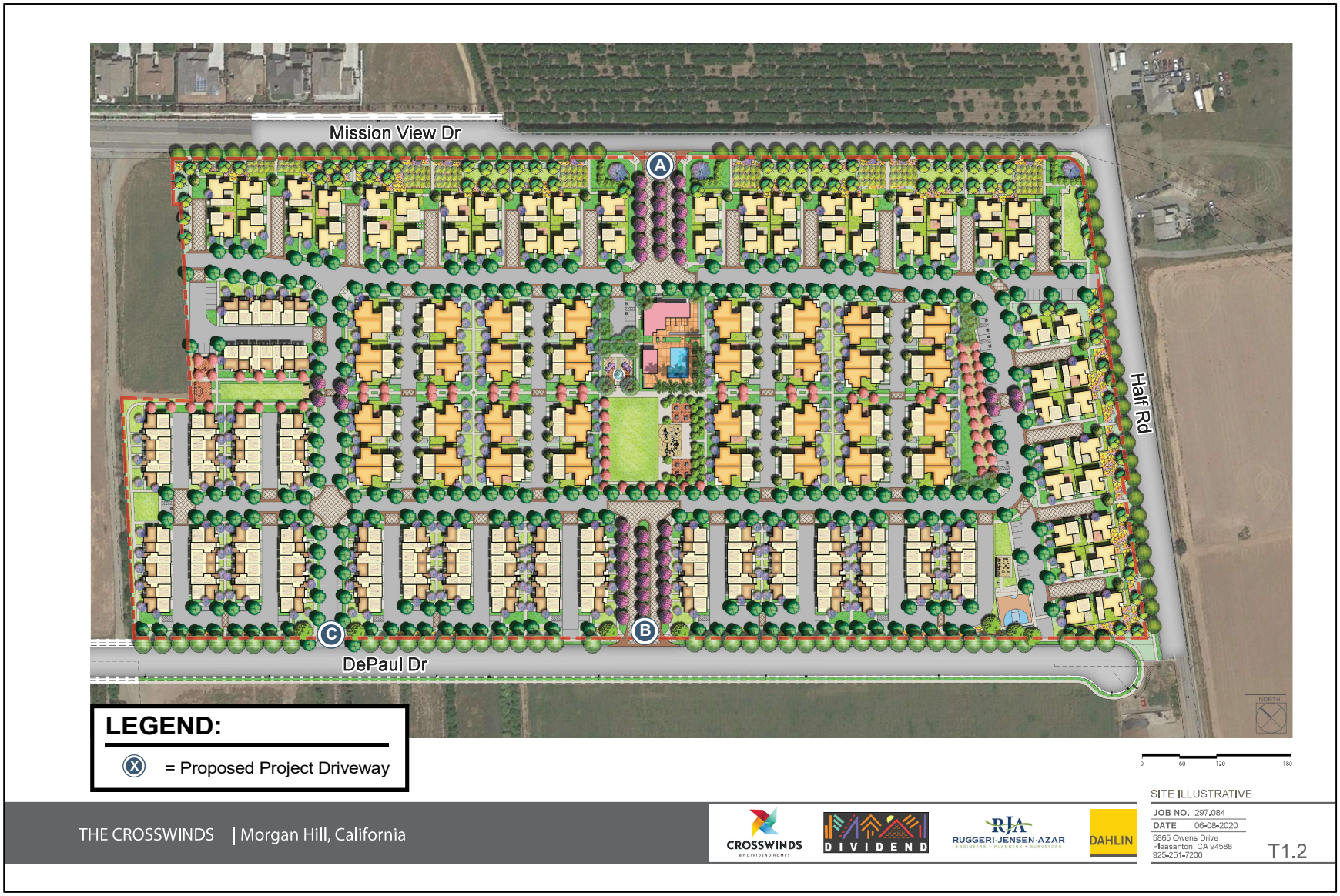


Figure 2
Project Site Plan



Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018.

Traffic Operations Analysis Scope

The current General Plan, *Morgan Hill 2035 General Plan,* adopted in July 2016 uses Level of Service (LOS) as its primary metric for the evaluation of the projected operation of the City's roadway system. Therefore, a traffic operations analysis based upon peak hour intersection level of service analysis is included for consistency with the General Plan goals and policies. The traffic operations analysis supplements the CEQA required VMT analysis. However, the determination of project impacts per CEQA requirements is based solely on the VMT analysis.

The traffic operations analysis includes the evaluation of weekday AM and PM peak hour operations at selected intersections for the purpose of identifying operational issues (queuing, signal operations, and potential multi-modal issues) at intersections in the general vicinity of the project site. The traffic operations analysis also includes an evaluation of the effects of the project's on-site access, on-site circulation, and related safety elements in the immediate area of the project.

The effects of the proposed development on traffic operations on the surrounding roadway system were evaluated following the standards and methodologies set forth by the City of Morgan Hill in its *Guidelines for Preparation of Transportation Impact Reports*, February 2010, Morgan Hill 2035 General Plan, and the Santa Clara Valley Transportation Authority (VTA). The VTA administers the County Congestion Management Program (CMP).

Report Organization

The remainder of this report is divided into five chapters. Chapter 2 describes existing conditions in terms of the existing roadway network, transit service, and existing bicycle and pedestrian facilities. Chapter 3 presents the CEQA VMT analysis. Chapter 4 presents the traffic operations analysis and the project's effects on the transportation system and describes the recommended roadway improvements. Chapter 5 presents the analysis of other transportation-related issues, including site access. Chapter 6 presents the conclusions of the transportation analysis.

2. Existing Transportation System

This chapter describes the existing transportation system within the project area. It describes transportation facilities for all of the major transportation facilities in the vicinity of the site, including the roadway network, transit service, and bicycle and pedestrian facilities.

Existing Roadway Network

Regional access to the project site is provided via US 101. Local access to the site is provided by Cochrane Road, Dunne Avenue, DePaul Drive, Half Road, Mission View Drive, Main Avenue, and Condit Road. These facilities are described below.

US 101 is a north-south freeway extending northward to San Francisco and southward through Gilroy. US 101 is an eight-lane freeway (three mixed-flow lanes and one high-occupancy vehicle (HOV) lane in each direction) north of Cochrane Road. South of Cochrane Road, it is a six-lane freeway with no HOV lanes. Access to and from the project site is provided via its interchanges at Cochrane Road and Dunne Avenue.

Cochrane Road is an east-west divided roadway that runs from Monterey Road to Malaguerra Avenue, east of US 101. Currently, Cochrane Road is a four-lane road between Monterey Road and Sutter Boulevard. Between Sutter Boulevard and US 101, Cochrane Road widens to three lanes eastbound and two lanes westbound, then narrows back to four lanes east of US 101, and to two lanes east of Mission View Drive. Cochrane Road has posted speed limits of 40 and 45 miles per hour (mph). Access to the project site is provided via its intersections with DePaul Drive and Mission View Drive.

Dunne Avenue transverses the City extending from the east part of town to the west with a posted speed limit of 35 to 40 mph and sidewalks along both sides of the street. Bike lanes are found along both sides of Dunne Avenue between Peak Avenue and Gallop Drive (east of US 101). Access to the project site is provided via its intersection with Condit Road.

DePaul Drive is a north-south undivided roadway that intersects Cochrane Road approximately 700 feet east of the US-101 northbound ramps intersection and runs approximately 1,500 feet north and 1,000 feet south of Cochrane Road. DePaul Drive has a posted speed limit of 35 miles per hour (mph). The project proposes to extend DePaul Drive by approximately 2,280 feet south to provide direct

access to the project site via two full access driveways. As proposed, DePaul Drive would terminate as a cul-de-sac just north of Half Road.

Half Road is an east-west undivided roadway that runs from Condit Road to Cochrane Road. Half Road runs along the project's southern frontage and has a posted speed limit of 35 miles per hour (mph). However, Half Road would not provide direct access to the project site and would not intersect the proposed extension of DePaul Drive. Access to the project site is provided via its intersection with Mission View Drive.

Mission View Drive is a north-south two-lane undivided roadway that runs south from Eagle View Drive to Half Road. In the vicinity of the project site, Mission View Drive has a posted speed limit of 40 miles per hour (mph). Mission View Drive runs along the project's eastern frontage. Access to the project site would be provided via a full access driveway along Mission View Drive.

Main Avenue is a two-lane roadway that runs eastward from its intersection with DeWitt Avenue to Coyote Road at the base of the eastern foothills. The roadway has an overcrossing of US 101, however, no access to US 101 is provided. Access to the project site is provided via its intersection with Condit Road.

Condit Road is a two-lane north-south roadway that extends from Half Road southward to Tennant Avenue. The posted speed limit on Condit Road is 45 mph. Access to the project site is provided via its transition to Half Road.

Existing Bicycle and Pedestrian Facilities

As defined by the Valley Transportation Authority (VTA), bicycle facilities include Class I bikeways (defined as off-street bike paths, which are shared with pedestrians and excludes general motor vehicle traffic), Class II bikeways (defined as striped bike lanes on street), and rated streets. The latter refers to streets frequently used by bicyclists, sharing the roadway with motor vehicles, and includes city designated Class III bike routes. Rated streets include extreme caution (heavy traffic volumes with high traffic speeds), alert (moderate traffic volumes and speeds), and moderate (low traffic volumes and moderate to low traffic speeds). Class III bikeways only have signs to help guide bicyclists on recommended routes to certain locations.

In the project vicinity, bike lanes are currently provided along the extent of Cochrane Road and Main Avenue beginning at Live Oak High School and continuing west across US-101 to Peak Avenue. An unpaved bike path, the Madrone Channel Trail, runs along the east side of US 101, between Tennant Avenue and Cochrane Road.

The remaining bicycle facilities in the area are located west of US-101. Bike lanes are currently provided along the following roadways:

- Butterfield Boulevard, along its entire length;
- Sutter Boulevard, from Cochrane Road to Butterfield Boulevard;
- Monterey Road, nearly its entire length within City of Morgan Hill limits, with the exception of the segment that runs through downtown between Dunne Avenue and Main Avenue;
- Burnett Avenue, from Monterey Road to Bauman Court (west of US 101);
- Central Avenue, from Butterfield Boulevard to its termination point west of US 101;
- Dunne Avenue, from Peak Avenue to east of Hill Road;
- Depot Street, along its entire length;
- Peak Avenue, between Dunne Avenue and Wright Avenue;
- Murphy Avenue, between Dunne Avenue and Kelly Park Circle;

- Hale Avenue, between Main Avenue and north of the City of Morgan Hill.

Other bicycle facilities in the project vicinity include the following:

- A bike route on Monterey Road, between Dunne Avenue and Main Avenue;
- A paved bike path on the east side of Butterfield Boulevard, between San Pedro Avenue and Central Avenue.

The existing bicycle facilities in the study area are presented graphically in Figure 3.

Pedestrian facilities in the study areas consist primarily of sidewalks, pedestrian push buttons, marked crosswalks, and signal heads at signalized intersections. However, the project site is located within a primarily undeveloped area where continuous sidewalks along the surrounding streets are not available. Sidewalks are provided along at least one of the sides of the following roadways in the vicinity of the project site:

Cochrane Road – sidewalks are provided along the north side of the street between Butterfield Boulevard and White Moon Drive. Along the south side of the street, sidewalks are provided from Monterey Road to the east of Mission View Drive with the exception of the segments between Woodview Avenue and Sutter Boulevard, US 101 northbound ramps and DePaul Drive, and a short segment west of Mission View Drive.

Mission View Drive – sidewalks are provided along the east side of the street between the northern end of Mission View Drive (at Eagle View Drive) until approximately 950 feet north of its intersection with Half Road. There are no sidewalks along the west side of Mission View Drive, with the exception of curb ramps located at the northwest and southwest corners of the Mission View Drive and Cochrane Road intersection.

Sidewalks are not provided on either side of DePaul Drive south of Cochrane Road. All other streets in the immediate vicinity of the project site fronting undeveloped areas have no sidewalks.

Existing Transit Service

Existing transit service to the study area is provided by the VTA and Caltrain. The transit services are described below and shown in Figure 4.

VTA Bus Services

The study area is served directly by one local bus (Local Bus Route 87). In addition, Express Route 168 operates along Cochrane Road west of US 101.

Local Bus Route 87 operates on Cochrane Road, Mission View Drive, and Half Road in the study area. It runs from Burnett Avenue to the Civic Center (Main and Dewitt) in Morgan Hill with approximately 60-minute headways in the AM and PM commute periods. Route 87 operates between 6:30 AM and 5:45 PM. The nearest Route 87 bus stops to the project site are located near the Half Road/Elm Road and Mission View Drive/Avenida De Los Padres intersections.

Express Route 168 operates on Butterfield Boulevard and Cochrane Road on its route between the Gilroy Transit Center and the San Jose Diridon Transit Center. It operates northbound with 30- to 45-minute headways during the AM commute period only and southbound with 45-minute headways during the PM commute period only. The nearest Route 168 bus stops to the project site are located near the intersection of Cochrane Road and Sutter Boulevard, approximately ¾ miles west of the project site.

Figure 3
Existing Bicycle Facilities

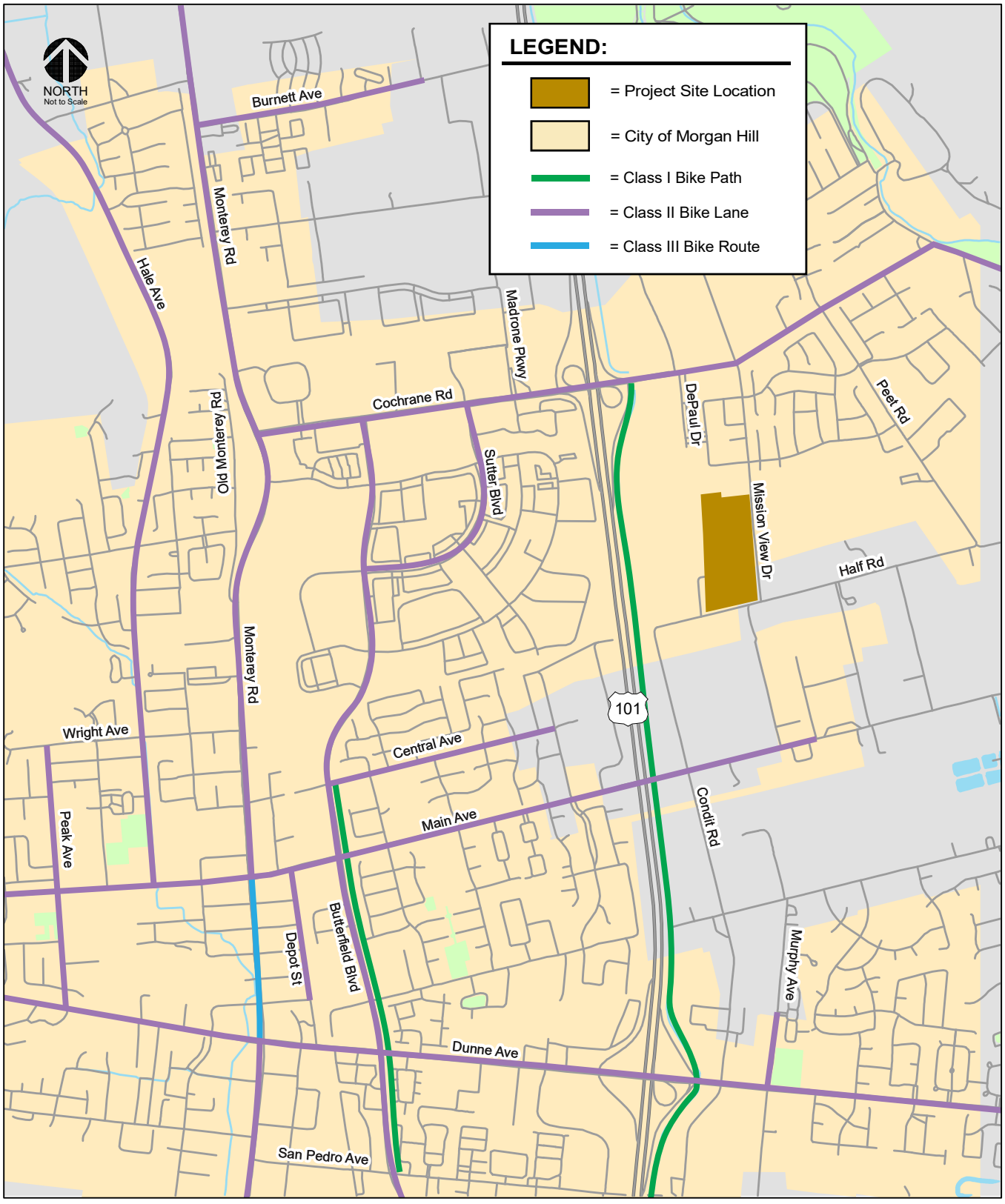
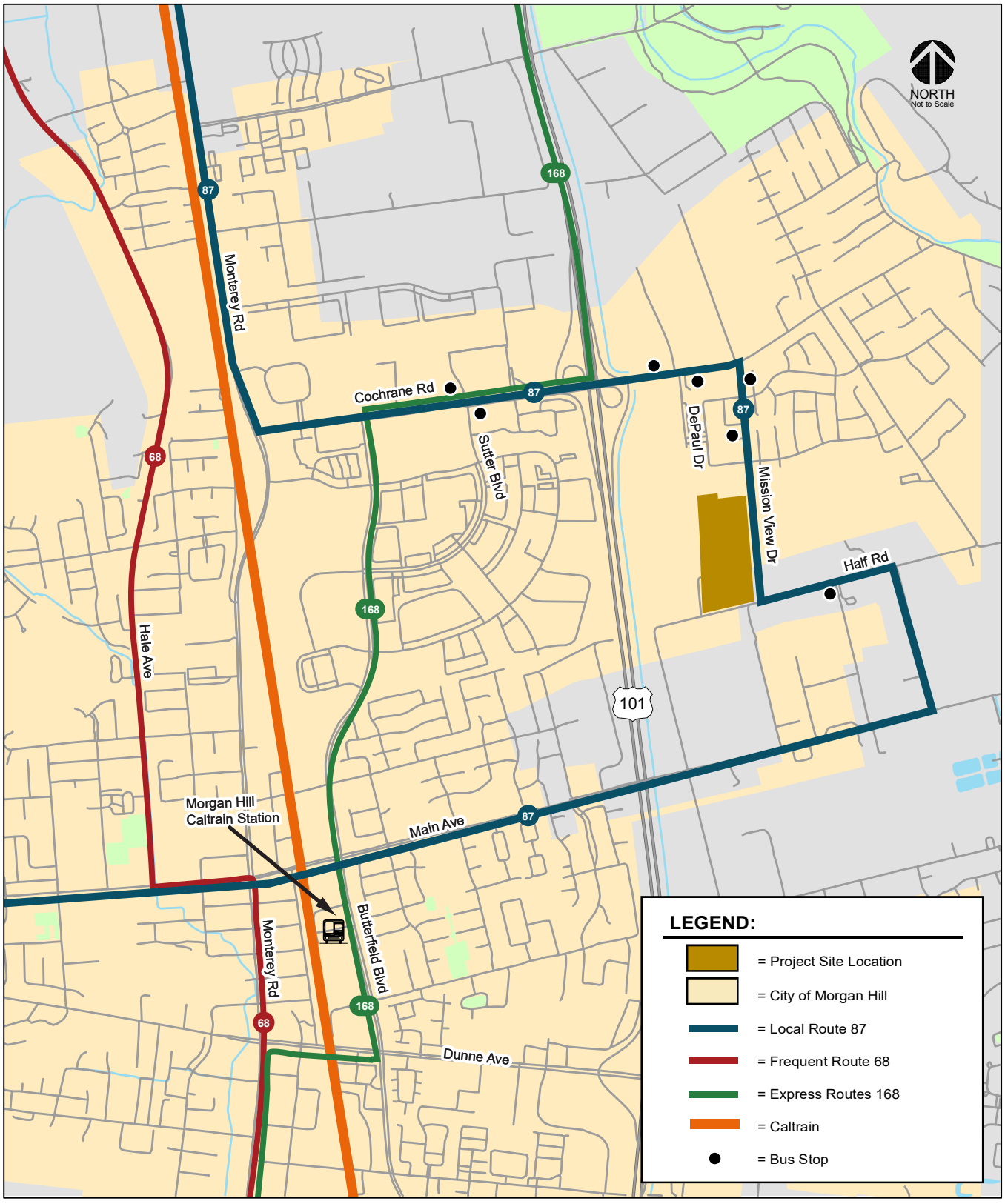


Figure 4
Existing Transit Services



Caltrain

Commuter rail service between San Francisco and Gilroy is provided by Caltrain. The Morgan Hill Caltrain Station is located along Depot Street, with main access and parking off of Butterfield Boulevard, approximately two miles from the project site. At the Morgan Hill Station, Caltrain provides service in only the northbound direction during the AM commute period with 30-minute headways and only in the southbound direction during the PM commute period with 90-minute headways.

3. CEQA VMT Evaluation

This chapter provides an evaluation of the proposed project's effect on Vehicle Miles Traveled (VMT). Pursuant to Senate Bill (SB) 743, the California Environmental Quality Act (CEQA) 2019 Update Guidelines Section 15064.3, subdivision (b) states that VMT will be the metric in analyzing transportation impacts for land use projects for CEQA purposes.

VMT Evaluation Methodology

VMT is the total miles of travel by personal motorized vehicles a project is expected to generate in a day. VMT measures the full distance of personal motorized vehicle trips with one end within the project. Typically, development projects that are farther from other, complementary land uses (such as a business park far from housing) and in areas without transit or active transportation infrastructure (bike lanes, sidewalks, etc.) generate more driving than development near complementary land uses with more robust transportation options. Therefore, developments located in a central business district with high density and diversity of complementary land uses and frequent transit services are expected to internalize trips and generate shorter and fewer vehicle trips than developments located in a suburban area with low density of residential developments and no transit serve in the project vicinity.

The evaluation of the project's effects on VMT was completed using *VTA's VMT Evaluation Tool.* The VMT tool identifies the existing average VMT per capita and VMT per employee for the project area based on the assessor's parcel number (APN) of a project. Based on the project location, type of development, project description, and proposed trip reduction measures, the evaluation tool calculates the project VMT. Projects located in areas where the existing VMT is above the established threshold are referred to as being in "high-VMT areas". Projects in high-VMT areas are required to include a set of VMT reduction measures that would reduce the project VMT to the greatest extent possible.

VMT Policies and Impact Criteria

To adhere to the state's legislation, the City of Morgan Hill is currently developing the framework for new transportation policies based on the implementation of VMT as the primary measure of transportation impacts for CEQA purposes. The new policies will replace the City's current transportation policies that are based on levels of service. However, since the City has not formally adopted its own City-specific VMT policies, this study utilizes VMT analysis methodology and impact

thresholds recommended in the Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018.

Per OPR's technical advisory, VMT per resident (capita) is the recommended metric to evaluate CEQA-related transportation impacts for residential land uses. As stated in the technical advisory, OPR recommends an impact threshold of 15% below the existing VMT levels for residential land uses. OPR allows the existing VMT to be measured as regional or citywide VMT per capita. Therefore, 15% below the city-wide residential VMT per capita is established as the impact threshold for the residential uses of the project.

The VTA's VMT Evaluation Tool indicates that the citywide average VMT per capita is currently 24.64. Therefore, the OPR recommends an impact threshold of 15% below the citywide average VMT per capita equates to 20.94 VMT per capita.

VMT Evaluation

The results of the VMT analysis using the VTA's VMT Evaluation Tool indicate that the existing VMT for residential uses in the project vicinity is 30.46 VMT per capita.

The results also indicate that the project is projected to generate VMT per capita (27.41), which would exceed the OPR's recommended impact threshold of 20.94 VMT per capita. Therefore, the project would result in an impact on the transportation system based on OPR's VMT impact criteria.

The VTA VMT Evaluation Tool output sheets are shown in Figure 5 and also included in Appendix A.

VMT Impacts and Mitigation

Using OPR's impact thresholds, the project would need to implement VMT reduction measures to achieve a 24% reduction (27.41 to 20.94) in its VMT per capita for the proposed residential uses to reduce its impact to less than significant levels.

OPR's recommended 15% below existing VMT impact threshold encourages developments in transit-rich, highly mixed-use areas to implement design features and trip reduction measures to take advantage of existing multi-model infrastructure and land use mixes in reducing trip making and/or trip lengths. However, many communities such as Morgan Hill have very limited multi-modal transportation infrastructure and lack a mix of complementary land uses. The lack of employment in these communities along with minimal transit options results in a greater number and longer commute trips. Therefore, it is highly unlikely that developments like the proposed project in these cities can achieve OPR's recommended 15% reduction in VMT. Therefore, absent of the City adopting its own City-specific VMT policies and impact thresholds, the proposed project's VMT impact must be deemed significant and unavoidable.

Per its condition of approval, the City will however require that the project implement and/or incorporate in its design the following VMT reduction measures to encourage the use of multi-modal travel and reduce the number and length of vehicular trips:

1. The management entity/HOA shall provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director prior to issuance of occupancy.

2. The project must improve the surrounding pedestrian network by including sidewalks which terminate at the common property line, allowing for connections to the adjacent property in the

Figure 5
VMT Analysis

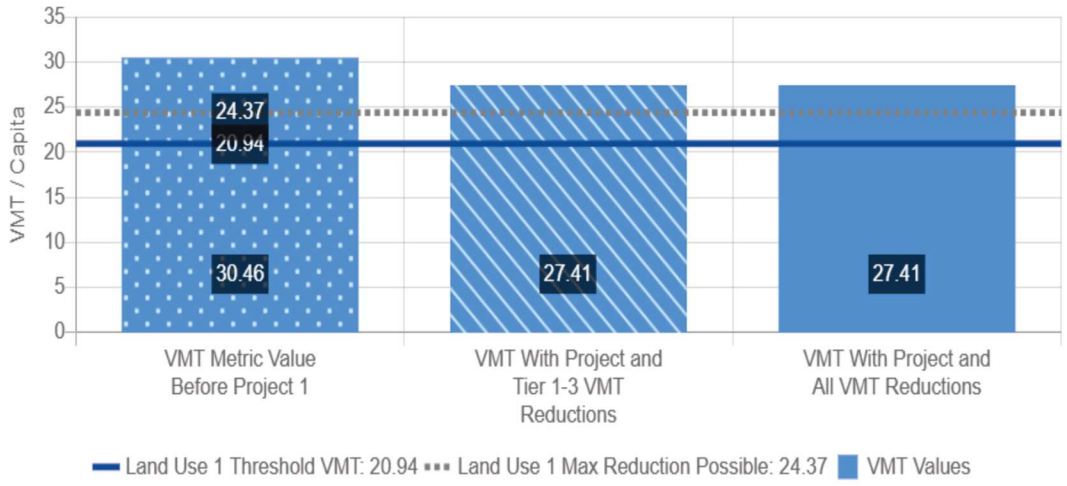
Santa Clara Countywide VMT Evaluation Tool Report

Valley Transportation Authority
Page 2

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Without Project:	Home-based VMT per Capita
VMT Baseline Description 1:	City Average
VMT Baseline Value 1:	24.64
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	30.46	27.41	27.41
Low VMT Screening Analysis	No (Fail)	No (Fail)	No (Fail)



event there is development in the future. Continuous sidewalks are proposed along the project frontages. The proposed frontage improvements along Mission View Drive, Half Road, and De Paul Drive include sidewalk improvements; each of the street sections will be wide enough to accommodate future bicycle lanes.

3. The proposed development will include 64 bicycle parking spaces.

4.
Traffic Operations Analysis

This chapter describes the traffic operations analysis. The traffic operations analysis provides supplemental analysis for use by the City of Morgan Hill in identifying potential improvement of the transportation system that may be included as part of the project's Conditions of Approval. However, the identified roadway operations and improvements are not required or considered project impacts per CEQA guidelines.

The chapter presents the method by which project traffic is estimated, intersection operations analysis for existing, existing plus project, Year 2030 cumulative conditions, the identification of any adverse effects on study intersections caused by project generated trips, and recommended improvements to alleviate the identified operational issues. In addition, the chapter includes an intersection vehicle queuing analysis, freeway segment capacity evaluation, site access and on-site circulation review, review of the project's effects on bicycle, pedestrian, and transit facilities, and a review of required parking.

Project Description

The 30.5-acre project site is currently vacant and is generally bounded by Half Road to the south, Mission View Drive to the east, future extension of DePaul Drive to the west, and Avenida De Los Padres to the north. The project as proposed will consist of a total of 269 residential units comprised of 149 condos, 56 detached single-family, and 64 duet units. The project would include the extension of DePaul Drive to the south with termination as a cul-de-sac just north of Half Road. Access to the project site would be provided via a full access driveway along Mission View Drive and two full access driveways along the future DePaul Drive extension.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the AM and PM peak hours. As part of the project trip distribution step, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment

step, the project trips are assigned to specific streets and intersections in the study area. These procedures are described further in the following sections.

Trip Generation

Through empirical research, data have been collected that correlate to common land uses their propensity for producing traffic. Thus, for the most common land uses there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a new development. Hexagon prepared trip estimates for the proposed project based on trip generation rates obtained from the Institute of Transportation Engineers' (ITE's) *Trip Generation Manual*, Tenth Edition, 2017. Single-Family Detached Housing (Land Use 210) trip generation rates were used to estimate the number of trips that would be generated by all proposed residential units because the trip-making characteristics of varying types of residential units would be similar due to the limited transit services and employment opportunities within Morgan Hill.

Based on the recommended rates for single-family detached housing (Land Use #210) and the size of the proposed project, it is estimated that the proposed project would generate 2,539 daily trips, with 199 trips (50 inbound and 149 outbound) occurring during the AM peak hour and 266 trips (168 inbound and 98 outbound) occurring during the PM peak hour. The trip generation estimates for the proposed project are shown in Table 1.

Trip Distribution and Assignment

The trip distribution patterns for project-generated traffic for the proposed land use were estimated based on existing travel patterns on the surrounding roadway system, locations of complementary land uses, and use of the City of Morgan Hill Traffic Demand Forecasting (TDF) Model. The peak-hour trips associated with the proposed project were added to the transportation network in accordance with the distribution patterns discussed above. The project trip distribution patterns are shown graphically in Figure 6. Figure 7 shows the assignment of project traffic on the local transportation network. A tabular summary of project traffic at each study intersection is contained in Appendix C.

Intersection Operations Methodology

This section presents the methods used to evaluate traffic operations at each of the study intersections for each study scenario. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards, and the criteria defining adverse effects at the study intersections. The intersection operations analysis is intended to quantify the operations of intersections and to identify potential negative effects due to the addition of project traffic. However, a potential adverse effect on a study intersection is not considered a CEQA impact metric.

Study Intersections

The traffic operations analysis includes an analysis of AM and PM peak-hour traffic conditions for ten signalized intersections and three unsignalized intersections. The study intersections are identified below.

1. Cochrane Road and Sutter Boulevard
2. Cochrane Road and Madrone Parkway/Cochrane Plaza
3. Cochrane Road and US 101 Southbound Ramps
4. Cochrane Road and US 101 Northbound Ramps
5. Cochrane Road and De Paul Drive

Table 1
Project Trip Generation Estimates

Proposed Land Use	Size	Daily		AM Peak Hour						PM Peak Hour					
					Split		Trip				Split		Trip		
		Rate	Trip	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
Single-Family Detached Housing (ITE LU # 210)[1]	269 Dwelling Units	9.44	2,539	0.74	25%	75%	50	149	199	0.99	63%	37%	168	98	266

Notes:
[1]ITE Trip Generation Manual, 10th Edition 2017

Figure 6
Project Trip Distribution

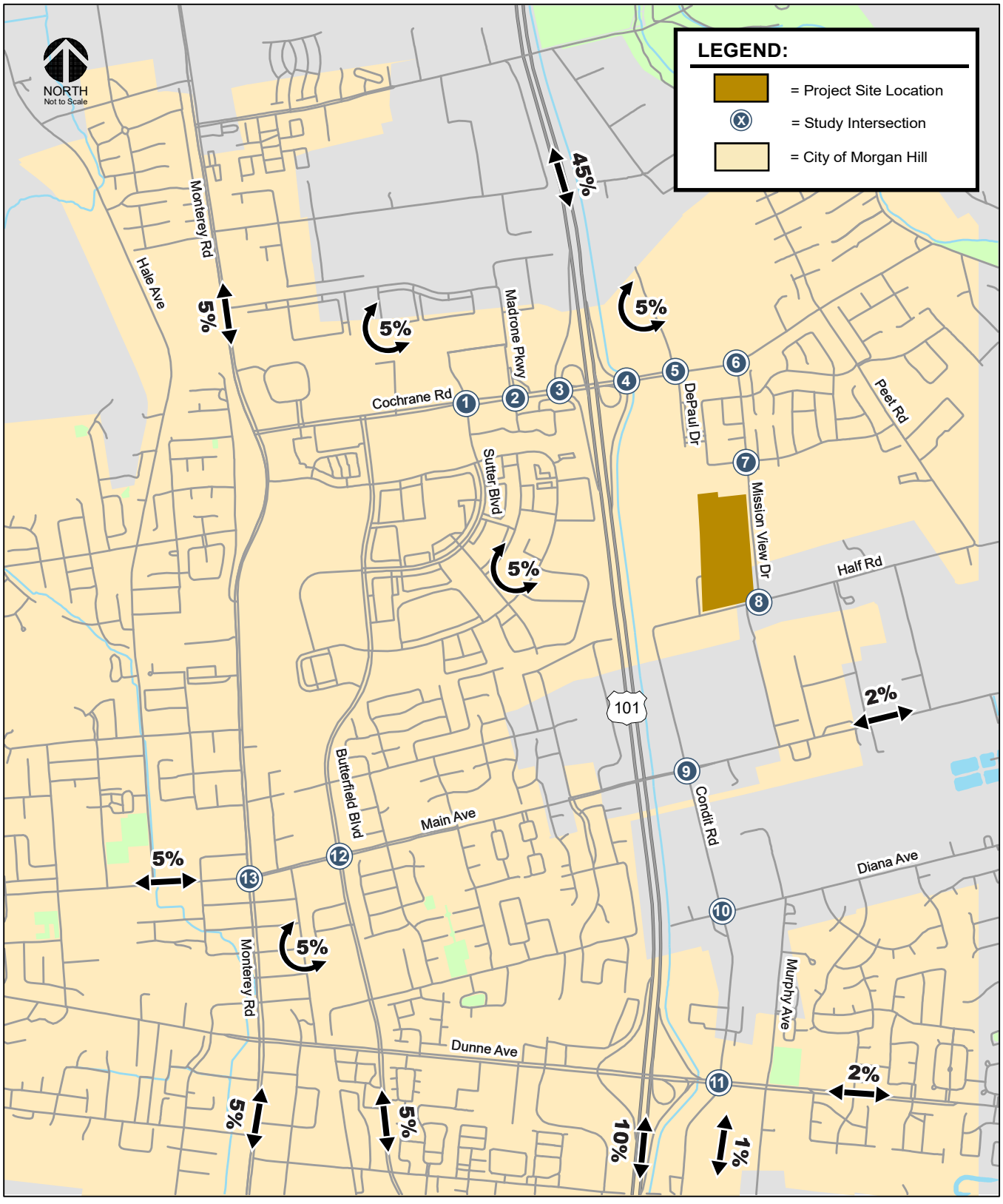
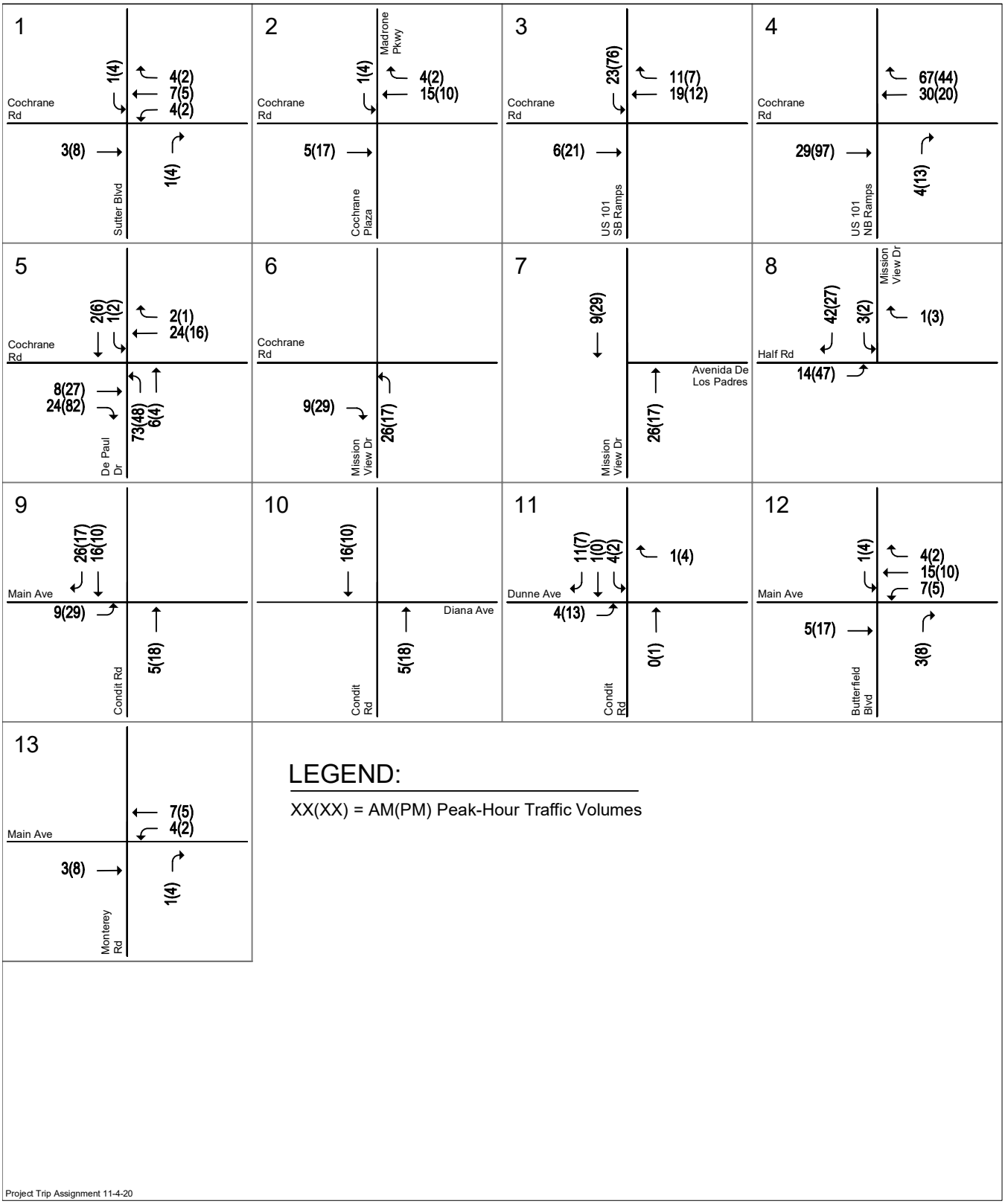


Figure 7
Project Trip Assignment



6. Cochrane Road and Mission View Drive
7. Mission View Drive and Avenida De Los Padres (*unsignalized*)
8. Mission View Drive and Half Road (*unsignalized*)
9. Main Avenue and Condit Road
10. Condit Road and Diana Avenue (*unsignalized*)
11. East Dunne Avenue and Condit Road
12. Butterfield Boulevard and Main Avenue
13. Monterey Road and Main Avenue

Traffic conditions at all of the study intersections were analyzed for the weekday AM and PM peak hours. The weekday AM peak hour of traffic is generally between 7:00 AM and 9:00 AM and the weekday PM peak hour is typically between 4:00 PM and 6:00 PM. It is during these periods that the most congested traffic conditions occur on a typical weekday. Traffic conditions were evaluated for the conditions described below:

Scenario 1: *Existing Conditions.* Existing conditions represent existing peak-hour traffic volumes on the existing roadway network. New traffic counts could not be collected due to the current COVID-19 pandemic affecting normal travel traffic patterns. Therefore, traffic counts collected prior to the COVID-19 pandemic in 2018-2019 as part of the Morgan Hill Technology Center development project were used in this analysis.

Scenario 2: *Existing Plus Project Conditions*. Project-generated traffic volumes were added to existing traffic volumes to estimate existing plus project conditions. Existing plus project conditions were evaluated relative to existing conditions in order to determine potential project impacts.

Scenario 3: *Year 2030 Cumulative without Project Conditions.* Year 2030 Cumulative without project conditions represent traffic growth projected to occur in the Year 2030 without the proposed project on the existing transportation network. Projected 2030 traffic growth was developed by interpolating the projected Year 2035 traffic growth.

Scenario 4: *Year 2030 Cumulative with Project Conditions.* Project-generated traffic volumes were added to Year 2030 Cumulative without project to estimate Year 2030 Cumulative with project conditions. Year 2030 Cumulative with project conditions were evaluated relative to Year 2030 Cumulative without project conditions in order to determine potential project impacts.

Data Requirements

The data required for the analysis were obtained from recently completed traffic studies, the City of Morgan Hill, the 2018 CMP Monitoring and Conformance Report, and field observations. The following data were collected from these sources:

- lane configurations
- existing traffic volumes
- signal timing and phasing
- average speeds on freeway segments
- Year 2035 traffic forecasts

Lane Configurations

The existing lane configurations at the study intersections were determined by observations in the field and are shown in Figure 8. It is assumed in this analysis that the roadway network and intersection configurations under existing plus project and Year 2030 cumulative conditions would be the same as described under existing conditions with the exception of the following improvements.

Extension of DePaul Drive. As part of the project, DePaul Drive is proposed to be extended by approximately 2,280 feet south to provide direct access to the project site via two full access driveways. As proposed, DePaul Drive will terminate as a cul-de-sac just north of Half Road.

Mission View Drive and Half Road. All-way stop signs installation at this intersection is planned by the County and should be completed in the near future. Therefore, this intersection is assumed to be one-way stop-controlled under existing conditions and all-way stop-controlled under Year 2030 cumulative conditions.

Traffic Volumes

Existing Traffic Volumes

Existing conditions represent existing peak-hour traffic volumes on the existing roadway network. New traffic counts could not be collected due to the current COVID-19 pandemic affecting normal travel traffic patterns. Therefore, traffic counts collected prior to the COVID-19 pandemic in 2018-2019 as part of the Morgan Hill Technology Center development project were used in this analysis. The existing peak-hour intersection volumes are shown in Figure 9. Intersection turning-movement counts conducted for this analysis are presented in Appendix B.

Year 2030 Cumulative Land Use and Traffic Forecasts

Year 2030 Cumulative traffic volumes were developed based on traffic forecasts produced for the City of Morgan Hill 2035 General Plan using the City's Traffic Demand Forecasting (TDF) model. Year 2035 General Plan traffic forecasts include land use growth and transportation improvements associated with the buildout of the City's General Plan.

The 2035 General Plan forecasts also include trips associated with 345 residential units per the adopted General Plan land use for the project site. Therefore, the trips associated with the adopted General Plan land use for the project site were removed from the projected Year 2035 traffic volumes. To develop Year 2030 Cumulative without project condition traffic volumes, Hexagon prepared trip estimates for the adopted GP land uses for comparison with the proposed project. When compared with the land use included in the City's General Plan, the proposed project would result in reductions of 56 AM and 76 PM peak hour trips for the project site. The trip generation estimates for the proposed and adopted General Plan land uses for the site are presented in Table 2.

The Year 2030 Cumulative without project traffic volumes were then estimated using a growth method that involved adding a proportion (15 Years or 75%) of the 2035 projected growth, with the removal of the trips associated with the adopted General Plan land uses for the project, to existing traffic counts at each of the study intersections. Figure 10 shows the Year 2030 Cumulative without project traffic volumes. Appendix C lists each of the components used to tabulate cumulative traffic volumes at each study intersection.

Table 2
General Plan 2035 Trip Generation Estimates

Proposed Land Use	Size	Daily		AM Peak Hour						PM Peak Hour					
					Split		Trip				Split		Trip		
		Rate	Trip	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
Proposed Land Use															
Single-Family Detached Housing (ITE LU # 210)[1]	269 Dwelling Units	9.44	2,539	0.74	25%	75%	50	149	199	0.99	63%	37%	168	98	266
GP Land Use															
Single-Family Detached Housing (ITE LU # 210)[1]	345 Dwelling Units	9.44	3,257	0.74	25%	75%	64	191	255	0.99	63%	37%	215	127	342
Difference (Proposed - GP Land Uses)			**-718**				**-14**	**-42**	**-56**				**-47**	**-29**	**-76**

Notes:
[1]ITE Trip Generation Manual, 10th Edition 2017

Figure 8
Existing Lane Configurations

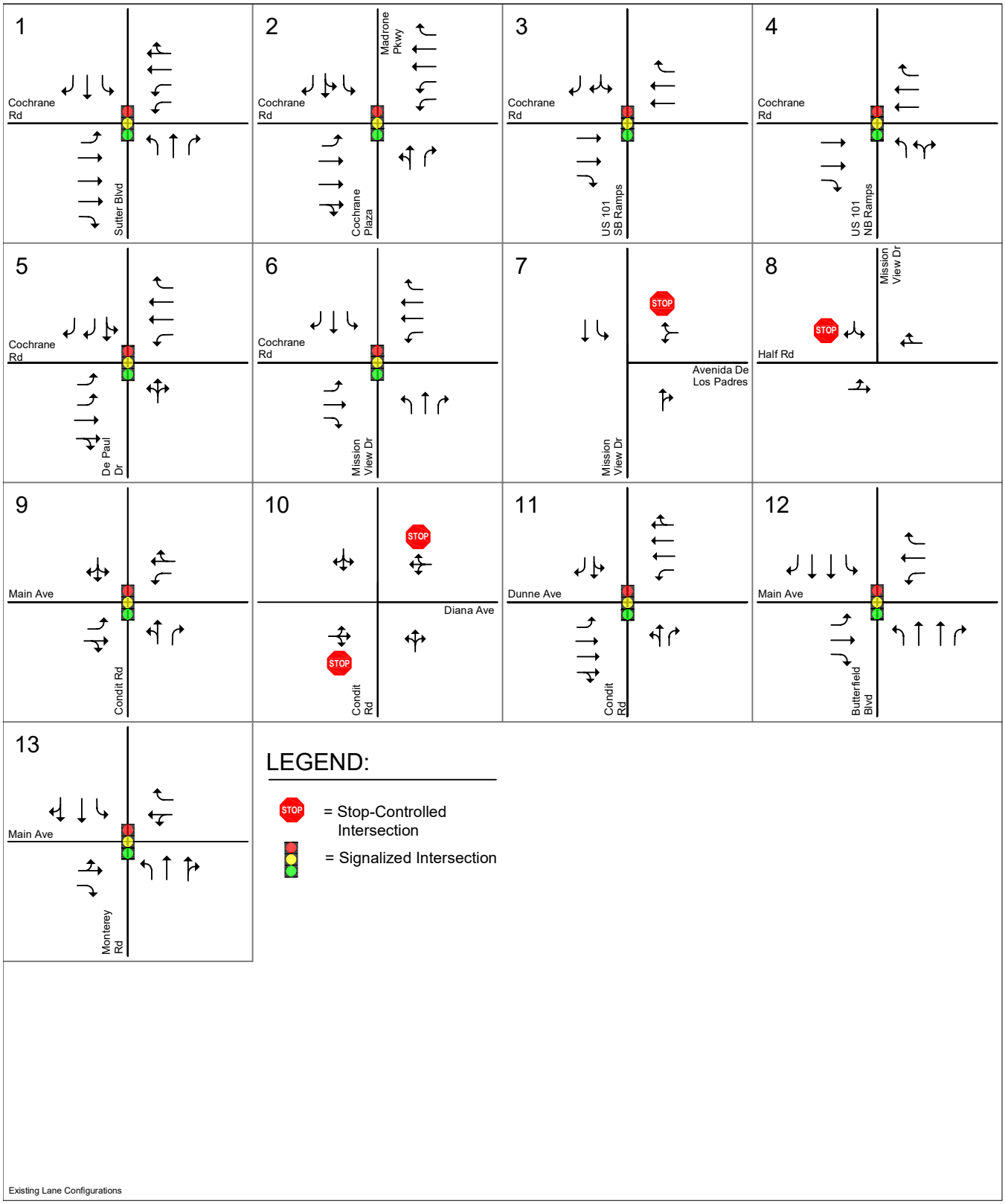


Figure 9
Existing Traffic Volumes

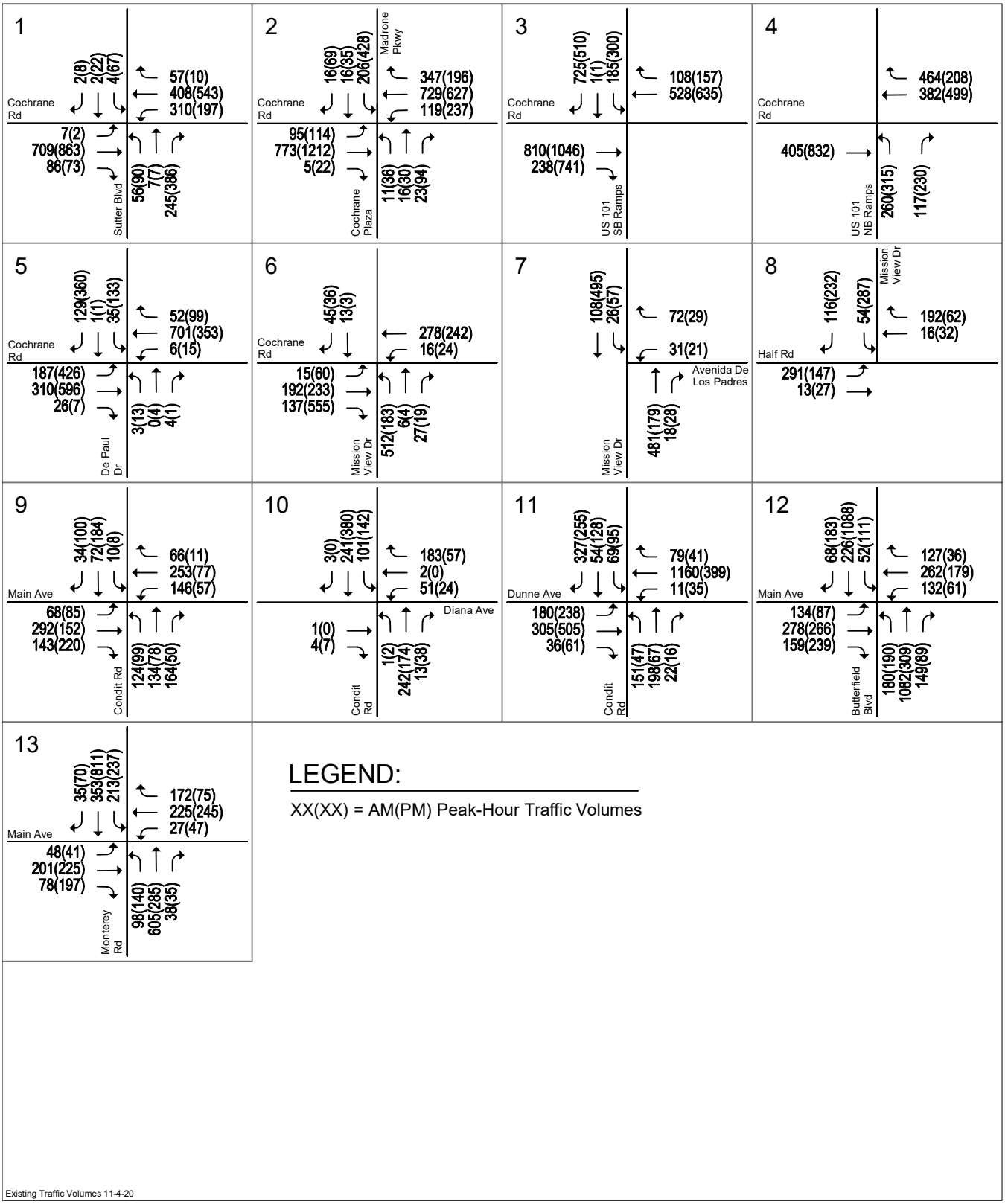
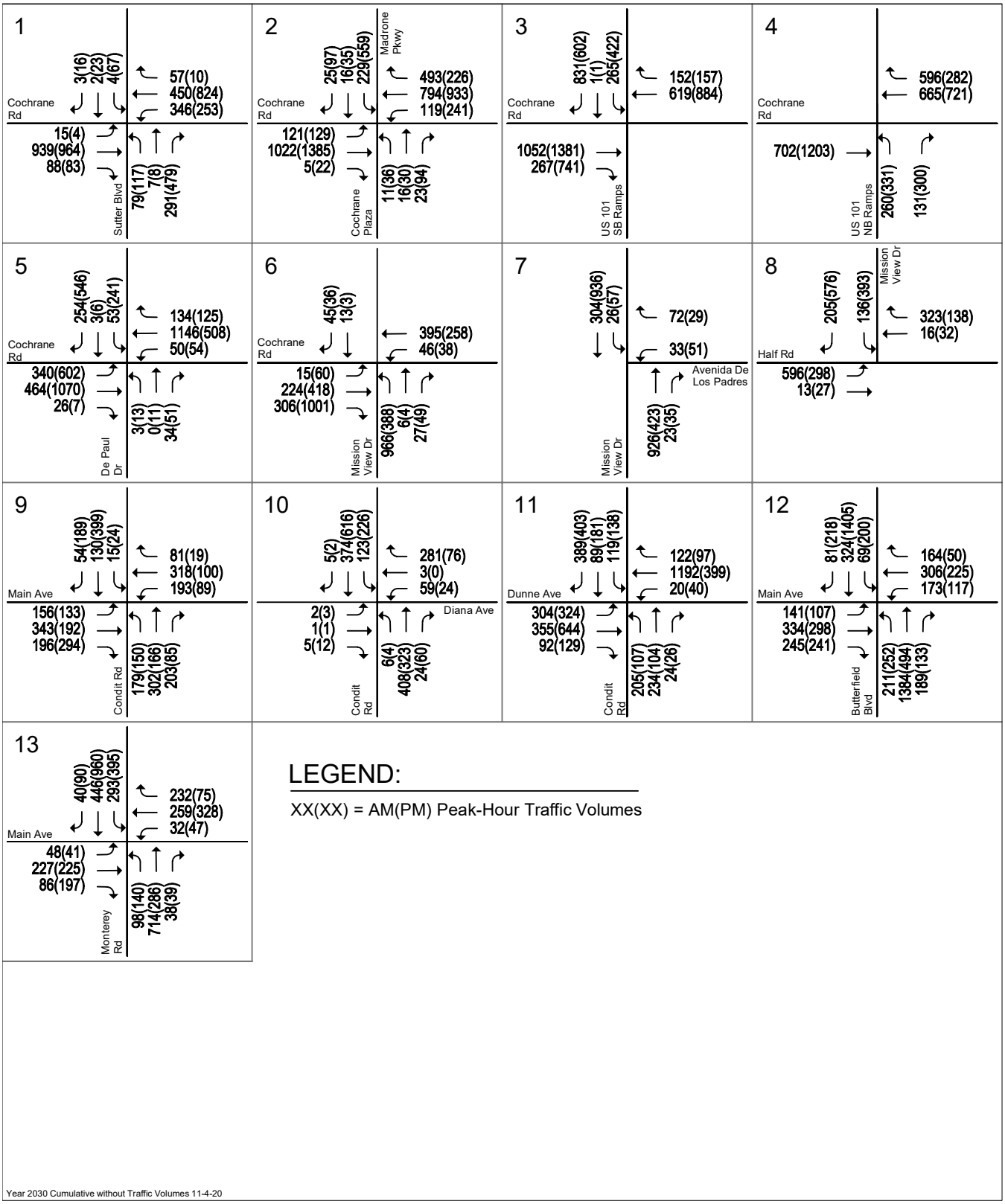


Figure 10
Year 2030 Cumulative without Project Traffic Volumes



Existing and Year 2030 Cumulative Plus Project Traffic Volumes

Project trips as represented in the project trip assignment were added to the existing traffic and Year 2030 Cumulative without project traffic volumes to obtain existing and Year 2030 Cumulative with project traffic volumes. The existing plus project and Year 2030 Cumulative with project traffic volumes are shown in Figures 11 and 12, respectively.

Intersection Level of Service Standards and Analysis Methodologies

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The analysis methods are described below.

Signalized Intersections

Signalized study intersections are subject to the City of Morgan Hill's level of service standards. The City of Morgan Hill's level of service methodology is TRAFFIX, which is based on the 2000 *Highway Capacity Manual* (HCM) method for signalized intersections. TRAFFIX evaluates signalized intersections operations based on average delay time for all vehicles at the intersection. Since TRAFFIX is also the CMP-designated intersection level of service methodology, the City of Morgan Hill methodology employs the CMP defaults values for the analysis parameters, which include adjusted saturation flow rates to reflect conditions in Santa Clara County. All intersections within the City of Morgan Hill are required to meet the City's LOS standard of LOS D, with the exception of the following:

- **LOS F** for Downtown intersections and segments including at Main/Monterey, along Monterey Road between Main and Fifth Street, and along Depot Street at First through Fifth Street;

  LOS E for the following intersections and freeway zones:

  - Main Avenue and Del Monte Avenue
  - Main Avenue and Depot Street
  - Dunne Avenue and Del Monte Avenue
  - Dunne Avenue and Monterey Avenue
  - Dunne Avenue and Church Street
  - Dunne Avenue and Depot Street
  - Cochrane Road and Monterey Road
  - Tennant Avenue and Monterey Road
  - Tennant Avenue and Butterfield Boulevard
  - Cochrane Road Freeway Zone: from Madrone Parkway/Cochrane Plaza to Cochrane Road/DePaul Drive
  - Dunne Avenue Freeway Zone: from Walnut Grove Drive/East Dunne Avenue to Condit Road/East Dunne Avenue
  - Tennant Avenue Freeway Zone: from Butterfield Boulevard/Tennant Avenue to Condit Road/Tennant Avenue

The correlation between average delay and level of service for signalized intersections is shown in Table 3.

Figure 11
Existing Plus Project Traffic Volumes

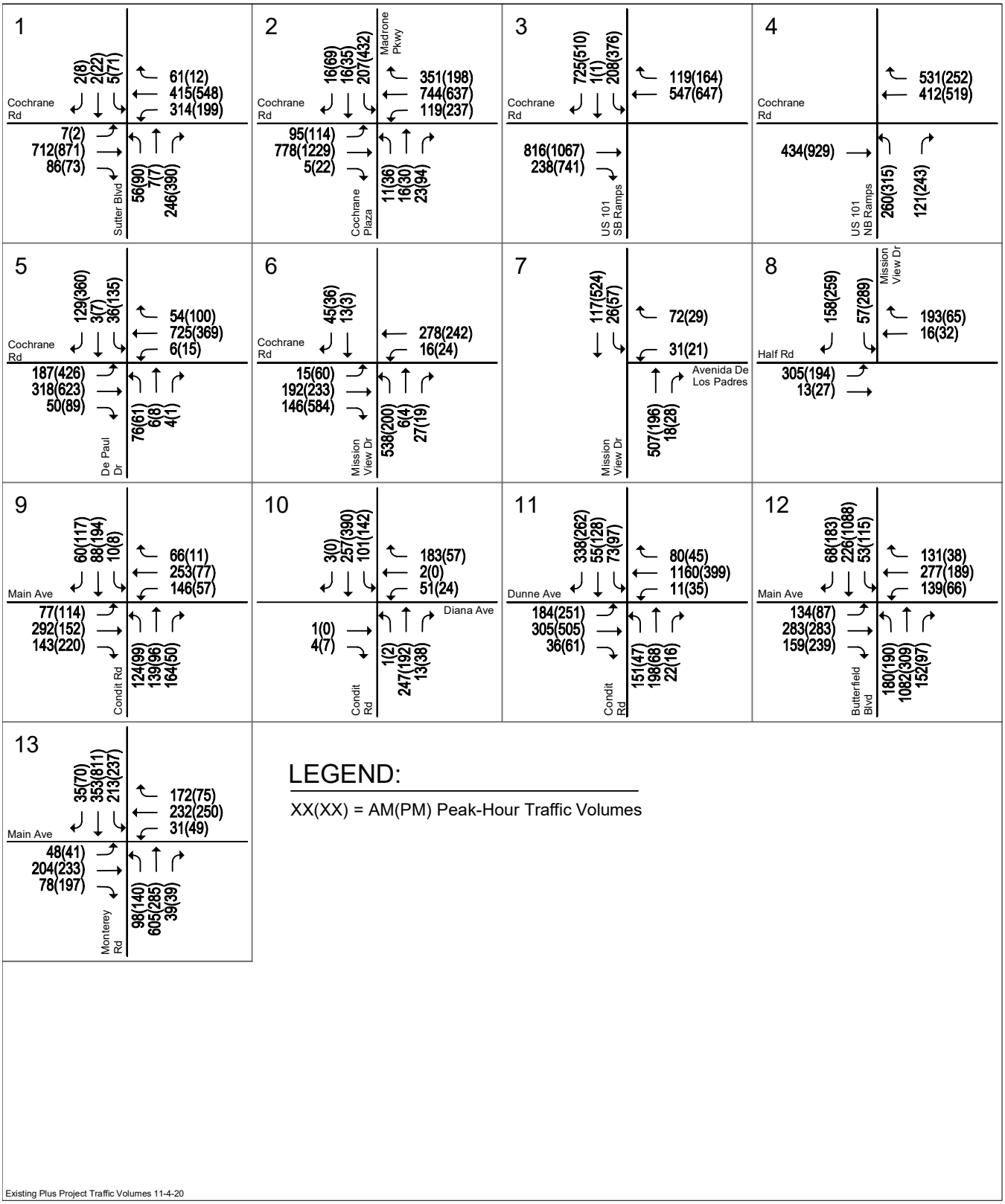


Figure 12
Year 2030 Cumulative with Project Traffic Volumes

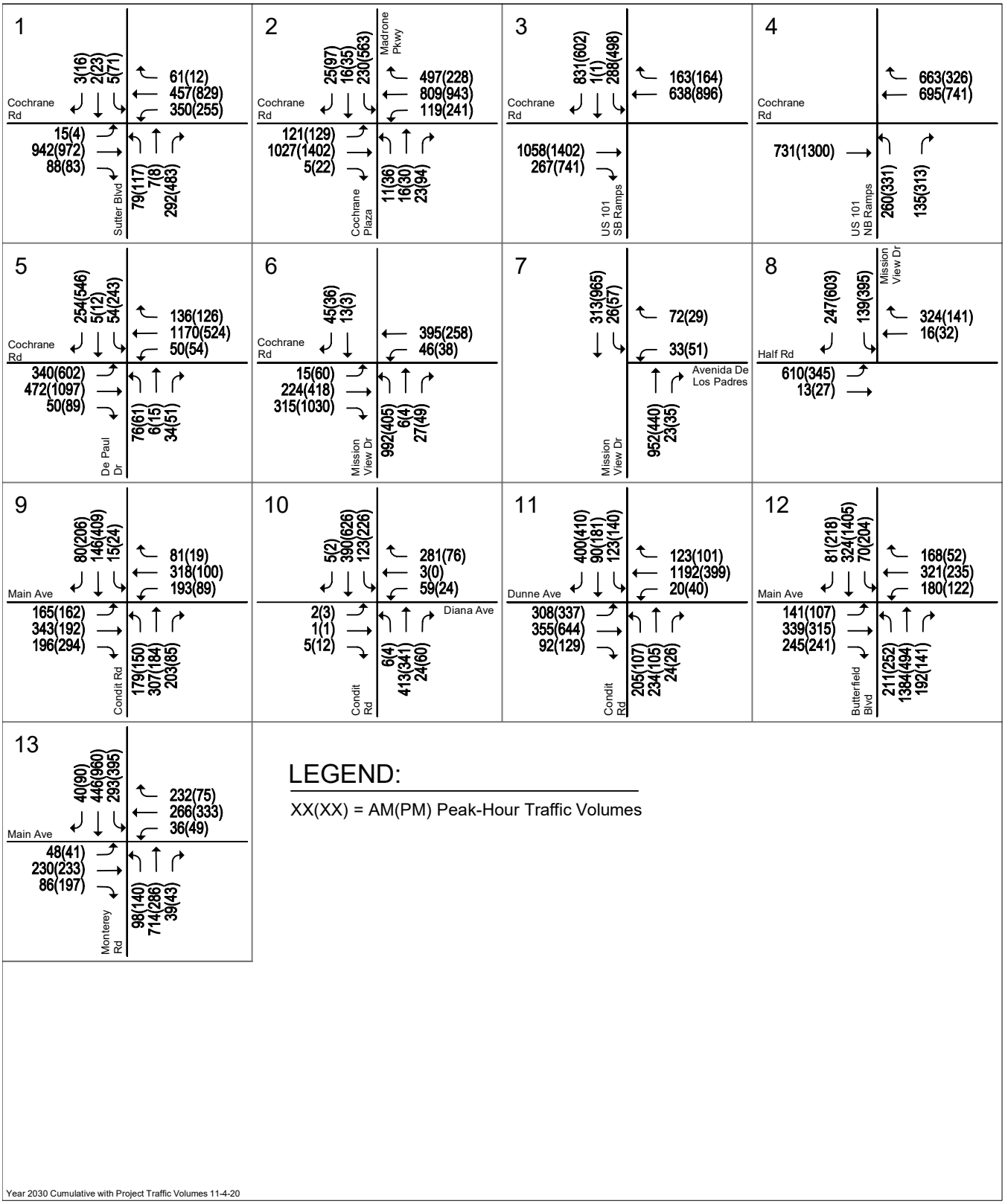


Table 3
Signalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay per Vehicle (sec.)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	up to 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	Greater than 80.0

Sources: Transportation Research Board, *2000 Highway Capacity Manual* (Santa Clara County and City of Gilroy adopted level of service methodology). *Traffic Level of Service Analysis Guidelines*, Santa Clara County Transportation Authority Congestion Management Program, June 2003.

Unsignalized Intersections

The methodology used to determine the level of service for unsignalized intersections is also TRAFFIX and the *2000 HCM* methodology for unsignalized intersection analysis. This method is applicable for both two-way and all-way stop-controlled intersections. For the analysis of stop-controlled intersections, the *2000 HCM* methodology evaluates intersection operations on the basis of average control delay time for all vehicles on the stop-controlled approaches. For the purpose of reporting the level of service for one- and two-way stop-controlled intersections, the delay and corresponding level of service for the stop-controlled minor street approach with the highest delay is reported. For all-way stop-controlled intersections, the reported average delay and the corresponding level of service is the average for all approaches at the intersection. The City uses a minimum acceptable level of service standard of LOS D for unsignalized intersections, in accordance with its adopted threshold of significance in its Guidelines for Preparation of Transportation Impact Reports. The correlation between average delay and level of service for unsignalized intersections is shown in Table 4.

Signal Warrants

The level of service analysis at unsignalized intersections is supplemented with an assessment of the need for signalization of the intersection. The need for signalization of unsignalized intersections is assessed based on the Peak Hour Volume Warrant (Warrant 3) described in the *California Manual on Uniform Traffic Control Devices for Streets and Highways (CA MUTCD)*, Part 4, Highway Traffic Signals, 2014. This method makes no evaluation of the intersection level of service but simply provides an indication of whether vehicular peak hour traffic volumes are, or would be, sufficient to justify the installation of a traffic signal. The decision to install a traffic signal should not be based purely on the warrants alone. Instead, the installation of a signal should be considered, and further analysis

Table 4
Unsignalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay per Vehicle (sec.)
A	Operations with very low delays occurring with favorable progression.	up to 10.0
B	Operations with low delays occurring with good progression.	10.1 to 15.0
C	Operations with average delays resulting from fair progression.	15.1 to 25.0
D	Operation with longer delays due to a combination of unfavorable progression of high V/C ratios.	25.1 to 35.0
E	Operation with high delay values indicating poor progression and high V/C ratios. This is considered to be the limited of acceptable delay.	35.1 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation and poor progression.	Greater than 50.0

Source: Transportation Research Board, 2000 Highway Capacity Manual, (Washington, D.C., 2000).

performed when one or more of the warrants are met. Additionally, engineering judgment is exercised on a case-by-case basis to evaluate the effect a traffic signal will have on certain types of accidents and traffic conditions at the subject intersection as well as at adjacent intersections. Intersections that meet the peak hour warrant are subject to further analysis before determining that a traffic signal is necessary. Other options such as traffic control devices, signage, or geometric changes may be preferable based on existing field conditions.

Definition of Adverse Intersection Operations Effects

According to the City of Morgan Hill level of service guidelines, a development is said to create a significant adverse effect on traffic conditions at a signalized intersection if for either peak hour:

1. The level of service at the intersection degrades from an acceptable level (LOS D or LOS E as identified above) under no project conditions to an unacceptable level (LOS E or F) under project conditions, or
2. The level of service at the intersection is an unacceptable level (LOS E or F as identified above) under no project conditions and the addition of project trips causes the average critical delay to increase by four (4) or more seconds *and* the volume-to-capacity ratio (V/C) to increase by 0.01.

An exception to this rule applies when the addition of project traffic reduces the amount of average delay for critical movements (i.e., the change in average delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical V/C value by 0.01 or more.

Definition of Adverse Unsignalized Intersection Operations Effects

Unsignalized intersections within the City of Morgan Hill have a minimum operating level of LOS D. According to the City of Morgan Hill level of service guidelines, a development is said to have a significant adverse effect on traffic conditions at an unsignalized intersection if for either peak hour the addition of project traffic causes the worst approach delay to degrade to LOS E or F ***and*** the traffic volumes at the intersection are sufficiently high to satisfy the peak hour volume warrant.

Intersection Operations Analysis

Existing Plus Project Intersection Operations Analysis

The results of the intersection level of service and signal warrant analyses under existing and existing plus project conditions are summarized in Table 5. The level of service calculation sheets are included in Appendix D. The peak-hour signal warrant sheets are contained in Appendix E.

Existing Conditions

The results of the level of service analysis indicate that, measured against the City of Morgan Hill level of service standards, all the study intersections currently operate at an acceptable level of service, LOS D or better, under existing conditions during each of the peak hours analyzed.

The results of the signal warrant analysis indicate that the existing traffic volumes at the intersection of Mission View Drive and Cochrane Road were sufficient to warrant the installation of a traffic signal during the AM and PM peak hours under existing conditions, based on counts conducted in May 2018. However, a traffic signal has since been installed at the intersection and is currently operational. Additionally, the intersection of Condit Road and Diana Avenue currently also has volumes that warrant signalization. All other unsignalized study intersections currently have traffic conditions that fall below the thresholds that warrant signalization.

Existing Plus Project Conditions

The results of the level of service analysis indicate that, when measured against the City of Morgan Hill level of service standards, all of the study intersections are projected to operate at acceptable levels of service, LOS D or better, under existing plus project conditions during each of the peak hours analyzed.

The results of signal warrant analysis indicate that the intersection of Condit Road and Diana Avenue is projected to have volumes that would warrant signalization. However, the intersection is projected to operate within the applicable level of service standards. Therefore, the project would not have an adverse effect on operations at the intersection based on the City of Morgan Hill's standards. All other unsignalized study intersections are projected to have traffic conditions that fall below the thresholds that warrant signalization.

Year 2030 Cumulative with Project Intersection Operations Analysis

The results of the intersection level of service and signal warrant analyses under Year 2030 Cumulative without and with project are summarized in Table 6.

The results of the level of service analysis indicate that the following five intersections would operate at unacceptable levels of service (LOS E or F) during Year 2030 Cumulative without and with project during at least one peak hour when measured against the City of Morgan Hill's level of service standards of LOS D:

Table 5
Existing Plus Project Intersection Levels of Service and Signal Warrant Checks

Int. #	Intersection	Intersection Control[1]	LOS Standard	Peak Hour	Count Date	Existing			Existing Plus Project				
						Warrant Met?	Delay[2]	LOS	Warrant Met?	Delay[2]	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C
1	Cochrane Road and Sutter Boulevard	Signal	D	AM	05/08/18	--	17.2	B	--	17.2	B	0.0	0.002
				PM	05/08/18	--	17.9	B	--	18.0	B	0.0	0.003
2	Cochrane Road and Madrone Parkway/Cochrane Plaza	Signal	E	AM	05/08/18	--	19.1	B	--	19.2	B	-3.0	-0.003
				PM	05/08/18	--	31.4	C	--	31.4	C	0.0	0.005
3	Cochrane Road and US 101 Southbound Ramps	Signal	E	AM	05/08/18	--	12.8	B	--	13.0	B	0.2	0.016
				PM	05/08/18	--	16.5	B	--	17.6	B	1.2	0.053
4	Cochrane Road and US 101 Northbound Ramps	Signal	E	AM	05/08/18	--	8.6	A	--	8.3	A	0.0	0.043
				PM	05/08/18	--	11.3	B	--	11.2	B	0.2	0.037
5	Cochrane Road and De Paul Drive	Signal	E	AM	05/08/18	--	17.7	B	--	18.1	B	0.4	0.066
				PM	05/08/18	--	18.7	B	--	19.1	B	0.2	0.048
6	Cochrane Road and Mission View Drive	Signal	D	AM	05/08/18	--	23.0	C	--	24.8	C	3.1	0.019
				PM	05/08/18	--	15.7	B	--	16.3	B	0.9	0.021
7	Mission View Drive and Avenida De Los Padres	TWSC	D	AM	03/28/19	No	13.5	B	No	13.9	B	N/A	N/A
				PM	03/28/19	No	12.5	B	No	13.0	B	N/A	N/A
8	Mission View Drive and Half Road	OWSC	D	AM	03/28/19	No	13.6	B	No	14.0	B	N/A	N/A
				PM	03/28/19	No	22.6	C	No	34.0	D	N/A	N/A
9	Main Avenue and Condit Road	Signal	D	AM	05/08/18	--	27.6	C	--	28.9	C	1.6	0.032
				PM	05/08/18	--	26.1	C	--	27.3	C	1.4	0.031
10	Condit Road and Diana Avenue	TWSC	D	AM	06/04/19	**Yes**	14.7	B	**Yes**	14.9	B	N/A	N/A
				PM	06/04/19	No	13.6	B	No	14.0	B	N/A	N/A
11	East Dunne Avenue and Condit Road	Signal	E	AM	03/28/19	--	42.4	D	--	43.0	D	0.7	0.010
				PM	03/28/19	--	28.2	C	--	28.3	C	0.2	0.015
12	Butterfield Boulevard and Main Avenue	Signal	D	AM	05/08/18	--	27.6	C	--	27.9	C	0.1	0.001
				PM	05/08/18	--	29.8	C	--	30.3	C	0.8	0.013
13	Monterey Road and Main Avenue	Signal	F	AM	05/08/18	--	44.2	D	--	44.5	D	0.4	0.009
				PM	05/08/18	--	45.1	D	--	45.5	D	0.6	0.009

Notes:
[1]OWSC = One-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled
[2]The reported delay and corresponding level of service for signalized intersections represent the average delay for all approaches at the intersection.
The reported delay and corresponding level of service for one- and two-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.
Bold indicates unacceptable level of service.

Table 6
Year 2030 Cumulative Intersection Levels of Service and Signal Warrant Checks

Int. #	Intersection	Intersection Control[1]	LOS Standard	Peak Hour	Count Date	Year 2030 Cumulative without Project: Warrant Met?	Delay[2]	LOS	Year 2030 Cumulative with Project: Warrant Met?	Delay[2]	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C
1	Cochrane Road and Sutter Boulevard	Signal	D	AM	05/08/18	--	17.8	B	--	17.8	B	0.1	0.002
				PM	05/08/18	--	17.9	B	--	18.0	B	0.0	0.002
2	Cochrane Road and Madrone Parkway/Cochrane Plaza	Signal	E	AM	05/08/18	--	19.1	B	--	19.1	B	0.0	0.003
				PM	05/08/18	--	32.3	C	--	32.3	C	0.0	0.005
3	Cochrane Road and US 101 Southbound Ramps	Signal	E	AM	05/08/18	--	14.4	B	--	14.7	B	0.4	0.016
				PM	05/08/18	--	20.3	C	--	22.9	C	3.9	0.053
4	Cochrane Road and US 101 Northbound Ramps	Signal	E	AM	05/08/18	--	7.8	A	--	7.7	A	0.1	0.043
				PM	05/08/18	--	11.7	B	--	11.9	B	0.5	0.037
5	Cochrane Road and De Paul Drive	Signal	E	AM	05/08/18	--	25.1	C	--	25.8	C	0.8	0.066
				PM	05/08/18	--	22.8	C	--	25.4	C	5.0	0.080
6	Cochrane Road and Mission View Drive	Signal	D	AM	05/08/18	--	**146.5**	**F**	--	**156.7**	**F**	**15.8**	**0.019**
				PM	05/08/18	--	**60.1**	**E**	--	**68.2**	**E**	**11.7**	**0.021**
7	Mission View Drive and Avenida De Los Padres	TWSC	D	AM	03/28/19	No	28.5	D	No	30.1	D	N/A	N/A
				PM	03/28/19	No	**38.5**	**E**	No	**42.1**	**E**	**N/A**	**N/A**
8	Mission View Drive and Half Road	AWSC	D	AM	03/28/19	**Yes**	30.0	D	**Yes**	**36.7**	**E**	**N/A**	**N/A**
				PM	03/28/19	**Yes**	**126.9**	**F**	**Yes**	**147.1**	**F**	**N/A**	**N/A**
9	Main Avenue and Condit Road	Signal	D	AM	05/08/18	--	47.8	D	--	53.7	D	7.7	0.032
				PM	05/08/18	--	**80.2**	**F**	--	**89.6**	**F**	**11.7**	**0.031**
10	Condit Road and Diana Avenue	TWSC	D	AM	06/04/19	**Yes**	**36.3**	**E**	**Yes**	**38.2**	**E**	**N/A**	**N/A**
				PM	06/04/19	**Yes**	26.4	D	**Yes**	27.8	D	N/A	N/A
11	East Dunne Avenue and Condit Road	Signal	E	AM	03/28/19	--	63.6	E	--	65.7	E	2.7	0.010
				PM	03/28/19	--	32.7	C	--	33.0	C	0.7	0.015
12	Butterfield Boulevard and Main Avenue	Signal	D	AM	05/08/18	--	30.9	C	--	31.3	C	0.7	0.008
				PM	05/08/18	--	36.0	D	--	36.8	D	1.5	0.013
13	Monterey Road and Main Avenue	Signal	F	AM	05/08/18	--	47.6	D	--	48.0	D	0.6	0.009
				PM	05/08/18	--	49.1	D	--	49.8	D	0.8	0.009

Notes:
[1]AWSC = All-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled
[2]The reported delay and corresponding level of service for signalized intersections represent the average delay for all approaches at the intersection.
The reported delay and corresponding level of service for one- and two-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.
Bold indicates unacceptable level of service or signal warrant met.
Bold and boxed indicate adverse effect on operations.

6. Cochrane Road and Mission View Drive (AM and PM Peak Hours)
7. Mission View Drive and Avenida De Los Padres (unsignalized) (PM Peak Hour)
8. Mission View Drive and Half Road (unsignalized) (PM Peak Hour)
9. Main Avenue and Condit Road (PM Peak Hour)
10. Condit Road and Diana Avenue (unsignalized) (AM Peak Hour)

Additionally, the intersection of Mission View Drive and Half Road is projected to operate at LOS D during the AM peak-hour under Year 2030 cumulative conditions and degrade to LOS E with the addition of project traffic.

All of the remaining study intersections are projected to operate at acceptable levels of service under Year 2030 Cumulative without and with project, during each of the peak hours analyzed.

The results of the signal warrant analyses indicate the following two intersections are projected to have traffic volumes under Year 2030 Cumulative without and with project that would meet thresholds that warrant signalization during at least one peak hour.

8. Mission View Drive and Half Road (unsignalized) (AM & PM Peak Hours)
10. Condit Road and Diana Avenue (unsignalized) (AM & PM Peak Hour)

All other unsignalized study intersections are projected to have traffic conditions that fall below the thresholds that warrant signalization.

Based on the City's operating standards, the proposed project would have an adverse effect on intersection operations at the following four study intersections.

6. Mission View Drive and Cochrane Road (AM & PM Peak Hours)
8. Mission View Drive and Half Road (unsignalized) (AM & PM Peak Hours)
9. Condit Road and Main Avenue (PM Peak Hour)
10. Condit Road and Diana Avenue (unsignalized) (AM Peak Hour)

Adverse Intersection Operations Effects and Potential Improvements

This section discusses the adverse intersection operation effects identified under Year 2030 Cumulative with project conditions. Included are descriptions of the adverse effects on intersection operations and potential improvement measures that may be included as part of the project's Conditions of Approval. However, the identified roadway operations and improvements are not required or considered project impacts per CEQA guidelines.

6. Cochrane Road and Mission View Drive

This intersection is projected to operate at an unacceptable LOS F and E during the AM and PM peak hours, respectively, under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project would cause the critical delay to increase by more than four seconds and the volume-to-capacity ratio (V/C) to increase by more than 0.01 during both the AM and PM peak hours. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The addition of a second northbound left-turn lane on Mission View Drive and a cycle length adjustment would be necessary to improve intersection operations. The addition of the second northbound left-turn lane will require lane striping and signal modification but will fit within the existing curb-to-curb pavement width on Mission View Drive. Implementation of this improvement would improve the intersection's level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project conditions.

8. Mission View Drive and Half Road

This intersection is projected to operate at an unacceptable LOS F during the PM peak hour under Year 2030 Cumulative without and with project conditions. Furthermore, this intersection is projected to operate at an acceptable LOS D during the AM peak hour under Year 2030 Cumulative without conditions and degrade to LOS E with the addition of project traffic. Additionally, the peak-hour traffic signal warrant checks indicate that the intersection would have traffic volumes that meet thresholds that warrant signalization during both the AM and PM peak hours under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The signalization of the intersection would be necessary to improve intersection operations. Implementation of a traffic signal at this location would improve the level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project. This intersection is under the jurisdiction of both the City of Morgan Hill and Santa Clara County. Therefore, implementation of the recommended improvements will require City and County approval.

9. Main Avenue and Condit Road

This intersection is projected to operate at an unacceptable LOS F during the PM peak hour under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project would cause the critical delay to increase by more than four seconds and the volume-to-capacity ratio (V/C) to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The addition of an exclusive southbound right-turn lane on Condit Road would be necessary to improve intersection operations. The addition of the right-turn lane will require signal modifications and lane striping on the southbound approach. Implementation of this improvement would improve the intersection's level of service to LOS D during the PM peak hour under Year 2030 Cumulative with project conditions. This intersection is under the jurisdiction of both the City of Morgan Hill and Santa Clara County. Therefore, implementation of the recommended improvements will require City and County approval.

10. Condit Road and Diana Avenue

This intersection is projected to operate at an unacceptable LOS E during the AM peak hour under Year 2030 Cumulative without and with project conditions. Additionally, the peak-hour traffic signal warrant checks indicate that the intersection would have traffic volumes that meet thresholds that warrant signalization during the AM peak hour under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The signalization of the intersection would be necessary to improve intersection operations. Implementation of this improvement would improve the intersection's level of service to LOS B during the AM peak hour under Year 2030 Cumulative with project conditions.

Freeway Segment Evaluation

The City is still required to conform to the requirements of the Valley Transit Authority (VTA) which establishes a uniform program for evaluating the transportation impacts of land use decisions on the designated CMP Roadway System. The VTA's Congestion Management Program (CMP) has yet to

adopt and implement guidelines and standards for the evaluation of the CMP roadway system using VMT. Therefore, the effects of the proposed project on freeway segments in the vicinity of the project area following the current methodologies, as outlined in the *VTA Transportation Impact Analysis Guidelines*, were completed. However, this analysis is presented for informational purposes only. The following seven freeway segments were evaluated:

Study Freeway Segments

1. US 101 between SR-85 and Bailey Avenue
2. US 101 between Bailey Avenue and Coyote Creek Golf Drive
3. US 101 between Coyote Creek Golf Drive and Cochrane Road
4. US 101 between Cochrane Road and Dunne Avenue
5. US 101 between Dunne Avenue and Tennant Avenue
6. US 101 between Tennant Avenue and San Martin Avenue
7. US 101 between San Martin Avenue and Masten Avenue

Freeway Segment Level of Service Methodology

As prescribed in the CMP technical guidelines, the level of service for freeway segments is estimated based on vehicle density. Density is calculated by the following formula:

D = V / S
Where:
D= density, in vehicles per mile per lane (vpmpl)
V= peak hour volume, in vehicles per hour per lane (vphpl)
S= average travel speed, in miles per hour (mph)

The vehicle density on a segment is correlated to the level of service as shown in Table 7. The CMP specifies that a capacity of 2,300 vehicles per hour per lane (vphpl) be used for mixed-flow lane segments that are three lanes or wider in one direction, and a capacity of 2,200 vphpl be used for mixed-flow lane segments that are two lanes wide in one direction. A capacity of 1,650 vphpl was used for high occupancy vehicle (HOV) lanes. The CMP defines an acceptable level of service for freeway segments as LOS E or better.

Conformance to CMP Freeway Segment Standards

Based on CMP criteria, a project would fail to meet the CMP freeway segment standard if the additional project traffic caused one of the following during either peak hour:

1. The level of service on the freeway segment is an unacceptable LOS F under existing conditions, and the number of project trips on that segment constitutes at least one percent of capacity on that segment.
2. The level of service on the freeway segment degrades from an acceptable LOS E or better under existing conditions to an unacceptable LOS F under existing plus project conditions.

A significant adverse effect by CMP standards is said to be satisfactorily addressed when measures are implemented that would restore freeway conditions to existing conditions or better.

Table 7
Freeway Level of Service Definitions Based on Density

Level of Service	Description	Density (vehicles/mile/lane)
A	Average operating speeds at the free-flow speed generally prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	0-11
B	Speeds at the free-flow speed are generally maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high.	>11-18
C	Speeds at or near the free-flow speed of the freeway prevail. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more vigilance on the part of the driver.	>18-26
D	Speeds begin to decline slightly with increased flows at this level. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels.	>26-46
E	At this level, the freeway operates at or near capacity. Operations in this level are volatile, because there are virtually no usable gaps in the traffic stream, leaving little room to maneuver within the traffic stream.	>46-58
F	Vehicular flow breakdowns occur. Large queues form behind breakdown points.	>58

Sources: Transportation Research Board, *2000 Highway Capacity Manual. Traffic Level of Service Analysis Guidelines*, Santa Clara County Transportation Authority Congestion Management Program, June 2003.

Freeway Segment Analysis

The results of the CMP freeway level of service analysis under existing plus project conditions are summarized in Table 8. Traffic volumes on the study freeway segments under existing plus project conditions were estimated by adding project trips to the existing volumes obtained from the 2018 CMP Monitoring and Conformance Report.

The results show that ten directional mixed-flow lanes and one directional HOV lane on the freeway segments analyzed are projected to operate at an unacceptable LOS F during at least one peak hour under existing conditions and would continue to operate at LOS F conditions with the addition of traffic due to proposed project. All other freeway segments analyzed operate at LOS E or better conditions during the AM and PM peak hours.

Improvement of freeway segment operations would require freeway widening to construct additional through lanes, thereby increasing freeway capacity. VTA's Valley Transportation Plan (VTP) 2040 identifies freeway express lane projects along US 101 between Cochrane Road and Whipple Avenue. The planned improvements consist of the conversion of the existing HOV lane to an express lane and the construction of a second express lane in each direction on US 101. These improvements would increase the capacity of the freeway and help to address the deficiency in freeway operations. However, it is not feasible for an individual development project to bear responsibility for implementing such extensive transportation system improvements due to constraints in the acquisition and cost of right-of-way.

Table 8
Freeway Segment Levels of Service

#	Freeway	Segment	Dir.	Peak Hour	Existing Plus Project												Project Trips			
					Mixed-Flow Lane						HOV Lane						Mixed-Flow Lane		HOV Lane	
					Speed[1] (mi/h)	# of Lanes	Capacity (pc/hr/ln)	Volume (pc/hr/ln)	Density (pc/hr/ln)	LOS	Speed[1] (mi/h)	Capacity (vph)	Volume (pc/hr/ln)	Density (pc/hr/ln)	LOS	Volume (pc/hr/ln)	% of Capacity	Volume (pc/hr/ln)	% of Capacity
1	US 101	from Masten Avenue to	NB	AM	34.20	3	2,300	1,809	53	E	--	--	--	--	--	2	0.1	--	--
		San Martin Avenue	NB	PM	51.80	3	2,300	2,003	39	D	--	--	--	--	--	6	0.2	--	--
2	US 101	from San Martin Avenue to	NB	AM	10.40	3	2,300	866	**83**	**F**	--	--	--	--	--	2	0.1	--	--
		Tennant Avenue	NB	PM	60.00	3	2,300	1,799	30	D	--	--	--	--	--	6	0.2	--	--
3	US 101	from Tennant Avenue to	NB	AM	9.40	3	2,300	801	**85**	**F**	--	--	--	--	--	2	0.1	--	--
		East Dunne Avenue	NB	PM	59.80	3	2,300	1,810	30	D	--	--	--	--	--	6	0.2	--	--
4	US 101	from East Dunne Avenue to	NB	AM	21.00	3	2,300	1,403	**67**	**F**	--	--	--	--	--	1	0.1	--	--
		Cochrane Road	NB	PM	61.60	3	2,300	1,687	27	D	--	--	--	--	--	4	0.2	--	--
5	US 101	from Cochrane Road to	NB	AM	22.20	3	2,300	1,502	**68**	**F**	71.41	1,650	824	12.0	B	19	0.8	11	0.7
		Coyote Creek Golf Drive	NB	PM	64.20	3	2,300	1,408	22	C	72.66	1,650	628	9.0	A	13	0.6	6	0.4
6	US 101	from Coyote Creek Golf Drive to	NB	AM	32.20	3	2,300	1,824	57	E	75.29	1,650	--[2]	--[2]	A	22	1.0	0	0.0
		Bailey Avenue	NB	PM	64.00	3	2,300	1,446	23	C	76.15	1,650	--[2]	--[2]	A	15	0.6	0	0.0
7	US 101	from Bailey Avenue to	NB	AM	37.60	3	2,300	1,926	51	E	65.21	1,650	1,342	21.0	C	18	0.8	13	0.8
		SR 85	NB	PM	63.40	3	2,300	1,526	24	C	72.91	1,650	581	8.0	A	13	0.6	5	0.3
8	US 101	from SR 85 to	SB	AM	62.40	3	2,300	1,622	26	D	73.82	1,650	391	5.0	A	7	0.3	2	0.1
		Bailey Avenue	SB	PM	16.00	3	2,300	1,227	**77**	**F**	39.99	1,650	1,777	44.0	E	17	0.7	25	1.5
9	US 101	from Bailey Avenue to	SB	AM	64.00	3	2,300	1,423	22	C	73.79	1,650	397	5.0	A	7	0.3	2	0.1
		Coyote Creek Golf Drive	SB	PM	14.80	3	2,300	1,165	**79**	**F**	41.99	1,650	1,774	42.0	E	17	0.7	26	1.6
10	US 101	from Coyote Creek Golf Drive to	SB	AM	62.80	3	2,300	1,577	25	C	63.14	1,650	1,426	23.0	C	6	0.3	5	0.3
		Cochrane Road	SB	PM	12.60	3	2,300	1,043	**83**	**F**	21.57	1,650	1,681	**78.0**	**F**	16	0.7	27	1.6
11	US 101	from Cochrane Road to	SB	AM	62.00	3	2,300	1,650	27	D	--	--	--	--	--	4	0.2	--	--
		East Dunne Avenue	SB	PM	25.00	3	2,300	1,554	**62**	**F**	--	--	--	--	--	2	0.1	--	--
12	US 101	from East Dunne Avenue to	SB	AM	63.00	3	2,300	1,552	25	C	--	--	--	--	--	5	0.2	--	--
		Tennant Avenue	SB	PM	27.00	3	2,300	1,622	**60**	**F**	--	--	--	--	--	3	0.1	--	--
13	US 101	from Tennant Avenue to	SB	AM	63.00	3	2,300	1,552	25	C	--	--	--	--	--	5	0.2	--	--
		San Martin Avenue	SB	PM	25.40	3	2,300	1,571	**62**	**F**	--	--	--	--	--	3	0.1	--	--
14	US 101	from San Martin Avenue to	SB	AM	60.00	3	2,300	1,797	30	D	--	--	--	--	--	5	0.2	--	--
		Masten Avenue	SB	PM	37.80	3	2,300	1,886	50	E	--	--	--	--	--	3	0.1	--	--

Notes:
[1]Santa Clara Valley Transportation Authority CMP Monitoring & Conformance Report, 2018.
[2]Speed exceeds the bound of the equation used to derive volume and density.
Bold indicates unacceptable LOS.

5.
Other Transportation Issues

This chapter presents an analysis of other transportation issues associated with the project site, including:

- Vehicular site access
- On-site circulation
- Intersection operations analysis – vehicle queuing and left-turn pocket storage at intersections
- Potential impacts to bike, pedestrian and transit facilities

Unlike the level of service impact methodology, which is adopted by the City Council, the analyses in this chapter are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community.

Site Access and Circulation

The site plan for the proposed project was reviewed performed to determine if adequate site access is provided and to identify any access and circulation issues that should be improved. This review was completed in accordance with generally accepted traffic engineering standards.

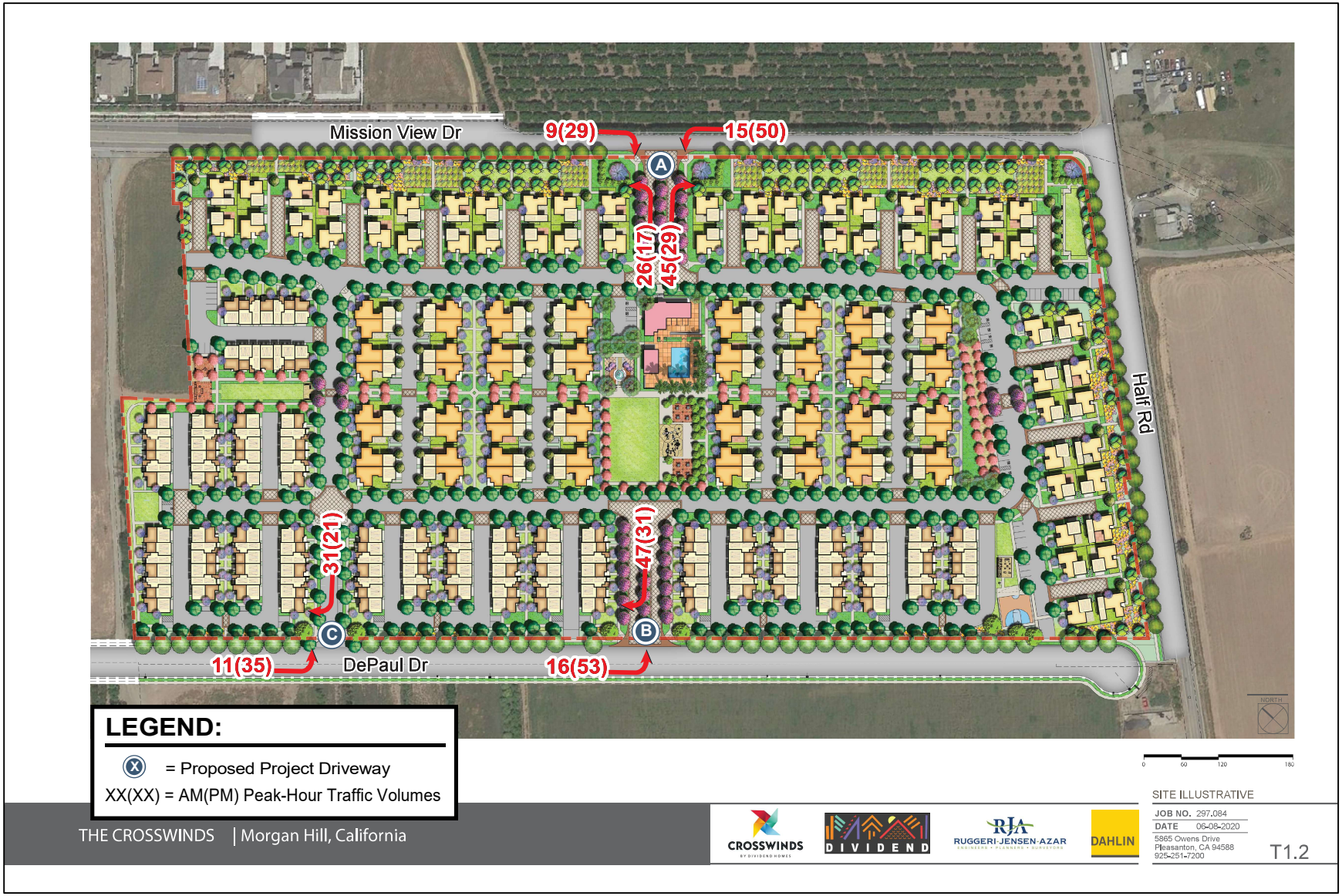
Site Access

Project trips at each of the site access points are presented in Figure 13. The project would include the extension of DePaul Drive to the south with termination as a cul-de-sac just north of Half Road. Access to the project site would be provided via a full access driveway along Mission View Drive and two full access driveways along the DePaul Drive extension.

On-Site Circulation

An internal private street network would provide access to each of the residential units from the proposed entrances along Mission View Drive and DePaul Drive. Most of the streets that front homes include on-street parallel parking. The internal streets would provide continuous access to each area of residential units.

Figure 13
Project Trips at Site Access Points



Travel way on street is typically a minimum of 26 feet. The travel way on the internal streets is shown to be at least 20 feet wide. The narrower travel width will provide adequate width for two-way travel on each of the streets and will promote reduced travel speeds within the site. However, the straight nature of the internal roadways could result in drivers traveling at greater speeds than recommended. Therefore, it may be desirable to implement speed-reducing measures along the internal roadways. These measures could include the installation of speed bumps/humps along the internal roadways and/or bulb-outs at intersections and mid-block.

The project site plan shows sidewalks along the project's frontages along Mission View Drive and DePaul Drive and the internal street network on-site. However, there are no sidewalks provided along the west side of Mission View Drive between the project site and Cochrane Road. In conjunction with the existing sidewalks along the east side of Mission View Drive, the proposed sidewalks on Mission View Drive along the project frontage would provide a connection between the project site and bus stops along Mission View Drive and pedestrian destinations along Cochrane Road. There also are no sidewalks along either side of DePaul Drive between the project site and Cochrane Road. Therefore, there will be no sidewalk connection between the project site and Cochrane Road.

The project site should be designed following City of Morgan Hill design standards and provide adequate width and turn-radii at and along all drive/parking aisles to allow for two-way circulation and adequate circulation of larger vehicles (such as emergency trucks, garbage truck, and delivery trucks) throughout the project site. Adhering to the City of Morgan Hill standards and requirements, and implementing the above recommendations, the proposed site access points and layout of the surface parking areas would be adequate to accommodate the circulation of both passenger and emergency vehicles.

Emergency Vehicle Access and Circulation

The 20-foot-wide internal roadway would provide emergency vehicles (fire trucks) sufficient space to access each of the residential units on-site. There are several dead-end drive aisles that would not provide sufficient space for emergency vehicles to turn around. However, the dead-ends will be located along short segments of roadways. Thus, vehicles would be able to back out of the roadways.

Project Driveway Operations

Based on the project trip generation and trip assignment, it is estimated that a maximum of 79 and 88 inbound trips (during the PM peak hour) and 71 and 78 outbound trips (during the AM peak hour) would enter and exit the site at the Mission View Drive driveway and the two driveways on DePaul Drive combined, respectively. As proposed, each of the three project driveways would be provided with one outbound lane and one inbound lane to serve the shared through/right-turn lane and through/left-turn lane into the site on Mission View Drive and DePaul Drive. The estimated project trips at the project site driveways are shown in Figure 13. The results of the driveway operations analyses are summarized in Table 9. The calculations for the project driveway operations analyses are included in Appendix G.

The results of the level of service analysis indicate that all three project driveways are projected to operate at acceptable levels of service (LOS D or better) during each of the peak hours analyzed.

The results of the signal warrant analysis indicate all three project driveways are projected to have traffic conditions that fall below the thresholds that warrant signalization.

The results of the queuing analysis indicate the 95th percentile queues at the project driveways are projected to be at most 25 feet.

Table 9
Project Driveway Operations

Intersection	Int. Control	LOS Std	Peak Hour	Existing Plus Project							Year 2030 Cumulative with Project						
				Warrant Met?	Delay[1]	LOS	Queue Length (ft.) NBL	EB	SBL	WB	Warrant Met?	Delay[1]	LOS	Queue Length (ft.) NBL	EB	SBL	WB
Mission View Drive and Project Driveway A	OWSC	D	AM	No	11.6	B	0	25	--	--	No	19.7	C	0	25	--	--
			PM	No	14.2	B	25	25	--	--	No	31.1	D	25	25	--	--
DePaul Drive and Project Driveway B	OWSC	D	AM	No	8.4	A	--	--	0	25	No	8.4	A	--	--	0	25
			PM	No	8.4	A	--	--	25	25	No	8.4	A	--	--	25	25
DePaul Drive and Project Driveway C	OWSC	D	AM	No	8.6	A	--	--	0	25	No	8.6	A	--	--	0	25
			PM	No	8.5	A	--	--	25	0	No	8.5	A	--	--	25	0

Notes:
[1]The reported delay and corresponding level of service for one-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.
OWSC = one-way stop-controlled; NBL = northbound left; EB = eastbound; SBL = southbound left; WB = westbound

Recommendation: A center-striped median is currently provided along Mission View Drive north of the project site. The current width of Mission View Drive along the project frontage is not adequate to provide a left-turn pocket into the project driveway. Mission View Drive would need to be widened along its east side, opposite the project frontage, to provide a striped left-turn pocket into the project site. Similarly, left-turn lanes should be striped at the project driveways along DePaul Drive if a center-striped median is planned.

Intersection Operations Analysis

The analysis of the intersection level of service was supplemented with an analysis of intersection operations for selected intersections where the project would add a significant number of left-turning vehicles. The operations analysis is based on vehicle queuing for high demand left-turn movements at intersections. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-(\lambda)}}{n!}$$

Where:
P (x=n) = probability of "n" vehicles in queue per lane
n = number of vehicles in the queue per lane
λ = average number of vehicles in the queue per lane (vehicles per hour per lane/signal cycles per hour)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile number of queued vehicles per cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated 95th percentile queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future left-turn storage requirements at intersections. The 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles. Likewise, a queue length larger than the 95th percentile queue would only occur on 5 percent of the signal cycles (about 3 cycles during the peak hour for a signal with a 60-second cycle length). Therefore, left-turn storage pocket designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time. The 95th percentile queue length is also known as the "design queue length".

The vehicle queue estimates and a tabulated summary of the findings are provided in Table 10. The vehicular queuing analysis (Poisson probability calculations) is included in Appendix F.

Cochrane Road and Mission View Drive

The queuing analysis indicates that the estimated 95th vehicle queue for northbound left-turn movement at the Cochrane Road and Mission View Drive intersection currently exceeds the provided turn pocket storage space during the AM and PM peak hours under existing conditions.

The northbound left-turn pocket currently provides approximately 100 feet of vehicle storage, which can accommodate approximately 4 vehicles. The estimated 95th percentile vehicle queues for the northbound left-turn movement currently are approximately 14 and 6 vehicles during the AM and PM peak hours under existing conditions, respectively.

Table 10
Vehicle Queuing Analysis

Measurement	Cochrane Road and DePaul Drive		Mission View Drive and Cochrane Road		Mission View Drive and Half Road			
	Northbound		Northbound Left		Eastbound Left		Soutbound	
	AM	PM	AM	PM	AM	PM	AM	PM
Existing Conditions								
Cycle Length/Control Delay (sec)[1]	60	60	60	60	8.3	7.6	13.6	22.6
Lanes	1	1	1	1	1	1	1	1
Volume (vph)	7	18	512	183	304	174	170	519
Volume (vphpl)	7	18	512	183	304	174	170	519
95th %. Queue (veh/ln.)	1	1	14	6	2	2	2	7
95th %. Queue (ft./ln)[2]	25	25	350	150	50	50	50	175
Storage (ft./ ln.)	950+	950+	100	100	3500	3500	1900	1900
Adequate (Y/N)	YES	YES	**NO**	**NO**	YES	YES	YES	YES
Existing Plus Project Conditions								
Cycle Length/Control Delay (sec)[1]	60	60	60	60	8.4	7.7	14.0	34.0
Lanes	1	1	1	1	1	1	1	1
Volume (vph)	86	70	538	200	318	221	215	548
Volume (vphpl)	86	70	538	200	318	221	215	548
95th %. Queue (veh/ln.)	4	3	14	7	2	2	2	9
95th %. Queue (ft./ln)[2]	100	75	350	175	50	50	50	225
Storage (ft./ ln.)	950+	950+	100	100	3500	3500	1900	1900
Adequate (Y/N)	YES	YES	**NO**	**NO**	YES	YES	YES	YES

Notes:
[1] Cycle length for signalized intersections and control delay for stop-controlled intersections.
[2] Assumes 25 feet per vehicle queued

The addition of project traffic is not projected to lengthen the projected queue during the AM peak hour. However, the addition of project traffic is projected to lengthen the projected queue by one vehicle or 25 feet during the PM peak hour under existing plus project conditions, which would exceed the existing storage capacity by 75 feet.

Recommendation: The northbound left-turn pocket can be lengthened by 250 feet to accommodate the projected queue during the AM peak hour. However, a second northbound left-turn lane is recommended to improve intersection operations.

Project-generated traffic at other locations would be too low to have a measurable effect on queue lengths.

Sight Distance

Adequate sight distance (sight distance triangles) should be provided at the project site driveways in accordance with the *Caltrans Highway Design Manual*. Sight distance triangles should be measured at the driveway approximately 10 feet back from the traveled way. Providing the appropriate sight distance reduces the likelihood of a collision at a driveway or intersection and provides drivers with the ability to exit a driveway and locate sufficient gaps in traffic. The minimum acceptable sight distance is often considered the Caltrans stopping sight distance. Sight distance requirements vary depending on the roadway speeds. DePaul Drive and Mission View Drive have posted speed limits of 35 and 40 mph, respectively. The Caltrans stopping sight distance for facilities with posted speed limits of 35 and 40 mph are 250 and 300 feet, respectively. Thus, a driver exiting the project driveways on DePaul Drive and Mission View Drive must be able to see approaching traffic on DePaul Drive and Mission View Drive at minimum distances of 250 and 300 feet, respectively, to be able to stop and avoid a collision.

Based on field observations, aerial images, and the location of the project driveways, there are no existing trees or visual obstructions along DePaul Drive and Mission View Drive that would obscure sight distance to drivers exiting the project site, providing a clear view of approaching traffic on both sides of DePaul Drive and Mission View Drive beyond the minimum required distances of 250 and 300 feet, respectively. Therefore, it can be concluded that the project access driveways would meet the Caltrans minimum stopping sight distance standards.

Recommendation: The site design should ensure design features, in particular, the landscaping and signage along the project site frontage and at the project site driveways, would not interfere with the sight distance at the proposed site driveway.

Parking

Based on Tables 18.72-2 and 18.72-3 of Section 18.72.030 of the Morgan Hill City Code, the project would be required to provide 2 covered parking spaces per residential unit and one guest parking space is required for every four residential units. The project would be required to provide 538 resident and 68 guest parking spaces for the proposed 269 residential units. The project is proposing to provide two covered parking spaces for each residential unit for a total of 538 parking spaces and 271 on-street parking spaces within the internal street network. Therefore, the provided number of parking spaces would satisfy the City's parking requirement.

Transit, Pedestrian, and Bicycle Analysis

The project site is served by Local Route 87 with bus stops along Mission View Drive and Half Road. In addition, Express Route 168 also provides service along Cochrane Road west of US 101. These two bus routes provide a connection to the Morgan Hill Caltrain Station. A conservative mode split in Morgan Hill would be a three percent transit share. Assuming up to three percent transit mode share for the project equates to no more than six and eight transit riders during the AM and PM peak hours, respectively.

VTA has recommended that a new bus stop for Route 87 be installed along Mission View Drive on the project frontage just south of the project entrance. VTA also has suggested a new bus stop be installed on the northbound side of Mission View Drive if a controlled crosswalk were to be installed at the project entrance along Mission view Drive. However, this analysis showed no need for signal control at the project entrance. It is recommended that the project coordinate with VTA to identify the specific placement of a new bus stop along Mission View Drive and allow for adequate space along its frontage on Mission View to accommodate the installation of a bus stop including wider sidewalks, lighting, landscaping, and passenger pad.

Sidewalks are provided along the east side of Mission View Drive and the north side of Cochrane Road in the immediate project area. However, sidewalks along the south side of Cochrane Road are intermittent, with no sidewalk currently provided between the US 101 northbound ramps and De Paul Drive, and a short segment west of Mission View Drive. The project would provide sidewalks along its entire frontages along Mission View Drive, Half Road, and DePaul Drive and result in a continuous connection to the existing sidewalks on the east side of Mission View Drive to provide a safe connection between the project site and other surrounding land uses in the area. Controlled crossings at the intersections of Cochrane Road with Mission View Drive and DePaul Drive would provide a connection between the project area and retail uses on the north side of Cochrane Road.

Bike lanes are currently provided along the entire lengths of Cochrane Road and Main Avenue. An unpaved bike path, the Madrone Channel Trail, runs along the east side of US 101, between Tennant Avenue and Cochrane Road. It is expected that bicycle trips would comprise no more than one percent of the total project-generated trips. Thus, the project could potentially generate no more than three new bicycle trips during each of the peak hours. The demand generated by the proposed project could be accommodated by the existing bicycle facilities in the vicinity of the project site.

Freeway Ramp Analysis

Freeway On-Ramp Queuing Analysis

An analysis of metered freeway ramps providing access to the project site was performed to identify the effect of the addition of project traffic on the queues at metered study freeway on-ramps. It should be noted that the evaluation of freeway ramps is not required based on the City's transportation analysis guidelines. Nor are there adopted methodologies and impact criteria for the analysis of freeway ramps. The project is expected to add peak hour trips to only the following metered freeway on-ramps in the project vicinity:

- US 101 northbound on-ramp from westbound Cochrane Road (Active Meter – AM Peak Hour)
- US 101 southbound on-ramp from westbound Cochrane Road (Active Meter – PM Peak Hour)
- US 101 southbound on-ramp from Dunne Avenue

The project is projected to add at most four trips to the US 101 southbound on-ramp from Dunne Avenue during the AM or PM peak hour and would not lengthen the projected queues at this location. Therefore, this ramp was not included in the queuing analysis.

The analysis indicates that project traffic would not lengthen the projected 15-minute interval queue lengths at either of the subject Cochrane Road on-ramps under existing plus project conditions. Short vehicle queues, less than 10 vehicles, currently occur at the ramps, however, the queues dissipate during the 15-minute intervals because the demand volume is less than the service rate of the freeway ramp meters.

The volumes on the northbound diagonal on-ramp from westbound Cochrane Road are projected to be greater than the service rate of the ramp meter during the AM peak hour under Year 2030 Cumulative with project conditions. Therefore, queues are projected to develop on the northbound diagonal on-ramp. Trips from the proposed project will result in an increase in the projected queue by two vehicles. However, the projected queues on the metered northbound diagonal on-ramp can be accommodated entirely on the ramp. The freeway on-ramp queuing calculations are included in Appendix H.

Freeway Off-Ramp Queuing Analysis

A queuing analysis was completed for freeway off-ramps, where the project will result in the addition of peak hour trips. These freeway off-ramps are controlled by a traffic signal at their intersection with the local arterial. The project is expected to add peak hour trips to only the following freeway off-ramps in the project vicinity:

- US 101 northbound off-ramp to Cochrane Road
- US 101 southbound off-ramp to Cochrane Road
- US 101 northbound off-ramp to Dunne Avenue

The project is projected to add at most four trips to the US 101 northbound off-ramp at Dunne Avenue during the AM or PM peak hour and would not lengthen the projected queues at this location. Therefore, this ramp was not included in the queuing analysis.

The results of the analysis (see Table 11) show that the 95th percentile queue lengths at each of the US 101 off-ramps to Cochrane Road are projected to be accommodated entirely on the ramps and would not extend back and disrupt the freeway mainline. The freeway off-ramp queuing calculations are included in Appendix H.

Table 11
Freeway Off-Ramp Vehicle Queuing Analysis

Scenario		Queue Length[1] (feet)			
		US 101 SB Off-Ramps and Cochrane Road		US 101 NB Off-Ramps and Cochrane Road	
		SBL/R[2]	SBR[2]	NBL[2]	NBL/R[2]
Storage		**2,100**	**650**	**950**	**1,750**
Existing	AM	375	275	150	225
	PM	525	300	150	275
Existing Plus Project	AM	400	275	150	225
	PM	600	300	150	300
Year 2030 Cumulative without Project	AM	550	350	150	250
	PM	825	375	175	400
Year 2030 Cumulative with Project	AM	575	350	150	275
	PM	975	375	175	425
Maximum		**975**	**375**	**175**	**425**
Storage - Maximum		**1,125**	**275**	**775**	**1,325**

Notes:
[1]Queue lengths were obtained from Traffix assuming 25 feet per vehicle.
[2]SBL/R = southbound left/right; SBR = southbound right; NBL = northbound left; NBL/R = northbound left/right

6. Conclusions

The potential impacts of the project were evaluated in accordance with the California Environmental Quality Act (CEQA) guidelines and the Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018.

A supplemental traffic operations analysis also was completed to demonstrate the project's consistency with the *Morgan Hill 2035 General Plan* goals and policies. The traffic operations analysis supplements the CEQA required VMT analysis. However, the determination of project impacts per CEQA requirements is based solely on the VMT analysis.

CEQA VMT Analysis

The results of the VMT analysis using the VTA's VMT Evaluation Tool indicate that the existing VMT for residential uses in the project vicinity is 30.46 VMT per capita.

The results also indicate that the project is projected to generate VMT per capita (27.41), which would exceed the OPR's recommended impact threshold of 20.94 VMT per capita. Therefore, the project would result in an impact on the transportation system based on OPR's VMT impact criteria.

VMT Impacts and Mitigation

Using OPR's impact thresholds, the project would need to implement VMT reduction measures to achieve a 24% reduction (27.41 to 20.94) in its VMT per capita for the proposed residential uses to reduce its impact to less than significant levels.

OPR's recommended 15% below existing VMT impact threshold encourages developments in transit-rich, highly mixed-use areas to implement design features and trip reduction measures to take advantage of existing multi-model infrastructure and land use mixes in reducing trip making and/or trip lengths. However, many communities such as Morgan Hill have very limited multi-modal transportation infrastructure and lack a mix of complementary land uses. The lack of employment in these communities along with minimal transit options results in a greater number and longer commute trips. Therefore, it is highly unlikely that developments like the proposed project in these cities can achieve OPR's recommended 15% reduction in VMT. Therefore, absent of the City adopting its own City-

specific VMT policies and impact thresholds, the proposed project's VMT impact must be deemed significant and unavoidable.

Per its condition of approval, the City will however require that the project implement and/or incorporate in its design the following VMT reduction measures to encourage the use of multi-modal travel and reduce the number and length of vehicular trips:

1. The management entity/HOA shall provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director prior to issuance of occupancy.

2. The project must improve the surrounding pedestrian network by including sidewalks which terminate at the common property line, allowing for connections to the adjacent property in the event there is development in the future. Continuous sidewalks are proposed along the project frontages. The proposed frontage improvements along Mission View Drive, Half Road, and De Paul Drive include sidewalk improvements; each of the street sections will be wide enough to accommodate future bicycle lanes.

3. The proposed development will include 64 bicycle parking spaces.

Traffic Operations Analysis

Project Trip Generation

Based on the recommended rates for single-family detached housing (Land Use #210) and the size of the proposed project, it is estimated that the proposed project would generate 2,539 daily trips, with 199 trips (50 inbound and 149 outbound) occurring during the AM peak hour and 266 trips (168 inbound and 98 outbound) occurring during the PM peak hour.

Intersection Operations Analyses

The results of the traffic operations analysis indicate that based on the City's operating standards, the proposed project would have an adverse effect on intersection operations at the following four study intersections under Year 2030 Cumulative with project conditions.

6. Mission View Drive and Cochrane Road (AM & PM Peak Hours)
8. Mission View Drive and Half Road (unsignalized) (AM & PM Peak Hours)
9. Condit Road and Main Avenue (PM Peak Hour)
10. Condit Road and Diana Avenue (unsignalized) (AM Peak Hour)

Adverse Intersection Operations Effects and Potential Improvements

The adverse intersection operation effects identified under Year 2030 Cumulative with project conditions are discussed below. Included are descriptions of the adverse effects on intersection operations and potential improvement measures that may be included as part of the project's Conditions of Approval. However, the identified roadway operations and improvements are not required or considered project impacts per CEQA guidelines.

6. Cochrane Road and Mission View Drive

This intersection is projected to operate at an unacceptable LOS F and E during the AM and PM peak hours, respectively, under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project would cause the critical delay to increase by more than four seconds and the volume-to-capacity ratio (V/C) to increase by more than 0.01 during both the AM and PM peak hours. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The addition of a second northbound left-turn lane on Mission View Drive and a cycle length adjustment would be necessary to improve intersection operations. The addition of the second northbound left-turn lane will require lane striping and signal modification but will fit within the existing curb-to-curb pavement width on Mission View Drive. Implementation of this improvement would improve the intersection's level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project conditions.

8. Mission View Drive and Half Road

This intersection is projected to operate at an unacceptable LOS F during the PM peak hour under Year 2030 Cumulative without and with project conditions. Furthermore, this intersection is projected to operate at an acceptable LOS D during the AM peak hour under Year 2030 Cumulative without conditions and degrade to LOS E with the addition of project traffic. Additionally, the peak-hour traffic signal warrant checks indicate that the intersection would have traffic volumes that meet thresholds that warrant signalization during both the AM and PM peak hours under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The signalization of the intersection would be necessary to improve intersection operations. Implementation of a traffic signal at this location would improve the level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project. This intersection is under the jurisdiction of both the City of Morgan Hill and Santa Clara County. Therefore, implementation of the recommended improvements will require City and County approval.

9. Main Avenue and Condit Road

This intersection is projected to operate at an unacceptable LOS F during the PM peak hour under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project would cause the critical delay to increase by more than four seconds and the volume-to-capacity ratio (V/C) to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The addition of an exclusive southbound right-turn lane on Condit Road would be necessary to improve intersection operations. The addition of the right-turn lane will require signal modifications and lane striping on the southbound approach. Implementation of this improvement would improve the intersection's level of service to LOS D during the PM peak hour under Year 2030 Cumulative with project conditions. This intersection is under the jurisdiction of both the City of Morgan Hill and Santa Clara County. Therefore, implementation of the recommended improvements will require City and County approval.

10. Condit Road and Diana Avenue

This intersection is projected to operate at an unacceptable LOS E during the AM peak hour under Year 2030 Cumulative without and with project conditions. Additionally, the peak-hour traffic signal

warrant checks indicate that the intersection would have traffic volumes that meet thresholds that warrant signalization during the AM peak hour under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The signalization of the intersection would be necessary to improve intersection operations. Implementation of this improvement would improve the intersection's level of service to LOS B during the AM peak hour under Year 2030 Cumulative with project conditions.

Freeway Segment Level of Service Analysis

The results of the freeway segment level of service analysis indicate that ten directional mixed-flow lanes and one directional HOV lane on the freeway segments analyzed are projected to operate at an unacceptable LOS F during at least one peak hour under existing conditions and would continue to operate at LOS F conditions with the addition of traffic due to proposed project.

Improvement of freeway segment operations would require freeway widening to construct additional through lanes, thereby increasing freeway capacity. VTA's Valley Transportation Plan (VTP) 2040 identifies freeway express lane projects along US 101 between Cochrane Road and Whipple Avenue. The planned improvements consist of the conversion of the existing HOV lane to an express lane and the construction of a second express lane in each direction on US 101. These improvements would increase the capacity of the freeway and help to address the deficiency in freeway operations. However, it is not feasible for an individual development project to bear responsibility for implementing such extensive transportation system improvements due to constraints in the acquisition and cost of right-of-way.

Other Transportation Issues

Site Access

The project would include the extension of DePaul Drive to the south with termination as a cul-de-sac just north of Half Road. Access to the project site would be provided via a full access driveway along Mission View Drive and two full access driveways along the DePaul Drive extension.

On-Site Circulation

An internal private street network would provide access to each of the residential units from the proposed entrances along Mission View Drive and DePaul Drive. Most of the streets that front homes include on-street parallel parking. The internal streets would provide continuous access to each area of residential units.

Travel way on street is typically a minimum of 26 feet. The travel way on the internal streets is shown to be at least 20 feet wide. The narrower travel width will provide adequate width for two-way travel on each of the streets and will promote reduced travel speeds within the site. However, the straight nature of the internal roadways could result in drivers traveling at greater speeds than recommended. Therefore, it may be desirable to implement speed-reducing measures along the internal roadways. These measures could include the installation of speed bumps/humps along the internal roadways and/or bulb-outs at intersections and mid-block.

The project site plan shows sidewalks along the project's frontages along Mission View Drive and DePaul Drive and the internal street network on-site. However, there are no sidewalks provided along

the west side of Mission View Drive between the project site and Cochrane Road. In conjunction with the existing sidewalks along the east side of Mission View Drive, the proposed sidewalks on Mission View Drive along the project frontage would provide a connection between the project site and bus stops along Mission View Drive and pedestrian destinations along Cochrane Road. There also are no sidewalks along either side of DePaul Drive between the project site and Cochrane Road. Therefore, there will be no sidewalk connection between the project site and Cochrane Road.

The project site should be designed following City of Morgan Hill design standards and provide adequate width and turn-radii at and along all drive/parking aisles to allow for two-way circulation and adequate circulation of larger vehicles (such as emergency trucks, garbage truck, and delivery trucks) throughout the project site. Adhering to the City of Morgan Hill standards and requirements, and implementing the above recommendations, the proposed site access points and layout of the surface parking areas would be adequate to accommodate the circulation of both passenger and emergency vehicles.

Emergency Vehicle Access and Circulation

The 20-foot-wide internal roadway would provide emergency vehicles (fire trucks) sufficient space to access each of the residential units on-site. There are several dead-end drive aisles that would not provide sufficient space for emergency vehicles to turn around. However, the dead-ends will be located along short segments of roadways. Thus, vehicles would be able to back out of the roadways.

Intersection Operations Analysis

The queuing analysis also indicates that the maximum vehicle queue for northbound left-turn movement at the Cochrane Road and Mission View Drive intersection currently exceeds the provided turn pocket storage space during the AM and PM peak hours under existing conditions.

The addition of project traffic is not projected to lengthen the projected queue during the AM peak hour. However, the addition of project traffic is projected to lengthen the projected queue by one vehicle or 25 feet during the PM peak hour under existing plus project conditions, which would exceed the existing storage capacity by 75 feet.

Recommendation: The northbound left-turn pocket can be lengthened by 250 feet to accommodate the projected queue during the AM peak hour. However, a second northbound left-turn lane is recommended to improve intersection operations.

Project Driveway Operations

The results of the project driveway operations analysis indicate that all three project driveways are projected to operate at acceptable levels of service (LOS D or better) during each of the peak hours analyzed and to have traffic conditions that fall below the thresholds that warrant signalization. Additionally, the 95th percentile queues at the project driveways are projected to be at most 25 feet.

Recommendation: A center-striped median is currently provided along Mission View Drive north of the project site. The current width of Mission View Drive along the project frontage is not adequate to provide a left-turn pocket into the project driveway. Mission View Drive would need to be widened along its east side, opposite the project frontage, to provide a striped left-turn pocket into the project site. Similarly, left-turn lanes should be striped at the project driveways along DePaul Drive if a center-striped median is planned.

Sight Distance

Based on Caltrans requirements, the available sight distance at the project site driveways on DePaul Drive and Mission View Drive would be adequate.

Recommendation: The site design should ensure design features, in particular, the landscaping and signage along the project site frontage and at the project site driveways, would not interfere with the sight distance at the proposed site driveway.

Parking

Based on Tables 18.72-2 and 18.72-3 of Section 18.72.030 of the Morgan Hill City Code, the project would be required to provide 2 covered parking spaces per residential unit and one guest parking space is required for every four residential units. The project would be required to provide 538 resident and 68 guest parking spaces for the proposed 269 residential units. The project is proposing to provide two covered parking spaces for each residential unit for a total of 538 parking spaces and 271 on-street parking spaces within the internal street network. Therefore, the provided number of parking spaces would satisfy the City's parking requirement.

Transit, Pedestrian, and Bicycle Analysis

The project site is served by Local Route 87 with bus stops along Mission View Drive and Half Road. In addition, Express Route 168 also provides service along Cochrane Road west of US 101. These two bus routes provide a connection to the Morgan Hill Caltrain Station. A conservative mode split in Morgan Hill would be a three percent transit share. Assuming up to three percent transit mode share for the project equates to no more than six and eight transit riders during the AM and PM peak hours, respectively.

VTA has recommended that a new bus stop for Route 87 be installed along Mission View Drive on the project frontage just south of the project entrance. VTA also has suggested a new bus stop be installed on the northbound side of Mission View Drive if a controlled crosswalk were to be installed at the project entrance along Mission view Drive. However, this analysis showed no need for signal control at the project entrance. It is recommended that the project coordinate with VTA to identify the specific placement of a new bus stop along Mission View Drive and allow for adequate space along its frontage on Mission View to accommodate the installation of a bus stop including wider sidewalks, lighting, landscaping, and passenger pad.

Sidewalks are provided along the east side of Mission View Drive and the north side of Cochrane Road in the immediate project area. However, sidewalks along the south side of Cochrane Road are intermittent, with no sidewalk currently provided between the US 101 northbound ramps and De Paul Drive, and a short segment west of Mission View Drive. The project would provide sidewalks along its entire frontages along Mission View Drive, Half Road, and DePaul Drive and result in a continuous connection to the existing sidewalks on the east side of Mission View Drive to provide a safe connection between the project site and other surrounding land uses in the area. Controlled crossings at the intersections of Cochrane Road with Mission View Drive and DePaul Drive would provide a connection between the project area and retail uses on the north side of Cochrane Road.

Bike lanes are currently provided along the entire lengths of Cochrane Road and Main Avenue. An unpaved bike path, the Madrone Channel Trail, runs along the east side of US 101, between Tennant Avenue and Cochrane Road. It is expected that bicycle trips would comprise no more than one percent of the total project-generated trips. Thus, the project could potentially generate no more than three new

bicycle trips during each of the peak hours. The demand generated by the proposed project could be accommodated by the existing bicycle facilities in the vicinity of the project site.

Freeway Ramp Analysis

Freeway On-Ramp Queuing Analysis

The analysis indicates that project traffic would not lengthen the projected 15-minute interval queue lengths at either of the subject Cochrane Road on-ramps under existing plus project conditions. Short vehicle queues, less than 10 vehicles, currently occur at the ramps, however, the queues dissipate during the 15-minute intervals because the demand volume is less than the service rate of the freeway ramp meters.

The volumes on the northbound diagonal on-ramp from westbound Cochrane Road are projected to be greater than the service rate of the ramp meter during the AM peak hour under Year 2030 Cumulative with project conditions. Therefore, queues are projected to develop on the northbound diagonal on-ramp. Trips from the proposed project will result in an increase in the projected queue by two vehicles. However, the projected queues on the metered northbound diagonal on-ramp can be accommodated entirely on the ramp.

Freeway Off-Ramp Queuing Analysis

The results of the analysis show that the 95th percentile queue lengths at each of the US 101 off-ramps to Cochrane Road are projected to be accommodated entirely on the ramps and would not extend back and disrupt the freeway mainline.

The Crosswinds Residential Development

Technical Appendices

October 7, 2021

Appendix A

VTA VMT Evaluation Tool Output Sheets

Santa Clara Countywide VMT Evaluation Tool Report

Project Details

Timestamp of Analysis: November 17, 2020, 04:29:27 PM

Project Name: The Crosswinds Residential Development

Project Description: 269 residential units comprised of 149 condos, 56 single-family detached, and 64 duet units

Project Location

Jurisdiction:
Morgan Hill

Inside Transit Priority Area (TPA)?
No (Fail)

APN	TAZ
72830001	333
72830003	333
72830002	333
72830004	333

Analysis Details

Santa Clara Countywide VMT Evaluation Tool Version: 1

Data Version: VTA Countywide Model December 2019

Analysis Methodology: Parcel Buffer Method

Baseline Year: 2019

Project Land Use

Residential:

Single Family DU: 269

Multifamily DU:

Total DUs: 269

Non-Residential:

Office KSF:

Local Serving Retail KSF:

Industrial KSF:

Residential Affordability (percent of all units):

Extremely Low Income: 0 %

Very Low Income: 0 %

Low Income: 15 %

Parking:

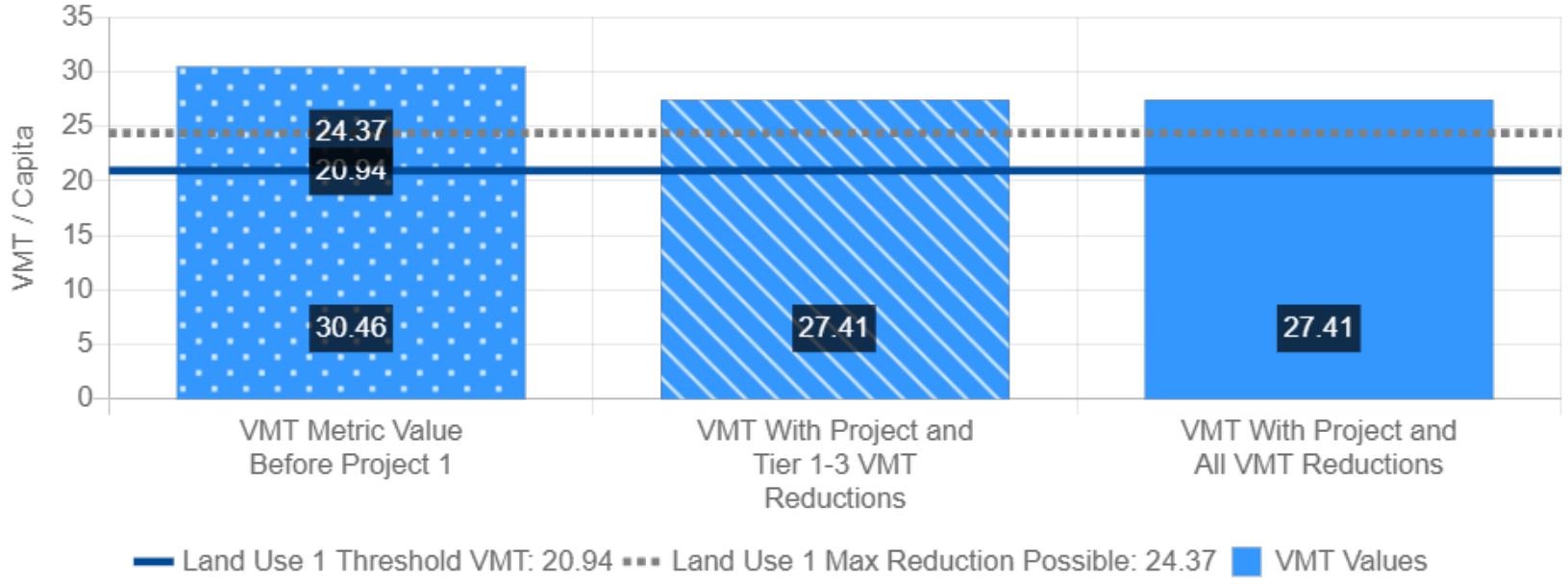
Motor Vehicle Parking:

Bicycle Parking:

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Without Project:	Home-based VMT per Capita
VMT Baseline Description 1:	City Average
VMT Baseline Value 1:	24.64
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	30.46	27.41	27.41
Low VMT Screening Analysis	No (Fail)	No (Fail)	No (Fail)



Tier 1 Project Characteristics

PC01 Increase Residential Density

Existing Residential Density:	2.28
With Project Residential Density:	4.09

PC02 Increase Residential Diversity

Existing Residential Diversity Index:	0.71
With Project Residential Diversity Index:	0.55

PC03 Affordable Housing

Low Income:	15 %

PC04 Increase Employment Density

Existing Employment Density:	11.62
With Project Employment Density:	11.62

Santa Clara Countywide VMT Evaluation Tool Report

Project Details

Timestamp of Analysis: December 22, 2020, 11:01:57 PM

Project Name: The Crosswinds Residential Development

Project Description: 269 residential units comprised of 149condos, 56 single-family detached, and64 duet units

Project Location

Jurisdiction:
Morgan Hill

Inside Transit Priority Area (TPA)?
No (Fail)

APN	TAZ
72830001	333
72830003	333
72830002	333
72830004	333

Analysis Details

Santa Clara Countywide VMT Evaluation Tool Version: 1

Data Version: VTA Countywide Model December 2019

Analysis Methodology: Parcel Buffer Method

Baseline Year: 2019

Project Land Use

Residential:

Single Family DU: 269

Multifamily DU:

Total DUs: 269

Non-Residential:

Office KSF:

Local Serving Retail KSF:

Industrial KSF:

Residential Affordability (percent of all units):

Extremely Low Income: 0 %

Very Low Income: 0 %

Low Income: 15 %

Parking:

Motor Vehicle Parking:

Bicycle Parking:

With TDM Mitigation Measures

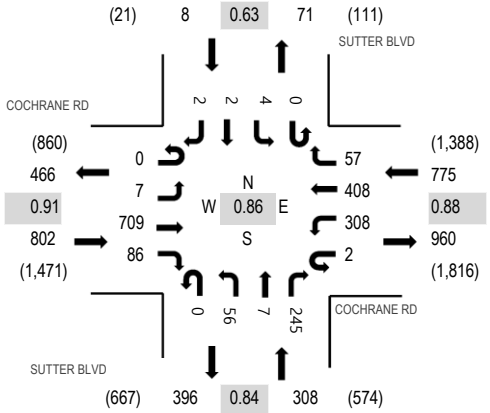
Appendix B

Traffic Counts

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

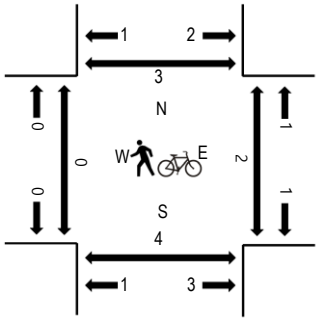
Location: 5 SUTTER BLVD & COCHRANE RD AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				SUTTER BLVD Northbound				SUTTER BLVD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	1	207	6	0	44	66	2	0	7	1	65	0	1	1	0	401	1,818	0	0	0	0
7:15 AM	0	0	178	9	1	57	84	5	0	22	0	74	0	1	0	0	431	1,885	1	0	0	1
7:30 AM	0	0	193	14	0	71	90	6	0	7	1	54	0	0	0	1	437	1,893	0	2	0	1
7:45 AM	0	3	184	43	1	83	112	17	0	15	0	89	0	0	1	1	549	1,819	0	0	1	0
8:00 AM	0	2	183	18	1	69	92	13	0	21	0	67	0	2	0	0	468	1,636	0	0	1	2
8:15 AM	0	2	149	11	0	85	114	21	0	13	6	35	0	2	1	0	439		0	0	1	0
8:30 AM	0	2	142	6	0	58	88	10	0	10	3	38	0	2	3	1	363		0	0	0	1
8:45 AM	0	0	111	7	0	80	104	14	0	10	2	34	0	2	0	2	366		0	0	0	0

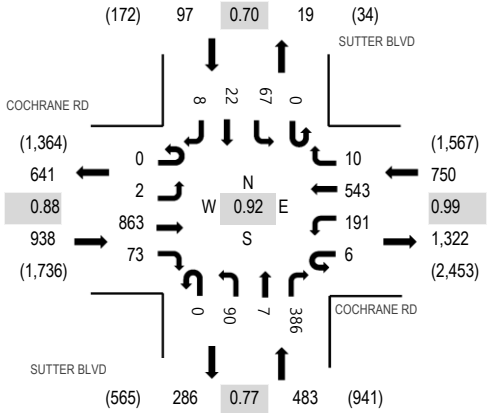
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	3	0	0	3	6	0	0	0	1	3	0	1	0	0	17
Lights	0	7	684	83	2	298	388	57	0	56	6	222	0	3	2	2	1,810
Mediums	0	0	22	3	0	7	14	0	0	0	0	20	0	0	0	0	66
Total	0	7	709	86	2	308	408	57	0	56	7	245	0	4	2	2	1,893

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

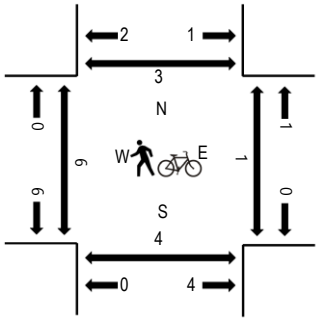
Location: 5 SUTTER BLVD & COCHRANE RD PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				SUTTER BLVD Northbound				SUTTER BLVD Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	1	208	28	0	40	141	2	0	29	5	131	0	12	2	5	604	2,258	0	0	0	2
4:15 PM	0	1	196	27	4	54	127	4	0	21	1	88	0	5	4	2	534	2,268	0	0	0	0
4:30 PM	0	1	252	17	1	43	140	2	0	26	3	106	0	21	4	3	619	2,268	2	0	2	0
4:45 PM	0	0	201	15	0	46	117	2	0	21	2	76	0	16	3	2	501	2,178	1	0	0	1
5:00 PM	0	0	214	14	1	48	159	2	0	22	1	116	0	25	11	1	614	2,158	2	1	2	2
5:15 PM	0	0	188	16	1	49	159	1	0	18	0	84	0	15	2	1	534		0	0	1	1
5:30 PM	0	0	167	16	0	46	166	2	0	34	0	76	0	16	4	2	529		3	0	2	1
5:45 PM	0	0	154	20	0	53	154	3	0	14	1	66	0	13	3	0	481		2	2	3	0

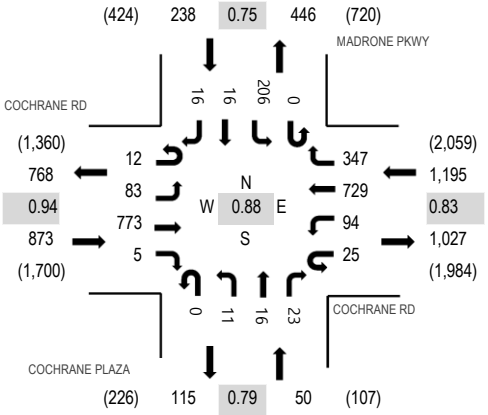
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	5	0	0	7	7	0	0	0	0	0	0	1	1	0	21
Lights	0	2	848	71	6	176	526	10	0	89	6	379	0	66	19	8	2,206
Mediums	0	0	10	2	0	8	10	0	0	1	1	7	0	0	2	0	41
Total	0	2	863	73	6	191	543	10	0	90	7	386	0	67	22	8	2,268

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

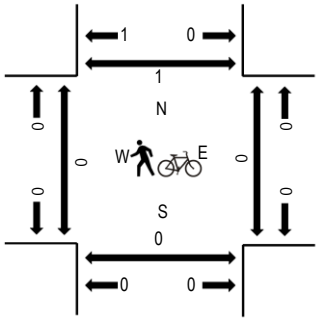
Location: 6 COCHRANE PLAZA & COCHRANE RD AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				COCHRANE PLAZA Northbound				MADRONE PKWY Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	1	23	233	4	4	23	101	43	0	2	3	9	0	32	4	3	485	2,223	0	0	0	1
7:15 AM	2	12	231	0	6	17	135	47	0	1	3	15	0	42	2	4	517	2,298	0	0	0	0
7:30 AM	2	18	210	2	5	18	159	71	0	3	3	4	0	48	5	7	555	2,356	0	0	0	0
7:45 AM	2	18	218	2	8	18	214	120	0	3	9	5	0	44	3	2	666	2,263	0	0	0	0
8:00 AM	3	24	185	1	8	27	148	72	0	3	1	9	0	75	3	1	560	2,067	0	0	0	0
8:15 AM	5	23	160	0	4	31	208	84	0	2	3	5	0	39	5	6	575		0	0	0	1
8:30 AM	5	19	155	2	8	22	136	54	0	2	2	6	0	36	4	11	462		0	0	0	0
8:45 AM	1	16	122	1	7	27	184	50	0	2	2	10	0	41	5	2	470		0	0	0	0

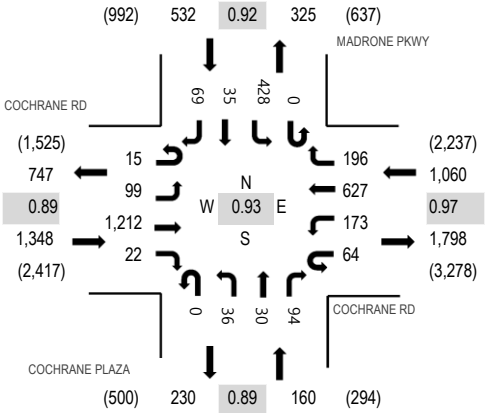
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	9	0	0	0	9	2	0	0	0	0	0	2	0	0	22
Lights	12	83	724	5	24	92	703	341	0	11	16	23	0	202	16	16	2,268
Mediums	0	0	40	0	1	2	17	4	0	0	0	0	0	2	0	0	66
Total	12	83	773	5	25	94	729	347	0	11	16	23	0	206	16	16	2,356

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

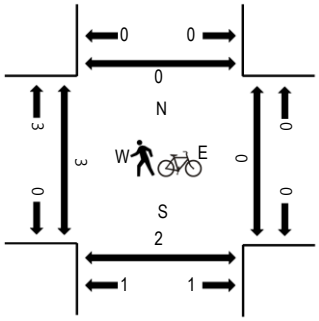
Location: 6 COCHRANE PLAZA & COCHRANE RD PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				COCHRANE PLAZA Northbound				MADRONE PKWY Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	4	15	305	3	24	43	135	58	0	9	7	15	1	91	11	15	736	3,044	0	0	0	0
4:15 PM	6	22	279	6	19	46	154	58	0	5	10	21	0	99	11	14	750	3,100	2	0	0	0
4:30 PM	2	24	345	6	20	43	162	40	0	12	9	25	0	117	10	18	833	3,081	0	0	0	0
4:45 PM	2	23	293	4	16	42	138	42	0	14	5	24	0	97	9	16	725	2,908	0	0	2	0
5:00 PM	5	30	295	6	9	42	173	56	0	5	6	24	0	115	5	21	792	2,896	1	0	0	0
5:15 PM	2	35	229	5	19	59	180	44	0	7	10	22	0	103	11	5	731		0	0	0	1
5:30 PM	2	18	217	5	17	49	189	54	0	4	5	17	0	61	9	13	660		1	0	0	0
5:45 PM	6	24	196	3	31	54	189	32	0	5	9	24	0	109	18	13	713		0	0	0	2

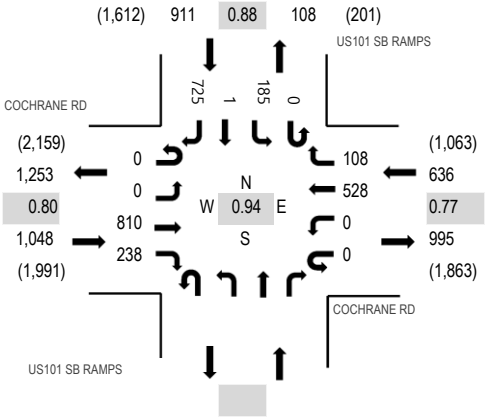
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	5	0	0	0	15	4	0	0	0	0	0	2	0	0	27
Lights	15	98	1,193	22	63	173	596	190	0	35	30	94	0	422	34	68	3,033
Mediums	0	0	14	0	1	0	16	2	0	1	0	0	0	4	1	1	40
Total	15	99	1,212	22	64	173	627	196	0	36	30	94	0	428	35	69	3,100

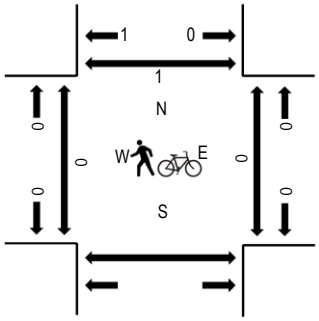
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 7 US101 SB RAMPS & COCHRANE RD AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				US101 SB RAMPS Northbound				US101 SB RAMPS Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	240	42	0	0	60	11					0	30	1	109	493	2,311	0	0		0
7:15 AM	0	0	201	40	0	0	63	28					0	26	0	159	517	2,480	0	0		0
7:30 AM	0	0	188	64	0	0	110	39					0	45	0	162	608	2,595	0	0		0
7:45 AM	0	0	178	50	0	0	179	27					0	61	0	198	693	2,495	0	0		0
8:00 AM	0	0	257	71	0	0	118	18					0	36	0	162	662	2,355	0	0		1
8:15 AM	0	0	187	53	0	0	121	24					0	43	1	203	632		0	0		0
8:30 AM	0	0	172	54	0	0	108	23					0	33	0	118	508		0	0		0
8:45 AM	0	0	127	67	0	0	103	31					0	39	0	186	553		0	0		0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	8	2	0	0	7	2					0	2	0	7	28
Lights	0	0	767	222	0	0	515	101					0	175	1	701	2,482
Mediums	0	0	35	14	0	0	6	5					0	8	0	17	85
Total	0	0	810	238	0	0	528	108					0	185	1	725	2,595

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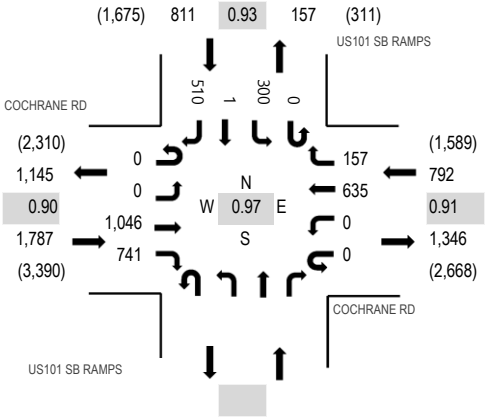
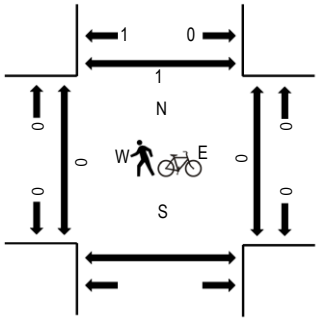
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				US101 SB RAMPS Northbound				US101 SB RAMPS Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	279	188	0	0	159	37					0	55	0	113	831	3,289	0	0		0
4:15 PM	0	0	228	188	0	0	167	34					0	80	0	97	794	3,335	0	0		0
4:30 PM	0	0	307	193	0	0	157	35					0	56	0	122	870	3,390	0	0		0
4:45 PM	0	0	219	205	0	0	149	37					0	74	1	109	794	3,350	0	0		0
5:00 PM	0	0	273	177	0	0	158	38					0	87	0	144	877	3,365	0	0		0
5:15 PM	0	0	247	166	0	0	171	47					0	83	0	135	849		0	0		1
5:30 PM	0	0	221	122	0	0	185	44					0	113	0	145	830		0	0		0
5:45 PM	0	0	252	125	0	0	132	39					0	94	0	167	809		0	0		1

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	7	7	0	0	11	0					0	0	0	5	30
Lights	0	0	1,026	729	0	0	618	156					0	298	1	489	3,317
Mediums	0	0	13	5	0	0	6	1					0	2	0	16	43
Total	0	0	1,046	741	0	0	635	157					0	300	1	510	3,390

All Traffic Data Services Inc.
(303) 216-2439
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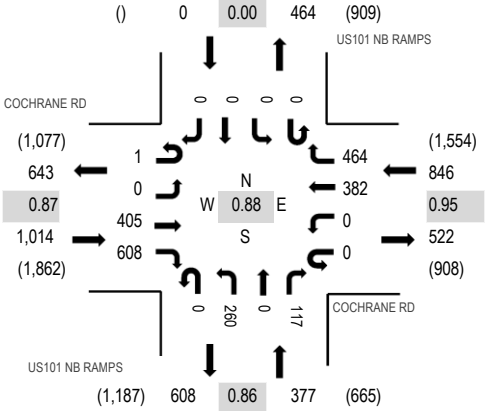
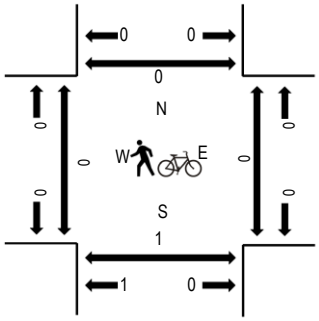
Location: 8 US101 NB RAMPS & COCHRANE RD AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				US101 NB RAMPS Northbound				US101 NB RAMPS Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	47	211	0	0	52	144	0	22	0	17	0	0	0	0	493	2,142	0	0	1	0
7:15 AM	0	0	56	172	0	0	69	144	0	21	0	20	0	0	0	0	482	2,208	0	0	0	0
7:30 AM	0	0	73	162	0	0	101	127	0	51	0	18	0	0	0	0	532	2,237	0	0	1	0
7:45 AM	0	0	132	163	0	0	121	99	0	90	0	30	0	0	0	0	635	2,171	0	0	0	0
8:00 AM	0	0	110	157	0	0	78	124	0	54	0	36	0	0	0	0	559	1,939	0	0	0	0
8:15 AM	1	0	90	126	0	0	82	114	0	65	0	33	0	0	0	0	511		0	0	0	0
8:30 AM	0	0	83	121	0	0	67	88	0	64	0	43	0	0	0	0	466		0	0	0	0
8:45 AM	0	0	83	75	0	0	75	69	0	64	0	37	0	0	0	0	403		0	0	0	0

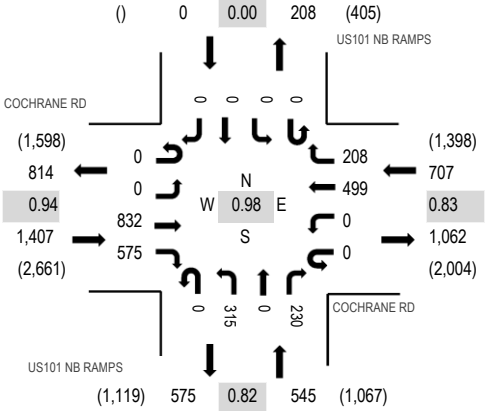
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	3	8	0	0	1	4	0	7	0	3	0	0	0	0	26
Lights	1	0	386	571	0	0	372	454	0	251	0	108	0	0	0	0	2,143
Mediums	0	0	16	29	0	0	9	6	0	2	0	6	0	0	0	0	68
Total	1	0	405	608	0	0	382	464	0	260	0	117	0	0	0	0	2,237

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

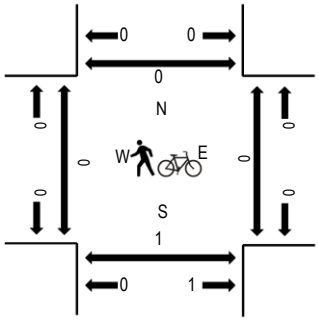
Location: 8 US101 NB RAMPS & COCHRANE RD PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				US101 NB RAMPS Northbound				US101 NB RAMPS Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	148	145	0	0	117	54	0	74	0	61	0	0	0	0	599	2,467	0	0	0	0
4:15 PM	0	0	193	135	0	0	122	41	0	81	0	56	0	0	0	0	628	2,529	0	0	0	0
4:30 PM	0	0	186	154	0	0	132	56	0	65	0	53	0	0	0	0	646	2,582	0	0	0	0
4:45 PM	0	0	183	110	0	0	123	46	0	70	0	62	0	0	0	0	594	2,613	0	0	2	0
5:00 PM	0	0	206	162	0	0	124	47	0	75	0	47	0	0	0	0	661	2,659	0	0	0	0
5:15 PM	0	0	200	143	0	0	126	43	0	100	0	69	0	0	0	0	681		0	0	0	0
5:30 PM	0	0	205	118	0	0	144	76	0	74	0	60	0	0	0	0	677		0	0	0	0
5:45 PM	0	0	221	152	0	0	105	42	0	66	0	54	0	0	0	0	640		0	0	1	0

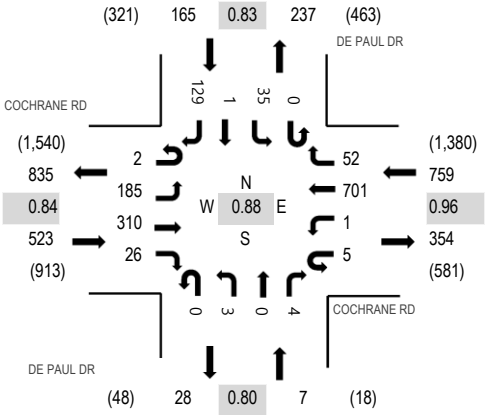
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	9	0	0	0	0	0	6	0	0	0	0	0	0	15
Lights	0	0	828	555	0	0	495	207	0	303	0	223	0	0	0	0	2,611
Mediums	0	0	4	11	0	0	4	1	0	6	0	7	0	0	0	0	33
Total	0	0	832	575	0	0	499	208	0	315	0	230	0	0	0	0	2,659

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

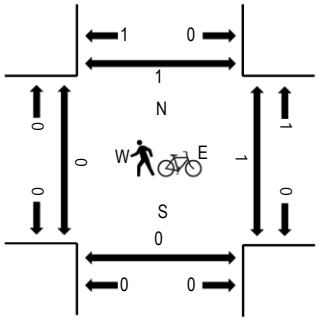
Location: 9 DE PAUL DR & COCHRANE RD AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				DE PAUL DR Northbound				DE PAUL DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	22	41	0	0	0	170	13	0	0	0	0	0	8	0	31	285	1,343	2	0	0	2
7:15 AM	0	32	46	3	1	0	175	20	0	0	0	1	0	5	0	34	317	1,442	0	0	0	0
7:30 AM	1	35	54	2	1	0	194	10	0	0	0	0	0	10	0	22	329	1,454	0	0	0	0
7:45 AM	0	47	109	11	2	0	191	15	0	0	0	1	0	12	0	24	412	1,419	0	0	0	0
8:00 AM	0	53	82	8	2	0	167	17	0	0	0	2	0	10	0	43	384	1,289	0	1	0	1
8:15 AM	1	50	65	5	0	1	149	10	0	3	0	1	0	3	1	40	329		0	0	0	0
8:30 AM	1	63	55	9	1	0	112	11	0	4	0	1	0	5	0	32	294		0	0	0	2
8:45 AM	0	53	57	8	2	0	106	10	0	3	2	0	0	4	0	37	282		0	0	0	2

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	2	4	0	0	0	3	0	0	0	0	0	0	0	0	1	10
Lights	2	178	292	26	5	1	684	52	0	3	0	4	0	33	1	126	1,407
Mediums	0	5	14	0	0	0	14	0	0	0	0	0	0	2	0	2	37
Total	2	185	310	26	5	1	701	52	0	3	0	4	0	35	1	129	1,454

All Traffic Data Services Inc.
(303) 216-2439
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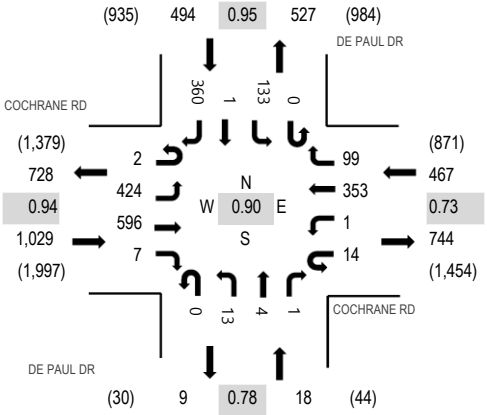
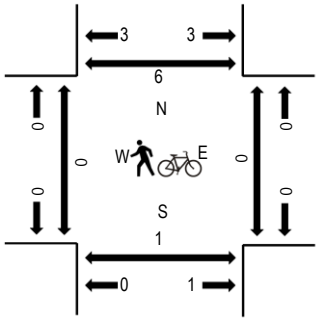
Location: 9 DE PAUL DR & COCHRANE RD PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				DE PAUL DR Northbound				DE PAUL DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	79	128	6	2	1	94	24	0	4	2	0	0	35	1	79	455	1,846	0	0	0	0
4:15 PM	0	88	149	3	5	0	68	18	0	4	3	2	0	27	1	87	455	1,880	0	0	0	0
4:30 PM	1	97	130	6	2	1	93	26	0	5	0	1	0	22	0	82	466	1,916	0	0	0	0
4:45 PM	1	101	150	2	5	1	68	16	0	4	3	0	0	25	0	94	470	2,008	0	0	1	5
5:00 PM	0	107	148	1	2	0	82	26	0	3	1	1	0	33	1	84	489	2,001	0	0	0	1
5:15 PM	0	105	145	2	5	0	78	24	0	5	0	0	0	41	0	86	491		0	0	0	0
5:30 PM	1	111	153	2	2	0	125	33	0	1	0	0	0	34	0	96	558		0	0	0	0
5:45 PM	0	107	172	2	2	0	56	12	0	4	0	1	1	32	0	74	463		0	1	0	2

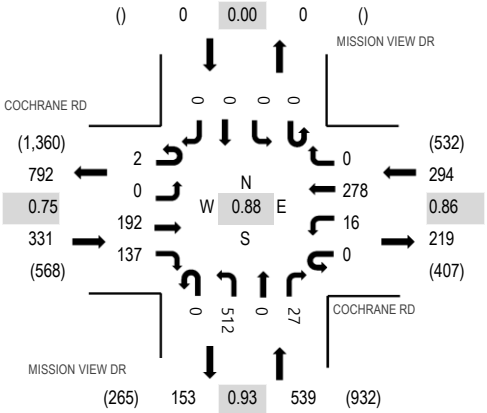
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lights	2	421	589	7	14	1	347	99	0	13	4	1	0	132	1	360	1,991
Mediums	0	3	6	0	0	0	6	0	0	0	0	0	0	1	0	0	16
Total	2	424	596	7	14	1	353	99	0	13	4	1	0	133	1	360	2,008

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

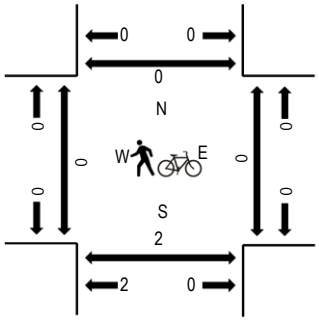
Location: 10 MISSION VIEW DR & COCHRANE RD AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				MISSION VIEW DR Northbound				MISSION VIEW DR Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	33	17	0	7	58	0	0	128	0	18	0	0	0	0	261	1,135	0	0	1	1
7:15 AM	1	0	31	17	0	5	70	0	0	123	0	10	0	0	0	0	257	1,164	0	0	0	0
7:30 AM	0	0	43	24	0	6	84	0	0	124	0	5	0	0	0	0	286	1,127	0	0	1	0
7:45 AM	1	0	61	55	0	4	77	0	0	125	0	8	0	0	0	0	331	1,054	0	0	0	0
8:00 AM	0	0	57	41	0	1	47	0	0	140	0	4	0	0	0	0	290	897	0	0	1	0
8:15 AM	1	0	51	16	0	3	47	0	0	94	0	8	0	0	0	0	220		0	0	0	0
8:30 AM	0	0	27	34	0	9	57	0	0	74	0	12	0	0	0	0	213		0	0	0	1
8:45 AM	2	0	32	24	0	2	55	0	0	52	0	7	0	0	0	0	174		0	0	0	1

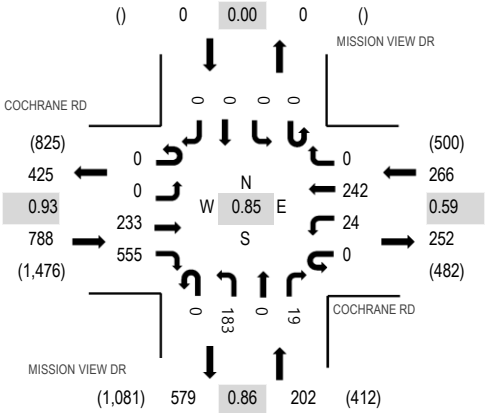
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	5	0	0	0	1	0	0	1	0	0	0	0	0	0	7
Lights	2	0	176	130	0	16	276	0	0	505	0	26	0	0	0	0	1,131
Mediums	0	0	11	7	0	0	1	0	0	6	0	1	0	0	0	0	26
Total	2	0	192	137	0	16	278	0	0	512	0	27	0	0	0	0	1,164

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

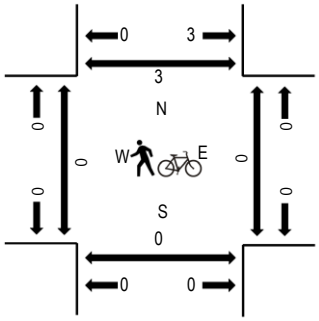
Location: 10 MISSION VIEW DR & COCHRANE RD PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				MISSION VIEW DR Northbound				MISSION VIEW DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	5	0	48	114	0	14	49	0	0	70	0	3	0	0	0	0	303	1,132	0	1	0	0
4:15 PM	2	0	58	119	0	2	46	0	0	31	0	4	0	0	0	0	262	1,133	0	0	0	0
4:30 PM	2	0	53	108	0	8	59	0	0	57	0	5	0	0	0	0	292	1,174	0	1	0	2
4:45 PM	0	0	56	123	0	14	42	0	0	37	0	3	0	0	0	0	275	1,252	0	0	0	0
5:00 PM	0	0	44	140	0	9	57	0	0	49	0	5	0	0	0	0	304	1,256	0	0	0	3
5:15 PM	0	0	62	134	0	2	41	0	0	57	0	7	0	0	0	0	303		0	0	0	0
5:30 PM	0	0	59	137	0	10	113	0	0	47	0	4	0	0	0	0	370		0	0	0	0
5:45 PM	0	0	68	144	0	3	31	0	0	30	0	3	0	0	0	0	279		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lights	0	0	230	550	0	24	241	0	0	180	0	18	0	0	0	0	1,243
Mediums	0	0	2	5	0	0	1	0	0	3	0	1	0	0	0	0	12
Total	0	0	233	555	0	24	242	0	0	183	0	19	0	0	0	0	1,256

Traffic Data Service

San Jose, CA
(408) 622-4787
tdsbay@cs.com

File Name : 8AM FINAL
Site Code : 00000008
Start Date : 3/28/2019
Page No : 1

Groups Printed- Vehicles

	MISSION VIEW DR Southbound					AVENIDA DE LOS PADRES Westbound					MISSION VIEW DR Northbound					AVENIDA DE LOS PADRES Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	15	0	0	15	12	0	5	0	17	3	88	0	0	91	0	0	0	0	0	123
07:15 AM	0	29	1	0	30	14	0	17	0	31	1	92	0	0	93	0	0	0	0	0	154
07:30 AM	0	40	1	0	41	20	0	18	0	38	3	129	0	0	132	0	0	0	0	0	211
07:45 AM	0	37	7	0	44	21	0	5	0	26	8	128	0	0	136	0	0	0	0	0	206
Total	0	121	9	0	130	67	0	45	0	112	15	437	0	0	452	0	0	0	0	0	694
08:00 AM	0	23	7	0	30	6	0	3	0	9	5	116	0	0	121	0	0	0	0	0	160
08:15 AM	0	8	11	0	19	25	0	5	0	30	2	108	0	0	110	0	0	0	0	0	159
08:30 AM	0	17	5	0	22	17	0	3	0	20	6	76	0	0	82	0	0	0	0	0	124
08:45 AM	0	10	2	0	12	11	0	5	0	16	3	72	0	0	75	0	0	0	0	0	103
Total	0	58	25	0	83	59	0	16	0	75	16	372	0	0	388	0	0	0	0	0	546
Grand Total	0	179	34	0	213	126	0	61	0	187	31	809	0	0	840	0	0	0	0	0	1240
Apprch %	0	84	16	0		67.4	0	32.6	0		3.7	96.3	0	0		0	0	0	0		
Total %	0	14.4	2.7	0	17.2	10.2	0	4.9	0	15.1	2.5	65.2	0	0	67.7	0	0	0	0	0	

	MISSION VIEW DR Southbound				AVENIDA DE LOS PADRES Westbound				MISSION VIEW DR Northbound				AVENIDA DE LOS PADRES Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**40**	1	41	20	0	**18**	**38**	3	**129**	0	132	0	0	0	0	**211**
07:45 AM	0	37	7	**44**	21	0	5	26	**8**	128	0	**136**	0	0	0	0	206
08:00 AM	0	23	7	30	6	0	3	9	5	116	0	121	0	0	0	0	160
08:15 AM	0	8	**11**	19	**25**	0	5	30	2	108	0	110	0	0	0	0	159
Total Volume	0	108	26	134	72	0	31	103	18	481	0	499	0	0	0	0	736
% App. Total	0	80.6	19.4		69.9	0	30.1		3.6	96.4	0		0	0	0		
PHF	.000	.675	.591	.761	.720	.000	.431	.678	.563	.932	.000	.917	.000	.000	.000	.000	.872

Traffic Data Service

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File Name : 8AM FINAL
Site Code : 00000008
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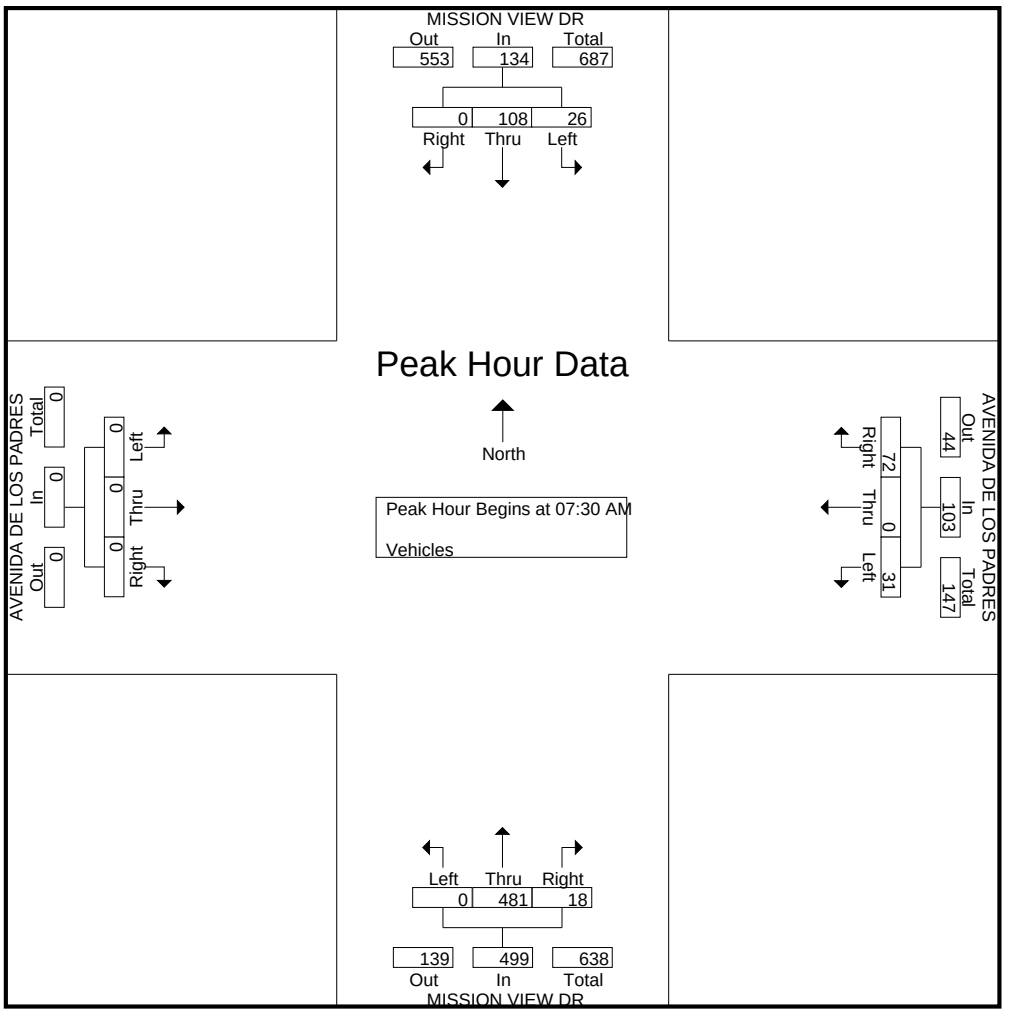

Traffic Data Service

San Jose, CA
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tdsbay@cs.com

File Name : 8PM FINAL
Site Code : 00000008
Start Date : 3/28/2019
Page No : 1

Groups Printed- Vehicles

	MISSION VIEW DR Southbound					AVENIDA DE LOS PADRES Westbound					MISSION VIEW DR Northbound					AVENIDA DE LOS PADRES Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	80	14	0	94	6	0	6	0	12	5	40	0	0	45	0	0	0	0	0	151
04:15 PM	0	114	8	0	122	6	0	7	4	17	3	40	0	0	43	0	0	0	0	0	182
04:30 PM	0	109	19	0	128	7	0	8	1	16	3	42	0	0	45	0	0	0	0	0	189
04:45 PM	0	118	16	0	134	7	0	6	3	16	5	43	0	0	48	0	0	0	0	0	198
Total	0	421	57	0	478	26	0	27	8	61	16	165	0	0	181	0	0	0	0	0	720
05:00 PM	0	116	12	0	128	6	0	8	0	14	9	40	0	0	49	0	0	0	0	0	191
05:15 PM	0	142	13	0	155	6	0	3	1	10	9	43	0	0	52	0	0	0	0	0	217
05:30 PM	0	119	16	0	135	10	0	4	0	14	5	53	0	0	58	0	0	0	0	0	207
05:45 PM	0	93	10	0	103	10	0	8	0	18	7	34	0	0	41	0	0	0	0	0	162
Total	0	470	51	0	521	32	0	23	1	56	30	170	0	0	200	0	0	0	0	0	777
Grand Total	0	891	108	0	999	58	0	50	9	117	46	335	0	0	381	0	0	0	0	0	1497
Apprch %	0	89.2	10.8	0		49.6	0	42.7	7.7		12.1	87.9	0	0		0	0	0	0		
Total %	0	59.5	7.2	0	66.7	3.9	0	3.3	0.6	7.8	3.1	22.4	0	0	25.5	0	0	0	0	0	

	MISSION VIEW DR Southbound				AVENIDA DE LOS PADRES Westbound				MISSION VIEW DR Northbound				AVENIDA DE LOS PADRES Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	118	**16**	134	7	0	6	13	5	43	0	48	0	0	0	0	195
05:00 PM	0	116	12	128	6	0	**8**	**14**	**9**	40	0	49	0	0	0	0	191
05:15 PM	0	**142**	13	**155**	6	0	3	9	9	43	0	52	0	0	0	0	**216**
05:30 PM	0	119	16	135	**10**	0	4	14	5	**53**	0	**58**	0	0	0	0	207
Total Volume	0	495	57	552	29	0	21	50	28	179	0	207	0	0	0	0	809
% App. Total	0	89.7	10.3		58	0	42		13.5	86.5	0		0	0	0		
PHF	.000	.871	.891	.890	.725	.000	.656	.893	.778	.844	.000	.892	.000	.000	.000	.000	.936

Traffic Data Service

San Jose, CA
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File Name : 8PM FINAL
Site Code : 00000008
Start Date : 3/28/2019
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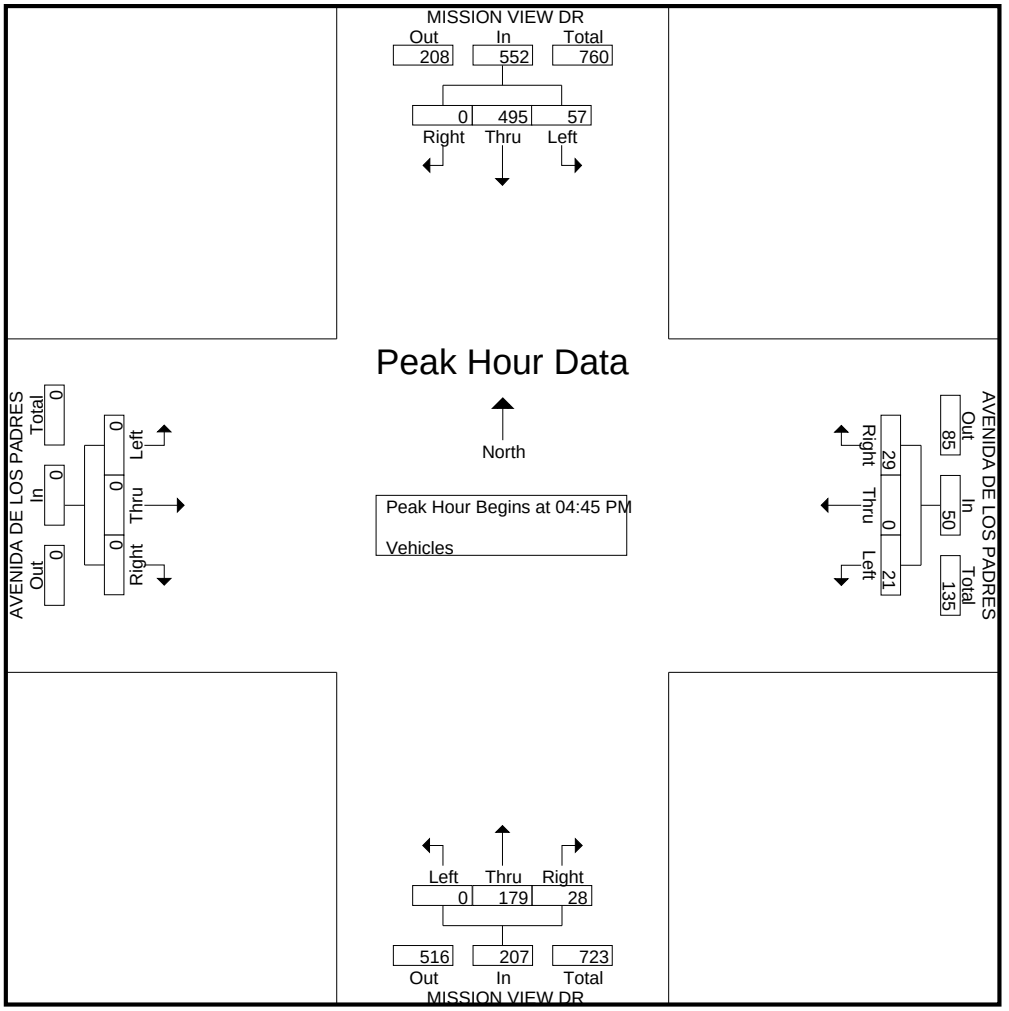

Traffic Data Service

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File Name : 9AM FINAL
Site Code : 00000009
Start Date : 3/28/2019
Page No : 1

Groups Printed- Vehicles

	MISSION VIEW DR Southbound					HALF RD Westbound					Northbound					HALF RD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	16	0	4	1	21	34	2	0	1	37	0	0	0	0	0	0	2	57	1	60	118
07:15 AM	32	0	12	0	44	38	5	0	0	43	0	0	0	0	0	0	0	54	0	54	141
07:30 AM	49	0	14	0	63	63	4	0	0	67	0	0	0	0	0	0	7	72	0	79	209
07:45 AM	25	0	13	0	38	49	3	0	0	52	0	0	0	0	0	0	5	85	0	90	180
Total	122	0	43	1	166	184	14	0	1	199	0	0	0	0	0	0	14	268	1	283	648
08:00 AM	10	0	15	0	25	42	4	0	0	46	0	0	0	0	0	0	1	80	0	81	152
08:15 AM	11	0	4	0	15	28	1	0	0	29	0	0	0	0	0	0	5	83	0	88	132
08:30 AM	17	0	3	0	20	21	0	0	0	21	0	0	0	0	0	0	6	57	0	63	104
08:45 AM	10	0	5	0	15	13	4	0	0	17	0	0	0	0	0	0	7	66	0	73	105
Total	48	0	27	0	75	104	9	0	0	113	0	0	0	0	0	0	19	286	0	305	493
Grand Total	170	0	70	1	241	288	23	0	1	312	0	0	0	0	0	0	33	554	1	588	1141
Apprch %	70.5	0	29	0.4		92.3	7.4	0	0.3		0	0	0	0		0	5.6	94.2	0.2		
Total %	14.9	0	6.1	0.1	21.1	25.2	2	0	0.1	27.3	0	0	0	0	0	0	2.9	48.6	0.1	51.5	

	MISSION VIEW DR Southbound				HALF RD Westbound				Northbound				HALF RD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	32	0	12	44	38	**5**	0	43	0	0	0	0	0	0	54	54	141
07:30 AM	**49**	0	14	**63**	**63**	4	0	**67**	0	0	0	0	0	**7**	72	79	**209**
07:45 AM	25	0	13	38	49	3	0	52	0	0	0	0	0	5	**85**	**90**	180
08:00 AM	10	0	**15**	25	42	4	0	46	0	0	0	0	0	1	80	81	152
Total Volume	116	0	54	170	192	16	0	208	0	0	0	0	0	13	291	304	682
% App. Total	68.2	0	31.8		92.3	7.7	0		0	0	0		0	4.3	95.7		
PHF	.592	.000	.900	.675	.762	.800	.000	.776	.000	.000	.000	.000	.000	.464	.856	.844	.816

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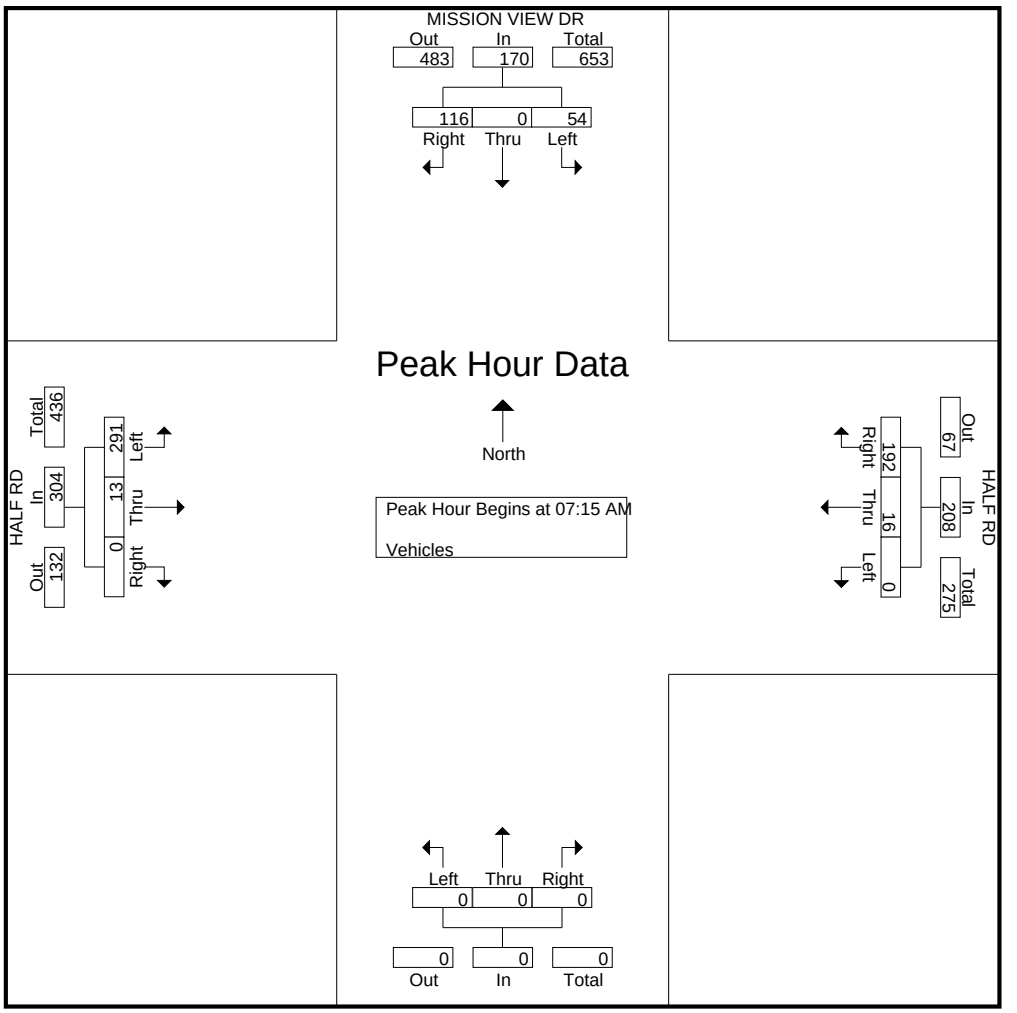

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File Name : 9PM FINAL
Site Code : 00000009
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Groups Printed- Vehicles

	MISSION VIEW DR Southbound					HALF RD Westbound					Northbound					HALF RD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	39	0	55	0	94	9	4	0	0	13	0	0	0	0	0	0	4	38	0	42	149
04:15 PM	67	0	48	0	115	17	8	0	0	25	0	0	0	0	0	0	5	26	0	31	171
04:30 PM	44	0	69	1	114	15	3	0	0	18	0	0	0	0	0	0	7	28	0	35	167
04:45 PM	58	0	66	0	124	15	6	0	0	21	0	0	0	0	0	0	4	32	0	36	181
Total	208	0	238	1	447	56	21	0	0	77	0	0	0	0	0	0	20	124	0	144	668
05:00 PM	59	0	62	0	121	13	14	0	0	27	0	0	0	0	0	0	4	37	0	41	189
05:15 PM	61	0	86	0	147	16	8	0	1	25	0	0	0	0	0	0	10	38	0	48	220
05:30 PM	54	0	73	0	127	18	4	0	0	22	0	0	0	0	0	0	9	40	0	49	198
05:45 PM	49	0	54	0	103	14	10	0	0	24	0	0	0	0	0	0	5	26	0	31	158
Total	223	0	275	0	498	61	36	0	1	98	0	0	0	0	0	0	28	141	0	169	765
Grand Total	431	0	513	1	945	117	57	0	1	175	0	0	0	0	0	0	48	265	0	313	1433
Apprch %	45.6	0	54.3	0.1		66.9	32.6	0	0.6		0	0	0	0		0	15.3	84.7	0		
Total %	30.1	0	35.8	0.1	65.9	8.2	4	0	0.1	12.2	0	0	0	0	0	0	3.3	18.5	0	21.8	

	MISSION VIEW DR Southbound				HALF RD Westbound				Northbound				HALF RD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	58	0	66	124	15	6	0	21	0	0	0	0	0	4	32	36	181
05:00 PM	59	0	62	121	13	**14**	0	**27**	0	0	0	0	0	4	37	41	189
05:15 PM	**61**	0	**86**	**147**	16	8	0	24	0	0	0	0	0	**10**	38	48	**219**
05:30 PM	54	0	73	127	**18**	4	0	22	0	0	0	0	0	9	**40**	**49**	198
Total Volume	232	0	287	519	62	32	0	94	0	0	0	0	0	27	147	174	787
% App. Total	44.7	0	55.3		66	34	0		0	0	0		0	15.5	84.5		
PHF	.951	.000	.834	.883	.861	.571	.000	.870	.000	.000	.000	.000	.000	.675	.919	.888	.898

Traffic Data Service

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File Name : 9PM FINAL
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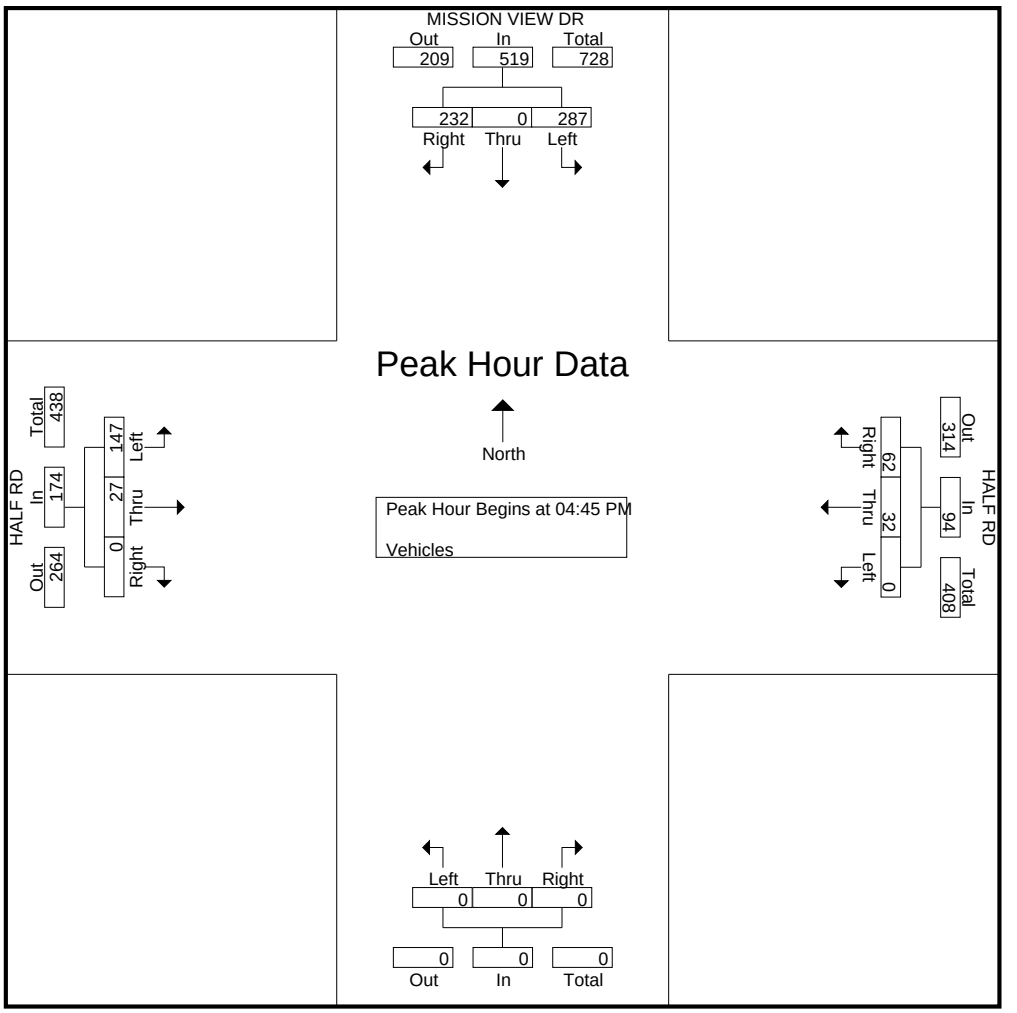
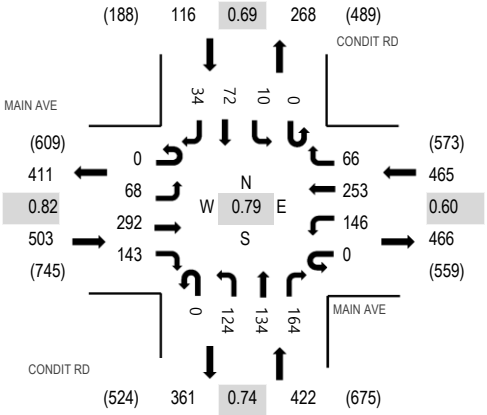


All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

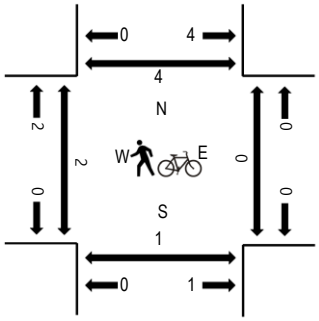
Location: 20 CONDIT RD & MAIN AVE AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MAIN AVE Eastbound				MAIN AVE Westbound				CONDIT RD Northbound				CONDIT RD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	24	4	16	0	3	15	2	0	18	39	8	0	0	6	7	142	1,169	0	0	0	0
7:15 AM	0	24	14	33	0	7	14	8	0	26	35	13	0	0	15	7	196	1,504	0	0	1	0
7:30 AM	0	21	62	60	0	26	48	8	0	30	37	28	0	1	36	5	362	1,506	0	0	0	0
7:45 AM	0	8	120	29	0	41	88	19	0	38	43	63	0	4	5	11	469	1,325	2	0	0	3
8:00 AM	0	20	94	28	0	71	91	32	0	27	23	61	0	2	16	12	477	1,012	0	0	0	0
8:15 AM	0	19	16	26	0	8	26	7	0	29	31	12	0	3	15	6	198		0	0	0	0
8:30 AM	0	15	20	33	0	10	17	3	0	28	32	7	0	0	8	8	181		0	0	0	0
8:45 AM	0	15	21	23	0	6	22	1	0	20	23	4	0	2	3	16	156		0	1	0	0

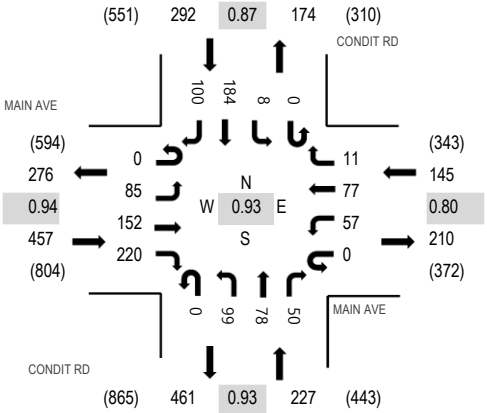
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	1	0	0	0	0	0	0	3	1	0	0	0	0	6
Lights	0	68	289	139	0	143	249	66	0	122	127	162	0	10	72	34	1,481
Mediums	0	0	2	3	0	3	4	0	0	2	4	1	0	0	0	0	19
Total	0	68	292	143	0	146	253	66	0	124	134	164	0	10	72	34	1,506

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

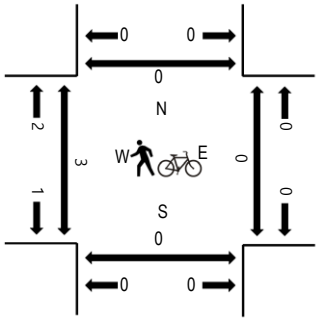
Location: 20 CONDIT RD & MAIN AVE PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:45 PM - 06:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MAIN AVE Eastbound				MAIN AVE Westbound				CONDIT RD Northbound				CONDIT RD Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	16	26	35	0	23	30	5	0	25	22	12	0	1	41	23	259	1,020	0	0	0	2
4:15 PM	0	15	34	52	0	13	32	3	0	28	15	3	0	4	35	21	255	1,031	0	1	0	0
4:30 PM	0	14	31	49	0	20	37	5	0	35	18	14	0	3	33	20	279	1,049	0	0	0	0
4:45 PM	0	10	22	43	0	12	17	1	0	24	12	8	0	4	48	26	227	1,047	0	0	0	0
5:00 PM	0	22	31	57	0	6	14	0	0	25	23	7	0	1	59	25	270	1,121	0	0	0	0
5:15 PM	0	26	41	55	0	13	9	5	0	21	24	10	0	4	39	26	273		1	0	0	0
5:30 PM	0	18	39	55	0	14	27	3	0	27	17	12	0	1	41	23	277		2	0	0	0
5:45 PM	0	19	41	53	0	24	27	3	0	26	14	21	0	2	45	26	301		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	85	151	218	0	56	76	11	0	99	74	50	0	8	183	100	1,111
Mediums	0	0	1	2	0	1	1	0	0	0	4	0	0	0	1	0	10
Total	0	85	152	220	0	57	77	11	0	99	78	50	0	8	184	100	1,121

Traffic Data Service

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File Name : 3AM FINAL
Site Code : 00000003
Start Date : 6/4/2019
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Groups Printed- Vehicles

	CONDIT RD Southbound					DIANA AVE Westbound					CONDIT RD Northbound					DIANA AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	18	1	0	20	9	0	13	0	22	0	28	0	0	28	1	0	0	0	1	71
07:15 AM	0	30	18	0	48	19	1	9	0	29	4	39	1	1	45	1	0	0	0	1	123
07:30 AM	1	56	61	0	118	51	0	13	0	64	1	58	0	1	60	0	0	0	0	0	242
07:45 AM	1	74	16	0	91	69	0	15	0	84	5	77	0	0	82	0	0	0	1	1	258
Total	3	178	96	0	277	148	1	50	0	199	10	202	1	2	215	2	0	0	1	3	694
08:00 AM	0	68	8	0	76	35	2	12	0	49	4	62	0	0	66	1	0	0	0	1	192
08:15 AM	1	43	16	0	60	28	0	11	0	39	3	45	1	0	49	3	1	0	0	4	152
08:30 AM	0	36	7	0	43	21	0	14	0	35	2	58	0	0	60	0	0	0	0	0	138
08:45 AM	0	34	9	0	43	30	0	9	0	39	5	46	0	1	52	1	0	0	0	1	135
Total	1	181	40	0	222	114	2	46	0	162	14	211	1	1	227	5	1	0	0	6	617
Grand Total	4	359	136	0	499	262	3	96	0	361	24	413	2	3	442	7	1	0	1	9	1311
Apprch %	0.8	71.9	27.3	0		72.6	0.8	26.6	0		5.4	93.4	0.5	0.7		77.8	11.1	0	11.1		
Total %	0.3	27.4	10.4	0	38.1	20	0.2	7.3	0	27.5	1.8	31.5	0.2	0.2	33.7	0.5	0.1	0	0.1	0.7	

	CONDIT RD Southbound				DIANA AVE Westbound				CONDIT RD Northbound				DIANA AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**1**	56	**61**	**118**	51	0	13	64	1	58	0	59	0	0	0	0	241
07:45 AM	1	**74**	16	91	**69**	0	**15**	**84**	**5**	**77**	0	**82**	0	0	0	0	**257**
08:00 AM	0	68	8	76	35	**2**	12	49	4	62	0	66	1	0	0	1	192
08:15 AM	1	43	16	60	28	0	11	39	3	45	**1**	49	**3**	**1**	0	**4**	152
Total Volume	3	241	101	345	183	2	51	236	13	242	1	256	4	1	0	5	842
% App. Total	0.9	69.9	29.3		77.5	0.8	21.6		5.1	94.5	0.4		80	20	0		
PHF	.750	.814	.414	.731	.663	.250	.850	.702	.650	.786	.250	.780	.333	.250	.000	.313	.819

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File Name : 3AM FINAL
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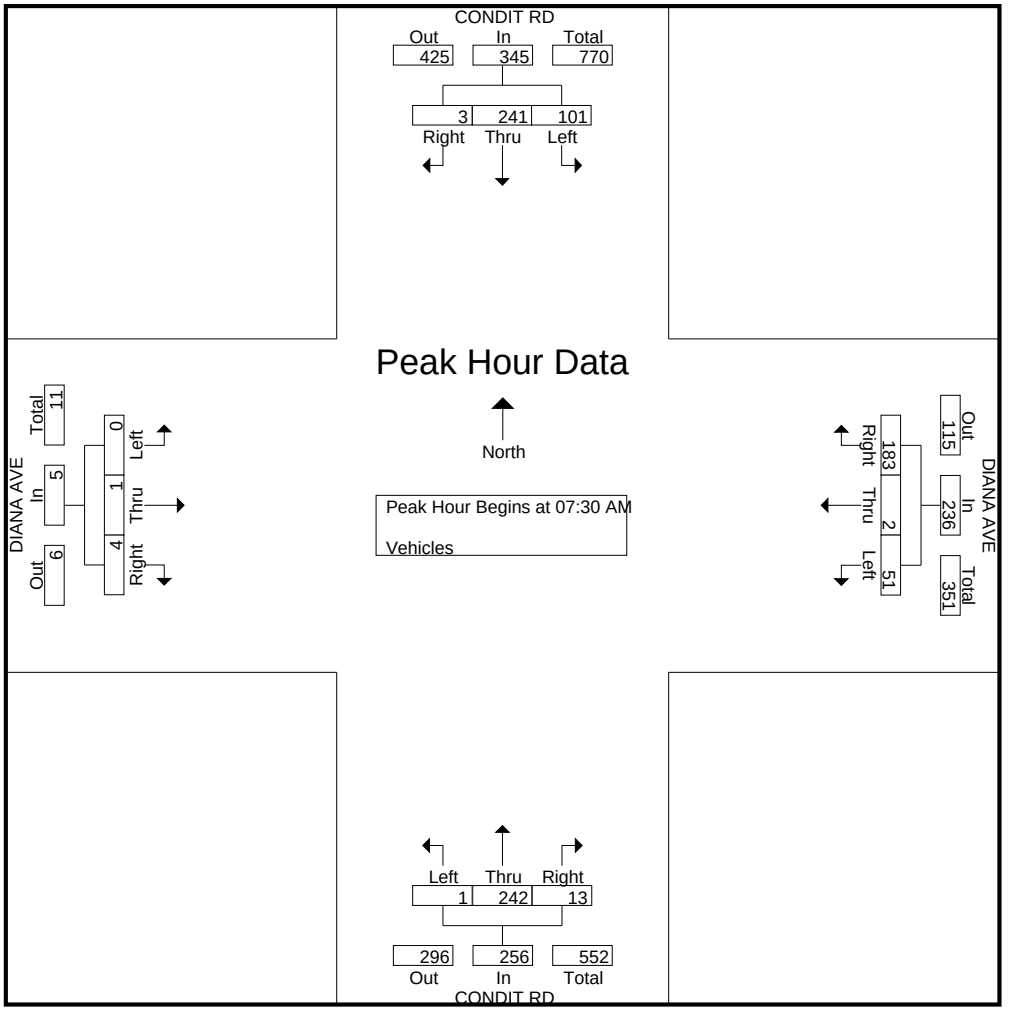

Traffic Data Service

San Jose, CA
(408) 622-4787
tdsbay@cs.com

File Name : 3PM FINAL
Site Code : 00000003
Start Date : 6/4/2019
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Groups Printed- Vehicles

	CONDIT RD Southbound					DIANA AVE Westbound					CONDIT RD Northbound					DIANA AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	1	87	27	0	115	10	0	10	0	20	3	33	0	0	36	0	0	0	0	0	171
04:15 PM	2	78	37	0	117	11	0	5	0	16	6	25	1	0	32	1	1	1	0	3	168
04:30 PM	0	86	31	0	117	14	0	6	0	20	5	32	0	0	37	0	0	0	0	0	174
04:45 PM	0	114	33	0	147	16	0	9	0	25	11	27	1	0	39	2	0	0	0	2	213
Total	3	365	128	0	496	51	0	30	0	81	25	117	2	0	144	3	1	1	0	5	726
05:00 PM	0	89	33	0	122	9	0	4	0	13	10	43	1	0	54	2	0	0	0	2	191
05:15 PM	0	83	40	0	123	16	0	7	0	23	8	49	0	0	57	3	0	0	0	3	206
05:30 PM	0	94	36	0	130	16	0	4	0	20	9	55	0	0	64	0	0	0	0	0	214
05:45 PM	0	77	32	0	109	14	0	5	0	19	6	47	2	0	55	0	0	0	0	0	183
Total	0	343	141	0	484	55	0	20	0	75	33	194	3	0	230	5	0	0	0	5	794
Grand Total	3	708	269	0	980	106	0	50	0	156	58	311	5	0	374	8	1	1	0	10	1520
Apprch %	0.3	72.2	27.4	0		67.9	0	32.1	0		15.5	83.2	1.3	0		80	10	10	0		
Total %	0.2	46.6	17.7	0	64.5	7	0	3.3	0	10.3	3.8	20.5	0.3	0	24.6	0.5	0.1	0.1	0	0.7	

	CONDIT RD Southbound				DIANA AVE Westbound				CONDIT RD Northbound				DIANA AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	**114**	33	**147**	**16**	0	**9**	**25**	**11**	27	**1**	39	2	0	0	2	213
05:00 PM	0	89	33	122	9	0	4	13	10	43	1	54	2	0	0	2	191
05:15 PM	0	83	**40**	123	16	0	7	23	8	49	0	57	**3**	0	0	**3**	206
05:30 PM	0	94	36	130	16	0	4	20	9	**55**	0	**64**	0	0	0	0	**214**
Total Volume	0	380	142	522	57	0	24	81	38	174	2	214	7	0	0	7	824
% App. Total	0	72.8	27.2		70.4	0	29.6		17.8	81.3	0.9		100	0	0		
PHF	.000	.833	.888	.888	.891	.000	.667	.810	.864	.791	.500	.836	.583	.000	.000	.583	.963

Traffic Data Service

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File Name : 3PM FINAL
Site Code : 00000003
Start Date : 6/4/2019
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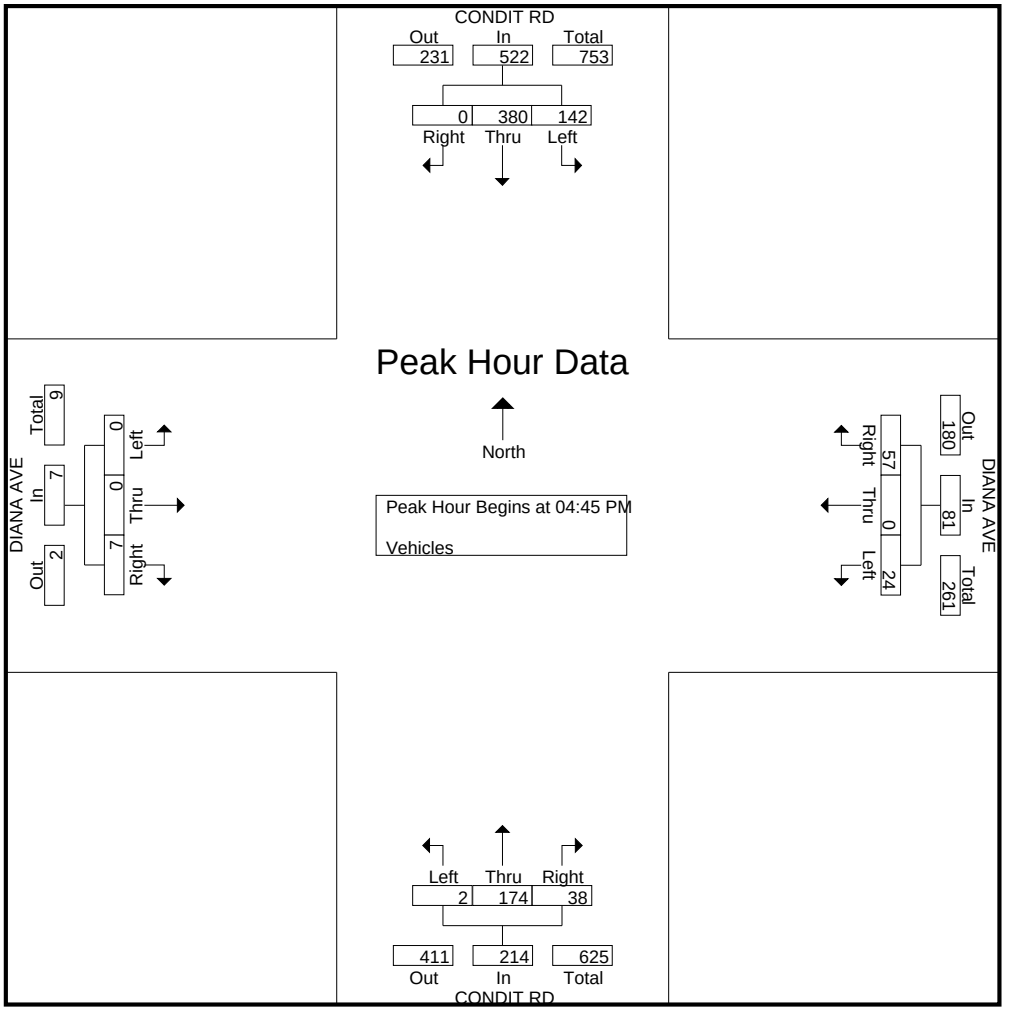

Traffic Data Service

San Jose, CA
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tdsbay@cs.com

File Name : 6AM FINAL
Site Code : 00000006
Start Date : 3/28/2019
Page No : 1

Groups Printed- Vehicles

	CONDIT RD Southbound					E DUNNE AVE Westbound					CONDIT RD Northbound					E DUNNE AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	38	8	4	1	51	10	269	0	0	279	6	35	41	0	82	3	37	26	0	66	478
07:15 AM	60	11	14	2	87	12	270	2	0	284	7	26	46	0	79	7	81	16	2	106	556
07:30 AM	62	6	33	1	102	23	292	5	0	320	5	45	43	0	93	7	112	39	1	159	674
07:45 AM	73	17	12	0	102	20	350	1	0	371	4	60	34	0	98	8	50	54	2	114	685
Total	233	42	63	4	342	65	1181	8	0	1254	22	166	164	0	352	25	280	135	5	445	2393
08:00 AM	105	19	15	1	140	25	272	3	0	300	8	56	38	0	102	7	71	41	0	119	661
08:15 AM	87	12	9	0	108	11	246	2	0	259	5	37	36	0	78	14	72	46	0	132	577
08:30 AM	76	9	8	0	93	32	225	2	0	259	2	35	33	0	70	9	50	41	0	100	522
08:45 AM	66	6	8	0	80	15	193	3	0	211	1	36	37	0	74	9	50	50	0	109	474
Total	334	46	40	1	421	83	936	10	0	1029	16	164	144	0	324	39	243	178	0	460	2234
Grand Total	567	88	103	5	763	148	2117	18	0	2283	38	330	308	0	676	64	523	313	5	905	4627
Apprch %	74.3	11.5	13.5	0.7		6.5	92.7	0.8	0		5.6	48.8	45.6	0		7.1	57.8	34.6	0.6		
Total %	12.3	1.9	2.2	0.1	16.5	3.2	45.8	0.4	0	49.3	0.8	7.1	6.7	0	14.6	1.4	11.3	6.8	0.1	19.6	

	CONDIT RD Southbound				E DUNNE AVE Westbound				CONDIT RD Northbound				E DUNNE AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	62	6	**33**	101	23	292	**5**	320	5	45	**43**	93	7	**112**	39	**158**	672
07:45 AM	73	17	12	102	20	**350**	1	**371**	4	**60**	34	98	8	50	**54**	112	**683**
08:00 AM	**105**	**19**	15	**139**	**25**	272	3	300	**8**	56	38	**102**	7	71	41	119	660
08:15 AM	87	12	9	108	11	246	2	259	5	37	36	78	**14**	72	46	132	577
Total Volume	327	54	69	450	79	1160	11	1250	22	198	151	371	36	305	180	521	2592
% App. Total	72.7	12	15.3		6.3	92.8	0.9		5.9	53.4	40.7		6.9	58.5	34.5		
PHF	.779	.711	.523	.809	.790	.829	.550	.842	.688	.825	.878	.909	.643	.681	.833	.824	.949

Traffic Data Service

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File Name : 6AM FINAL
Site Code : 00000006
Start Date : 3/28/2019
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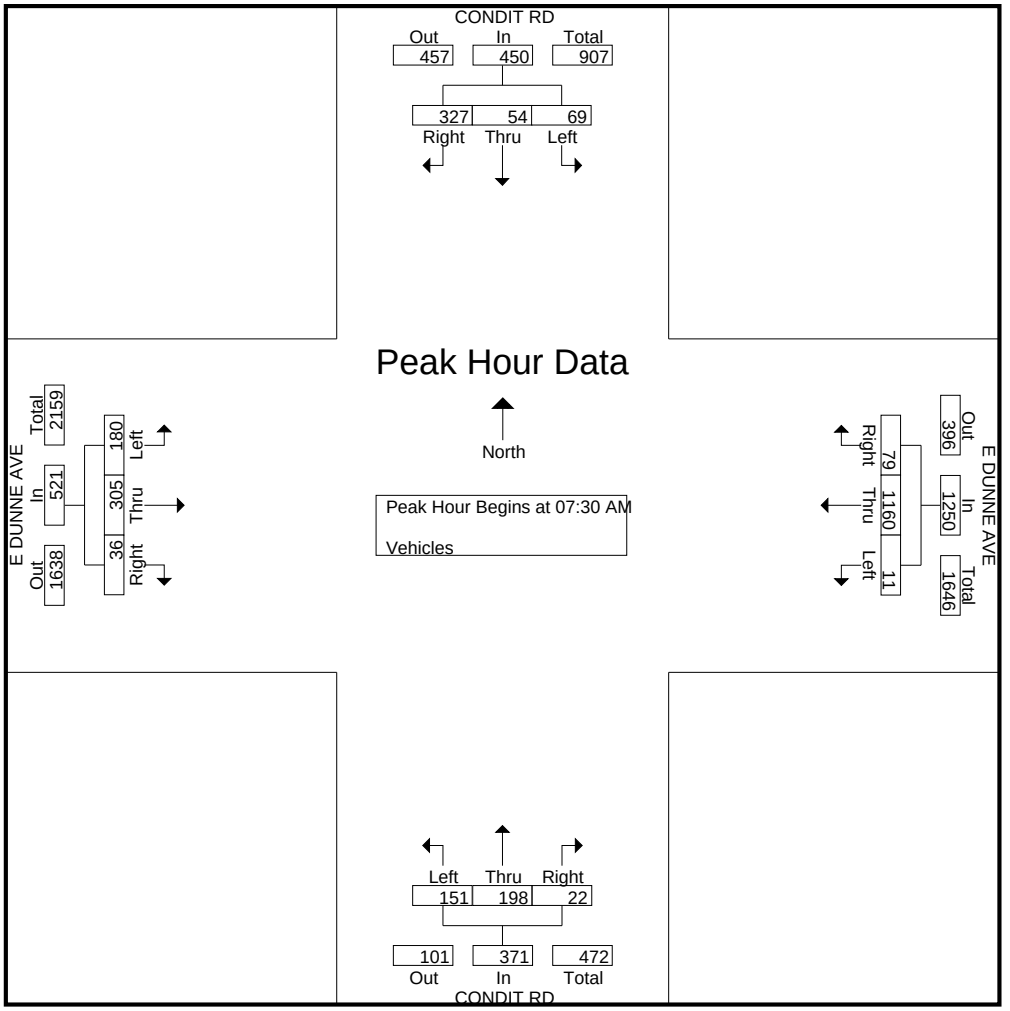

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File Name : 6PM FINAL
Site Code : 00000006
Start Date : 3/28/2019
Page No : 1

Groups Printed- Vehicles

	CONDIT RD Southbound					E DUNNE AVE Westbound					CONDIT RD Northbound					E DUNNE AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	66	36	21	0	123	8	109	3	0	120	2	11	9	0	22	15	132	70	1	218	483
04:15 PM	68	31	30	0	129	11	99	6	0	116	5	20	11	0	36	17	124	52	0	193	474
04:30 PM	66	22	18	0	106	11	98	6	0	115	5	18	11	0	34	13	129	62	0	204	459
04:45 PM	55	39	26	0	120	11	93	20	0	124	4	18	16	0	38	16	120	54	1	191	473
Total	255	128	95	0	478	41	399	35	0	475	16	67	47	0	130	61	505	238	2	806	1889
05:00 PM	58	32	18	2	110	14	89	6	0	109	6	18	21	0	45	13	133	45	0	191	455
05:15 PM	52	25	31	0	108	9	89	9	0	107	2	12	15	0	29	17	158	67	0	242	486
05:30 PM	48	25	24	0	97	16	95	3	0	114	7	23	15	0	45	12	146	51	0	209	465
05:45 PM	54	23	20	2	99	25	80	7	0	112	4	17	15	0	36	20	151	55	0	226	473
Total	212	105	93	4	414	64	353	25	0	442	19	70	66	0	155	62	588	218	0	868	1879
Grand Total	467	233	188	4	892	105	752	60	0	917	35	137	113	0	285	123	1093	456	2	1674	3768
Apprch %	52.4	26.1	21.1	0.4		11.5	82	6.5	0		12.3	48.1	39.6	0		7.3	65.3	27.2	0.1		
Total %	12.4	6.2	5	0.1	23.7	2.8	20	1.6	0	24.3	0.9	3.6	3	0	7.6	3.3	29	12.1	0.1	44.4	

	CONDIT RD Southbound				E DUNNE AVE Westbound				CONDIT RD Northbound				E DUNNE AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	66	36	21	123	8	**109**	3	120	2	11	9	22	15	**132**	**70**	**217**	**482**
04:15 PM	**68**	31	**30**	**129**	**11**	99	6	116	**5**	**20**	11	36	**17**	124	52	193	474
04:30 PM	66	22	18	106	11	98	6	115	5	18	11	34	13	129	62	204	459
04:45 PM	55	**39**	26	120	11	93	**20**	**124**	4	18	**16**	**38**	16	120	54	190	472
Total Volume	255	128	95	478	41	399	35	475	16	67	47	130	61	505	238	804	1887
% App. Total	53.3	26.8	19.9		8.6	84	7.4		12.3	51.5	36.2		7.6	62.8	29.6		
PHF	.938	.821	.792	.926	.932	.915	.438	.958	.800	.838	.734	.855	.897	.956	.850	.926	.979

Traffic Data Service

San Jose, CA
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File Name : 6PM FINAL
Site Code : 00000006
Start Date : 3/28/2019
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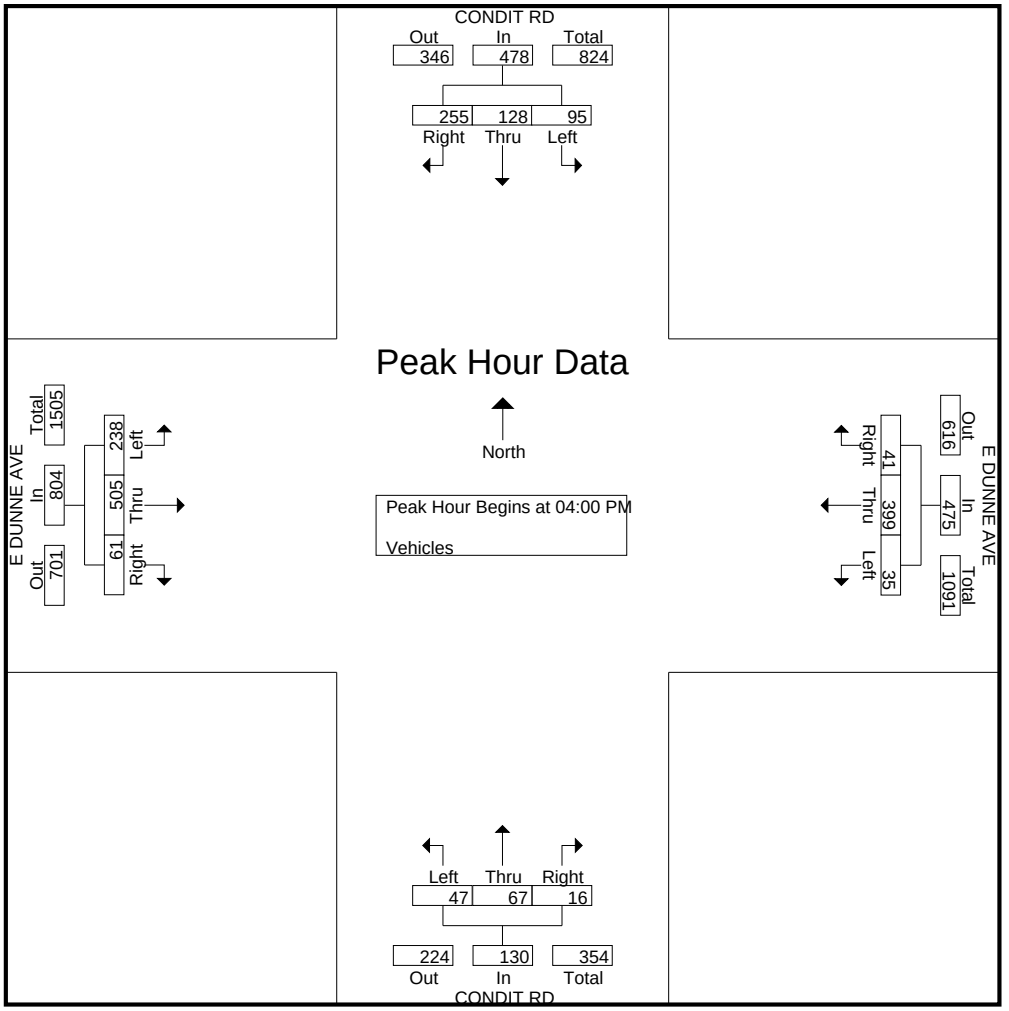
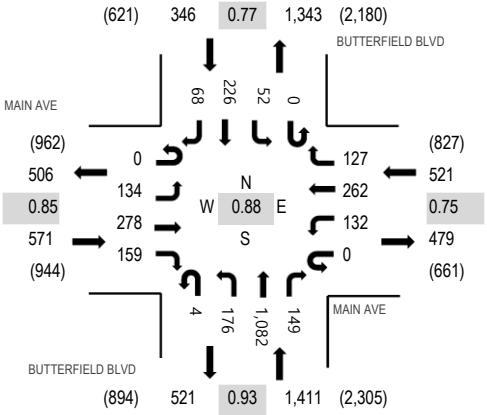


All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

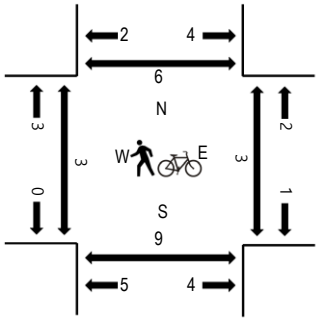
Location: 19 BUTTERFIELD BLVD & MAIN AVE AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MAIN AVE Eastbound				MAIN AVE Westbound				BUTTERFIELD BLVD Northbound				BUTTERFIELD BLVD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	18	15	23	0	18	29	25	0	16	253	10	0	3	25	7	442	2,524	1	0	3	2
7:15 AM	0	20	42	28	0	20	27	23	0	37	235	31	0	15	32	6	516	2,849	0	0	0	0
7:30 AM	0	34	73	45	0	28	64	43	1	34	296	50	0	10	60	15	753	2,825	2	3	4	3
7:45 AM	0	40	92	39	0	46	96	37	1	39	286	51	0	11	51	24	813	2,557	0	0	2	0
8:00 AM	0	40	71	47	0	38	75	24	2	66	265	17	0	16	83	23	767	2,173	1	0	3	1
8:15 AM	0	33	30	35	0	21	49	14	2	60	163	0	0	6	58	21	492		0	1	1	0
8:30 AM	0	28	46	40	0	10	53	21	0	73	140	9	0	2	39	24	485		0	3	3	0
8:45 AM	0	27	43	35	0	17	42	7	0	53	108	7	0	11	50	29	429		0	2	1	0

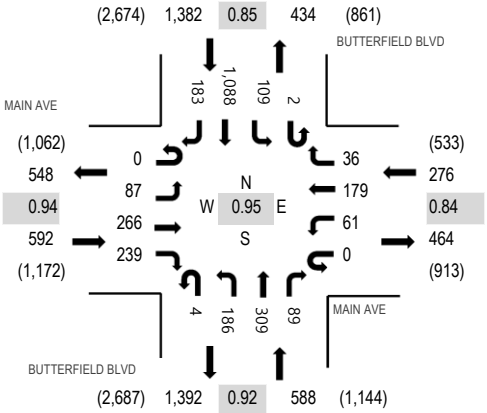
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	2	0	0	0	0	0	0	2	0	0	1	1	0	6
Lights	0	129	275	153	0	132	259	125	4	176	1,059	147	0	48	219	67	2,793
Mediums	0	5	3	4	0	0	3	2	0	0	21	2	0	3	6	1	50
Total	0	134	278	159	0	132	262	127	4	176	1,082	149	0	52	226	68	2,849

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

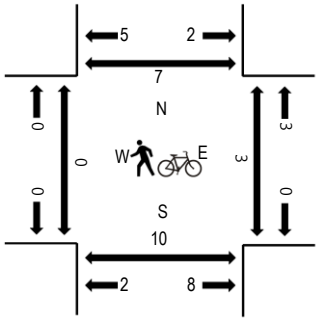
Location: 19 BUTTERFIELD BLVD & MAIN AVE PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MAIN AVE Eastbound				MAIN AVE Westbound				BUTTERFIELD BLVD Northbound				BUTTERFIELD BLVD Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	31	56	57	0	16	41	10	0	45	72	23	0	14	282	48	695	2,785	0	0	2	0
4:15 PM	0	25	79	45	0	17	50	7	1	50	82	24	1	29	271	44	725	2,838	0	0	2	2
4:30 PM	0	18	77	65	0	21	53	10	1	36	70	19	0	24	253	27	674	2,825	0	0	4	2
4:45 PM	0	25	50	66	0	9	42	7	2	61	84	20	1	23	263	38	691	2,808	0	3	0	0
5:00 PM	0	19	60	63	0	14	34	12	0	39	73	26	0	33	301	74	748	2,738	0	0	1	2
5:15 PM	0	34	63	60	0	14	39	10	1	51	81	35	0	28	257	39	712		0	0	1	0
5:30 PM	0	39	59	50	0	19	37	4	2	52	67	25	0	34	234	35	657		1	0	0	1
5:45 PM	0	23	65	43	0	15	44	8	1	38	47	16	1	31	244	45	621		0	2	4	0

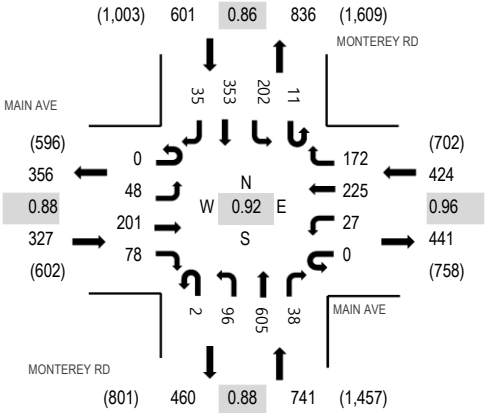
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	1	0	0	1	0	0	0	4	0	7
Lights	0	85	261	237	0	61	177	34	4	186	301	89	2	109	1,066	182	2,794
Mediums	0	2	4	2	0	0	2	1	0	0	7	0	0	0	18	1	37
Total	0	87	266	239	0	61	179	36	4	186	309	89	2	109	1,088	183	2,838

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

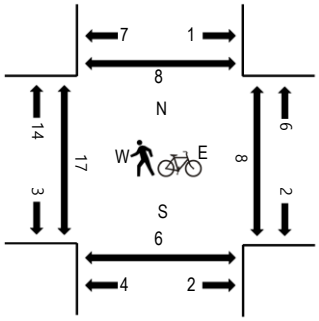
Location: 18 MONTEREY RD & MAIN AVE AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MAIN AVE Eastbound				MAIN AVE Westbound				MONTEREY RD Northbound				MONTEREY RD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	8	22	18	0	4	28	25	1	19	153	7	1	15	34	3	338	1,760	1	0	1	0
7:15 AM	0	17	26	24	0	4	24	25	2	24	148	9	1	31	37	2	374	1,989	2	0	3	1
7:30 AM	0	13	42	22	0	6	49	33	2	20	207	14	0	44	44	5	501	2,067	0	1	0	1
7:45 AM	0	14	60	19	0	9	63	32	0	19	175	9	3	60	78	6	547	2,093	0	0	2	0
8:00 AM	0	12	59	19	0	7	57	38	1	28	181	13	2	51	90	9	567	2,004	2	3	0	1
8:15 AM	0	7	45	17	0	7	53	48	1	26	119	9	3	38	70	9	452		5	2	3	3
8:30 AM	0	15	37	23	0	4	52	54	0	23	130	7	3	53	115	11	527		8	3	1	2
8:45 AM	0	12	49	22	0	9	28	43	4	16	81	9	6	49	108	22	458		8	1	1	1

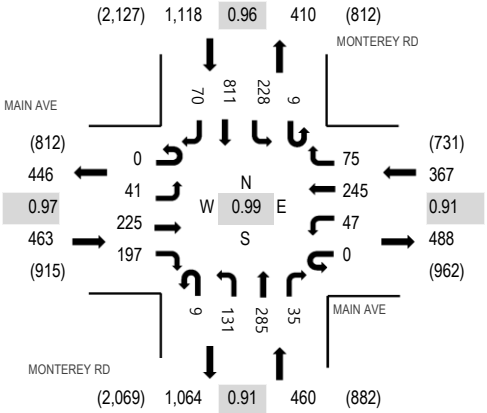
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	1	2	0	0	1	1	0	5
Lights	0	48	198	74	0	27	222	168	2	91	595	38	11	200	346	35	2,055
Mediums	0	0	3	4	0	0	3	4	0	4	8	0	0	1	6	0	33
Total	0	48	201	78	0	27	225	172	2	96	605	38	11	202	353	35	2,093

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

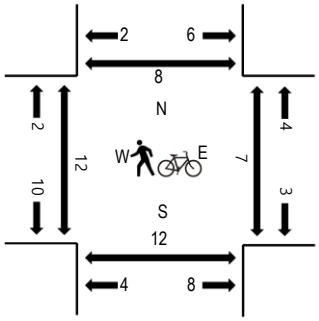
Location: 18 MONTEREY RD & MAIN AVE PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MAIN AVE Eastbound				MAIN AVE Westbound				MONTEREY RD Northbound				MONTEREY RD Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	10	54	42	0	12	57	24	6	27	76	8	2	54	204	23	599	2,408	3	0	3	0
4:15 PM	0	11	56	49	0	10	63	15	0	40	78	7	4	59	200	17	609	2,369	5	1	2	1
4:30 PM	0	9	59	51	0	10	59	16	2	45	70	9	2	61	185	16	594	2,336	4	3	4	2
4:45 PM	0	11	56	55	0	15	66	20	1	19	61	11	1	54	222	14	606	2,303	0	3	2	2
5:00 PM	0	7	63	45	0	12	59	24	1	13	71	13	2	49	185	16	560	2,247	2	3	1	2
5:15 PM	0	10	50	39	0	14	49	21	1	26	63	8	1	58	221	15	576		4	1	0	3
5:30 PM	0	11	65	45	0	12	54	19	4	27	82	12	0	44	176	10	561		3	0	2	0
5:45 PM	0	4	56	57	0	15	65	20	5	20	66	10	1	46	173	12	550		1	2	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Lights	0	41	222	191	0	46	243	75	9	127	283	35	9	223	801	70	2,375
Mediums	0	0	3	6	0	1	2	0	0	4	2	0	0	4	10	0	32
Total	0	41	225	197	0	47	245	75	9	131	285	35	9	228	811	70	2,408

Appendix C

Volume Summary

Intersection Number: 1
Traffix Node Number: 105
Intersection Name: Cochrane Road and Sutter Boulevard
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**2**	**2**	**4**	**57**	**408**	**310**	**245**	**7**	**56**	**86**	**709**	**7**	**1,893**
Project Trips	0	0	1	4	7	4	1	0	0	0	3	0	20
Existing Plus Project	**2**	**2**	**5**	**61**	**415**	**314**	**246**	**7**	**56**	**86**	**712**	**7**	**1,913**
2015 Model	5	1	10	32	735	278	144	1	64	102	817	22	2,211
2030 without Project Model	6	1	8	27	777	314	190	1	87	104	1047	30	2,592
2030 Cumulative without Project	**3**	**2**	**4**	**57**	**450**	**346**	**291**	**7**	**79**	**88**	**939**	**15**	**2,281**
2030 Cumulative with Project	**3**	**2**	**5**	**61**	**457**	**350**	**292**	**7**	**79**	**88**	**942**	**15**	**2,301**

Intersection Number: 2
Traffix Node Number: 106
Intersection Name: Cochrane Road and Madrone Parkway/Cochrane Plaza
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**16**	**16**	**206**	**347**	**729**	**119**	**23**	**16**	**11**	**5**	**773**	**95**	**2,356**
Project Trips	0	0	1	4	15	0	0	0	0	0	5	0	25
Existing Plus Project	**16**	**16**	**207**	**351**	**744**	**119**	**23**	**16**	**11**	**5**	**778**	**95**	**2,381**
2015 Model	19	2	84	214	1025	174	82	2	0	0	894	78	2,574
2030 without Project Model	28	2	107	360	1090	160	80	1	0	0	1143	104	3,075
2030 Cumulative without Project	**25**	**16**	**229**	**493**	**794**	**119**	**23**	**16**	**11**	**5**	**1022**	**121**	**2,874**
2030 Cumulative with Project	**25**	**16**	**230**	**497**	**809**	**119**	**23**	**16**	**11**	**5**	**1027**	**121**	**2,899**

Intersection Number: 3
Traffix Node Number: 107
Intersection Name: Cochrane Road and US 101 Southbound Ramps
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**725**	**1**	**185**	**108**	**528**	**0**	**0**	**0**	**0**	**238**	**810**	**0**	**2,595**
Project Trips	0	0	23	11	19	0	0	0	0	0	6	0	59
Existing Plus Project	**725**	**1**	**208**	**119**	**547**	**0**	**0**	**0**	**0**	**238**	**816**	**0**	**2,654**
2015 Model	438	0	182	157	976	0	0	0	0	234	825	0	2,812
2030 without Project Model	544	0	262	201	1067	0	0	0	0	263	1067	0	3,404
2030 Cumulative without Project	**831**	**1**	**265**	**152**	**619**	**0**	**0**	**0**	**0**	**267**	**1052**	**0**	**3,187**
2030 Cumulative with Project	**831**	**1**	**288**	**163**	**638**	**0**	**0**	**0**	**0**	**267**	**1058**	**0**	**3,246**

Intersection Number: 4
Traffix Node Number: 108
Intersection Name: Cochrane Road and US 101 Northbound Ramps
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**0**	**0**	**0**	**464**	**382**	**0**	**117**	**0**	**260**	**0**	**405**	**0**	**1,628**
Project Trips	0	0	0	67	30	0	4	0	0	0	29	0	130
Existing Plus Project	**0**	**0**	**0**	**531**	**412**	**0**	**121**	**0**	**260**	**0**	**434**	**0**	**1,758**
2015 Model	0	0	0	427	593	0	192	0	540	0	440	0	2,192
2030 without Project Model	0	0	0	559	876	0	206	0	391	0	737	0	2,769
2030 Cumulative without Project	**0**	**0**	**0**	**596**	**665**	**0**	**131**	**0**	**260**	**0**	**702**	**0**	**2,354**
2030 Cumulative with Project	**0**	**0**	**0**	**663**	**695**	**0**	**135**	**0**	**260**	**0**	**731**	**0**	**2,484**

Intersection Number: 5
Traffix Node Number: 109
Intersection Name: Cochrane Road and De Paul Drive
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**129**	**1**	**35**	**52**	**701**	**6**	**4**	**0**	**3**	**26**	**310**	**187**	**1,454**
Project Trips	0	2	1	2	24	0	0	6	73	24	8	0	140
Existing Plus Project	**129**	**3**	**36**	**54**	**725**	**6**	**4**	**6**	**76**	**50**	**318**	**187**	**1,594**
2015 Model	138	1	24	82	858	0	0	1	23	31	296	305	1,759
2030 without Project Model	263	3	42	164	1303	44	30	0	0	20	450	458	2,777
2030 Cumulative without Project	**254**	**3**	**53**	**134**	**1146**	**50**	**34**	**0**	**3**	**26**	**464**	**340**	**2,507**
2030 Cumulative with Project	**254**	**5**	**54**	**136**	**1170**	**50**	**34**	**6**	**76**	**50**	**472**	**340**	**2,647**

Intersection Number: 6
Traffix Node Number: 110
Intersection Name: Cochrane Road and Mission View Drive
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**45**	**13**	**0**	**0**	**278**	**16**	**27**	**6**	**512**	**137**	**192**	**15**	**1,241**
Project Trips	0	0	0	0	0	0	0	0	26	9	0	0	35
Existing Plus Project	**45**	**13**	**0**	**0**	**278**	**16**	**27**	**6**	**538**	**146**	**192**	**15**	**1,276**
2015 Model	0	0	0	0	487	35	24	0	452	151	169	0	1,318
2030 without Project Model	0	0	0	0	604	65	20	0	906	320	201	0	2,116
2030 Cumulative without Project	**45**	**13**	**0**	**0**	**395**	**46**	**27**	**6**	**966**	**306**	**224**	**15**	**2,043**
2030 Cumulative with Project	**45**	**13**	**0**	**0**	**395**	**46**	**27**	**6**	**992**	**315**	**224**	**15**	**2,078**

Intersection Number: 7
Traffix Node Number: 5664
Intersection Name: Mission View Drive and Avenida De Los Padres
Peak Hour: AM
Count Date: 3/28/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**0**	**108**	**26**	**72**	**0**	**31**	**18**	**481**	**0**	**0**	**0**	**0**	**736**
Project Trips	0	9	0	0	0	0	0	26	0	0	0	0	35
Existing Plus Project	**0**	**117**	**26**	**72**	**0**	**31**	**18**	**507**	**0**	**0**	**0**	**0**	**771**
2015 Model	0	84	0	0	0	77	48	182	0	0	0	0	391
2030 without Project Model	0	280	0	0	0	79	53	627	0	0	0	0	1,039
2030 Cumulative without Project	**0**	**304**	**26**	**72**	**0**	**33**	**23**	**926**	**0**	**0**	**0**	**0**	**1,384**
2030 Cumulative with Project	**0**	**313**	**26**	**72**	**0**	**33**	**23**	**952**	**0**	**0**	**0**	**0**	**1,419**

Intersection Number: 8
Traffix Node Number: 3117
Intersection Name: Mission View Drive and Half Road
Peak Hour: AM
Count Date: 3/28/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**116**	**0**	**54**	**192**	**16**	**0**	**0**	**0**	**0**	**0**	**13**	**291**	**682**
Project Trips	42	0	3	1	0	0	0	0	0	0	0	14	60
Existing Plus Project	**158**	**0**	**57**	**193**	**16**	**0**	**0**	**0**	**0**	**0**	**13**	**305**	**742**
2015 Model	73	0	88	114	2	0	0	0	0	0	2	116	395
2030 without Project Model	162	0	170	245	0	0	0	0	0	0	0	421	998
2030 Cumulative without Project	**205**	**0**	**136**	**323**	**16**	**0**	**0**	**0**	**0**	**0**	**13**	**596**	**1,289**
2030 Cumulative with Project	**247**	**0**	**139**	**324**	**16**	**0**	**0**	**0**	**0**	**0**	**13**	**610**	**1,349**

Intersection Number: 9
Traffix Node Number: 120
Intersection Name: Main Avenue and Condit Road
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**34**	**72**	**10**	**66**	**253**	**146**	**164**	**134**	**124**	**143**	**292**	**68**	**1,506**
Project Trips	26	16	0	0	0	0	0	5	0	0	0	9	56
Existing Plus Project	**60**	**88**	**10**	**66**	**253**	**146**	**164**	**139**	**124**	**143**	**292**	**77**	**1,562**
2015 Model	38	36	2	6	127	68	72	32	91	75	130	78	755
2030 without Project Model	58	94	7	21	192	115	111	200	146	128	181	166	1,419
2030 Cumulative without Project	**54**	**130**	**15**	**81**	**318**	**193**	**203**	**302**	**179**	**196**	**343**	**156**	**2,170**
2030 Cumulative with Project	**80**	**146**	**15**	**81**	**318**	**193**	**203**	**307**	**179**	**196**	**343**	**165**	**2,226**

Intersection Number: 10
Traffix Node Number: 1120
Intersection Name: Condit Road and Diana Avenue
Peak Hour: AM
Count Date: 6/4/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**3**	**241**	**101**	**183**	**2**	**51**	**13**	**242**	**1**	**4**	**1**	**0**	**842**
Project Trips	0	16	0	0	0	0	0	5	0	0	0	0	21
Existing Plus Project	**3**	**257**	**101**	**183**	**2**	**51**	**13**	**247**	**1**	**4**	**1**	**0**	**863**
2015 Model	0	147	31	66	0	68	27	128	0	1	0	1	469
2030 without Project Model	2	280	53	164	1	76	38	294	5	2	0	3	918
2030 Cumulative without Project	**5**	**374**	**123**	**281**	**3**	**59**	**24**	**408**	**6**	**5**	**1**	**2**	**1,291**
2030 Cumulative with Project	**5**	**390**	**123**	**281**	**3**	**59**	**24**	**413**	**6**	**5**	**1**	**2**	**1,312**

Intersection Number: 11
Traffix Node Number: 3115
Intersection Name: East Dunne Avenue and Condit Road
Peak Hour: AM
Count Date: 3/28/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**327**	**54**	**69**	**79**	**1160**	**11**	**22**	**198**	**151**	**36**	**305**	**180**	**2,592**
Project Trips	11	1	4	1	0	0	0	0	0	0	0	4	21
Existing Plus Project	**338**	**55**	**73**	**80**	**1160**	**11**	**22**	**198**	**151**	**36**	**305**	**184**	**2,613**
2015 Model	172	26	62	69	1197	18	4	18	66	65	471	133	2,301
2030 without Project Model	234	61	112	112	1229	27	6	54	120	121	521	257	2,854
2030 Cumulative without Project	**389**	**89**	**119**	**122**	**1192**	**20**	**24**	**234**	**205**	**92**	**355**	**304**	**3,145**
2030 Cumulative with Project	**400**	**90**	**123**	**123**	**1192**	**20**	**24**	**234**	**205**	**92**	**355**	**308**	**3,166**

Intersection Number: 12
Traffix Node Number: 119
Intersection Name: Butterfield Boulevard and Main Avenue
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**68**	**226**	**52**	**127**	**262**	**132**	**149**	**1082**	**180**	**159**	**278**	**134**	**2,849**
Project Trips	0	0	1	4	15	7	3	0	0	0	5	0	35
Existing Plus Project	**68**	**226**	**53**	**131**	**277**	**139**	**152**	**1082**	**180**	**159**	**283**	**134**	**2,884**
2015 Model	132	190	76	226	176	172	122	846	191	225	127	219	2,702
2030 without Project Model	145	288	93	263	220	213	162	1148	222	311	183	226	3,474
2030 Cumulative without Project	**81**	**324**	**69**	**164**	**306**	**173**	**189**	**1384**	**211**	**245**	**334**	**141**	**3,621**
2030 Cumulative with Project	**81**	**324**	**70**	**168**	**321**	**180**	**192**	**1384**	**211**	**245**	**339**	**141**	**3,656**

Intersection Number: 13
Traffix Node Number: 118
Intersection Name: Monterey Road and Main Avenue
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**35**	**353**	**213**	**172**	**225**	**27**	**38**	**605**	**98**	**78**	**201**	**48**	**2,093**
Project Trips	0	0	0	0	7	4	1	0	0	0	3	0	15
Existing Plus Project	**35**	**353**	**213**	**172**	**232**	**31**	**39**	**605**	**98**	**78**	**204**	**48**	**2,108**
2015 Model	27	273	176	32	370	43	38	19	346	92	300	8	1,724
2030 without Project Model	32	366	256	92	404	48	37	128	340	100	326	8	2,137
2030 Cumulative without Project	**40**	**446**	**293**	**232**	**259**	**32**	**38**	**714**	**98**	**86**	**227**	**48**	**2,513**
2030 Cumulative with Project	**40**	**446**	**293**	**232**	**266**	**36**	**39**	**714**	**98**	**86**	**230**	**48**	**2,528**

Intersection Number: 1
Traffix Node Number: 105
Intersection Name: Cochrane Road and Sutter Boulevard
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**8**	**22**	**67**	**10**	**543**	**197**	**386**	**7**	**90**	**73**	**863**	**2**	**2,268**
Project Trips	0	0	4	2	5	2	4	0	0	0	8	0	25
Existing Plus Project	**8**	**22**	**71**	**12**	**548**	**199**	**390**	**7**	**90**	**73**	**871**	**2**	**2,293**
2015 Model	26	2	33	10	652	149	273	2	165	104	698	11	2,125
2030 without Project Model	34	3	28	8	933	205	366	3	192	114	799	13	2,698
2030 Cumulative without Project	**16**	**23**	**67**	**10**	**824**	**253**	**479**	**8**	**117**	**83**	**964**	**4**	**2,848**
2030 Cumulative with Project	**16**	**23**	**71**	**12**	**829**	**255**	**483**	**8**	**117**	**83**	**972**	**4**	**2,873**

Intersection Number: 2
Traffix Node Number: 106
Intersection Name: Cochrane Road and Madrone Parkway/Cochrane Plaza
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**69**	**35**	**428**	**196**	**627**	**237**	**94**	**30**	**36**	**22**	**1212**	**114**	**3,100**
Project Trips	0	0	4	2	10	0	0	0	0	0	17	0	33
Existing Plus Project	**69**	**35**	**432**	**198**	**637**	**237**	**94**	**30**	**36**	**22**	**1229**	**114**	**3,133**
2015 Model	97	7	270	110	714	117	229	7	0	0	946	59	2,556
2030 without Project Model	125	6	401	140	1020	121	216	6	0	0	1119	74	3,228
2030 Cumulative without Project	**97**	**35**	**559**	**226**	**933**	**241**	**94**	**30**	**36**	**22**	**1385**	**129**	**3,787**
2030 Cumulative with Project	**97**	**35**	**563**	**228**	**943**	**241**	**94**	**30**	**36**	**22**	**1402**	**129**	**3,820**

Intersection Number: 3
Traffix Node Number: 107
Intersection Name: Cochrane Road and US 101 Southbound Ramps
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**510**	**1**	**300**	**157**	**635**	**0**	**0**	**0**	**0**	**741**	**1046**	**0**	**3,390**
Project Trips	0	0	76	7	12	0	0	0	0	0	21	0	116
Existing Plus Project	**510**	**1**	**376**	**164**	**647**	**0**	**0**	**0**	**0**	**741**	**1067**	**0**	**3,506**
2015 Model	403	0	369	271	537	0	0	0	0	492	953	0	3,025
2030 without Project Model	495	0	491	259	786	0	0	0	0	449	1288	0	3,768
2030 Cumulative without Project	**602**	**1**	**422**	**157**	**884**	**0**	**0**	**0**	**0**	**741**	**1381**	**0**	**4,188**
2030 Cumulative with Project	**602**	**1**	**498**	**164**	**896**	**0**	**0**	**0**	**0**	**741**	**1402**	**0**	**4,304**

Intersection Number: 4
Traffix Node Number: 108
Intersection Name: Cochrane Road and US 101 Northbound Ramps
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**0**	**0**	**0**	**208**	**499**	**0**	**230**	**0**	**315**	**0**	**832**	**0**	**2,084**
Project Trips	0	0	0	44	20	0	13	0	0	0	97	0	174
Existing Plus Project	**0**	**0**	**0**	**252**	**519**	**0**	**243**	**0**	**315**	**0**	**929**	**0**	**2,258**
2015 Model	0	0	0	208	563	0	219	0	245	0	877	0	2,112
2030 without Project Model	0	0	0	282	785	0	289	0	261	0	1248	0	2,865
2030 Cumulative without Project	**0**	**0**	**0**	**282**	**721**	**0**	**300**	**0**	**331**	**0**	**1203**	**0**	**2,837**
2030 Cumulative with Project	**0**	**0**	**0**	**326**	**741**	**0**	**313**	**0**	**331**	**0**	**1300**	**0**	**3,011**

Intersection Number: 5
Traffix Node Number: 109
Intersection Name: Cochrane Road and De Paul Drive
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**360**	**1**	**133**	**99**	**353**	**15**	**1**	**4**	**13**	**7**	**596**	**426**	**2,008**
Project Trips	0	6	2	1	16	0	0	4	48	82	27	0	186
Existing Plus Project	**360**	**7**	**135**	**100**	**369**	**15**	**1**	**8**	**61**	**89**	**623**	**426**	**2,194**
2015 Model	383	4	156	47	341	0	0	4	46	40	790	265	2,076
2030 without Project Model	569	9	264	73	496	39	50	11	0	0	1264	441	3,216
2030 Cumulative without Project	**546**	**6**	**241**	**125**	**508**	**54**	**51**	**11**	**13**	**7**	**1070**	**602**	**3,234**
2030 Cumulative with Project	**546**	**12**	**243**	**126**	**524**	**54**	**51**	**15**	**61**	**89**	**1097**	**602**	**3,420**

Intersection Number: 6
Traffix Node Number: 110
Intersection Name: Cochrane Road and Mission View Drive
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**36**	**3**	**0**	**0**	**242**	**24**	**19**	**4**	**183**	**555**	**233**	**60**	**1,359**
Project Trips	0	0	0	0	0	0	0	0	17	29	0	0	46
Existing Plus Project	**36**	**3**	**0**	**0**	**242**	**24**	**19**	**4**	**200**	**584**	**233**	**60**	**1,405**
2015 Model	0	0	0	0	202	14	14	0	187	497	450	0	1,364
2030 without Project Model	0	0	0	0	218	28	44	0	392	943	635	0	2,260
2030 Cumulative without Project	**36**	**3**	**0**	**0**	**258**	**38**	**49**	**4**	**388**	**1001**	**418**	**60**	**2,255**
2030 Cumulative with Project	**36**	**3**	**0**	**0**	**258**	**38**	**49**	**4**	**405**	**1030**	**418**	**60**	**2,301**

Intersection Number: 7
Traffix Node Number: 5664
Intersection Name: Mission View Drive and Avenida De Los Padres
Peak Hour: PM
Count Date: 3/28/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**0**	**495**	**57**	**29**	**0**	**21**	**28**	**179**	**0**	**0**	**0**	**0**	**809**
Project Trips	0	29	0	0	0	0	0	17	0	0	0	0	46
Existing Plus Project	**0**	**524**	**57**	**29**	**0**	**21**	**28**	**196**	**0**	**0**	**0**	**0**	**855**
2015 Model	0	253	0	0	0	28	47	82	0	0	0	0	410
2030 without Project Model	0	694	0	0	0	58	54	326	0	0	0	0	1,132
2030 Cumulative without Project	**0**	**936**	**57**	**29**	**0**	**51**	**35**	**423**	**0**	**0**	**0**	**0**	**1,531**
2030 Cumulative with Project	**0**	**965**	**57**	**29**	**0**	**51**	**35**	**440**	**0**	**0**	**0**	**0**	**1,577**

Intersection Number: 8
Traffix Node Number: 3117
Intersection Name: Mission View Drive and Half Road
Peak Hour: PM
Count Date: 3/28/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**232**	**0**	**287**	**62**	**32**	**0**	**0**	**0**	**0**	**0**	**27**	**147**	**787**
Project Trips	27	0	2	3	0	0	0	0	0	0	0	47	79
Existing Plus Project	**259**	**0**	**289**	**65**	**32**	**0**	**0**	**0**	**0**	**0**	**27**	**194**	**866**
2015 Model	190	0	92	50	2	0	0	0	0	0	2	79	415
2030 without Project Model	534	0	198	126	0	0	0	0	0	0	0	230	1,088
2030 Cumulative without Project	**576**	**0**	**393**	**138**	**32**	**0**	**0**	**0**	**0**	**0**	**27**	**298**	**1,464**
2030 Cumulative with Project	**603**	**0**	**395**	**141**	**32**	**0**	**0**	**0**	**0**	**0**	**27**	**345**	**1,543**

Intersection Number: 9
Traffix Node Number: 120
Intersection Name: Main Avenue and Condit Road
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**100**	**184**	**8**	**11**	**77**	**57**	**50**	**78**	**99**	**220**	**152**	**85**	**1,121**
Project Trips	17	10	0	0	0	0	0	18	0	0	0	29	74
Existing Plus Project	**117**	**194**	**8**	**11**	**77**	**57**	**50**	**96**	**99**	**220**	**152**	**114**	**1,195**
2015 Model	63	123	6	2	59	62	51	30	95	82	71	49	693
2030 without Project Model	152	338	22	10	82	94	86	118	146	156	111	97	1,412
2030 Cumulative without Project	**189**	**399**	**24**	**19**	**100**	**89**	**85**	**166**	**150**	**294**	**192**	**133**	**1,840**
2030 Cumulative with Project	**206**	**409**	**24**	**19**	**100**	**89**	**85**	**184**	**150**	**294**	**192**	**162**	**1,914**

Intersection Number: 10
Traffix Node Number: 1120
Intersection Name: Condit Road and Diana Avenue
Peak Hour: PM
Count Date: 6/4/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**0**	**380**	**142**	**57**	**0**	**24**	**38**	**174**	**2**	**7**	**0**	**0**	**824**
Project Trips	0	10	0	0	0	0	0	18	0	0	0	0	28
Existing Plus Project	**0**	**390**	**142**	**57**	**0**	**24**	**38**	**192**	**2**	**7**	**0**	**0**	**852**
2015 Model	1	198	68	16	0	46	53	160	1	1	0	0	544
2030 without Project Model	3	434	152	35	0	30	75	309	3	6	1	3	1,051
2030 Cumulative without Project	**2**	**616**	**226**	**76**	**0**	**24**	**60**	**323**	**4**	**12**	**1**	**3**	**1,347**
2030 Cumulative with Project	**2**	**626**	**226**	**76**	**0**	**24**	**60**	**341**	**4**	**12**	**1**	**3**	**1,375**

Intersection Number: 11
Traffix Node Number: 3115
Intersection Name: East Dunne Avenue and Condit Road
Peak Hour: PM
Count Date: 3/28/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**255**	**128**	**95**	**41**	**399**	**35**	**16**	**67**	**47**	**61**	**505**	**238**	**1,887**
Project Trips	7	0	2	4	0	0	0	1	0	0	0	13	27
Existing Plus Project	**262**	**128**	**97**	**45**	**399**	**35**	**16**	**68**	**47**	**61**	**505**	**251**	**1,914**
2015 Model	197	42	96	31	572	11	23	34	104	99	1090	209	2,508
2030 without Project Model	345	95	139	87	566	16	33	71	164	167	1229	295	3,207
2030 Cumulative without Project	**403**	**181**	**138**	**97**	**399**	**40**	**26**	**104**	**107**	**129**	**644**	**324**	**2,592**
2030 Cumulative with Project	**410**	**181**	**140**	**101**	**399**	**40**	**26**	**105**	**107**	**129**	**644**	**337**	**2,619**

Intersection Number: 12
Traffix Node Number: 119
Intersection Name: Butterfield Boulevard and Main Avenue
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**183**	**1088**	**111**	**36**	**179**	**61**	**89**	**309**	**190**	**239**	**266**	**87**	**2,838**
Project Trips	0	0	4	2	10	5	8	0	0	0	17	0	46
Existing Plus Project	**183**	**1088**	**115**	**38**	**189**	**66**	**97**	**309**	**190**	**239**	**283**	**87**	**2,884**
2015 Model	239	935	239	70	80	111	121	447	204	304	125	183	3,058
2030 without Project Model	274	1252	328	84	126	167	165	632	266	306	157	203	3,960
2030 Cumulative without Project	**218**	**1405**	**200**	**50**	**225**	**117**	**133**	**494**	**252**	**241**	**298**	**107**	**3,740**
2030 Cumulative with Project	**218**	**1405**	**204**	**52**	**235**	**122**	**141**	**494**	**252**	**241**	**315**	**107**	**3,786**

Intersection Number: 13
Traffix Node Number: 118
Intersection Name: Monterey Road and Main Avenue
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**70**	**811**	**237**	**75**	**245**	**47**	**35**	**285**	**140**	**197**	**225**	**41**	**2,408**
Project Trips	0	0	0	0	5	2	4	0	0	0	8	0	19
Existing Plus Project	**70**	**811**	**237**	**75**	**250**	**49**	**39**	**285**	**140**	**197**	**233**	**41**	**2,427**
2015 Model	35	525	192	26	387	47	65	13	253	36	295	6	1,880
2030 without Project Model	55	674	350	24	470	38	69	14	239	17	239	4	2,193
2030 Cumulative without Project	**90**	**960**	**395**	**75**	**328**	**47**	**39**	**286**	**140**	**197**	**225**	**41**	**2,823**
2030 Cumulative with Project	**90**	**960**	**395**	**75**	**333**	**49**	**43**	**286**	**140**	**197**	**233**	**41**	**2,842**

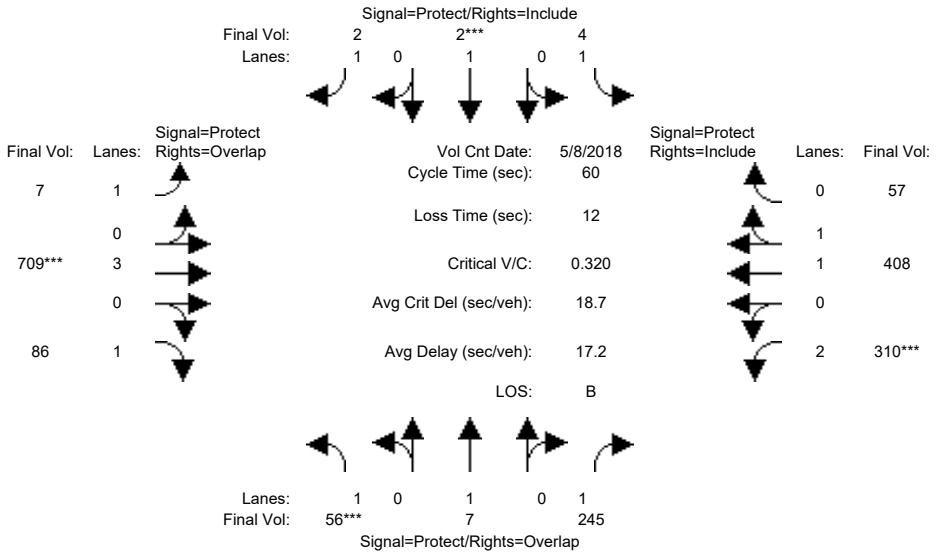
Appendix D

Level of Service Calculations

City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	56	7	245	4	2	2	7	709	86	310	408	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	7	245	4	2	2	7	709	86	310	408	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	7	245	4	2	2	7	709	86	310	408	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	7	245	4	2	2	7	709	86	310	408	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	7	245	4	2	2	7	709	86	310	408	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	7	245	4	2	2	7	709	86	310	408	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.75	0.25
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3246	454
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.14	0.00	0.00	0.00	0.00	0.12	0.05	0.10	0.13	0.13
Crit Moves:	****				****			****		****		
Green Time:	7.0	10.0	23.7	7.0	10.0	10.0	12.8	17.3	24.3	13.7	18.2	18.2
Volume/Cap:	0.27	0.02	0.35	0.02	0.01	0.01	0.02	0.43	0.12	0.43	0.41	0.41
Delay/Veh:	24.9	20.9	13.1	23.5	20.9	20.9	18.7	17.5	11.2	20.2	16.9	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.9	20.9	13.1	23.5	20.9	20.9	18.7	17.5	11.2	20.2	16.9	16.9
LOS by Move:	C	C	B	C	C	C	B	B	B	C	B	B
HCM2k95thQ:	3	0	7	0	0	0	0	7	2	6	7	7

Note: Queue reported is the number of cars per lane.

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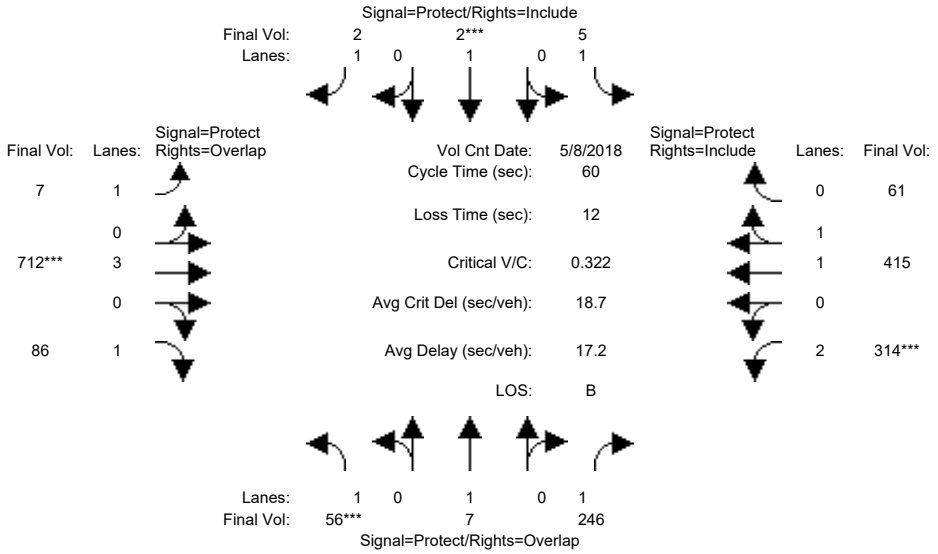
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	56	7	245	4	2	2	7	709	86	310	408	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	7	245	4	2	2	7	709	86	310	408	57
Added Vol:	0	0	1	1	0	0	0	3	0	4	7	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	7	246	5	2	2	7	712	86	314	415	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	7	246	5	2	2	7	712	86	314	415	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	7	246	5	2	2	7	712	86	314	415	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	7	246	5	2	2	7	712	86	314	415	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.74	0.26
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3225	474
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.14	0.00	0.00	0.00	0.00	0.12	0.05	0.10	0.13	0.13
Crit Moves:	****				****			****		****		
Green Time:	7.0	10.0	23.8	7.0	10.0	10.0	12.8	17.2	24.2	13.8	18.2	18.2
Volume/Cap:	0.27	0.02	0.35	0.02	0.01	0.01	0.02	0.43	0.12	0.43	0.42	0.42
Delay/Veh:	24.9	20.9	13.0	23.5	20.9	20.9	18.7	17.6	11.3	20.2	16.9	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.9	20.9	13.0	23.5	20.9	20.9	18.7	17.6	11.3	20.2	16.9	16.9
LOS by Move:	C	C	B	C	C	C	B	B	B	C	B	B
HCM2k95thQ:	3	0	7	0	0	0	0	7	2	6	7	7

Note: Queue reported is the number of cars per lane.

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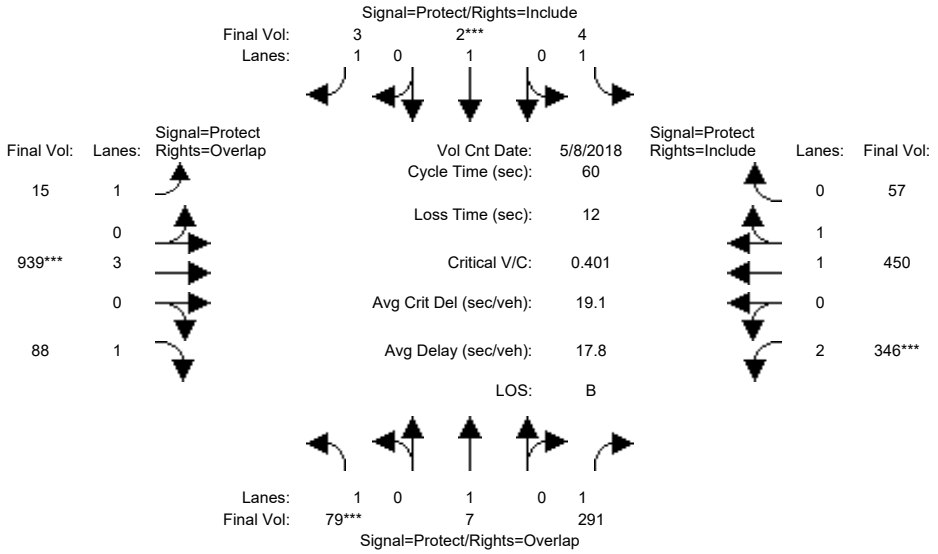
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	79	7	291	4	2	3	15	939	88	346	450	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	79	7	291	4	2	3	15	939	88	346	450	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	79	7	291	4	2	3	15	939	88	346	450	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	79	7	291	4	2	3	15	939	88	346	450	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	7	291	4	2	3	15	939	88	346	450	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	7	291	4	2	3	15	939	88	346	450	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.77	0.23
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3284	416
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.17	0.00	0.00	0.00	0.01	0.16	0.05	0.11	0.14	0.14
Crit Moves:	****				****			****			****	
Green Time:	7.0	10.0	22.4	7.0	10.0	10.0	12.8	18.6	25.6	12.4	18.2	18.2
Volume/Cap:	0.39	0.02	0.45	0.02	0.01	0.01	0.04	0.53	0.12	0.53	0.45	0.45
Delay/Veh:	25.7	20.9	14.6	23.5	20.9	20.9	18.8	17.4	10.5	22.1	17.1	17.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.7	20.9	14.6	23.5	20.9	20.9	18.8	17.4	10.5	22.1	17.1	17.1
LOS by Move:	C	C	B	C	C	C	B	B	B	C	B	B
HCM2k95thQ:	4	0	9	0	0	0	0	9	2	7	8	8

Note: Queue reported is the number of cars per lane.

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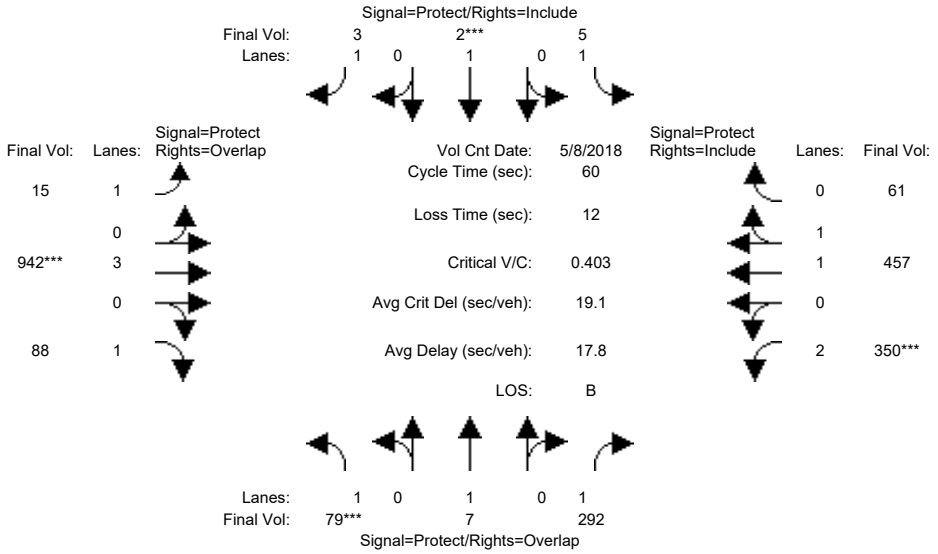
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	79	7	291	4	2	3	15	939	88	346	450	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	79	7	291	4	2	3	15	939	88	346	450	57
Added Vol:	0	0	1	1	0	0	0	3	0	4	7	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	79	7	292	5	2	3	15	942	88	350	457	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	79	7	292	5	2	3	15	942	88	350	457	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	7	292	5	2	3	15	942	88	350	457	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	7	292	5	2	3	15	942	88	350	457	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.76	0.24
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3264	436
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.17	0.00	0.00	0.00	0.01	0.17	0.05	0.11	0.14	0.14
Crit Moves:	****				****			****			****	
Green Time:	7.0	10.0	22.5	7.0	10.0	10.0	12.8	18.5	25.5	12.5	18.2	18.2
Volume/Cap:	0.39	0.02	0.45	0.02	0.01	0.01	0.04	0.53	0.12	0.53	0.46	0.46
Delay/Veh:	25.7	20.9	14.6	23.5	20.9	20.9	18.8	17.5	10.5	22.1	17.2	17.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.7	20.9	14.6	23.5	20.9	20.9	18.8	17.5	10.5	22.1	17.2	17.2
LOS by Move:	C	C	B	C	C	C	B	B	B	C	B	B
HCM2k95thQ:	4	0	9	0	0	0	0	9	2	7	8	8

Note: Queue reported is the number of cars per lane.

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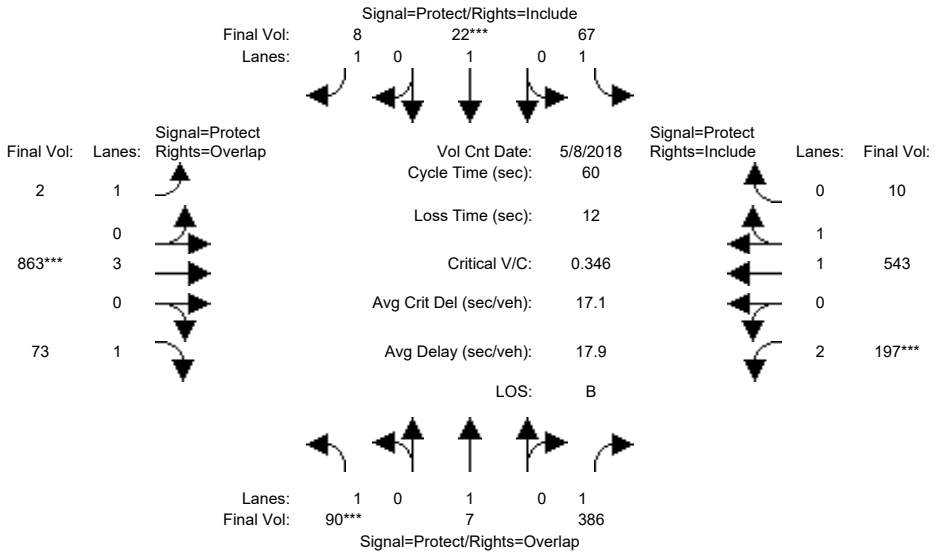
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	90	7	386	67	22	8	2	863	73	197	543	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	7	386	67	22	8	2	863	73	197	543	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	7	386	67	22	8	2	863	73	197	543	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	90	7	386	67	22	8	2	863	73	197	543	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	7	386	67	22	8	2	863	73	197	543	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	90	7	386	67	22	8	2	863	73	197	543	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.96	0.04
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3633	67
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.22	0.04	0.01	0.00	0.00	0.15	0.04	0.06	0.15	0.15
Crit Moves:	****				****			****		****		
Green Time:	7.4	10.2	19.2	7.2	10.0	10.0	12.6	21.7	29.0	9.0	18.0	18.0
Volume/Cap:	0.42	0.02	0.69	0.32	0.07	0.03	0.01	0.42	0.09	0.42	0.50	0.50
Delay/Veh:	25.7	20.8	21.5	25.1	21.2	21.0	18.7	14.6	8.4	23.8	17.6	17.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.7	20.8	21.5	25.1	21.2	21.0	18.7	14.6	8.4	23.8	17.6	17.6
LOS by Move:	C	C	C	C	C	C	B	B	A	C	B	B
HCM2k95thQ:	4	0	15	3	1	0	0	8	2	4	8	8

Note: Queue reported is the number of cars per lane.

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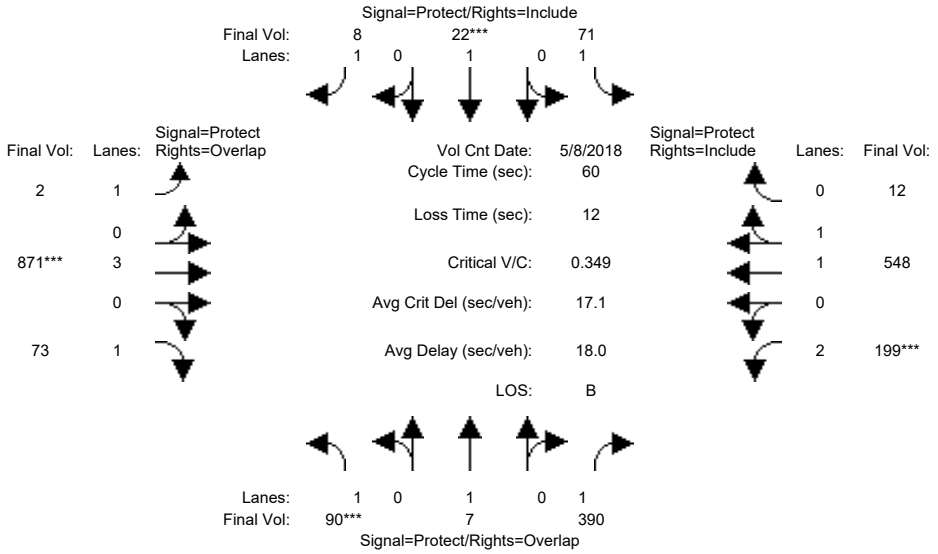
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	90	7	386	67	22	8	2	863	73	197	543	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	7	386	67	22	8	2	863	73	197	543	10
Added Vol:	0	0	4	4	0	0	0	8	0	2	5	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	7	390	71	22	8	2	871	73	199	548	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	90	7	390	71	22	8	2	871	73	199	548	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	7	390	71	22	8	2	871	73	199	548	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	90	7	390	71	22	8	2	871	73	199	548	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.96	0.04
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3621	79
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.22	0.04	0.01	0.00	0.00	0.15	0.04	0.06	0.15	0.15
Crit Moves:	****				****			****			****	
Green Time:	7.3	10.2	19.2	7.1	10.0	10.0	12.6	21.7	29.0	9.0	18.1	18.1
Volume/Cap:	0.42	0.02	0.70	0.34	0.07	0.03	0.01	0.42	0.09	0.42	0.50	0.50
Delay/Veh:	25.7	20.8	21.8	25.3	21.2	21.0	18.7	14.6	8.4	23.8	17.6	17.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.7	20.8	21.8	25.3	21.2	21.0	18.7	14.6	8.4	23.8	17.6	17.6
LOS by Move:	C	C	C	C	C	C	B	B	A	C	B	B
HCM2k95thQ:	4	0	16	3	1	0	0	8	2	4	8	8

Note: Queue reported is the number of cars per lane.

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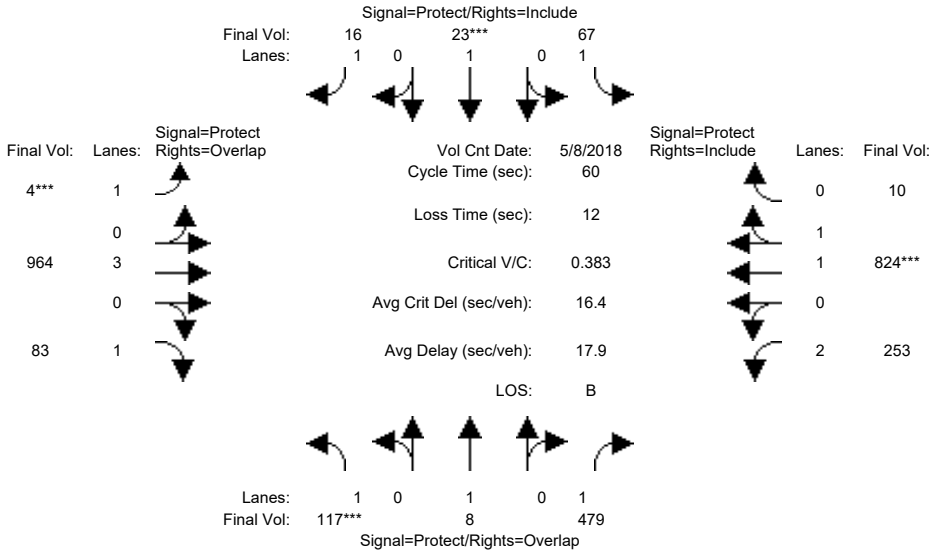
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	117	8	479	67	23	16	4	964	83	253	824	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	8	479	67	23	16	4	964	83	253	824	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	8	479	67	23	16	4	964	83	253	824	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	117	8	479	67	23	16	4	964	83	253	824	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	117	8	479	67	23	16	4	964	83	253	824	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	117	8	479	67	23	16	4	964	83	253	824	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.98	0.02
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3656	44
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.27	0.04	0.01	0.01	0.00	0.17	0.05	0.08	0.23	0.23
Crit Moves:	****				****		****				****	
Green Time:	7.1	10.1	22.7	7.0	10.0	10.0	7.0	18.3	25.4	12.6	23.9	23.9
Volume/Cap:	0.57	0.03	0.72	0.33	0.07	0.05	0.02	0.55	0.11	0.38	0.57	0.57
Delay/Veh:	28.6	20.9	19.9	25.3	21.2	21.1	23.5	17.8	10.6	20.7	14.5	14.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.6	20.9	19.9	25.3	21.2	21.1	23.5	17.8	10.6	20.7	14.5	14.5
LOS by Move:	C	C	B	C	C	C	C	B	B	C	B	B
HCM2k95thQ:	6	0	18	3	1	1	0	10	2	5	12	12

Note: Queue reported is the number of cars per lane.

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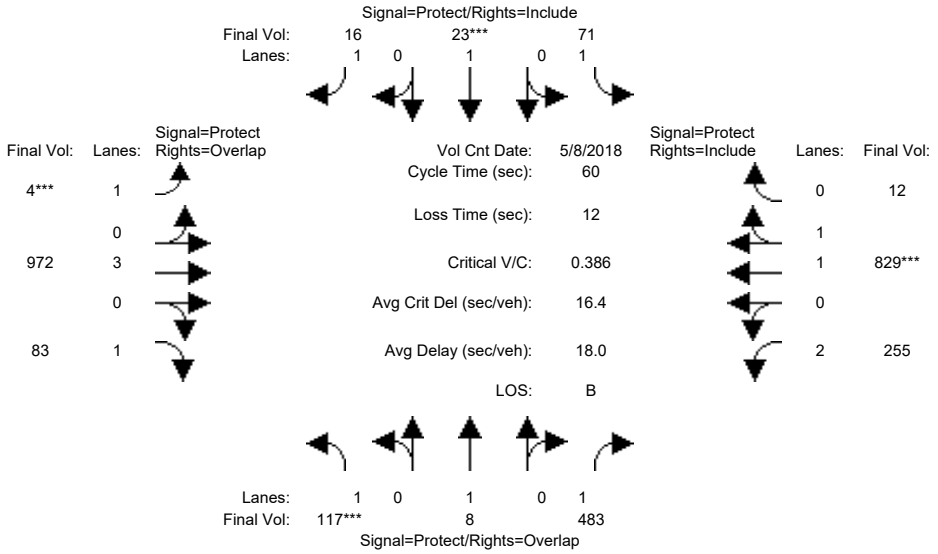
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	117	8	479	67	23	16	4	964	83	253	824	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	8	479	67	23	16	4	964	83	253	824	10
Added Vol:	0	0	4	4	0	0	0	8	0	2	5	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	8	483	71	23	16	4	972	83	255	829	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	117	8	483	71	23	16	4	972	83	255	829	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	117	8	483	71	23	16	4	972	83	255	829	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	117	8	483	71	23	16	4	972	83	255	829	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.97	0.03
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3647	53
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.28	0.04	0.01	0.01	0.00	0.17	0.05	0.08	0.23	0.23
Crit Moves:	****				****		****				****	
Green Time:	7.0	10.0	22.6	7.0	10.0	10.0	7.0	18.4	25.4	12.6	24.0	24.0
Volume/Cap:	0.57	0.03	0.73	0.35	0.07	0.05	0.02	0.56	0.11	0.39	0.57	0.57
Delay/Veh:	28.8	20.9	20.3	25.4	21.2	21.1	23.5	17.8	10.5	20.8	14.5	14.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.8	20.9	20.3	25.4	21.2	21.1	23.5	17.8	10.5	20.8	14.5	14.5
LOS by Move:	C	C	C	C	C	C	C	B	B	C	B	B
HCM2k95thQ:	6	0	18	3	1	1	0	10	2	5	12	12

Note: Queue reported is the number of cars per lane.

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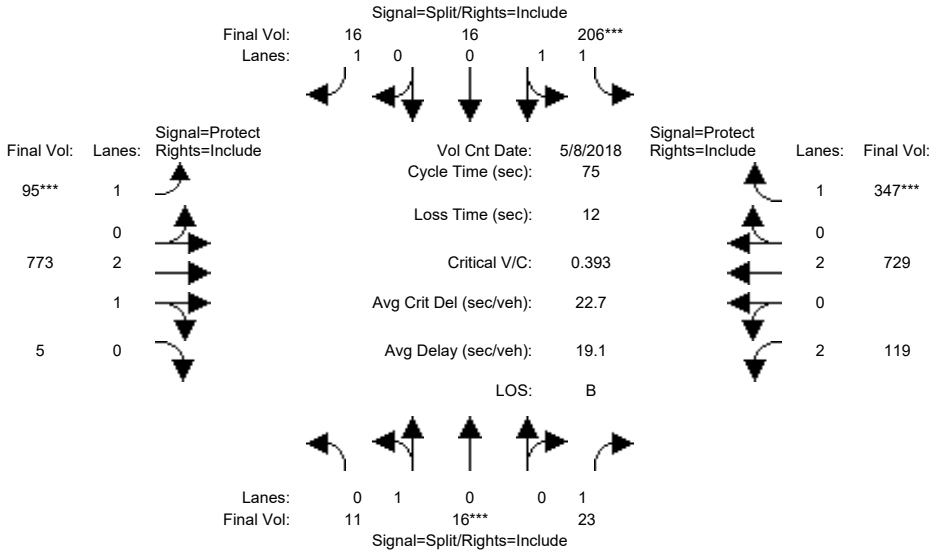
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	11	16	23	206	16	16	95	773	5	119	729	347
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	16	23	206	16	16	95	773	5	119	729	347
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	16	23	206	16	16	95	773	5	119	729	347
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	16	23	206	16	16	95	773	5	119	729	347
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	16	23	206	16	16	95	773	5	119	729	347
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	16	23	206	16	16	95	773	5	119	729	347
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.41	0.59	1.00	1.86	0.14	1.00	1.00	2.98	0.02	2.00	2.00	1.00
Final Sat.:	733	1067	1750	3294	256	1750	1750	5564	36	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.01	0.06	0.06	0.01	0.05	0.14	0.14	0.04	0.19	0.20
Crit Moves:		****		****			****					****
Green Time:	10.0	10.0	10.0	10.5	10.5	10.5	9.1	25.4	25.4	17.1	33.4	33.4
Volume/Cap:	0.11	0.11	0.10	0.45	0.45	0.07	0.45	0.41	0.41	0.17	0.43	0.45
Delay/Veh:	28.8	28.8	28.7	30.2	30.2	28.1	32.1	19.2	19.2	23.4	14.5	14.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.8	28.8	28.7	30.2	30.2	28.1	32.1	19.2	19.2	23.4	14.5	14.8
LOS by Move:	C	C	C	C	C	C	C	B	B	C	B	B
HCM2k95thQ:	1	1	1	6	6	1	4	9	9	3	11	11

Note: Queue reported is the number of cars per lane.

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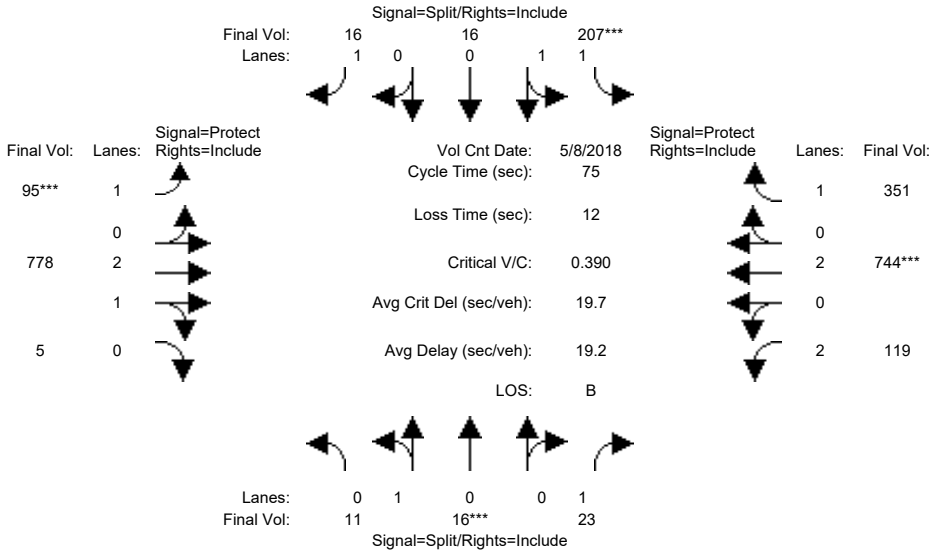
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	11	16	23	206	16	16	95	773	5	119	729	347
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	16	23	206	16	16	95	773	5	119	729	347
Added Vol:	0	0	0	1	0	0	0	5	0	0	15	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	16	23	207	16	16	95	778	5	119	744	351
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	16	23	207	16	16	95	778	5	119	744	351
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	16	23	207	16	16	95	778	5	119	744	351
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	16	23	207	16	16	95	778	5	119	744	351
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.41	0.59	1.00	1.86	0.14	1.00	1.00	2.98	0.02	2.00	2.00	1.00
Final Sat.:	733	1067	1750	3295	255	1750	1750	5564	36	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.01	0.06	0.06	0.01	0.05	0.14	0.14	0.04	0.20	0.20
Crit Moves:		****		****			****				****	
Green Time:	10.0	10.0	10.0	10.6	10.6	10.6	9.2	25.4	25.4	17.0	33.2	33.2
Volume/Cap:	0.11	0.11	0.10	0.44	0.44	0.06	0.44	0.41	0.41	0.17	0.44	0.45
Delay/Veh:	28.8	28.8	28.7	30.1	30.1	28.0	32.0	19.2	19.2	23.5	14.7	15.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.8	28.8	28.7	30.1	30.1	28.0	32.0	19.2	19.2	23.5	14.7	15.0
LOS by Move:	C	C	C	C	C	C	C	B	B	C	B	B
HCM2k95thQ:	1	1	1	6	6	1	4	9	9	3	11	12

Note: Queue reported is the number of cars per lane.

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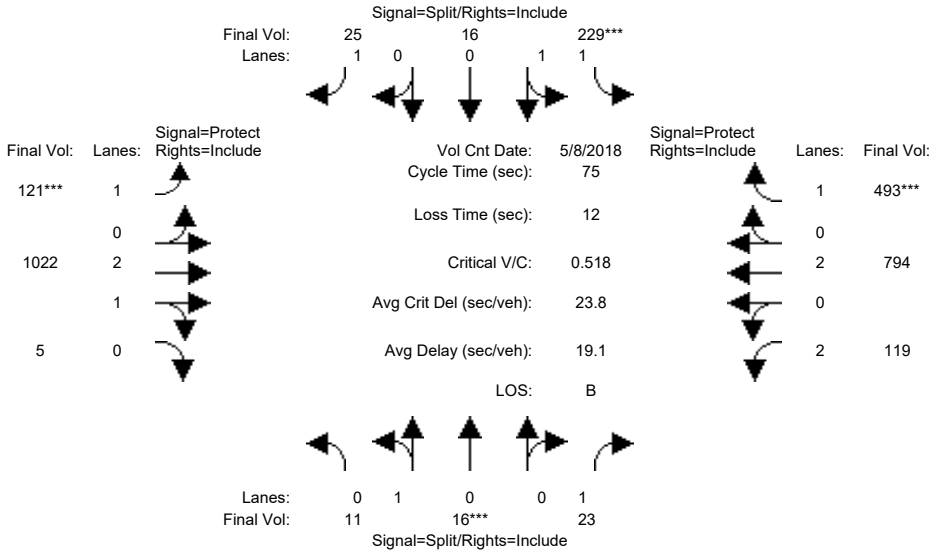
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	11	16	23	229	16	25	121	1022	5	119	794	493
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	16	23	229	16	25	121	1022	5	119	794	493
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	16	23	229	16	25	121	1022	5	119	794	493
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	16	23	229	16	25	121	1022	5	119	794	493
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	16	23	229	16	25	121	1022	5	119	794	493
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	16	23	229	16	25	121	1022	5	119	794	493
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.41	0.59	1.00	1.87	0.13	1.00	1.00	2.98	0.02	2.00	2.00	1.00
Final Sat.:	733	1067	1750	3318	232	1750	1750	5573	27	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.01	0.07	0.07	0.01	0.07	0.18	0.18	0.04	0.21	0.28
Crit Moves:		****		****			****					****
Green Time:	10.0	10.0	10.0	10.0	10.0	10.0	8.5	28.5	28.5	14.5	34.5	34.5
Volume/Cap:	0.11	0.11	0.10	0.52	0.52	0.11	0.61	0.48	0.48	0.20	0.45	0.61
Delay/Veh:	28.8	28.8	28.7	31.3	31.3	28.8	37.3	17.8	17.8	25.5	14.0	16.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.8	28.8	28.7	31.3	31.3	28.8	37.3	17.8	17.8	25.5	14.0	16.6
LOS by Move:	C	C	C	C	C	C	D	B	B	C	B	B
HCM2k95thQ:	1	1	1	7	7	1	6	11	11	3	12	17

Note: Queue reported is the number of cars per lane.

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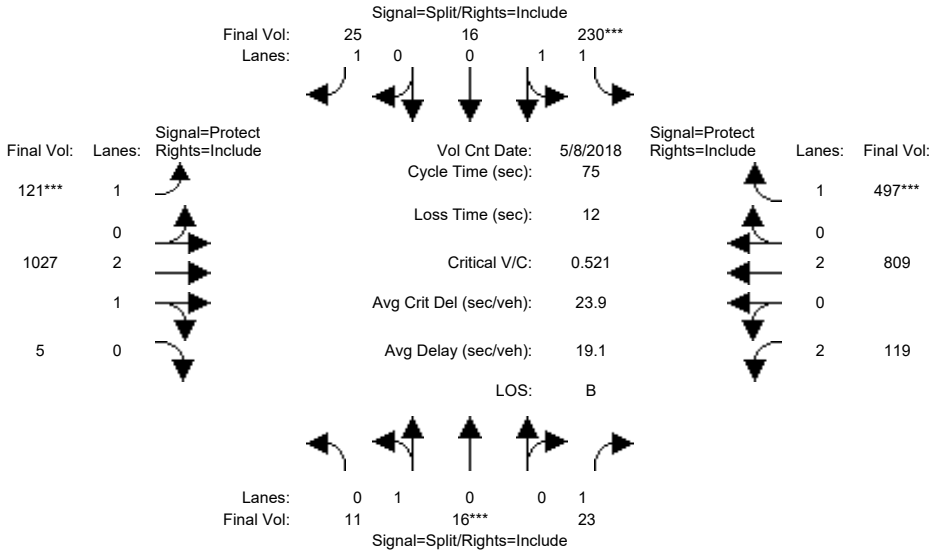
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	11	16	23	229	16	25	121	1022	5	119	794	493
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	16	23	229	16	25	121	1022	5	119	794	493
Added Vol:	0	0	0	1	0	0	0	5	0	0	15	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	16	23	230	16	25	121	1027	5	119	809	497
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	16	23	230	16	25	121	1027	5	119	809	497
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	16	23	230	16	25	121	1027	5	119	809	497
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	16	23	230	16	25	121	1027	5	119	809	497
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.41	0.59	1.00	1.87	0.13	1.00	1.00	2.98	0.02	2.00	2.00	1.00
Final Sat.:	733	1067	1750	3319	231	1750	1750	5573	27	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.01	0.07	0.07	0.01	0.07	0.18	0.18	0.04	0.21	0.28
Crit Moves:		****		****			****					****
Green Time:	10.0	10.0	10.0	10.0	10.0	10.0	8.4	28.5	28.5	14.5	34.6	34.6
Volume/Cap:	0.11	0.11	0.10	0.52	0.52	0.11	0.62	0.48	0.48	0.20	0.46	0.62
Delay/Veh:	28.8	28.8	28.7	31.3	31.3	28.8	37.5	17.8	17.8	25.6	14.0	16.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.8	28.8	28.7	31.3	31.3	28.8	37.5	17.8	17.8	25.6	14.0	16.7
LOS by Move:	C	C	C	C	C	C	D	B	B	C	B	B
HCM2k95thQ:	1	1	1	7	7	1	6	11	11	3	12	17

Note: Queue reported is the number of cars per lane.

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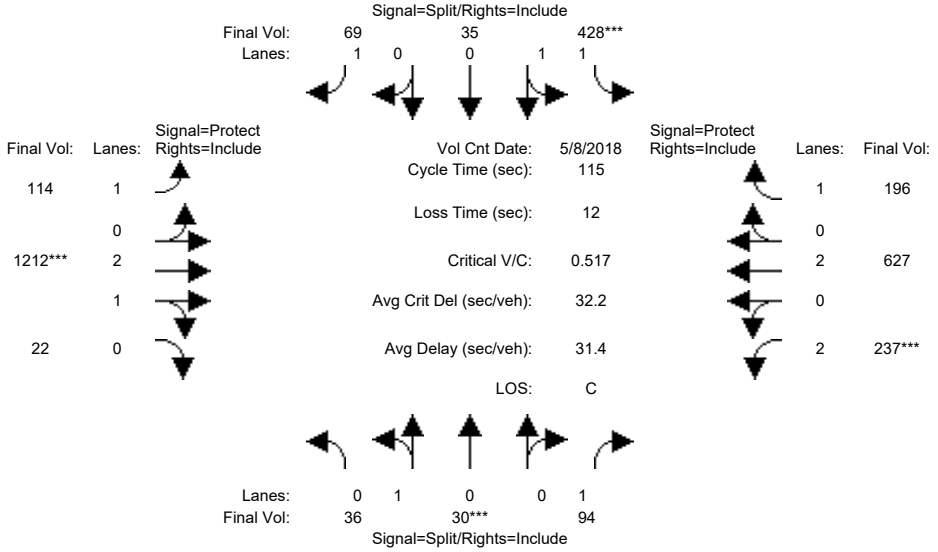
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	36	30	94	428	35	69	114	1212	22	237	627	196
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	30	94	428	35	69	114	1212	22	237	627	196
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	30	94	428	35	69	114	1212	22	237	627	196
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	30	94	428	35	69	114	1212	22	237	627	196
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	30	94	428	35	69	114	1212	22	237	627	196
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	30	94	428	35	69	114	1212	22	237	627	196
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.55	0.45	1.00	1.85	0.15	1.00	1.00	2.94	0.06	2.00	2.00	1.00
Final Sat.:	982	818	1750	3282	268	1750	1750	5500	100	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.05	0.13	0.13	0.04	0.07	0.22	0.22	0.08	0.17	0.11
Crit Moves:		****		****				****		****		
Green Time:	12.0	12.0	12.0	27.9	27.9	27.9	17.9	47.1	47.1	16.1	45.3	45.3
Volume/Cap:	0.35	0.35	0.52	0.54	0.54	0.16	0.42	0.54	0.54	0.54	0.42	0.28
Delay/Veh:	49.1	49.1	51.4	38.6	38.6	34.5	44.9	26.0	26.0	47.3	25.5	24.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.1	49.1	51.4	38.6	38.6	34.5	44.9	26.0	26.0	47.3	25.5	24.0
LOS by Move:	D	D	D	D	D	C	D	C	C	D	C	C
HCM2k95thQ:	5	5	8	15	15	4	8	20	20	9	15	10

Note: Queue reported is the number of cars per lane.

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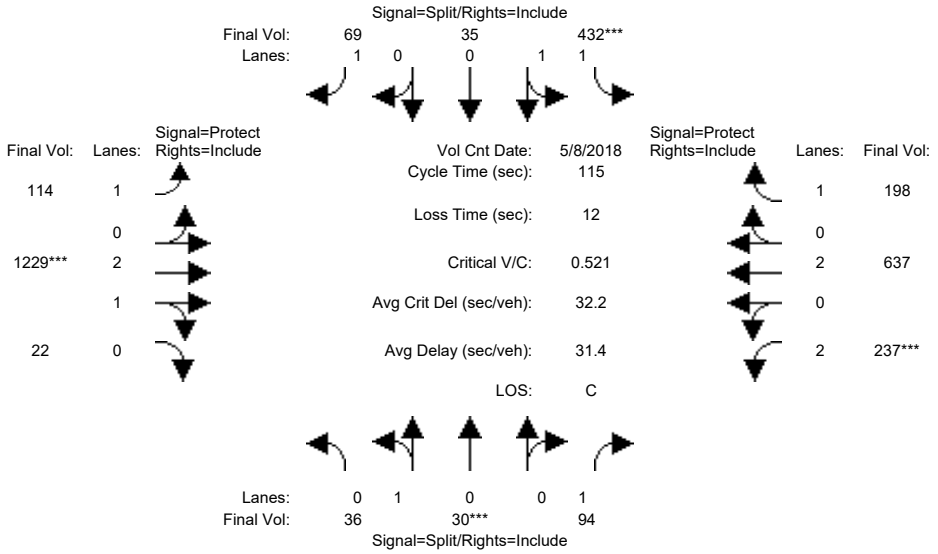
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	36	30	94	428	35	69	114	1212	22	237	627	196
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	30	94	428	35	69	114	1212	22	237	627	196
Added Vol:	0	0	0	4	0	0	0	17	0	0	10	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	30	94	432	35	69	114	1229	22	237	637	198
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	30	94	432	35	69	114	1229	22	237	637	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	30	94	432	35	69	114	1229	22	237	637	198
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	30	94	432	35	69	114	1229	22	237	637	198
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.55	0.45	1.00	1.85	0.15	1.00	1.00	2.95	0.05	2.00	2.00	1.00
Final Sat.:	982	818	1750	3284	266	1750	1750	5501	98	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.05	0.13	0.13	0.04	0.07	0.22	0.22	0.08	0.17	0.11
Crit Moves:		****		****				****		****		
Green Time:	11.9	11.9	11.9	27.9	27.9	27.9	17.7	47.3	47.3	15.9	45.6	45.6
Volume/Cap:	0.36	0.36	0.52	0.54	0.54	0.16	0.42	0.54	0.54	0.54	0.42	0.29
Delay/Veh:	49.2	49.2	51.6	38.7	38.7	34.5	45.1	25.9	25.9	47.5	25.4	23.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.2	49.2	51.6	38.7	38.7	34.5	45.1	25.9	25.9	47.5	25.4	23.9
LOS by Move:	D	D	D	D	D	C	D	C	C	D	C	C
HCM2k95thQ:	5	5	8	15	15	4	8	20	20	9	15	10

Note: Queue reported is the number of cars per lane.

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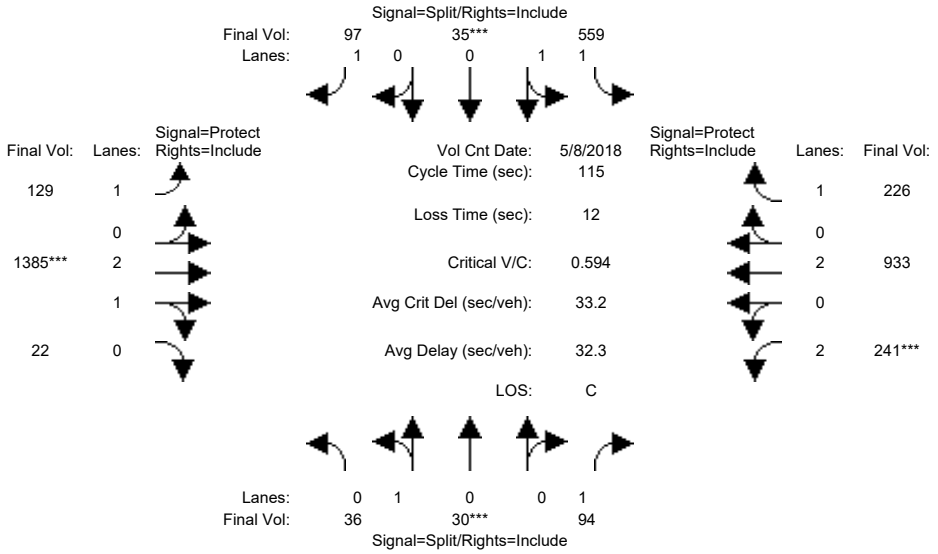
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	36	30	94	559	35	97	129	1385	22	241	933	226
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	30	94	559	35	97	129	1385	22	241	933	226
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	30	94	559	35	97	129	1385	22	241	933	226
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	30	94	559	35	97	129	1385	22	241	933	226
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	30	94	559	35	97	129	1385	22	241	933	226
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	30	94	559	35	97	129	1385	22	241	933	226
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.55	0.45	1.00	1.88	0.12	1.00	1.00	2.95	0.05	2.00	2.00	1.00
Final Sat.:	982	818	1750	3341	209	1750	1750	5512	88	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.05	0.17	0.17	0.06	0.07	0.25	0.25	0.08	0.25	0.13
Crit Moves:		****			****			****			****	
Green Time:	10.4	10.4	10.4	31.3	31.3	31.3	14.2	47.0	47.0	14.3	47.1	47.1
Volume/Cap:	0.41	0.41	0.59	0.61	0.61	0.20	0.60	0.61	0.61	0.61	0.60	0.32
Delay/Veh:	51.0	51.0	56.2	37.8	37.8	32.5	52.3	27.4	27.4	50.6	27.2	23.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.0	51.0	56.2	37.8	37.8	32.5	52.3	27.4	27.4	50.6	27.2	23.2
LOS by Move:	D	D	E	D	D	C	D	C	C	D	C	C
HCM2k95thQ:	6	6	9	19	19	6	9	23	23	9	22	11

Note: Queue reported is the number of cars per lane.

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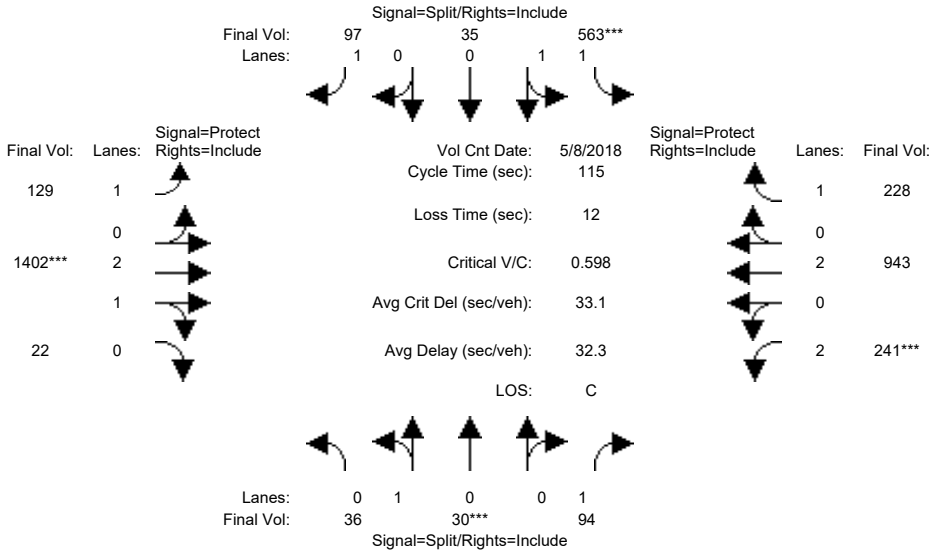
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	36	30	94	559	35	97	129	1385	22	241	933	226
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	30	94	559	35	97	129	1385	22	241	933	226
Added Vol:	0	0	0	4	0	0	0	17	0	0	10	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	30	94	563	35	97	129	1402	22	241	943	228
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	30	94	563	35	97	129	1402	22	241	943	228
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	30	94	563	35	97	129	1402	22	241	943	228
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	30	94	563	35	97	129	1402	22	241	943	228
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.55	0.45	1.00	1.88	0.12	1.00	1.00	2.95	0.05	2.00	2.00	1.00
Final Sat.:	982	818	1750	3342	208	1750	1750	5513	87	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.05	0.17	0.17	0.06	0.07	0.25	0.25	0.08	0.25	0.13
Crit Moves:		****		****				****		****		
Green Time:	10.3	10.3	10.3	31.3	31.3	31.3	14.1	47.2	47.2	14.2	47.3	47.3
Volume/Cap:	0.41	0.41	0.60	0.62	0.62	0.20	0.60	0.62	0.62	0.62	0.60	0.32
Delay/Veh:	51.1	51.1	56.6	37.9	37.9	32.5	52.6	27.3	27.3	50.9	27.1	23.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.1	51.1	56.6	37.9	37.9	32.5	52.6	27.3	27.3	50.9	27.1	23.1
LOS by Move:	D	D	E	D	D	C	D	C	C	D	C	C
HCM2k95thQ:	6	6	9	19	19	6	9	23	23	9	23	11

Note: Queue reported is the number of cars per lane.

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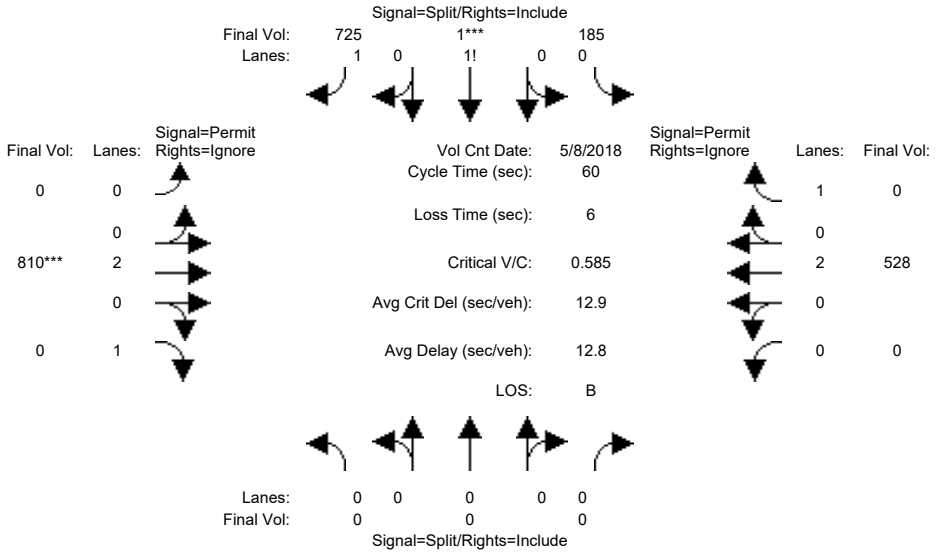
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	185	1	725	0	810	238	0	528	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	185	1	725	0	810	238	0	528	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	185	1	725	0	810	238	0	528	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	185	1	725	0	810	0	0	528	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	185	1	725	0	810	0	0	528	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	185	1	725	0	810	0	0	528	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.33	0.01	1.66	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	590	3	2907	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.31	0.31	0.25	0.00	0.21	0.00	0.00	0.14	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	32.1	32.1	32.1	0.0	21.9	0.0	0.0	21.9	0.0
Volume/Cap:	0.00	0.00	0.00	0.59	0.59	0.47	0.00	0.59	0.00	0.00	0.38	0.00
Delay/Veh:	0.0	0.0	0.0	10.0	10.0	8.8	0.0	16.1	0.0	0.0	14.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	10.0	10.0	8.8	0.0	16.1	0.0	0.0	14.3	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	15	15	11	0	12	0	0	7	0

Note: Queue reported is the number of cars per lane.

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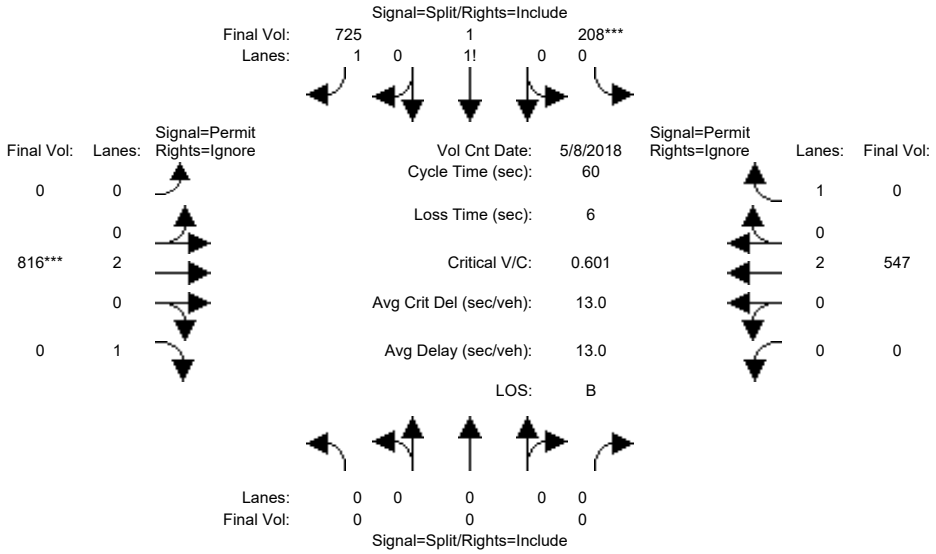
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	185	1	725	0	810	238	0	528	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	185	1	725	0	810	238	0	528	0
Added Vol:	0	0	0	23	0	0	0	6	0	0	19	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	208	1	725	0	816	238	0	547	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	208	1	725	0	816	0	0	547	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	208	1	725	0	816	0	0	547	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	208	1	725	0	816	0	0	547	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.36	0.01	1.63	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	637	3	2860	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.33	0.33	0.25	0.00	0.21	0.00	0.00	0.14	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	32.6	32.6	32.6	0.0	21.4	0.0	0.0	21.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.60	0.60	0.47	0.00	0.60	0.00	0.00	0.40	0.00
Delay/Veh:	0.0	0.0	0.0	10.0	10.0	8.6	0.0	16.6	0.0	0.0	14.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	10.0	10.0	8.6	0.0	16.6	0.0	0.0	14.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	16	16	11	0	12	0	0	7	0

Note: Queue reported is the number of cars per lane.

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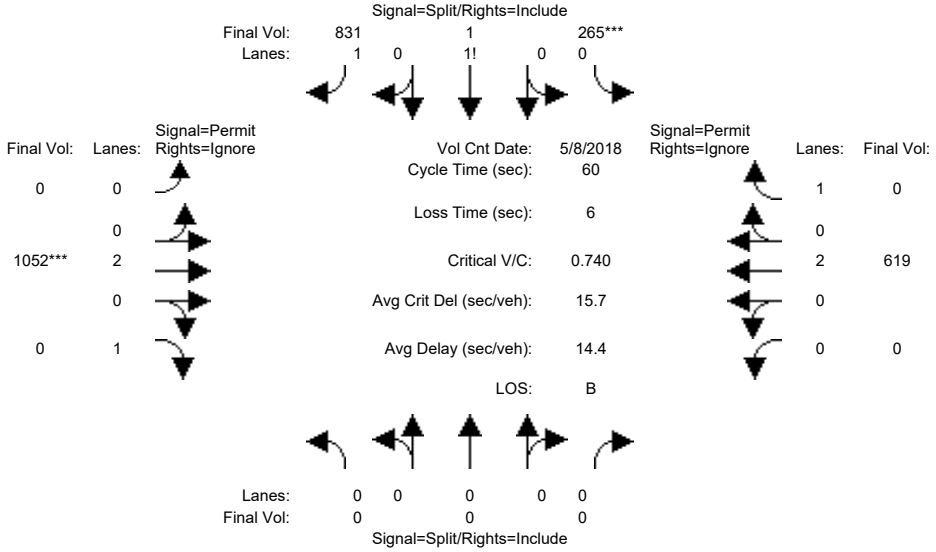
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	265	1	831	0	1052	267	0	619	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	265	1	831	0	1052	267	0	619	152
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	265	1	831	0	1052	267	0	619	152
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	265	1	831	0	1052	0	0	619	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	265	1	831	0	1052	0	0	619	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	265	1	831	0	1052	0	0	619	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.38	0.01	1.61	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	680	3	2817	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.39	0.39	0.30	0.00	0.28	0.00	0.00	0.16	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	31.6	31.6	31.6	0.0	22.4	0.0	0.0	22.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.74	0.74	0.56	0.00	0.74	0.00	0.00	0.44	0.00
Delay/Veh:	0.0	0.0	0.0	13.1	13.1	9.9	0.0	18.4	0.0	0.0	14.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.1	13.1	9.9	0.0	18.4	0.0	0.0	14.3	0.0
LOS by Move:	A	A	A	B	B	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	22	22	14	0	16	0	0	8	0

Note: Queue reported is the number of cars per lane.

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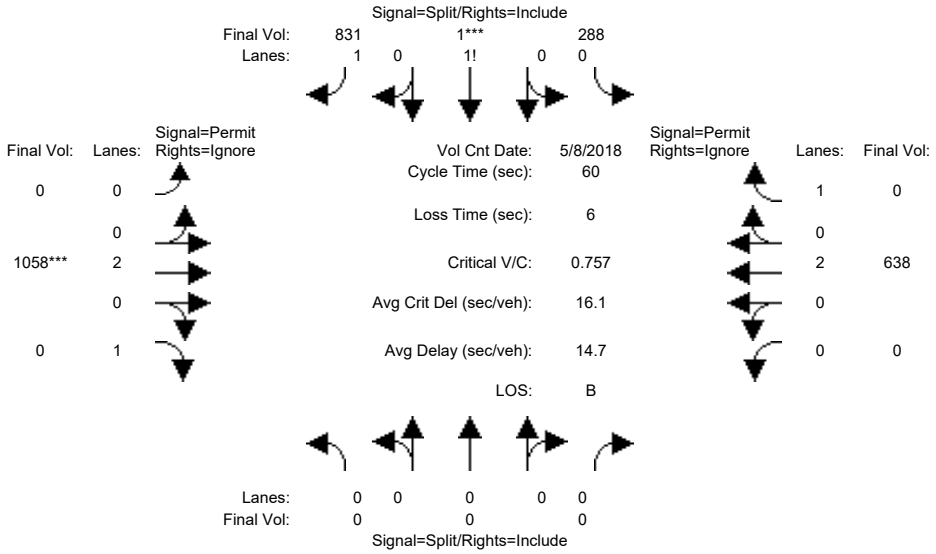
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	265	1	831	0	1052	267	0	619	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	265	1	831	0	1052	267	0	619	152
Added Vol:	0	0	0	23	0	0	0	6	0	0	19	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	288	1	831	0	1058	267	0	638	163
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	288	1	831	0	1058	0	0	638	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	288	1	831	0	1058	0	0	638	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	288	1	831	0	1058	0	0	638	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.40	0.01	1.59	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	715	2	2782	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.40	0.40	0.30	0.00	0.28	0.00	0.00	0.17	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	31.9	31.9	31.9	0.0	22.1	0.0	0.0	22.1	0.0
Volume/Cap:	0.00	0.00	0.00	0.76	0.76	0.56	0.00	0.76	0.00	0.00	0.46	0.00
Delay/Veh:	0.0	0.0	0.0	13.3	13.3	9.7	0.0	19.0	0.0	0.0	14.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.3	13.3	9.7	0.0	19.0	0.0	0.0	14.6	0.0
LOS by Move:	A	A	A	B	B	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	23	23	14	0	17	0	0	9	0

Note: Queue reported is the number of cars per lane.

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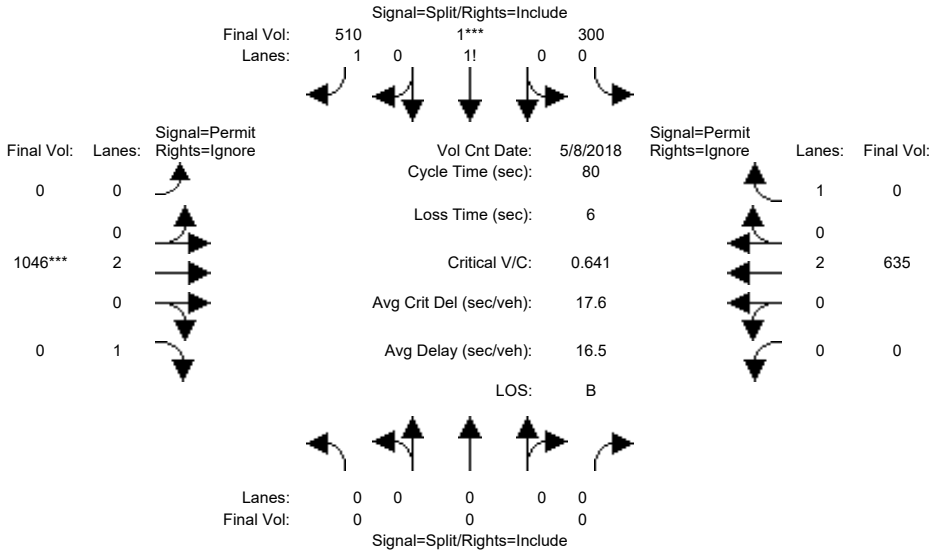
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	300	1	510	0	1046	741	0	635	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	300	1	510	0	1046	741	0	635	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	300	1	510	0	1046	741	0	635	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	300	1	510	0	1046	0	0	635	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	300	1	510	0	1046	0	0	635	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	300	1	510	0	1046	0	0	635	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.54	0.01	1.45	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	944	3	2553	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.32	0.32	0.20	0.00	0.28	0.00	0.00	0.17	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	39.6	39.6	39.6	0.0	34.4	0.0	0.0	34.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.64	0.64	0.40	0.00	0.64	0.00	0.00	0.39	0.00
Delay/Veh:	0.0	0.0	0.0	16.0	16.0	12.9	0.0	18.8	0.0	0.0	15.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.0	16.0	12.9	0.0	18.8	0.0	0.0	15.8	0.0
LOS by Move:	A	A	A	B	B	B	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	21	21	12	0	18	0	0	10	0

Note: Queue reported is the number of cars per lane.

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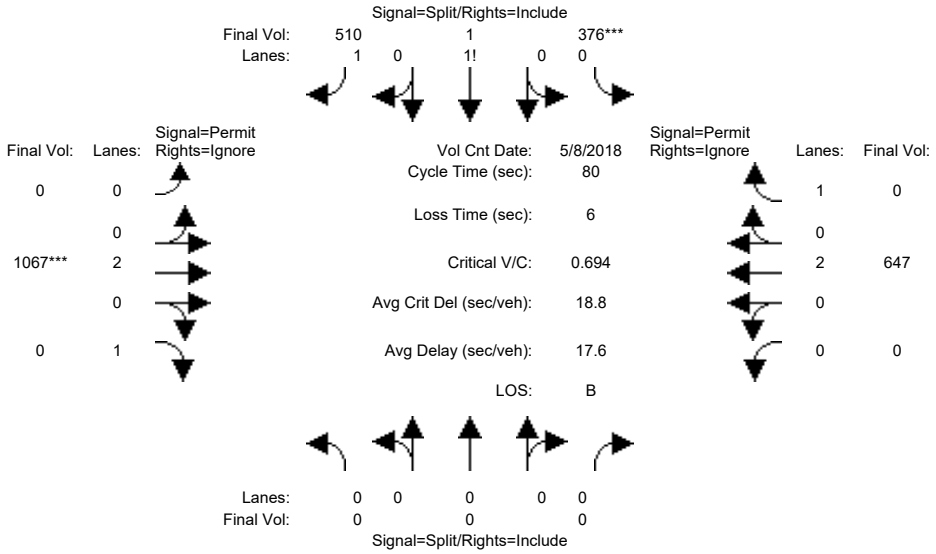
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	300	1	510	0	1046	741	0	635	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	300	1	510	0	1046	741	0	635	0
Added Vol:	0	0	0	76	0	0	0	21	0	0	12	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	376	1	510	0	1067	741	0	647	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	376	1	510	0	1067	0	0	647	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	376	1	510	0	1067	0	0	647	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	376	1	510	0	1067	0	0	647	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.59	0.01	1.40	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1041	3	2456	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.36	0.36	0.21	0.00	0.28	0.00	0.00	0.17	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	41.6	41.6	41.6	0.0	32.4	0.0	0.0	32.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.69	0.69	0.40	0.00	0.69	0.00	0.00	0.42	0.00
Delay/Veh:	0.0	0.0	0.0	16.1	16.1	11.7	0.0	21.1	0.0	0.0	17.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.1	16.1	11.7	0.0	21.1	0.0	0.0	17.3	0.0
LOS by Move:	A	A	A	B	B	B	A	C	A	A	B	A
HCM2k95thQ:	0	0	0	24	24	12	0	20	0	0	11	0

Note: Queue reported is the number of cars per lane.

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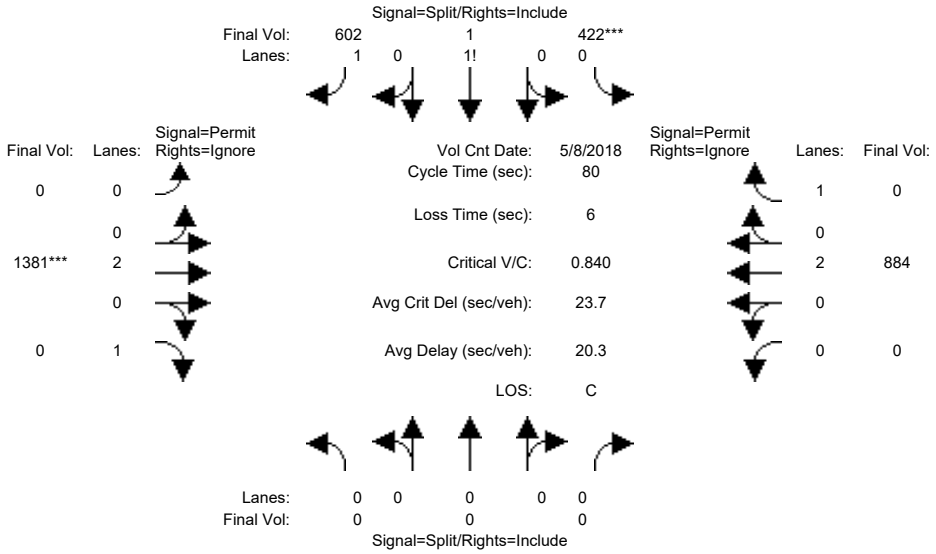
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	422	1	602	0	1381	741	0	884	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	422	1	602	0	1381	741	0	884	157
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	422	1	602	0	1381	741	0	884	157
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	422	1	602	0	1381	0	0	884	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	422	1	602	0	1381	0	0	884	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	422	1	602	0	1381	0	0	884	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.58	0.01	1.41	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1020	2	2478	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.41	0.41	0.24	0.00	0.36	0.00	0.00	0.23	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	39.4	39.4	39.4	0.0	34.6	0.0	0.0	34.6	0.0
Volume/Cap:	0.00	0.00	0.00	0.84	0.84	0.49	0.00	0.84	0.00	0.00	0.54	0.00
Delay/Veh:	0.0	0.0	0.0	22.9	22.9	13.8	0.0	24.3	0.0	0.0	17.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.9	22.9	13.8	0.0	24.3	0.0	0.0	17.1	0.0
LOS by Move:	A	A	A	C	C	B	A	C	A	A	B	A
HCM2k95thQ:	0	0	0	33	33	15	0	27	0	0	15	0

Note: Queue reported is the number of cars per lane.

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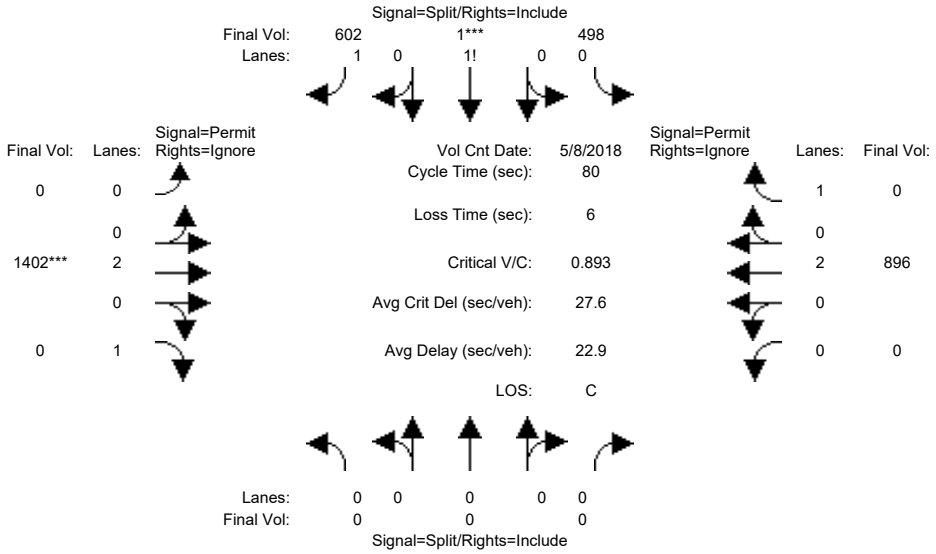
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	422	1	602	0	1381	741	0	884	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	422	1	602	0	1381	741	0	884	157
Added Vol:	0	0	0	76	0	0	0	21	0	0	12	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	498	1	602	0	1402	741	0	896	164
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	498	1	602	0	1402	0	0	896	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	498	1	602	0	1402	0	0	896	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	498	1	602	0	1402	0	0	896	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.62	0.01	1.37	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1089	2	2408	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.46	0.46	0.25	0.00	0.37	0.00	0.00	0.24	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	41.0	41.0	41.0	0.0	33.0	0.0	0.0	33.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.89	0.89	0.49	0.00	0.89	0.00	0.00	0.57	0.00
Delay/Veh:	0.0	0.0	0.0	26.1	26.1	12.9	0.0	28.8	0.0	0.0	18.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	26.1	26.1	12.9	0.0	28.8	0.0	0.0	18.5	0.0
LOS by Move:	A	A	A	C	C	B	A	C	A	A	B	A
HCM2k95thQ:	0	0	0	39	39	15	0	30	0	0	16	0

Note: Queue reported is the number of cars per lane.

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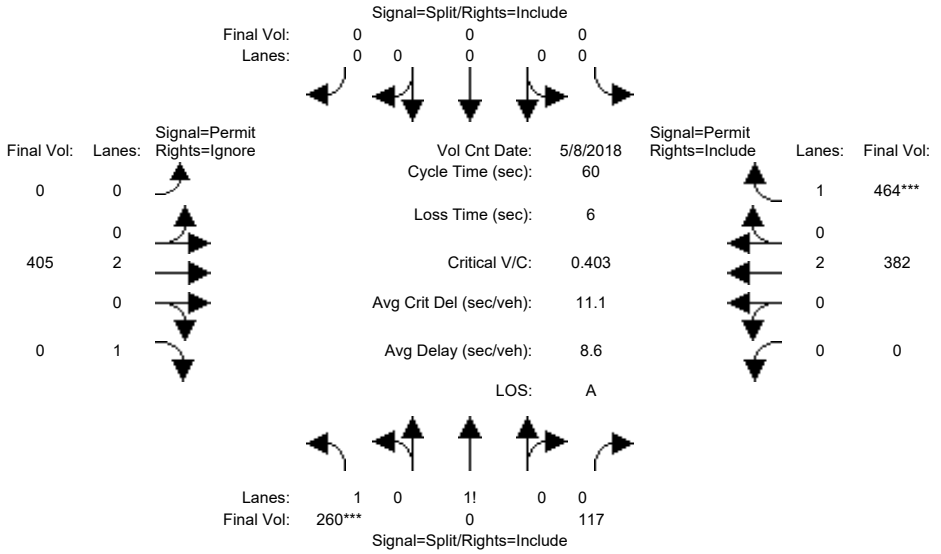
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	117	0	0	0	0	405	0	0	382	464
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	117	0	0	0	0	405	0	0	382	464
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	117	0	0	0	0	405	0	0	382	464
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	117	0	0	0	0	405	0	0	382	464
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	117	0	0	0	0	405	0	0	382	464
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	117	0	0	0	0	405	0	0	382	464
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.53	0.00	0.47	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2671	0	829	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.14	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.10	0.27
Crit Moves:	****											****
Green Time:	18.8	0.0	18.8	0.0	0.0	0.0	0.0	35.2	0.0	0.0	35.2	35.2
Volume/Cap:	0.31	0.00	0.45	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.17	0.45
Delay/Veh:	15.8	0.0	16.9	0.0	0.0	0.0	0.0	5.8	0.0	0.0	5.7	7.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.8	0.0	16.9	0.0	0.0	0.0	0.0	5.8	0.0	0.0	5.7	7.3
LOS by Move:	B	A	B	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	9	0	0	0	0	3	0	0	3	11

Note: Queue reported is the number of cars per lane.

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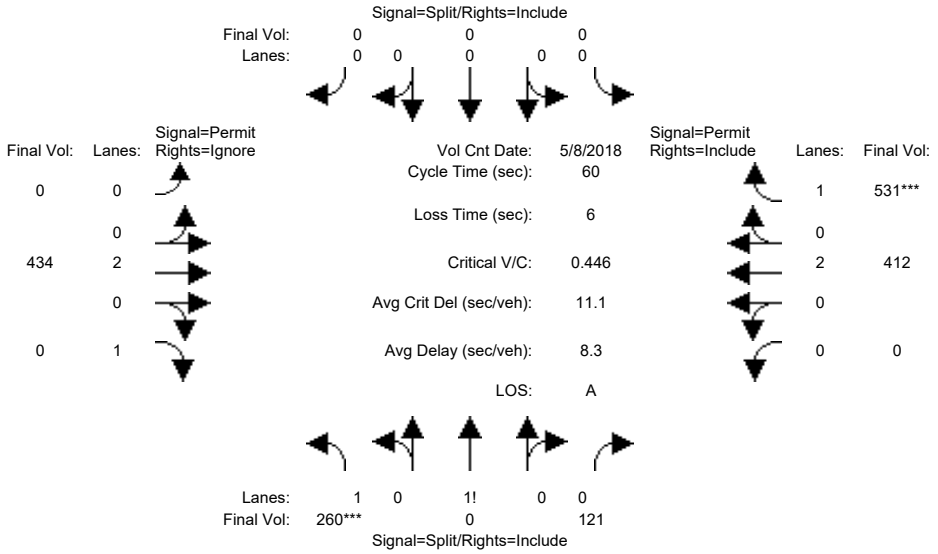
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	117	0	0	0	0	405	0	0	382	464
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	117	0	0	0	0	405	0	0	382	464
Added Vol:	0	0	4	0	0	0	0	29	0	0	30	67
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	121	0	0	0	0	434	0	0	412	531
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	121	0	0	0	0	434	0	0	412	531
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	121	0	0	0	0	434	0	0	412	531
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	121	0	0	0	0	434	0	0	412	531
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.52	0.00	0.48	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2656	0	844	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.14	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11	0.30
Crit Moves:	****											****
Green Time:	17.3	0.0	17.3	0.0	0.0	0.0	0.0	36.7	0.0	0.0	36.7	36.7
Volume/Cap:	0.34	0.00	0.50	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.18	0.50
Delay/Veh:	17.0	0.0	18.2	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.1	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.0	0.0	18.2	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.1	6.9
LOS by Move:	B	A	B	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	9	0	0	0	0	3	0	0	4	12

Note: Queue reported is the number of cars per lane.

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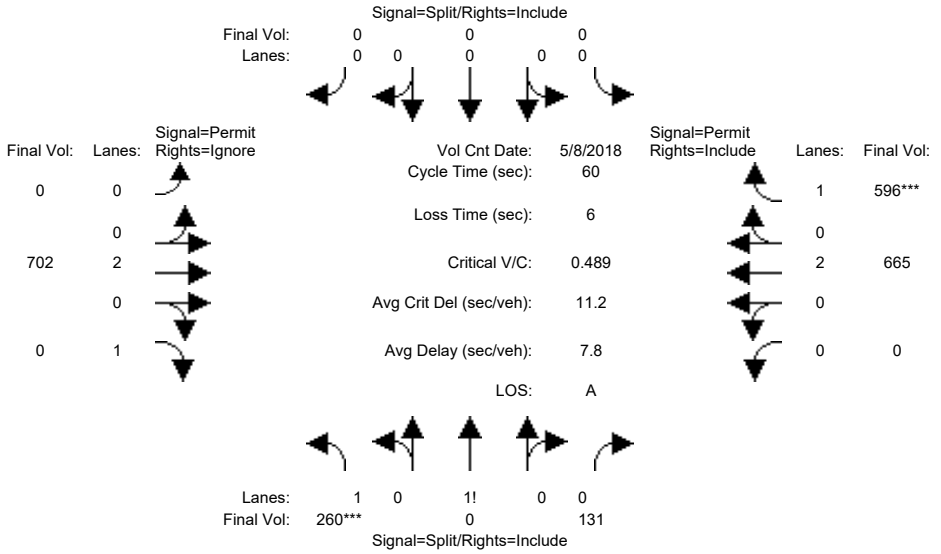
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	131	0	0	0	0	702	0	0	665	596
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	131	0	0	0	0	702	0	0	665	596
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	131	0	0	0	0	702	0	0	665	596
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	131	0	0	0	0	702	0	0	665	596
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	131	0	0	0	0	702	0	0	665	596
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	131	0	0	0	0	702	0	0	665	596
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.50	0.00	0.50	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2622	0	878	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.15	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.17	0.34
Crit Moves:	****											****
Green Time:	16.4	0.0	16.4	0.0	0.0	0.0	0.0	37.6	0.0	0.0	37.6	37.6
Volume/Cap:	0.36	0.00	0.54	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.28	0.54
Delay/Veh:	17.8	0.0	19.4	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.2	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.8	0.0	19.4	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.2	6.9
LOS by Move:	B	A	B	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	10	0	0	0	0	6	0	0	6	14

Note: Queue reported is the number of cars per lane.

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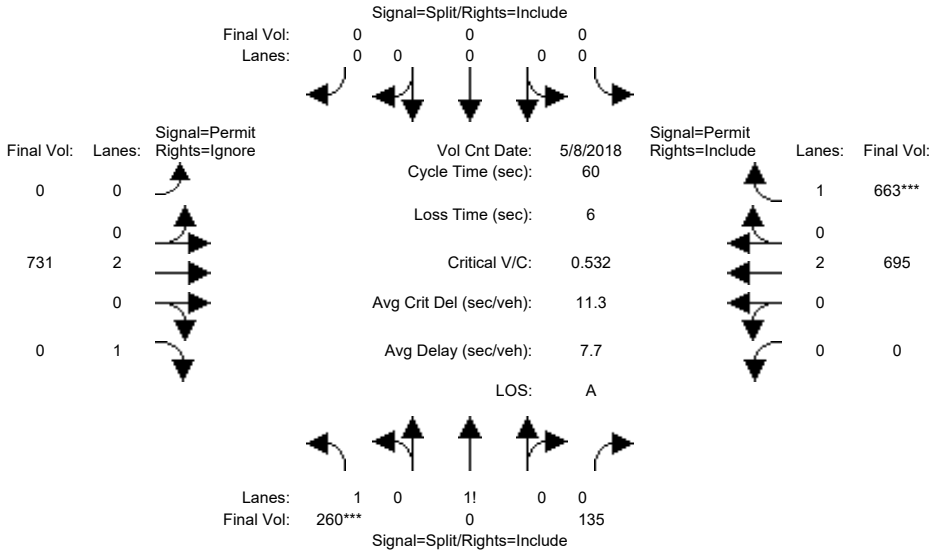
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	131	0	0	0	0	702	0	0	665	596
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	131	0	0	0	0	702	0	0	665	596
Added Vol:	0	0	4	0	0	0	0	29	0	0	30	67
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	135	0	0	0	0	731	0	0	695	663
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	135	0	0	0	0	731	0	0	695	663
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	135	0	0	0	0	731	0	0	695	663
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	135	0	0	0	0	731	0	0	695	663
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.49	0.00	0.51	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2608	0	892	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.15	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.18	0.38
Crit Moves:	****											****
Green Time:	15.4	0.0	15.4	0.0	0.0	0.0	0.0	38.6	0.0	0.0	38.6	38.6
Volume/Cap:	0.39	0.00	0.59	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.28	0.59
Delay/Veh:	18.6	0.0	20.9	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.7	7.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.6	0.0	20.9	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.7	7.0
LOS by Move:	B	A	C	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	11	0	0	0	0	6	0	0	6	16

Note: Queue reported is the number of cars per lane.

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City of Morgan Hill
The Crosswinds Residential Development

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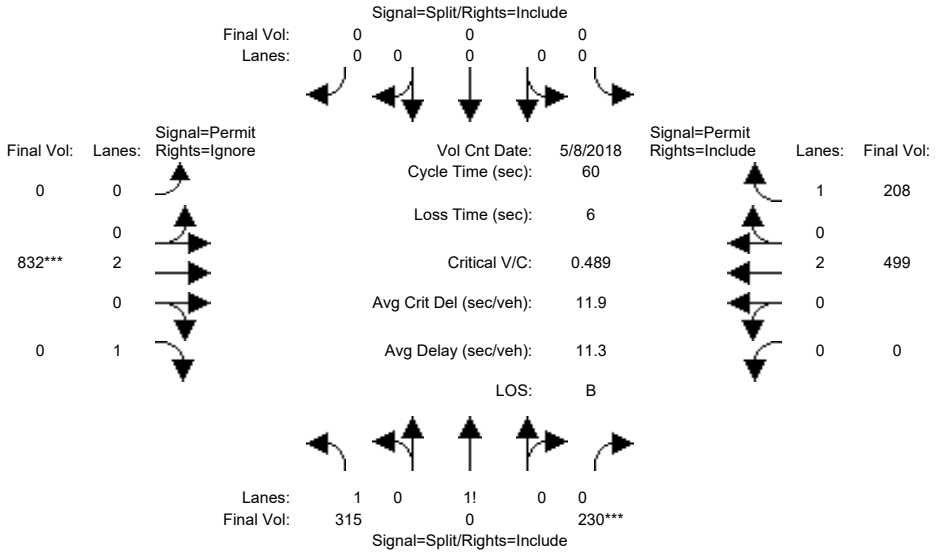
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	315	0	230	0	0	0	0	832	0	0	499	208
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	0	230	0	0	0	0	832	0	0	499	208
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	315	0	230	0	0	0	0	832	0	0	499	208
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	315	0	230	0	0	0	0	832	0	0	499	208
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	0	230	0	0	0	0	832	0	0	499	208
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	315	0	230	0	0	0	0	832	0	0	499	208
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.41	0.00	0.59	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2461	0	1039	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.22	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.13	0.12
Crit Moves:			****					****				
Green Time:	27.2	0.0	27.2	0.0	0.0	0.0	0.0	26.8	0.0	0.0	26.8	26.8
Volume/Cap:	0.28	0.00	0.49	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.29	0.27
Delay/Veh:	10.4	0.0	11.9	0.0	0.0	0.0	0.0	11.9	0.0	0.0	10.6	10.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.4	0.0	11.9	0.0	0.0	0.0	0.0	11.9	0.0	0.0	10.6	10.6
LOS by Move:	B	A	B	A	A	A	A	B	A	A	B	B
HCM2k95thQ:	6	0	11	0	0	0	0	10	0	0	6	5

Note: Queue reported is the number of cars per lane.

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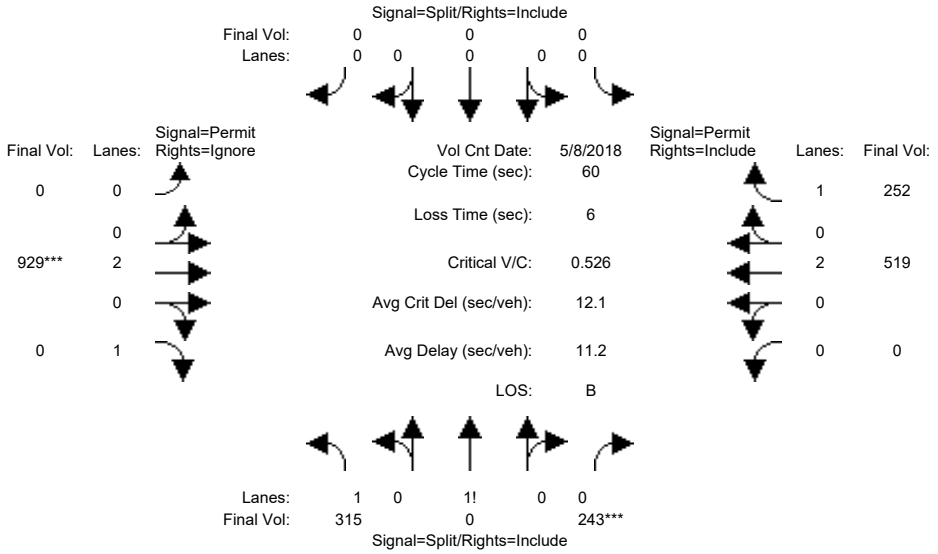
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	315	0	230	0	0	0	0	832	0	0	499	208
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	0	230	0	0	0	0	832	0	0	499	208
Added Vol:	0	0	13	0	0	0	0	97	0	0	20	44
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	315	0	243	0	0	0	0	929	0	0	519	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	315	0	243	0	0	0	0	929	0	0	519	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	0	243	0	0	0	0	929	0	0	519	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	315	0	243	0	0	0	0	929	0	0	519	252
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.39	0.00	0.61	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2438	0	1062	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.23	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.14	0.14
Crit Moves:			****					****				
Green Time:	26.1	0.0	26.1	0.0	0.0	0.0	0.0	27.9	0.0	0.0	27.9	27.9
Volume/Cap:	0.30	0.00	0.53	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.29	0.31
Delay/Veh:	11.1	0.0	12.9	0.0	0.0	0.0	0.0	11.7	0.0	0.0	10.0	10.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.1	0.0	12.9	0.0	0.0	0.0	0.0	11.7	0.0	0.0	10.0	10.3
LOS by Move:	B	A	B	A	A	A	A	B	A	A	B	B
HCM2k95thQ:	6	0	12	0	0	0	0	11	0	0	6	7

Note: Queue reported is the number of cars per lane.

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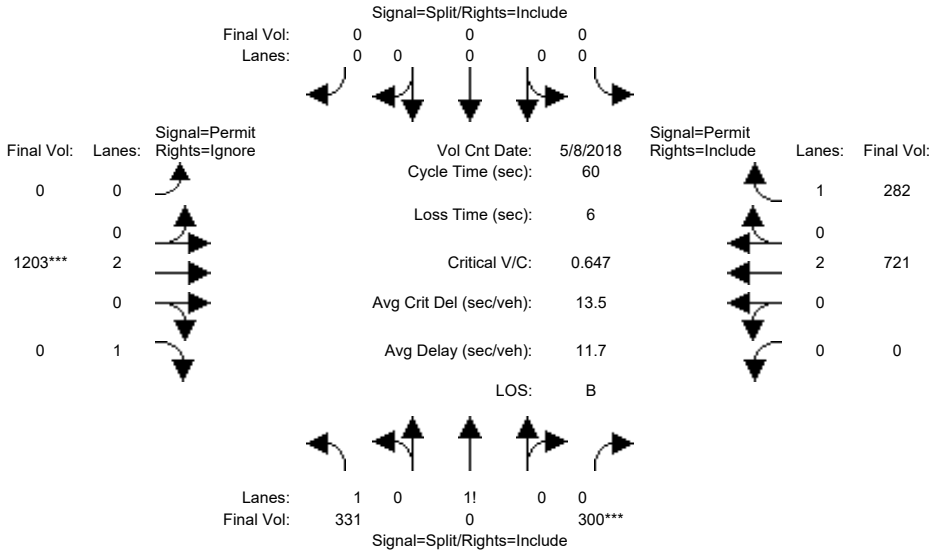
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	331	0	300	0	0	0	0	1203	0	0	721	282
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	0	300	0	0	0	0	1203	0	0	721	282
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	331	0	300	0	0	0	0	1203	0	0	721	282
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	331	0	300	0	0	0	0	1203	0	0	721	282
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	0	300	0	0	0	0	1203	0	0	721	282
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	331	0	300	0	0	0	0	1203	0	0	721	282
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.36	0.00	0.64	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2372	0	1128	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.27	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.19	0.16
Crit Moves:			****					****				
Green Time:	24.7	0.0	24.7	0.0	0.0	0.0	0.0	29.3	0.0	0.0	29.3	29.3
Volume/Cap:	0.34	0.00	0.65	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.39	0.33
Delay/Veh:	12.2	0.0	15.7	0.0	0.0	0.0	0.0	12.3	0.0	0.0	9.8	9.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.2	0.0	15.7	0.0	0.0	0.0	0.0	12.3	0.0	0.0	9.8	9.6
LOS by Move:	B	A	B	A	A	A	A	B	A	A	A	A
HCM2k95thQ:	7	0	16	0	0	0	0	15	0	0	9	7

Note: Queue reported is the number of cars per lane.

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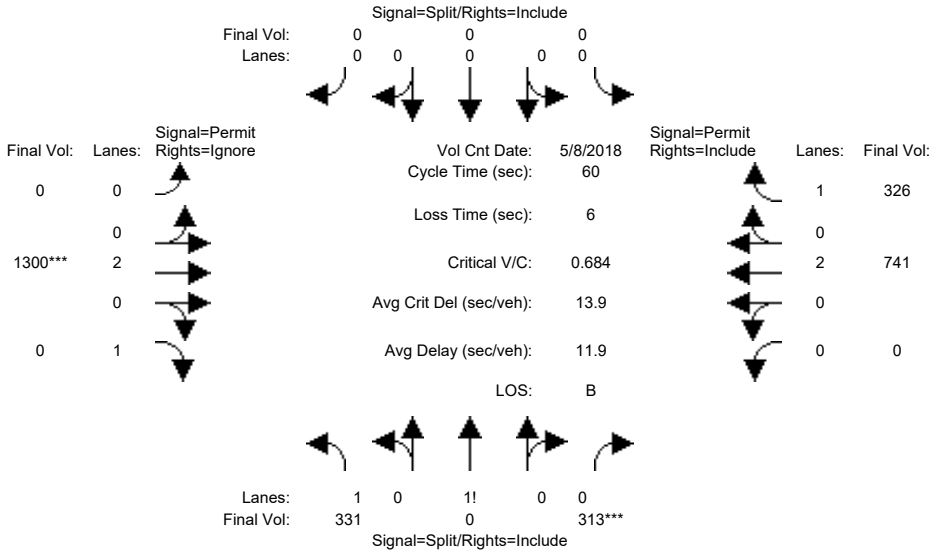
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	331	0	300	0	0	0	0	1203	0	0	721	282
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	0	300	0	0	0	0	1203	0	0	721	282
Added Vol:	0	0	13	0	0	0	0	97	0	0	20	44
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	331	0	313	0	0	0	0	1300	0	0	741	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	331	0	313	0	0	0	0	1300	0	0	741	326
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	0	313	0	0	0	0	1300	0	0	741	326
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	331	0	313	0	0	0	0	1300	0	0	741	326
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.35	0.00	0.65	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2355	0	1145	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.27	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.20	0.19
Crit Moves:			****					****				
Green Time:	24.0	0.0	24.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	30.0	30.0
Volume/Cap:	0.35	0.00	0.68	0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.39	0.37
Delay/Veh:	12.7	0.0	17.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	9.4	9.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.7	0.0	17.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	9.4	9.5
LOS by Move:	B	A	B	A	A	A	A	B	A	A	A	A
HCM2k95thQ:	7	0	17	0	0	0	0	16	0	0	9	8

Note: Queue reported is the number of cars per lane.

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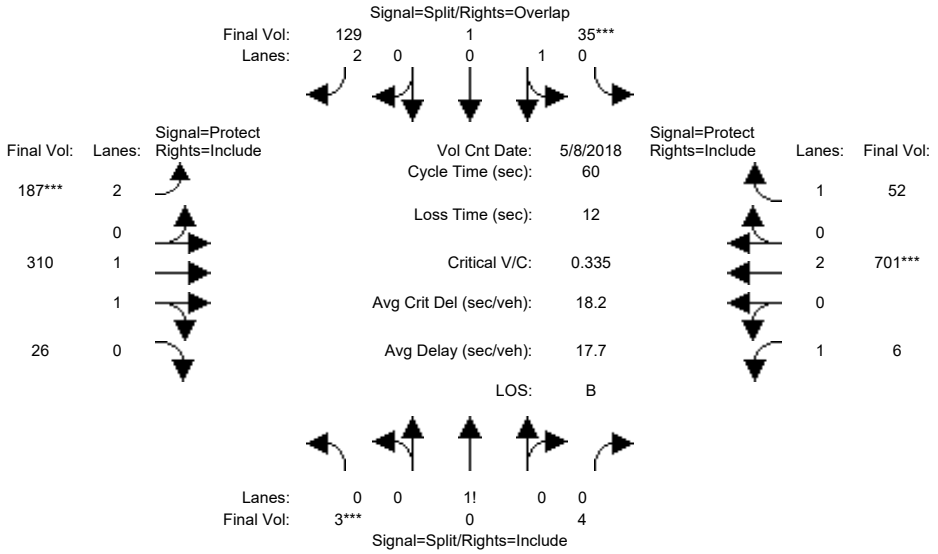
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	3	0	4	35	1	129	187	310	26	6	701	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	0	4	35	1	129	187	310	26	6	701	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	0	4	35	1	129	187	310	26	6	701	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	0	4	35	1	129	187	310	26	6	701	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	0	4	35	1	129	187	310	26	6	701	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	0	4	35	1	129	187	310	26	6	701	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.98	0.95	0.92	1.00	0.92
Lanes:	0.43	0.00	0.57	0.97	0.03	2.00	2.00	1.84	0.16	1.00	2.00	1.00
Final Sat.:	750	0	1000	1750	50	3150	3150	3413	286	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.02	0.04	0.06	0.09	0.09	0.00	0.18	0.03
Crit Moves:	****			****			****				****	
Green Time:	10.0	0.0	10.0	10.0	10.0	17.0	7.0	16.5	16.5	11.5	21.0	21.0
Volume/Cap:	0.02	0.00	0.02	0.12	0.12	0.14	0.51	0.33	0.33	0.02	0.53	0.08
Delay/Veh:	21.0	0.0	21.0	21.4	21.4	16.1	26.1	17.6	17.6	19.7	15.9	13.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.0	0.0	21.0	21.4	21.4	16.1	26.1	17.6	17.6	19.7	15.9	13.1
LOS by Move:	C	A	C	C	C	B	C	B	B	B	B	B
HCM2k95thQ:	0	0	0	1	1	2	6	6	6	0	11	2

Note: Queue reported is the number of cars per lane.

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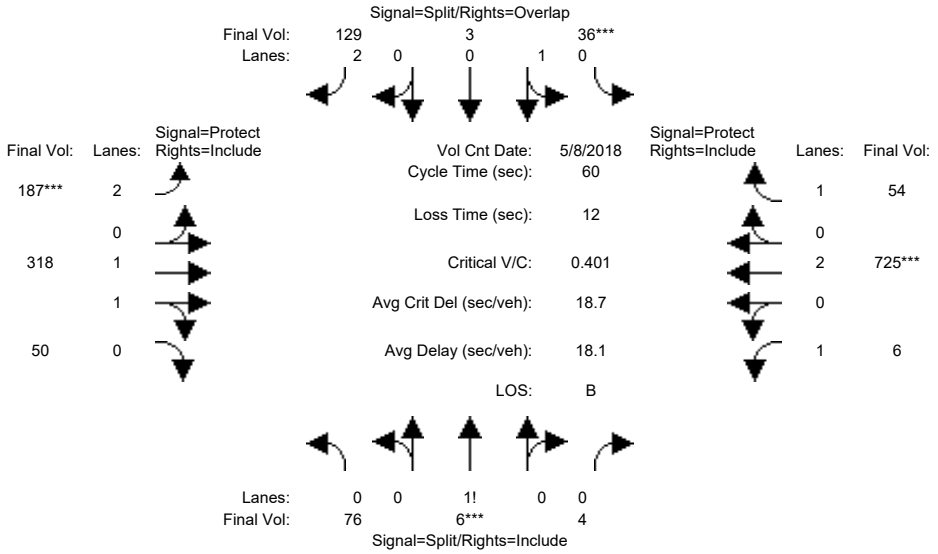
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	3	0	4	35	1	129	187	310	26	6	701	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	0	4	35	1	129	187	310	26	6	701	52
Added Vol:	73	6	0	1	2	0	0	8	24	0	24	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	76	6	4	36	3	129	187	318	50	6	725	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	76	6	4	36	3	129	187	318	50	6	725	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	76	6	4	36	3	129	187	318	50	6	725	54
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	76	6	4	36	3	129	187	318	50	6	725	54
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.98	0.95	0.92	1.00	0.92
Lanes:	0.88	0.07	0.05	0.92	0.08	2.00	2.00	1.72	0.28	1.00	2.00	1.00
Final Sat.:	1547	122	81	1662	138	3150	3150	3197	503	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.02	0.02	0.04	0.06	0.10	0.10	0.00	0.19	0.03
Crit Moves:		****		****			****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	17.0	7.0	16.5	16.5	11.5	21.0	21.0
Volume/Cap:	0.29	0.29	0.29	0.13	0.13	0.14	0.51	0.36	0.36	0.02	0.55	0.09
Delay/Veh:	22.5	22.5	22.5	21.5	21.5	16.1	26.1	17.8	17.8	19.7	16.1	13.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.5	22.5	22.5	21.5	21.5	16.1	26.1	17.8	17.8	19.7	16.1	13.1
LOS by Move:	C	C	C	C	C	B	C	B	B	B	B	B
HCM2k95thQ:	4	4	4	2	2	2	6	6	6	0	12	2

Note: Queue reported is the number of cars per lane.

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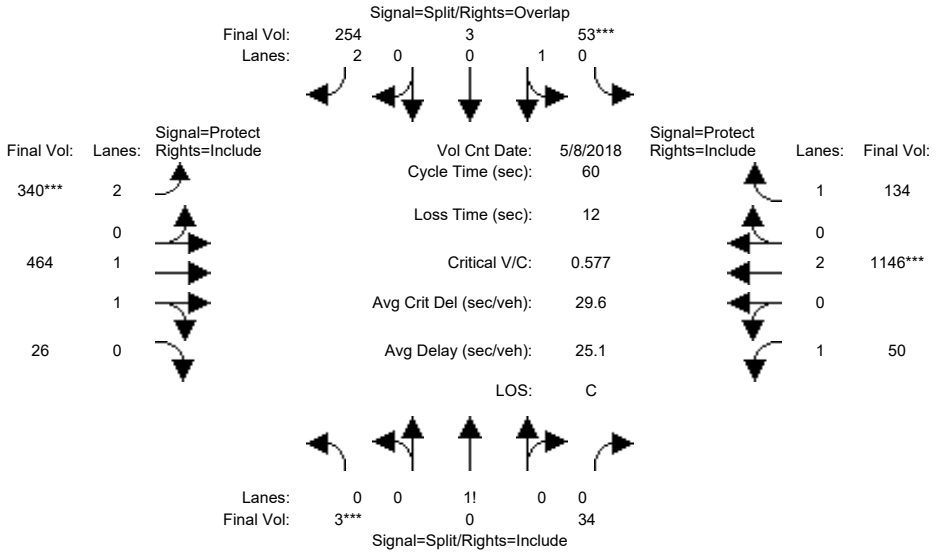
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	3	0	34	53	3	254	340	464	26	50	1146	134
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	0	34	53	3	254	340	464	26	50	1146	134
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	0	34	53	3	254	340	464	26	50	1146	134
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	0	34	53	3	254	340	464	26	50	1146	134
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	0	34	53	3	254	340	464	26	50	1146	134
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	0	34	53	3	254	340	464	26	50	1146	134
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.98	0.95	0.92	1.00	0.92
Lanes:	0.08	0.00	0.92	0.95	0.05	2.00	2.00	1.89	0.11	1.00	2.00	1.00
Final Sat.:	142	0	1608	1704	96	3150	3150	3504	196	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.00	0.02	0.03	0.03	0.08	0.11	0.13	0.13	0.03	0.30	0.08
Crit Moves:	****			****			****				****	
Green Time:	10.0	0.0	10.0	10.0	10.0	17.4	7.4	16.5	16.5	11.5	20.6	20.6
Volume/Cap:	0.13	0.00	0.13	0.19	0.19	0.28	0.88	0.48	0.48	0.15	0.88	0.22
Delay/Veh:	21.5	0.0	21.5	21.8	21.8	16.6	45.6	18.6	18.6	20.4	25.5	14.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.5	0.0	21.5	21.8	21.8	16.6	45.6	18.6	18.6	20.4	25.5	14.2
LOS by Move:	C	A	C	C	C	B	D	B	B	C	C	B
HCM2k95thQ:	1	0	1	2	2	5	13	9	9	2	25	4

Note: Queue reported is the number of cars per lane.

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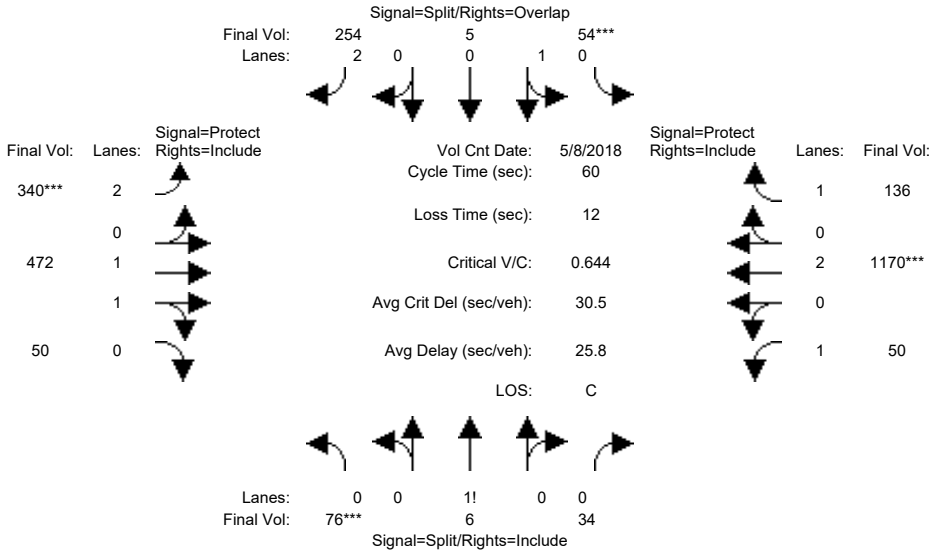
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	3	0	34	53	3	254	340	464	26	50	1146	134
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	0	34	53	3	254	340	464	26	50	1146	134
Added Vol:	73	6	0	1	2	0	0	8	24	0	24	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	76	6	34	54	5	254	340	472	50	50	1170	136
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	76	6	34	54	5	254	340	472	50	50	1170	136
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	76	6	34	54	5	254	340	472	50	50	1170	136
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	76	6	34	54	5	254	340	472	50	50	1170	136
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.98	0.95	0.92	1.00	0.92
Lanes:	0.66	0.05	0.29	0.92	0.08	2.00	2.00	1.80	0.20	1.00	2.00	1.00
Final Sat.:	1147	91	513	1647	153	3150	3150	3345	354	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.03	0.03	0.08	0.11	0.14	0.14	0.03	0.31	0.08
Crit Moves:	****			****			****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	17.3	7.3	16.5	16.5	11.5	20.7	20.7
Volume/Cap:	0.40	0.40	0.40	0.20	0.20	0.28	0.89	0.51	0.51	0.15	0.89	0.22
Delay/Veh:	23.2	23.2	23.2	21.9	21.9	16.7	48.0	18.8	18.8	20.4	26.5	14.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.2	23.2	23.2	21.9	21.9	16.7	48.0	18.8	18.8	20.4	26.5	14.1
LOS by Move:	C	C	C	C	C	B	D	B	B	C	C	B
HCM2k95thQ:	5	5	5	2	2	5	14	9	9	2	25	4

Note: Queue reported is the number of cars per lane.

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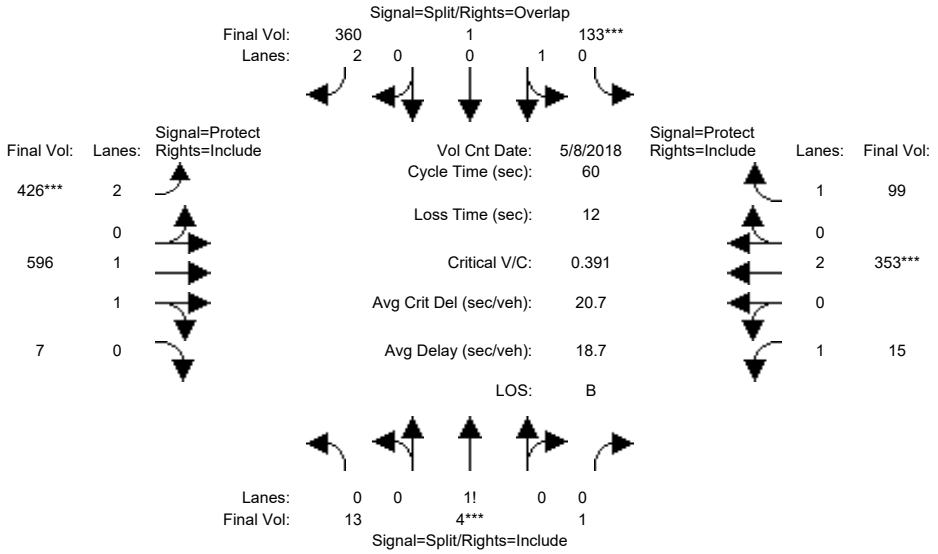
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	13	4	1	133	1	360	426	596	7	15	353	99
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	4	1	133	1	360	426	596	7	15	353	99
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	4	1	133	1	360	426	596	7	15	353	99
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	4	1	133	1	360	426	596	7	15	353	99
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	4	1	133	1	360	426	596	7	15	353	99
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	4	1	133	1	360	426	596	7	15	353	99
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.72	0.22	0.06	0.99	0.01	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1264	389	97	1787	13	3150	3150	3657	43	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.07	0.07	0.11	0.14	0.16	0.16	0.01	0.09	0.06
Crit Moves:		****		****			****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	26.6	16.6	16.5	16.5	11.5	11.4	11.4
Volume/Cap:	0.06	0.06	0.06	0.45	0.45	0.26	0.49	0.59	0.59	0.04	0.49	0.30
Delay/Veh:	21.1	21.1	21.1	23.6	23.6	10.6	18.6	19.8	19.8	19.8	22.2	21.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.1	21.1	21.1	23.6	23.6	10.6	18.6	19.8	19.8	19.8	22.2	21.4
LOS by Move:	C	C	C	C	C	B	B	B	B	B	C	C
HCM2k95thQ:	1	1	1	6	6	5	9	11	11	1	7	4

Note: Queue reported is the number of cars per lane.

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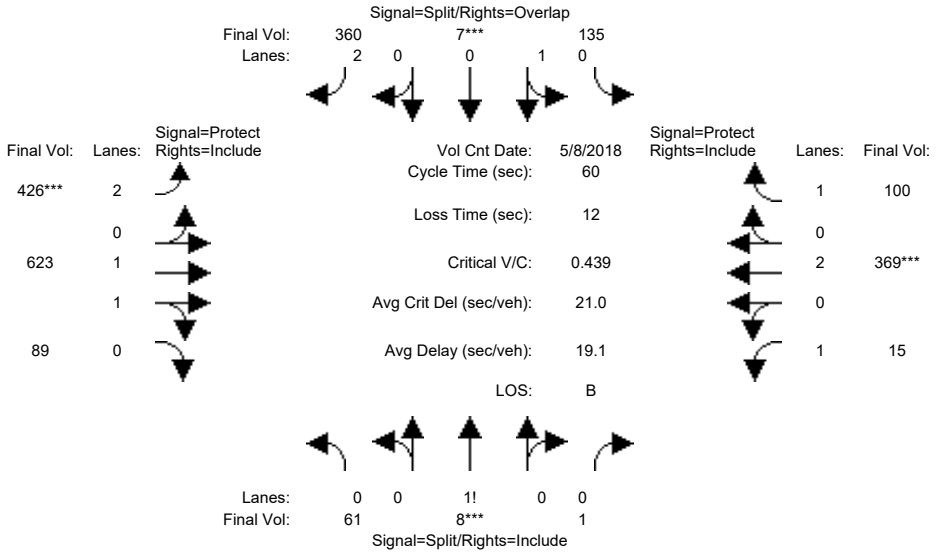
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	13	4	1	133	1	360	426	596	7	15	353	99
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	4	1	133	1	360	426	596	7	15	353	99
Added Vol:	48	4	0	2	6	0	0	27	82	0	16	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	8	1	135	7	360	426	623	89	15	369	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	8	1	135	7	360	426	623	89	15	369	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	8	1	135	7	360	426	623	89	15	369	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	8	1	135	7	360	426	623	89	15	369	100
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.98	0.95	0.92	1.00	0.92
Lanes:	0.88	0.11	0.01	0.95	0.05	2.00	2.00	1.74	0.26	1.00	2.00	1.00
Final Sat.:	1525	200	25	1711	89	3150	3150	3237	462	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.08	0.08	0.11	0.14	0.19	0.19	0.01	0.10	0.06
Crit Moves:		****			****		****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	26.3	16.3	17.4	17.4	10.6	11.7	11.7
Volume/Cap:	0.24	0.24	0.24	0.47	0.47	0.26	0.50	0.66	0.66	0.05	0.50	0.29
Delay/Veh:	22.1	22.1	22.1	23.8	23.8	10.8	18.9	20.3	20.3	20.6	22.1	21.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.1	22.1	22.1	23.8	23.8	10.8	18.9	20.3	20.3	20.6	22.1	21.1
LOS by Move:	C	C	C	C	C	B	B	C	C	C	C	C
HCM2k95thQ:	3	3	3	6	6	5	9	14	14	1	7	4

Note: Queue reported is the number of cars per lane.

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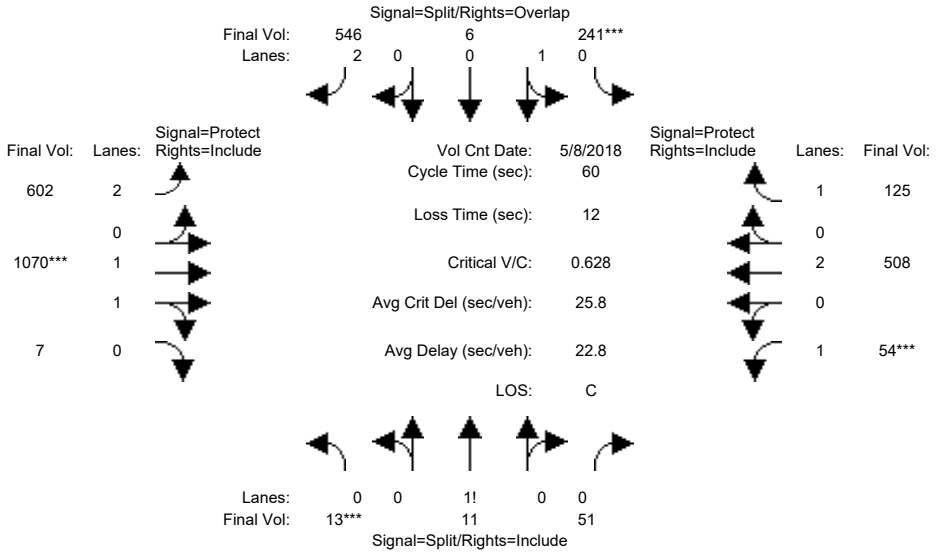
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	13	11	51	241	6	546	602	1070	7	54	508	125
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	11	51	241	6	546	602	1070	7	54	508	125
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	11	51	241	6	546	602	1070	7	54	508	125
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	11	51	241	6	546	602	1070	7	54	508	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	11	51	241	6	546	602	1070	7	54	508	125
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	11	51	241	6	546	602	1070	7	54	508	125
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.17	0.15	0.68	0.98	0.02	2.00	2.00	1.99	0.01	1.00	2.00	1.00
Final Sat.:	303	257	1190	1756	44	3150	3150	3676	24	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.14	0.14	0.17	0.19	0.29	0.29	0.03	0.13	0.07
Crit Moves:	****			****				****		****		
Green Time:	10.0	10.0	10.0	10.0	10.0	25.0	15.0	21.0	21.0	7.0	13.0	13.0
Volume/Cap:	0.26	0.26	0.26	0.82	0.82	0.42	0.77	0.83	0.83	0.26	0.61	0.33
Delay/Veh:	22.2	22.2	22.2	40.7	40.7	12.6	25.5	22.6	22.6	24.8	22.6	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.2	22.2	22.2	40.7	40.7	12.6	25.5	22.6	22.6	24.8	22.6	20.3
LOS by Move:	C	C	C	D	D	B	C	C	C	C	C	C
HCM2k95thQ:	3	3	3	14	14	9	16	22	22	3	10	5

Note: Queue reported is the number of cars per lane.

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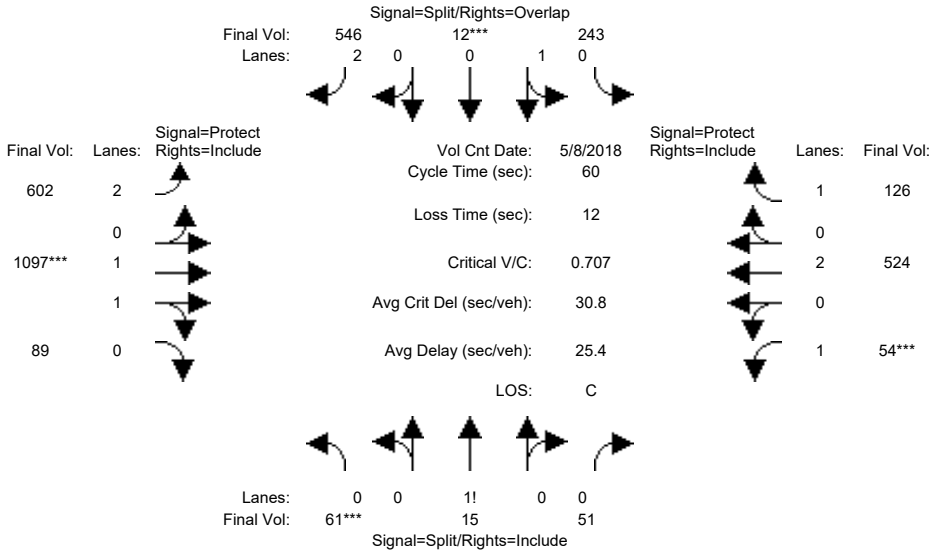
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	13	11	51	241	6	546	602	1070	7	54	508	125
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	11	51	241	6	546	602	1070	7	54	508	125
Added Vol:	48	4	0	2	6	0	0	27	82	0	16	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	15	51	243	12	546	602	1097	89	54	524	126
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	15	51	243	12	546	602	1097	89	54	524	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	15	51	243	12	546	602	1097	89	54	524	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	15	51	243	12	546	602	1097	89	54	524	126
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.98	0.95	0.92	1.00	0.92
Lanes:	0.48	0.12	0.40	0.95	0.05	2.00	2.00	1.85	0.15	1.00	2.00	1.00
Final Sat.:	841	207	703	1715	85	3150	3150	3422	278	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.14	0.14	0.17	0.19	0.32	0.32	0.03	0.14	0.07
Crit Moves:	****				****			****			****	
Green Time:	10.0	10.0	10.0	10.0	10.0	25.0	15.0	21.0	21.0	7.0	13.0	13.0
Volume/Cap:	0.44	0.44	0.44	0.85	0.85	0.42	0.77	0.92	0.92	0.26	0.63	0.33
Delay/Veh:	23.5	23.5	23.5	44.2	44.2	12.6	25.5	29.0	29.0	24.8	22.9	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.5	23.5	23.5	44.2	44.2	12.6	25.5	29.0	29.0	24.8	22.9	20.3
LOS by Move:	C	C	C	D	D	B	C	C	C	C	C	C
HCM2k95thQ:	6	6	6	15	15	9	16	27	27	3	11	5

Note: Queue reported is the number of cars per lane.

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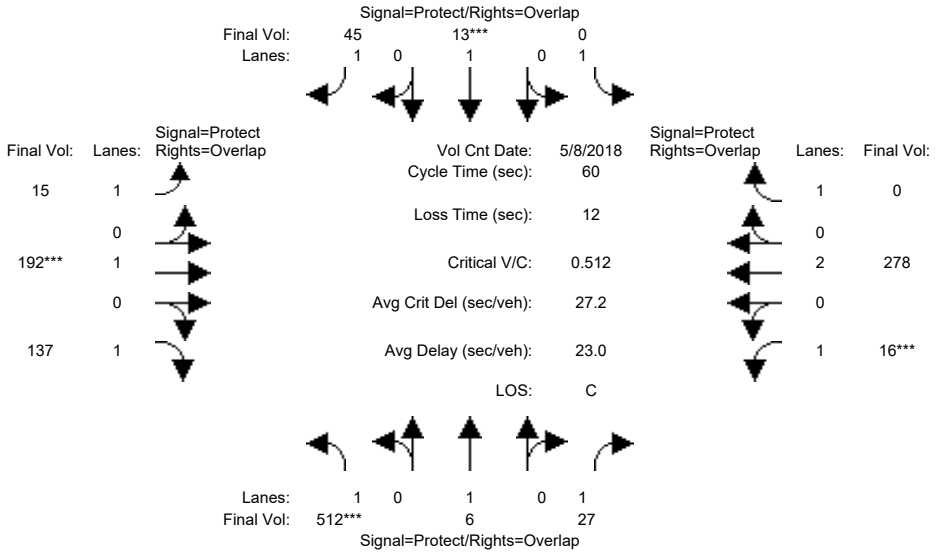
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	512	6	27	0	13	45	15	192	137	16	278	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	512	6	27	0	13	45	15	192	137	16	278	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	512	6	27	0	13	45	15	192	137	16	278	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	512	6	27	0	13	45	15	192	137	16	278	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	512	6	27	0	13	45	15	192	137	16	278	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	512	6	27	0	13	45	15	192	137	16	278	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.29	0.00	0.02	0.00	0.01	0.03	0.01	0.10	0.08	0.01	0.07	0.00
Crit Moves:	****				****			****			****	
Green Time:	21.0	31.0	38.0	0.0	10.0	17.0	7.0	10.0	31.0	7.0	10.0	0.0
Volume/Cap:	0.84	0.01	0.02	0.00	0.04	0.09	0.07	0.61	0.15	0.08	0.44	0.00
Delay/Veh:	27.7	7.0	4.1	0.0	21.0	15.9	23.8	26.5	7.7	23.8	23.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.7	7.0	4.1	0.0	21.0	15.9	23.8	26.5	7.7	23.8	23.0	0.0
LOS by Move:	C	A	A	A	C	B	C	C	A	C	C	A
HCM2k95thQ:	22	0	0	0	0	1	1	9	3	1	6	0

Note: Queue reported is the number of cars per lane.

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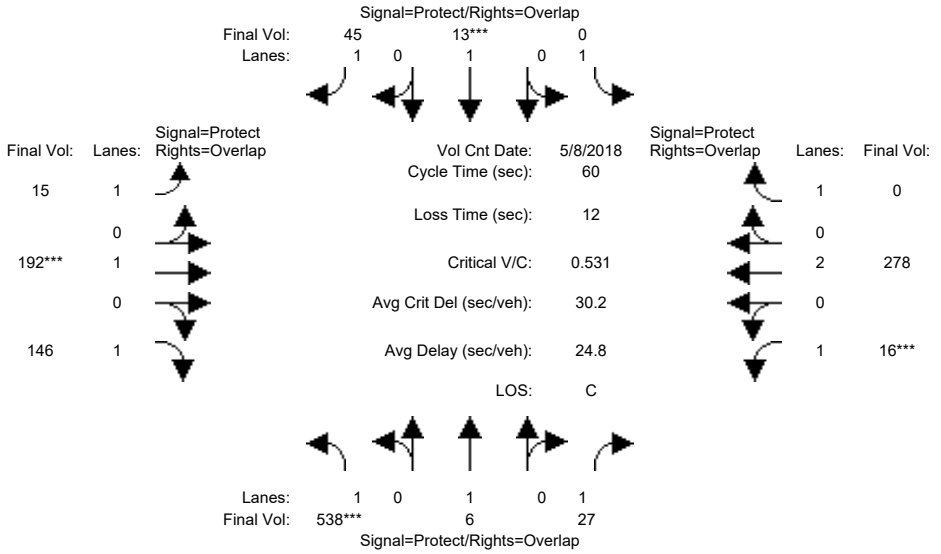
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	512	6	27	0	13	45	15	192	137	16	278	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	512	6	27	0	13	45	15	192	137	16	278	0
Added Vol:	26	0	0	0	0	0	0	0	9	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	538	6	27	0	13	45	15	192	146	16	278	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	538	6	27	0	13	45	15	192	146	16	278	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	538	6	27	0	13	45	15	192	146	16	278	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	538	6	27	0	13	45	15	192	146	16	278	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.31	0.00	0.02	0.00	0.01	0.03	0.01	0.10	0.08	0.01	0.07	0.00
Crit Moves:	****				****			****			****	
Green Time:	21.0	31.0	38.0	0.0	10.0	17.0	7.0	10.0	31.0	7.0	10.0	0.0
Volume/Cap:	0.88	0.01	0.02	0.00	0.04	0.09	0.07	0.61	0.16	0.08	0.44	0.00
Delay/Veh:	32.0	7.0	4.1	0.0	21.0	15.9	23.8	26.5	7.7	23.8	23.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.0	7.0	4.1	0.0	21.0	15.9	23.8	26.5	7.7	23.8	23.0	0.0
LOS by Move:	C	A	A	A	C	B	C	C	A	C	C	A
HCM2k95thQ:	25	0	0	0	0	1	1	9	3	1	6	0

Note: Queue reported is the number of cars per lane.

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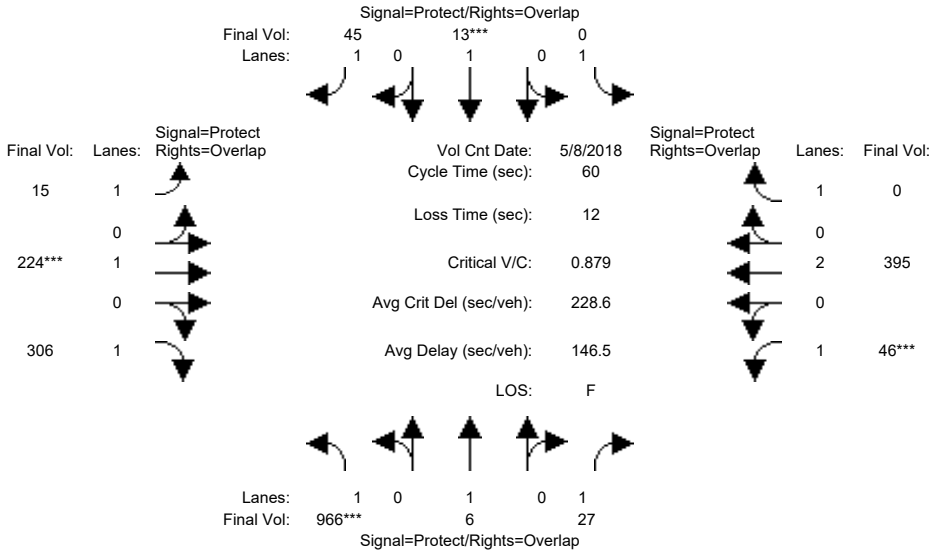
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	966	6	27	0	13	45	15	224	306	46	395	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	966	6	27	0	13	45	15	224	306	46	395	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	966	6	27	0	13	45	15	224	306	46	395	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	966	6	27	0	13	45	15	224	306	46	395	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	966	6	27	0	13	45	15	224	306	46	395	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	966	6	27	0	13	45	15	224	306	46	395	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.55	0.00	0.02	0.00	0.01	0.03	0.01	0.12	0.17	0.03	0.10	0.00
Crit Moves:	****				****			****		****		
Green Time:	21.0	31.0	38.0	0.0	10.0	17.0	7.0	10.0	31.0	7.0	10.0	0.0
Volume/Cap:	1.58	0.01	0.02	0.00	0.04	0.09	0.07	0.71	0.34	0.23	0.62	0.00
Delay/Veh:	287.0	7.0	4.1	0.0	21.0	15.9	23.8	30.8	8.7	24.6	25.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	287.0	7.0	4.1	0.0	21.0	15.9	23.8	30.8	8.7	24.6	25.2	0.0
LOS by Move:	F	A	A	A	C	B	C	C	A	C	C	A
HCM2k95thQ:	103	0	0	0	0	1	1	11	7	2	9	0

Note: Queue reported is the number of cars per lane.

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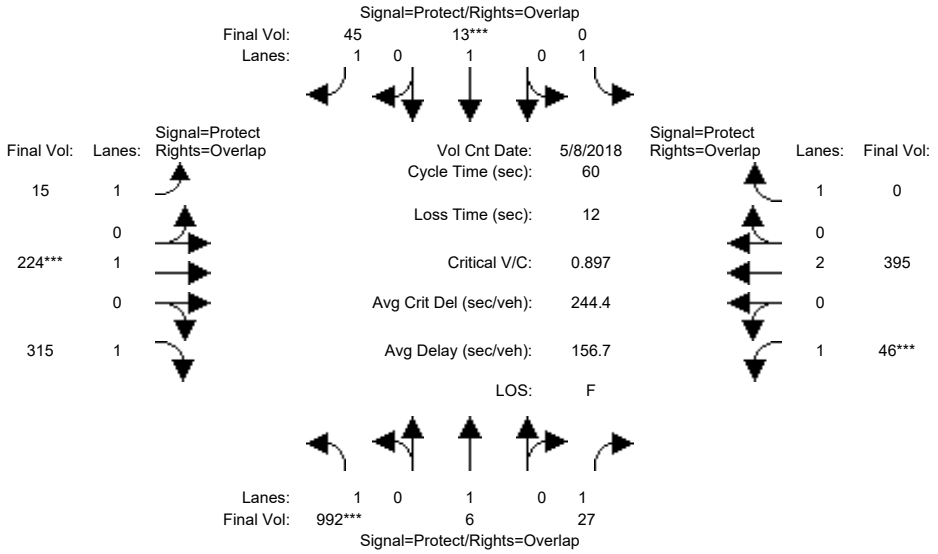
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	966	6	27	0	13	45	15	224	306	46	395	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	966	6	27	0	13	45	15	224	306	46	395	0
Added Vol:	26	0	0	0	0	0	0	0	9	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	992	6	27	0	13	45	15	224	315	46	395	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	992	6	27	0	13	45	15	224	315	46	395	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	992	6	27	0	13	45	15	224	315	46	395	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	992	6	27	0	13	45	15	224	315	46	395	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.57	0.00	0.02	0.00	0.01	0.03	0.01	0.12	0.18	0.03	0.10	0.00
Crit Moves:	****				****			****		****		
Green Time:	21.0	31.0	38.0	0.0	10.0	17.0	7.0	10.0	31.0	7.0	10.0	0.0
Volume/Cap:	1.62	0.01	0.02	0.00	0.04	0.09	0.07	0.71	0.35	0.23	0.62	0.00
Delay/Veh:	305.8	7.0	4.1	0.0	21.0	15.9	23.8	30.8	8.8	24.6	25.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	305.8	7.0	4.1	0.0	21.0	15.9	23.8	30.8	8.8	24.6	25.2	0.0
LOS by Move:	F	A	A	A	C	B	C	C	A	C	C	A
HCM2k95thQ:	109	0	0	0	0	1	1	11	8	2	9	0

Note: Queue reported is the number of cars per lane.

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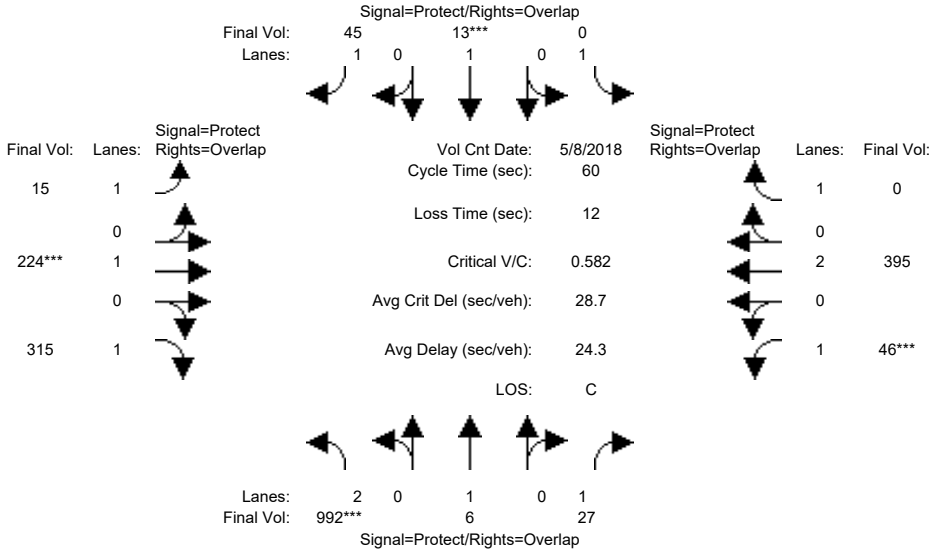
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM (with Mitigations)

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	966	6	27	0	13	45	15	224	306	46	395	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	966	6	27	0	13	45	15	224	306	46	395	0
Added Vol:	26	0	0	0	0	0	0	0	9	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	992	6	27	0	13	45	15	224	315	46	395	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	992	6	27	0	13	45	15	224	315	46	395	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	992	6	27	0	13	45	15	224	315	46	395	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	992	6	27	0	13	45	15	224	315	46	395	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.31	0.00	0.02	0.00	0.01	0.03	0.01	0.12	0.18	0.03	0.10	0.00
Crit Moves:	****				****			****		****		
Green Time:	21.0	31.0	38.0	0.0	10.0	17.0	7.0	10.0	31.0	7.0	10.0	0.0
Volume/Cap:	0.90	0.01	0.02	0.00	0.04	0.09	0.07	0.71	0.35	0.23	0.62	0.00
Delay/Veh:	28.6	7.0	4.1	0.0	21.0	15.9	23.8	30.8	8.8	24.6	25.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.6	7.0	4.1	0.0	21.0	15.9	23.8	30.8	8.8	24.6	25.2	0.0
LOS by Move:	C	A	A	A	C	B	C	C	A	C	C	A
HCM2k95thQ:	26	0	0	0	0	1	1	11	8	2	9	0

Note: Queue reported is the number of cars per lane.

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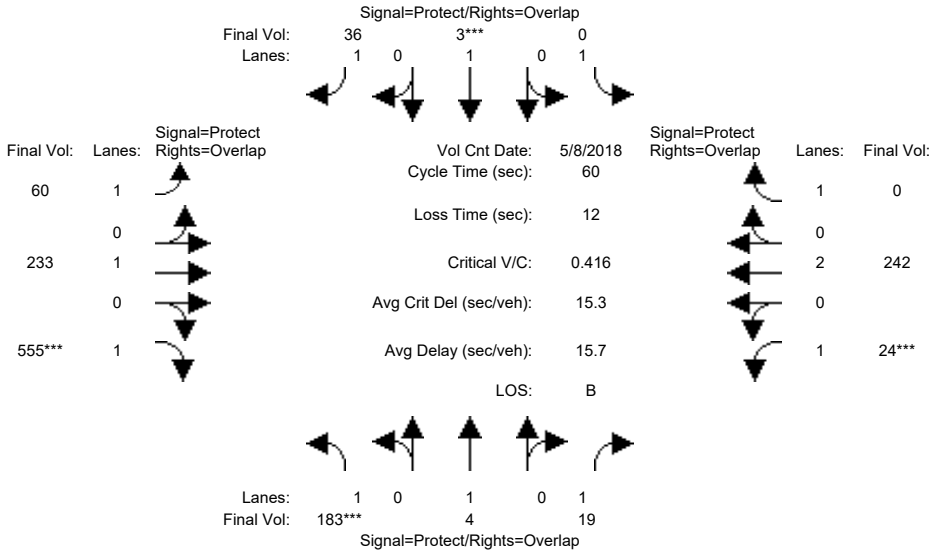
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	183	4	19	0	3	36	60	233	555	24	242	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	183	4	19	0	3	36	60	233	555	24	242	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	183	4	19	0	3	36	60	233	555	24	242	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	183	4	19	0	3	36	60	233	555	24	242	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	183	4	19	0	3	36	60	233	555	24	242	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	183	4	19	0	3	36	60	233	555	24	242	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.01	0.00	0.00	0.02	0.03	0.12	0.32	0.01	0.06	0.00
Crit Moves:	****				****				****	****		
Green Time:	10.6	20.6	27.6	0.0	10.0	21.3	11.3	20.4	31.0	7.0	16.1	0.0
Volume/Cap:	0.59	0.01	0.02	0.00	0.01	0.06	0.18	0.36	0.61	0.12	0.24	0.00
Delay/Veh:	25.7	12.9	8.8	0.0	20.9	12.8	20.8	15.3	11.5	24.0	17.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.7	12.9	8.8	0.0	20.9	12.8	20.8	15.3	11.5	24.0	17.3	0.0
LOS by Move:	C	B	A	A	C	B	C	B	B	C	B	A
HCM2k95thQ:	9	0	0	0	0	1	2	7	16	1	4	0

Note: Queue reported is the number of cars per lane.

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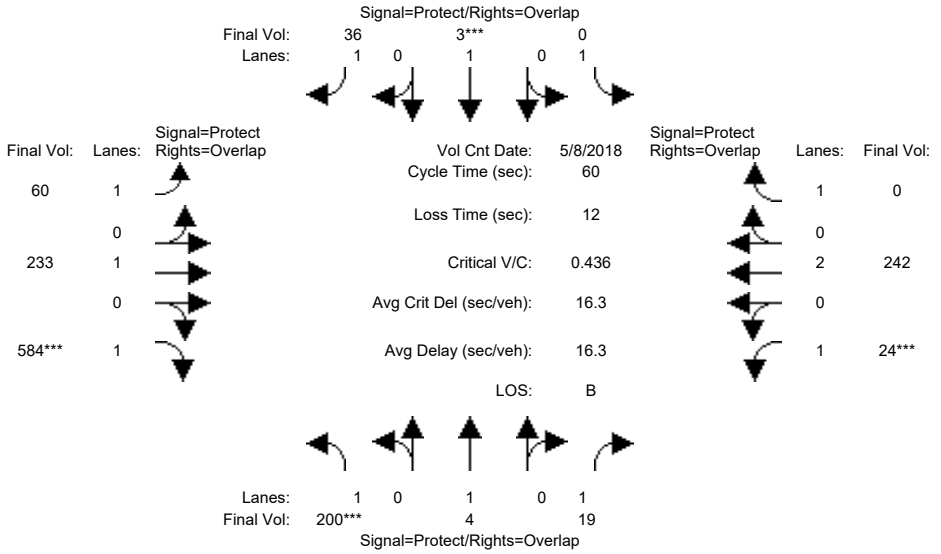
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	183	4	19	0	3	36	60	233	555	24	242	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	183	4	19	0	3	36	60	233	555	24	242	0
Added Vol:	17	0	0	0	0	0	0	0	29	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	200	4	19	0	3	36	60	233	584	24	242	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	200	4	19	0	3	36	60	233	584	24	242	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	200	4	19	0	3	36	60	233	584	24	242	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	200	4	19	0	3	36	60	233	584	24	242	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.00	0.01	0.00	0.00	0.02	0.03	0.12	0.33	0.01	0.06	0.00
Crit Moves:	****				****				****	****		
Green Time:	10.7	20.7	27.7	0.0	10.0	21.2	11.2	20.3	31.0	7.0	16.1	0.0
Volume/Cap:	0.64	0.01	0.02	0.00	0.01	0.06	0.18	0.36	0.65	0.12	0.24	0.00
Delay/Veh:	27.4	12.9	8.8	0.0	20.9	12.8	20.8	15.3	12.1	24.0	17.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.4	12.9	8.8	0.0	20.9	12.8	20.8	15.3	12.1	24.0	17.3	0.0
LOS by Move:	C	B	A	A	C	B	C	B	B	C	B	A
HCM2k95thQ:	10	0	0	0	0	1	2	7	17	1	4	0

Note: Queue reported is the number of cars per lane.

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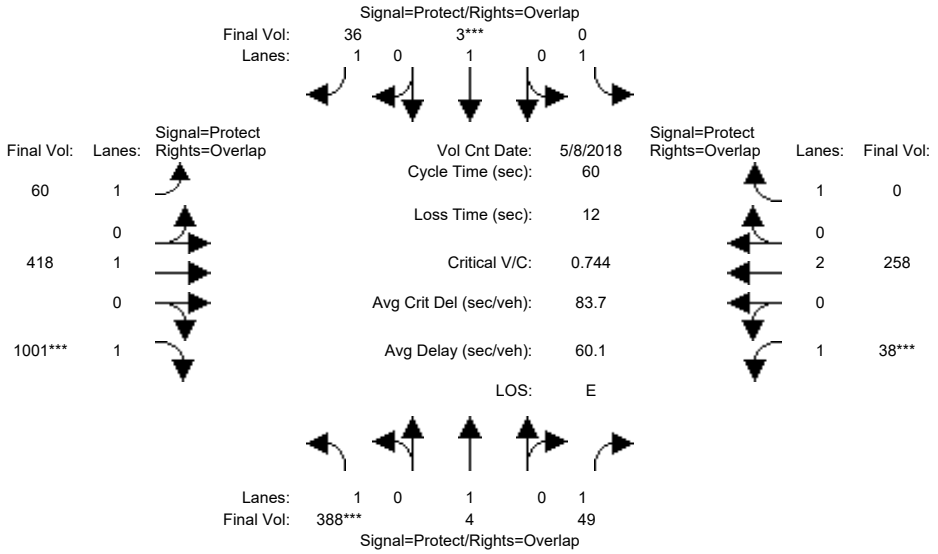
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	388	4	49	0	3	36	60	418	1001	38	258	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	388	4	49	0	3	36	60	418	1001	38	258	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	388	4	49	0	3	36	60	418	1001	38	258	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	388	4	49	0	3	36	60	418	1001	38	258	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	388	4	49	0	3	36	60	418	1001	38	258	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	388	4	49	0	3	36	60	418	1001	38	258	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.22	0.00	0.03	0.00	0.00	0.02	0.03	0.22	0.57	0.02	0.07	0.00
Crit Moves:	****				****				****	****		
Green Time:	12.0	22.0	29.0	0.0	10.0	20.7	10.7	19.0	31.0	7.0	15.3	0.0
Volume/Cap:	1.11	0.01	0.06	0.00	0.01	0.06	0.19	0.70	1.11	0.19	0.27	0.00
Delay/Veh:	104.1	12.1	8.3	0.0	20.9	13.2	21.3	21.5	78.3	24.4	18.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	104.1	12.1	8.3	0.0	20.9	13.2	21.3	21.5	78.3	24.4	18.0	0.0
LOS by Move:	F	B	A	A	C	B	C	C	E	C	B	A
HCM2k95thQ:	30	0	1	0	0	1	2	15	60	2	4	0

Note: Queue reported is the number of cars per lane.

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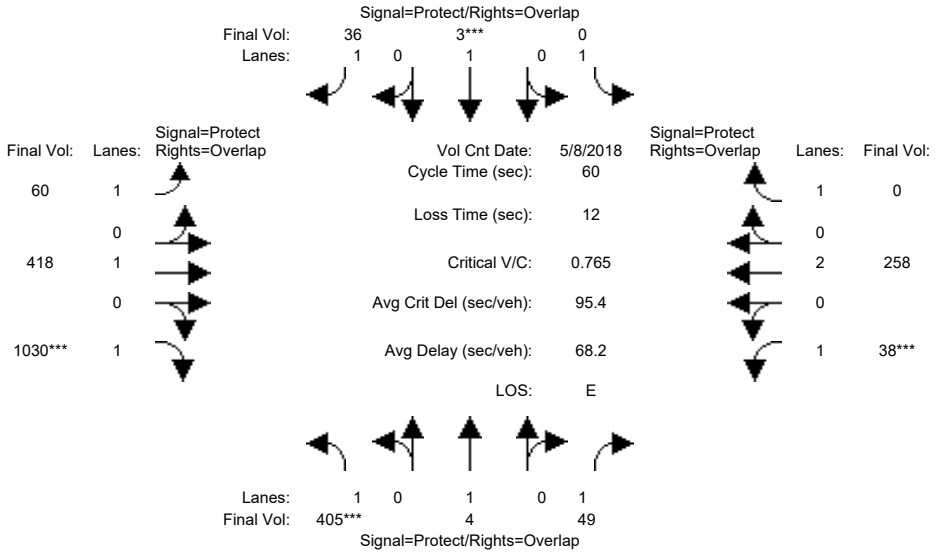
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	388	4	49	0	3	36	60	418	1001	38	258	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	388	4	49	0	3	36	60	418	1001	38	258	0
Added Vol:	17	0	0	0	0	0	0	0	29	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	405	4	49	0	3	36	60	418	1030	38	258	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	405	4	49	0	3	36	60	418	1030	38	258	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	405	4	49	0	3	36	60	418	1030	38	258	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	405	4	49	0	3	36	60	418	1030	38	258	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.23	0.00	0.03	0.00	0.00	0.02	0.03	0.22	0.59	0.02	0.07	0.00
Crit Moves:	****				****				****	****		
Green Time:	12.2	22.2	29.2	0.0	10.0	20.6	10.6	18.8	31.0	7.0	15.2	0.0
Volume/Cap:	1.14	0.01	0.06	0.00	0.01	0.06	0.19	0.70	1.14	0.19	0.27	0.00
Delay/Veh:	115.0	11.9	8.2	0.0	20.9	13.2	21.3	21.9	90.5	24.4	18.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	115.0	11.9	8.2	0.0	20.9	13.2	21.3	21.9	90.5	24.4	18.1	0.0
LOS by Move:	F	B	A	A	C	B	C	C	F	C	B	A
HCM2k95thQ:	32	0	1	0	0	1	2	16	65	2	4	0

Note: Queue reported is the number of cars per lane.

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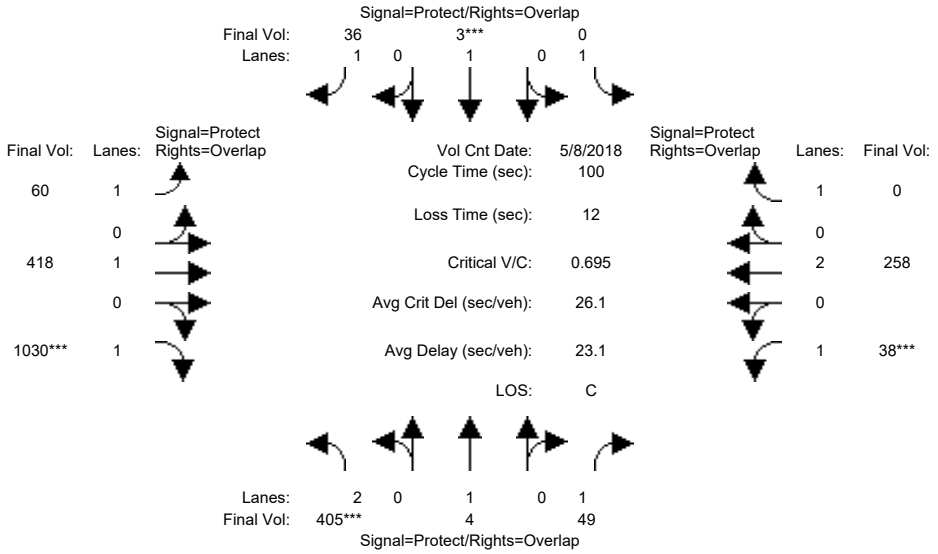
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM (with Mitigations)

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	388	4	49	0	3	36	60	418	1001	38	258	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	388	4	49	0	3	36	60	418	1001	38	258	0
Added Vol:	17	0	0	0	0	0	0	0	29	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	405	4	49	0	3	36	60	418	1030	38	258	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	405	4	49	0	3	36	60	418	1030	38	258	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	405	4	49	0	3	36	60	418	1030	38	258	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	405	4	49	0	3	36	60	418	1030	38	258	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.03	0.00	0.00	0.02	0.03	0.22	0.59	0.02	0.07	0.00
Crit Moves:	****				****				****	****		
Green Time:	15.5	25.5	32.5	0.0	10.0	35.7	25.7	55.5	71.0	7.0	36.8	0.0
Volume/Cap:	0.83	0.01	0.09	0.00	0.02	0.06	0.13	0.40	0.83	0.31	0.18	0.00
Delay/Veh:	52.3	27.8	23.5	0.0	40.6	21.1	28.7	12.9	15.0	45.7	21.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.3	27.8	23.5	0.0	40.6	21.1	28.7	12.9	15.0	45.7	21.5	0.0
LOS by Move:	D	C	C	A	D	C	C	B	B	D	C	A
HCM2k95thQ:	18	0	2	0	0	2	3	14	43	3	5	0

Note: Queue reported is the number of cars per lane.

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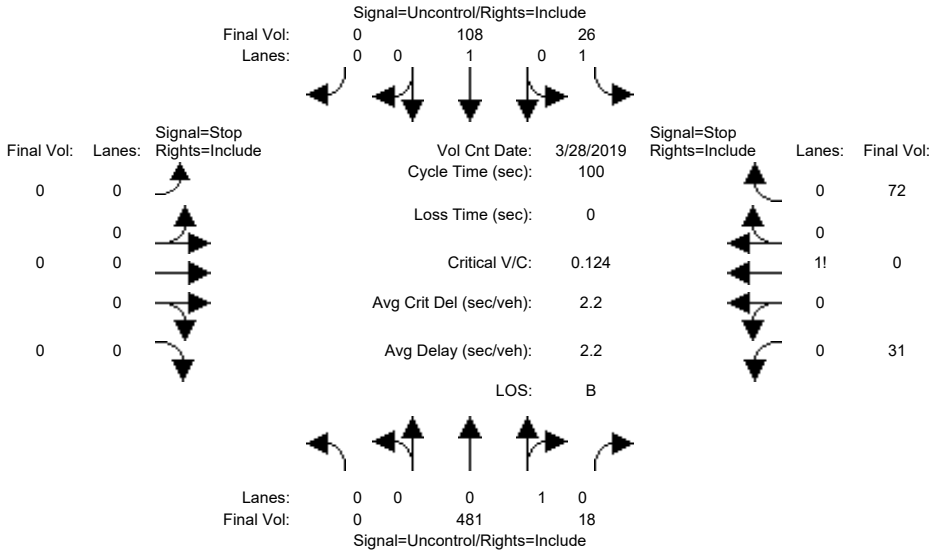
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	481	18	26	108	0	0	0	0	31	0	72
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	481	18	26	108	0	0	0	0	31	0	72
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	481	18	26	108	0	0	0	0	31	0	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	481	18	26	108	0	0	0	0	31	0	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	481	18	26	108	0	0	0	0	31	0	72
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	499	xxxx	xxxxx	xxxx	xxxx	xxxxx	650	650	490
Potent Cap.:	xxxx	xxxx	xxxxx	1075	xxxx	xxxxx	xxxx	xxxx	xxxxx	437	391	582
Move Cap.:	xxxx	xxxx	xxxxx	1075	xxxx	xxxxx	xxxx	xxxx	xxxxx	429	381	582
Volume/Cap:	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.07	0.00	0.12
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	526	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.7	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			13.5		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

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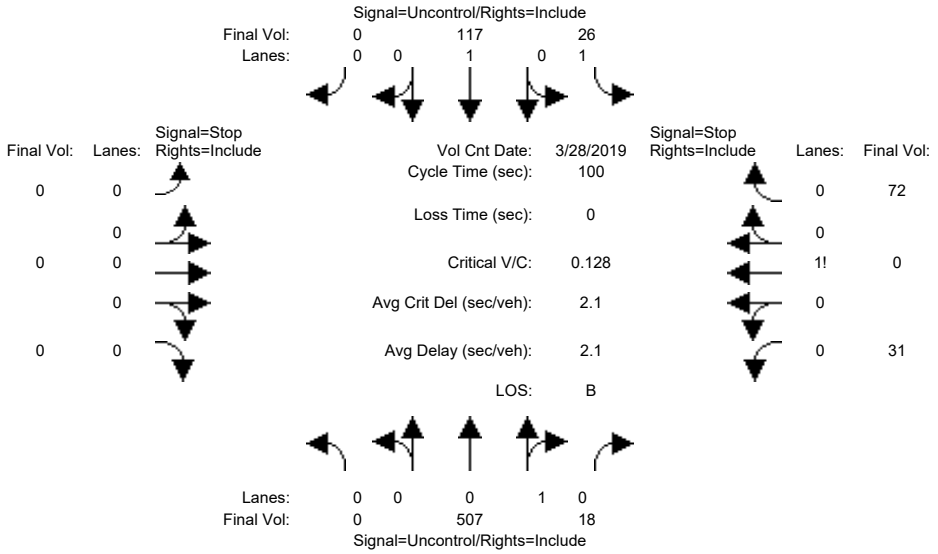
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	481	18	26	108	0	0	0	0	31	0	72
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	481	18	26	108	0	0	0	0	31	0	72
Added Vol:	0	26	0	0	9	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	507	18	26	117	0	0	0	0	31	0	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	507	18	26	117	0	0	0	0	31	0	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	507	18	26	117	0	0	0	0	31	0	72
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	525	xxxx	xxxxx	xxxx	xxxx	xxxxx	685	685	516
Potent Cap.:	xxxx	xxxx	xxxxx	1052	xxxx	xxxxx	xxxx	xxxx	xxxxx	417	373	563
Move Cap.:	xxxx	xxxx	xxxxx	1052	xxxx	xxxxx	xxxx	xxxx	xxxxx	409	364	563
Volume/Cap:	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.08	0.00	0.13
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	506	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.9	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			13.9		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

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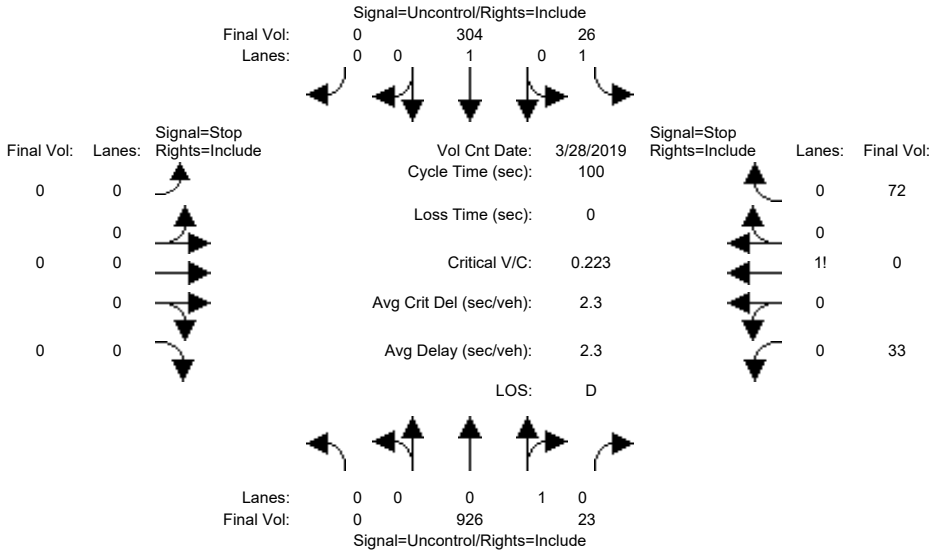
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	926	23	26	304	0	0	0	0	33	0	72
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	926	23	26	304	0	0	0	0	33	0	72
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	926	23	26	304	0	0	0	0	33	0	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	926	23	26	304	0	0	0	0	33	0	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	926	23	26	304	0	0	0	0	33	0	72
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	949	xxxx	xxxxx	xxxx	xxxx	xxxxx	1294	1294	938
Potent Cap.:	xxxx	xxxx	xxxxx	732	xxxx	xxxxx	xxxx	xxxx	xxxxx	181	164	324
Move Cap.:	xxxx	xxxx	xxxxx	732	xxxx	xxxxx	xxxx	xxxx	xxxxx	176	158	324
Volume/Cap:	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.19	0.00	0.22
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	10.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	256	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.9	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	28.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			28.5		
ApproachLOS:	*			*			*			D		

Note: Queue reported is the number of cars per lane.

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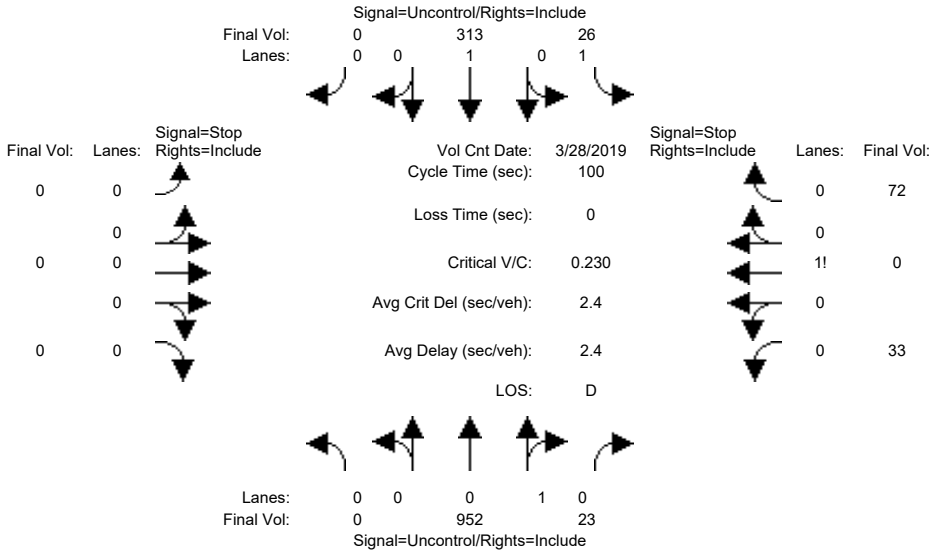
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	926	23	26	304	0	0	0	0	33	0	72
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	926	23	26	304	0	0	0	0	33	0	72
Added Vol:	0	26	0	0	9	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	952	23	26	313	0	0	0	0	33	0	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	952	23	26	313	0	0	0	0	33	0	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	952	23	26	313	0	0	0	0	33	0	72
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	975	xxxx	xxxxx	xxxx	xxxx	xxxxx	1329	1329	964
Potent Cap.:	xxxx	xxxx	xxxxx	716	xxxx	xxxxx	xxxx	xxxx	xxxxx	173	156	313
Move Cap.:	xxxx	xxxx	xxxxx	716	xxxx	xxxxx	xxxx	xxxx	xxxxx	168	151	313
Volume/Cap:	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.20	0.00	0.23
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	10.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	246	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	2.0	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	30.1	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			30.1		
ApproachLOS:	*			*			*			D		

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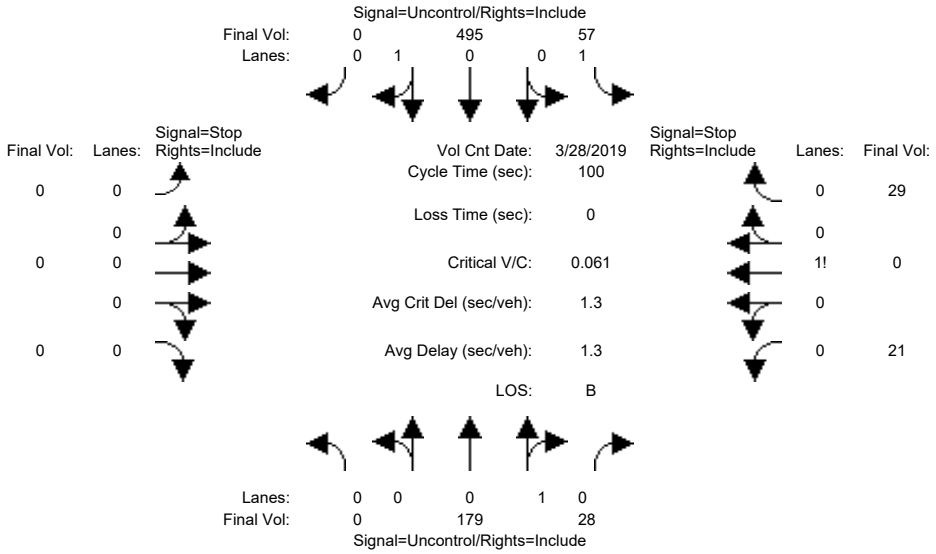
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	179	28	57	495	0	0	0	0	21	0	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	179	28	57	495	0	0	0	0	21	0	29
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	179	28	57	495	0	0	0	0	21	0	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	179	28	57	495	0	0	0	0	21	0	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	179	28	57	495	0	0	0	0	21	0	29
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	207	xxxx	xxxxx	xxxx	xxxx	xxxxx	802	802	193
Potent Cap.:	xxxx	xxxx	xxxxx	1376	xxxx	xxxxx	xxxx	xxxx	xxxxx	356	320	854
Move Cap.:	xxxx	xxxx	xxxxx	1376	xxxx	xxxxx	xxxx	xxxx	xxxxx	345	306	854
Volume/Cap:	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	0.00	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	527	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			12.5		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

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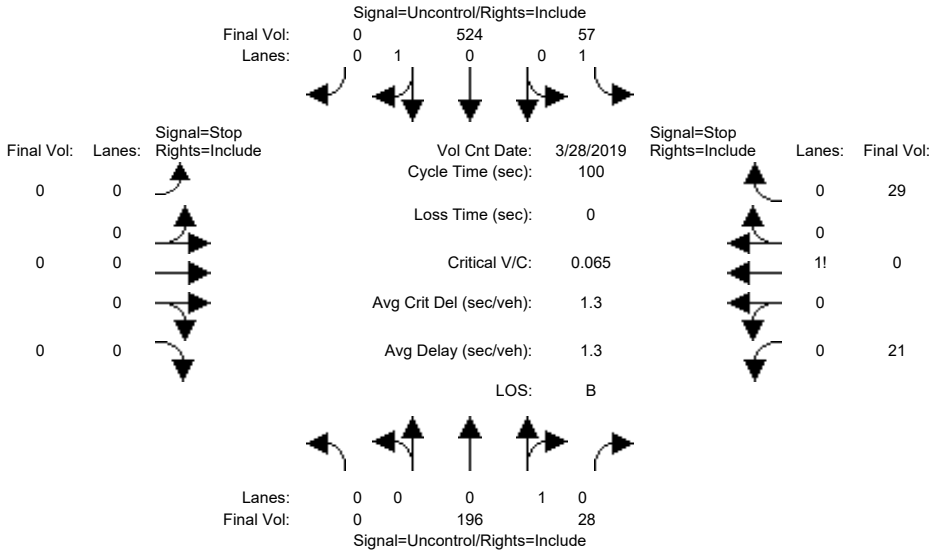
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	179	28	57	495	0	0	0	0	21	0	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	179	28	57	495	0	0	0	0	21	0	29
Added Vol:	0	17	0	0	29	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	196	28	57	524	0	0	0	0	21	0	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	196	28	57	524	0	0	0	0	21	0	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	196	28	57	524	0	0	0	0	21	0	29
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	224	xxxx	xxxxx	xxxx	xxxx	xxxxx	848	848	210
Potent Cap.:	xxxx	xxxx	xxxxx	1357	xxxx	xxxxx	xxxx	xxxx	xxxxx	334	301	835
Move Cap.:	xxxx	xxxx	xxxxx	1357	xxxx	xxxxx	xxxx	xxxx	xxxxx	324	288	835
Volume/Cap:	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	0.00	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	502	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.0	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			13.0		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

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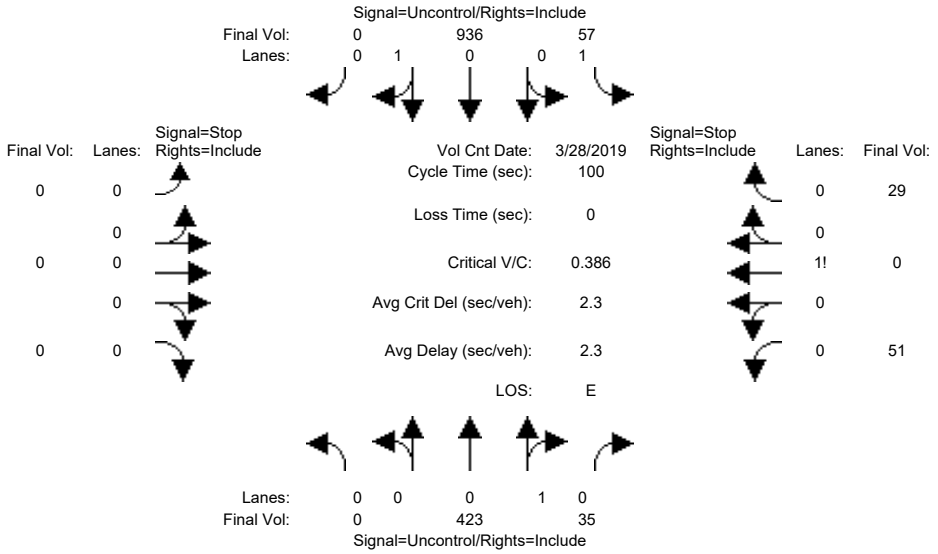
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	423	35	57	936	0	0	0	0	51	0	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	423	35	57	936	0	0	0	0	51	0	29
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	423	35	57	936	0	0	0	0	51	0	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	423	35	57	936	0	0	0	0	51	0	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	423	35	57	936	0	0	0	0	51	0	29
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	458	xxxx	xxxxx	xxxx	xxxx	xxxxx	1491	1491	441
Potent Cap.:	xxxx	xxxx	xxxxx	1114	xxxx	xxxxx	xxxx	xxxx	xxxxx	138	125	621
Move Cap.:	xxxx	xxxx	xxxxx	1114	xxxx	xxxxx	xxxx	xxxx	xxxxx	132	119	621
Volume/Cap:	xxxx	xxxx	xxxx	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	0.39	0.00	0.05
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	185	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	2.0	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	38.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	E	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			38.5		
ApproachLOS:	*			*			*			E		

Note: Queue reported is the number of cars per lane.

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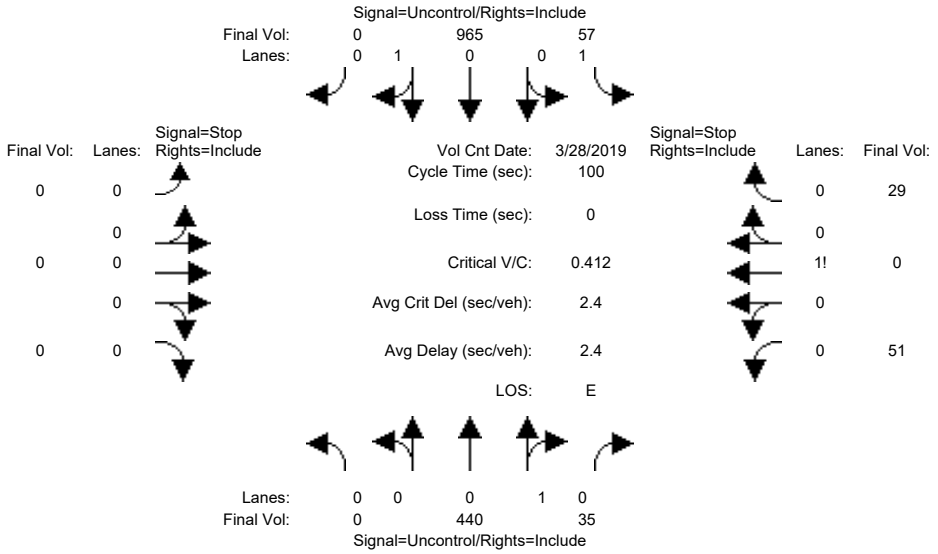
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	423	35	57	936	0	0	0	0	51	0	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	423	35	57	936	0	0	0	0	51	0	29
Added Vol:	0	17	0	0	29	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	440	35	57	965	0	0	0	0	51	0	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	440	35	57	965	0	0	0	0	51	0	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	440	35	57	965	0	0	0	0	51	0	29
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	475	xxxx	xxxxx	xxxx	xxxx	xxxxx	1537	1537	458
Potent Cap.:	xxxx	xxxx	xxxxx	1098	xxxx	xxxxx	xxxx	xxxx	xxxxx	129	117	607
Move Cap.:	xxxx	xxxx	xxxxx	1098	xxxx	xxxxx	xxxx	xxxx	xxxxx	124	111	607
Volume/Cap:	xxxx	xxxx	xxxx	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	0.41	0.00	0.05
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	174	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	2.2	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	42.1	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	E	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			42.1		
ApproachLOS:	*			*			*			E		

Note: Queue reported is the number of cars per lane.

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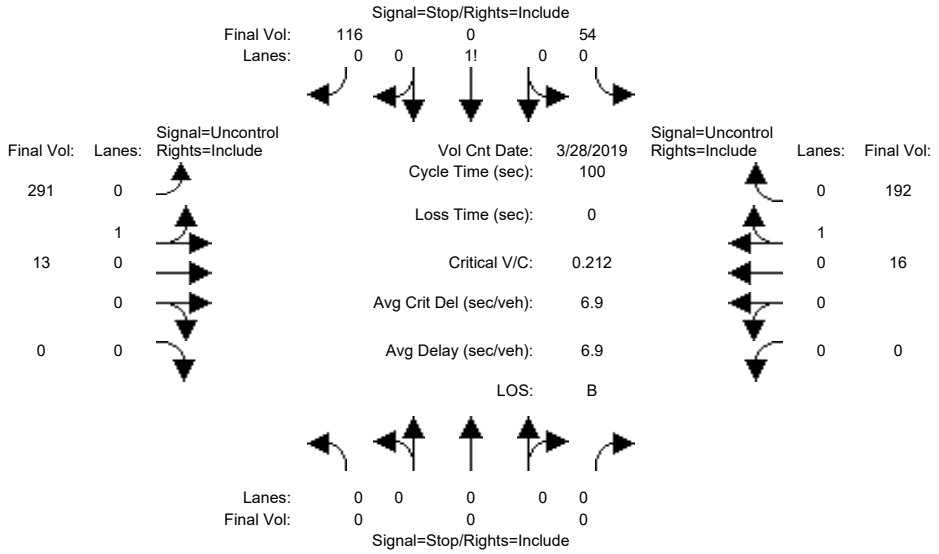
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	54	0	116	291	13	0	0	16	192
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	54	0	116	291	13	0	0	16	192
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	54	0	116	291	13	0	0	16	192
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	54	0	116	291	13	0	0	16	192
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	54	0	116	291	13	0	0	16	192
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	707	707	112	208	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	405	363	947	1375	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	326	271	947	1375	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.17	0.00	0.12	0.21	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.8	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	590	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	1.2	xxxxx	0.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	13.6	xxxxx	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			13.6			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

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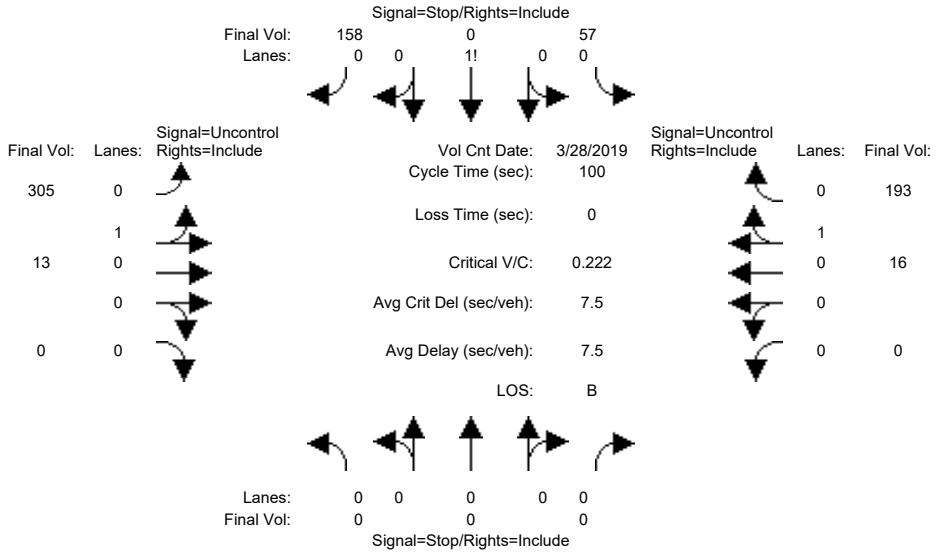
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	54	0	116	291	13	0	0	16	192
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	54	0	116	291	13	0	0	16	192
Added Vol:	0	0	0	3	0	42	14	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	57	0	158	305	13	0	0	16	193
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	57	0	158	305	13	0	0	16	193
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	57	0	158	305	13	0	0	16	193
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	736	736	113	209	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	389	349	946	1374	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	309	256	946	1374	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.18	0.00	0.17	0.22	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.9	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	612	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	1.6	xxxxx	0.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	14.0	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			14.0			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

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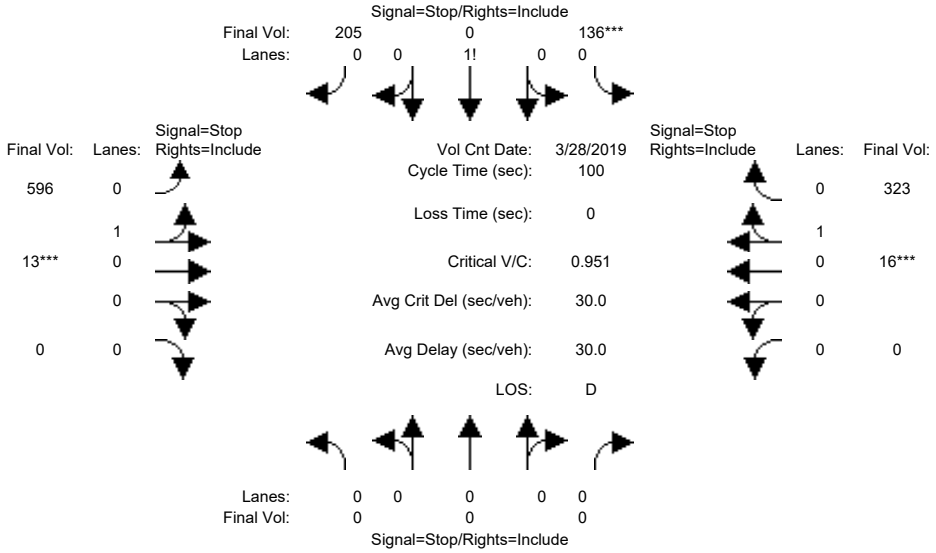
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	136	0	205	596	13	0	0	16	323
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	136	0	205	596	13	0	0	16	323
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	136	0	205	596	13	0	0	16	323
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	136	0	205	596	13	0	0	16	323
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	136	0	205	596	13	0	0	16	323
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	136	0	205	596	13	0	0	16	323
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.40	0.00	0.60	0.98	0.02	0.00	0.00	0.05	0.95
Final Sat.:	0	0	0	237	0	358	627	14	0	0	31	631
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.57	xxxx	0.57	0.95	0.95	xxxx	xxxx	0.51	0.51
Crit Moves:				****				****			****	
Delay/Veh:	0.0	0.0	0.0	16.0	0.0	16.0	47.0	47.0	0.0	0.0	13.3	13.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.0	0.0	16.0	47.0	47.0	0.0	0.0	13.3	13.3
LOS by Move:	*	*	*	C	*	C	E	E	*	*	B	B
ApproachDel:	xxxxxx			16.0			47.0			13.3		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			16.0			47.0			13.3		
LOS by Appr:	*			C			E			B		
AllWayAvgQ:	0.0	0.0	0.0	1.2	1.2	1.2	6.8	6.8	6.8	0.9	0.9	0.9

Note: Queue reported is the number of cars per lane.

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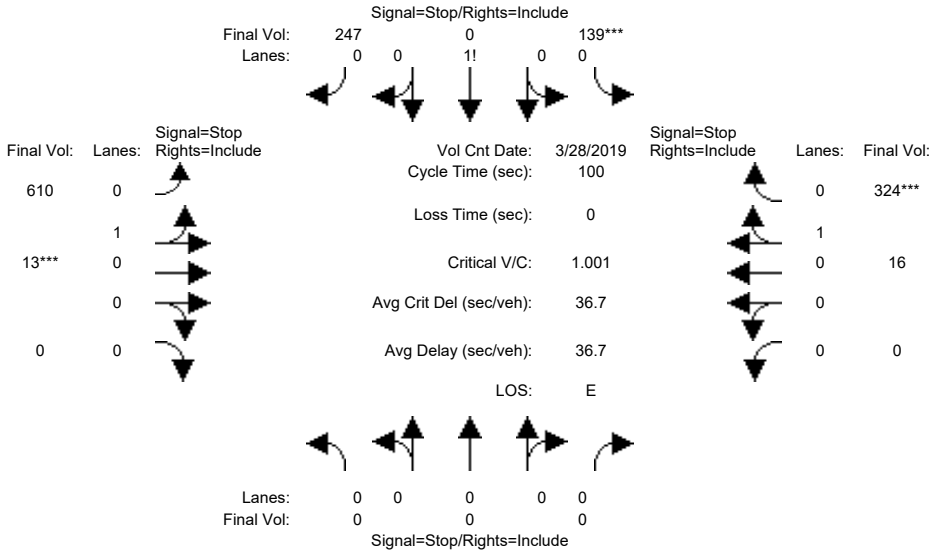
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	136	0	205	596	13	0	0	16	323
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	136	0	205	596	13	0	0	16	323
Added Vol:	0	0	0	3	0	42	14	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	139	0	247	610	13	0	0	16	324
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	139	0	247	610	13	0	0	16	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	139	0	247	610	13	0	0	16	324
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	139	0	247	610	13	0	0	16	324
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.36	0.00	0.64	0.98	0.02	0.00	0.00	0.05	0.95
Final Sat.:	0	0	0	215	0	383	609	13	0	0	30	612
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.65	xxxx	0.65	1.00	1.00	xxxx	xxxx	0.53	0.53
Crit Moves:				****				****				****
Delay/Veh:	0.0	0.0	0.0	18.8	0.0	18.8	60.0	60.0	0.0	0.0	14.3	14.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	18.8	0.0	18.8	60.0	60.0	0.0	0.0	14.3	14.3
LOS by Move:	*	*	*	C	*	C	F	F	*	*	B	B
ApproachDel:	xxxxxx			18.8			60.0			14.3		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			18.8			60.0			14.3		
LOS by Appr:	*			C			F			B		
AllWayAvgQ:	0.0	0.0	0.0	1.6	1.6	1.6	8.9	8.9	8.9	1.0	1.0	1.0

Note: Queue reported is the number of cars per lane.

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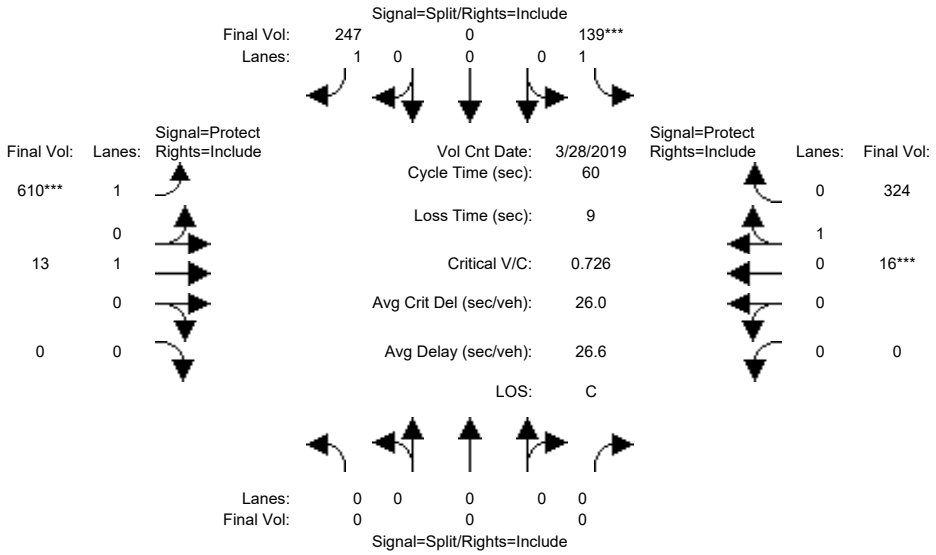
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM (with Mitigations)

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	136	0	205	596	13	0	0	16	323
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	136	0	205	596	13	0	0	16	323
Added Vol:	0	0	0	3	0	42	14	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	139	0	247	610	13	0	0	16	324
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	139	0	247	610	13	0	0	16	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	139	0	247	610	13	0	0	16	324
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	139	0	247	610	13	0	0	16	324
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.95	0.95
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.05	0.95
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	85	1715
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.08	0.00	0.14	0.35	0.01	0.00	0.00	0.19	0.19
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	11.7	0.0	11.7	25.5	39.3	0.0	0.0	13.8	13.8
Volume/Cap:	0.00	0.00	0.00	0.41	0.00	0.73	0.82	0.01	0.00	0.00	0.82	0.82
Delay/Veh:	0.0	0.0	0.0	21.9	0.0	30.3	22.4	3.6	0.0	0.0	34.1	34.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.9	0.0	30.3	22.4	3.6	0.0	0.0	34.1	34.1
LOS by Move:	A	A	A	C	A	C	C	A	A	A	C	C
HCM2k95thQ:	0	0	0	6	0	12	24	0	0	0	17	17

Note: Queue reported is the number of cars per lane.

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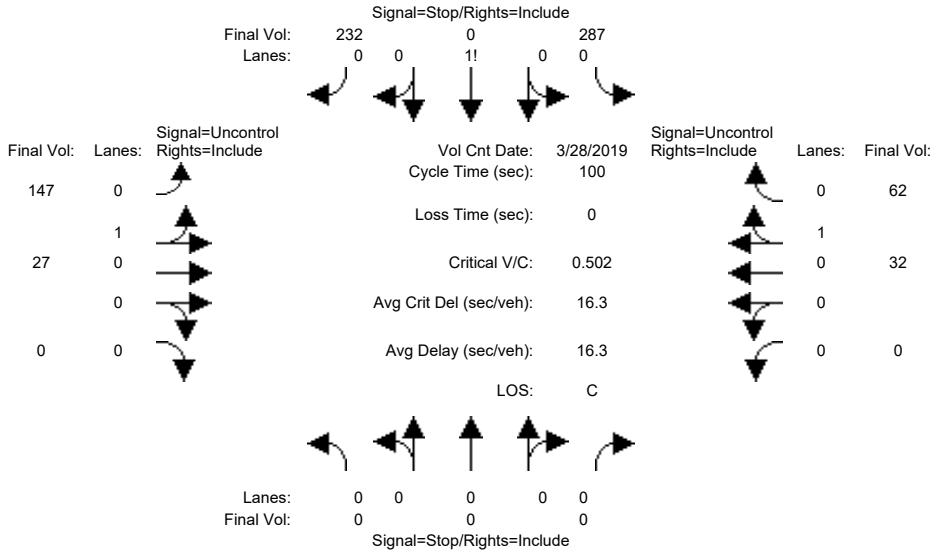
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	287	0	232	147	27	0	0	32	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	287	0	232	147	27	0	0	32	62
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	287	0	232	147	27	0	0	32	62
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	287	0	232	147	27	0	0	32	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	287	0	232	147	27	0	0	32	62
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	384	384	63	94	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	623	553	1007	1513	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	572	494	1007	1513	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.50	0.00	0.23	0.10	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	709	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	6.4	xxxxx	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	22.6	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			22.6			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

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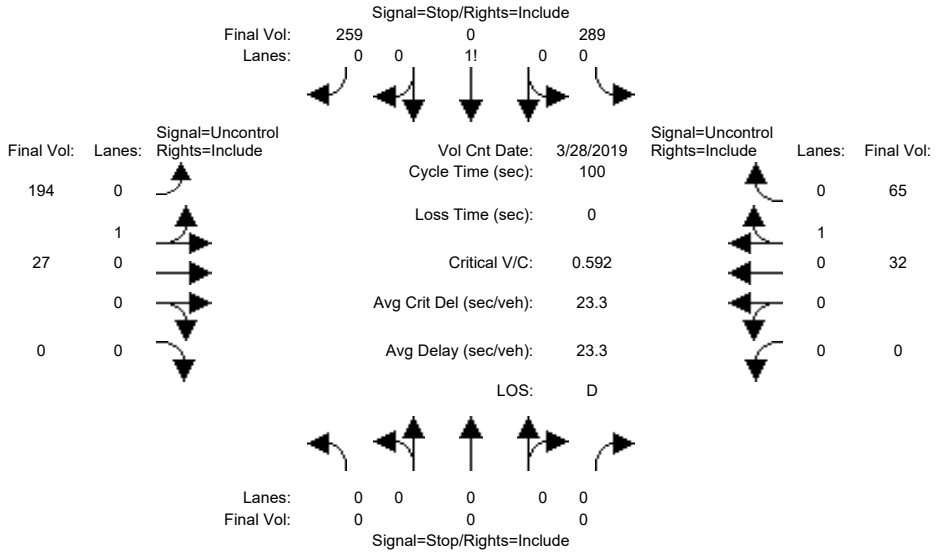
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	287	0	232	147	27	0	0	32	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	287	0	232	147	27	0	0	32	62
Added Vol:	0	0	0	2	0	27	47	0	0	0	0	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	289	0	259	194	27	0	0	32	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	289	0	259	194	27	0	0	32	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	289	0	259	194	27	0	0	32	65
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	480	480	65	97	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	549	488	1005	1509	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	488	418	1005	1509	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.59	0.00	0.26	0.13	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	645	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	9.5	xxxxx	0.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	34.0	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	D	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			34.0			xxxxxx			xxxxxx		
ApproachLOS:	*			D			*			*		

Note: Queue reported is the number of cars per lane.

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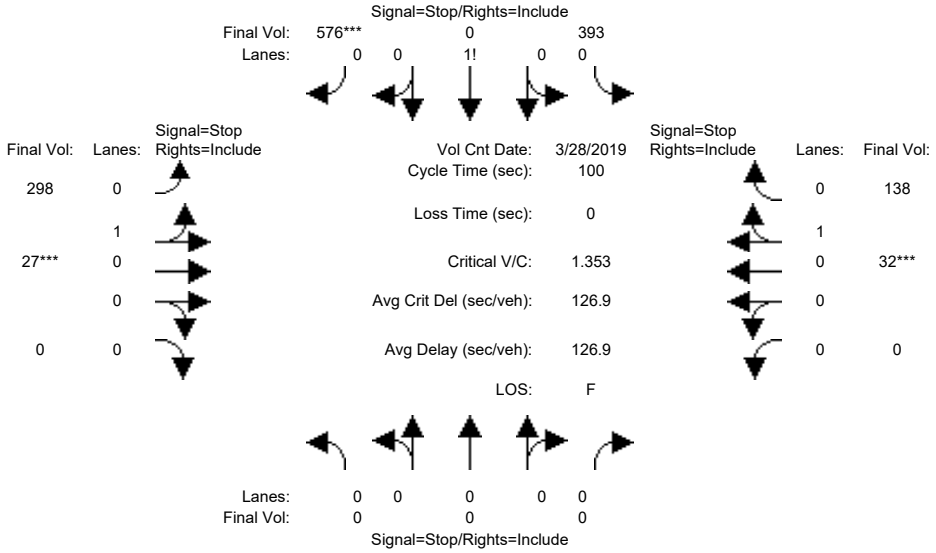
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	393	0	576	298	27	0	0	32	138
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	393	0	576	298	27	0	0	32	138
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	393	0	576	298	27	0	0	32	138
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	393	0	576	298	27	0	0	32	138
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	393	0	576	298	27	0	0	32	138
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	393	0	576	298	27	0	0	32	138
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.41	0.00	0.59	0.92	0.08	0.00	0.00	0.19	0.81
Final Sat.:	0	0	0	291	0	426	527	48	0	0	114	490
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	1.35	xxxx	1.35	0.57	0.57	xxxx	xxxx	0.28	0.28
Crit Moves:						****		****			****	
Delay/Veh:	0.0	0.0	0.0	184.1	0.0	184.1	17.0	17.0	0.0	0.0	11.1	11.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	184.1	0.0	184.1	17.0	17.0	0.0	0.0	11.1	11.1
LOS by Move:	*	*	*	F	*	F	C	C	*	*	B	B
ApproachDel:	xxxxxx			184.1			17.0			11.1		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			184.1			17.0			11.1		
LOS by Appr:	*			F			C			B		
AllWayAvgQ:	0.0	0.0	0.0	35.0	35.0	35.0	1.2	1.2	1.2	0.4	0.4	0.4

Note: Queue reported is the number of cars per lane.

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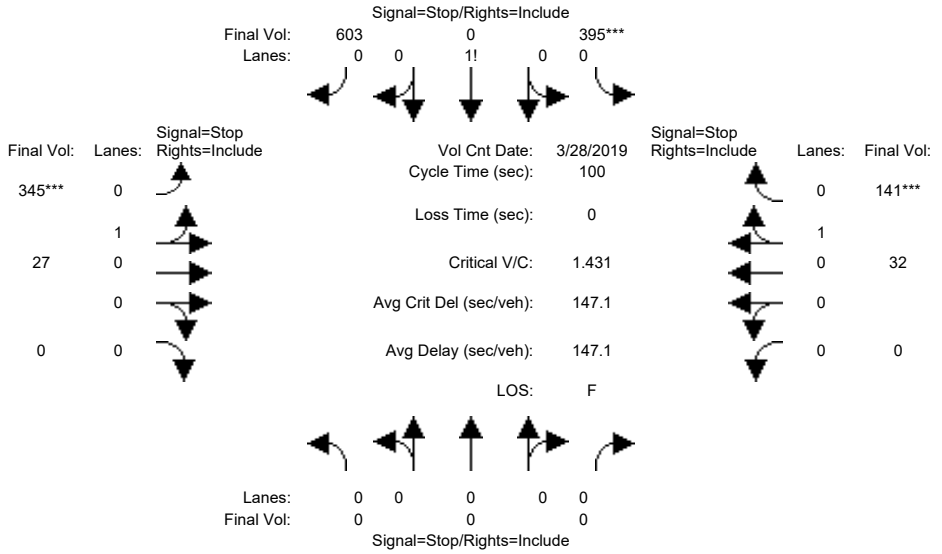
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	393	0	576	298	27	0	0	32	138
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	393	0	576	298	27	0	0	32	138
Added Vol:	0	0	0	2	0	27	47	0	0	0	0	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	395	0	603	345	27	0	0	32	141
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	395	0	603	345	27	0	0	32	141
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	395	0	603	345	27	0	0	32	141
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	395	0	603	345	27	0	0	32	141
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.40	0.00	0.60	0.93	0.07	0.00	0.00	0.18	0.82
Final Sat.:	0	0	0	276	0	421	533	42	0	0	110	485
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	1.43	xxxx	1.43	0.65	0.65	xxxx	xxxx	0.29	0.29
Crit Moves:				****			****					****
Delay/Veh:	0.0	0.0	0.0	218.0	0.0	218.0	19.9	19.9	0.0	0.0	11.4	11.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	218.0	0.0	218.0	19.9	19.9	0.0	0.0	11.4	11.4
LOS by Move:	*	*	*	F	*	F	C	C	*	*	B	B
ApproachDel:	xxxxxx			218.0			19.9			11.4		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			218.0			19.9			11.4		
LOS by Appr:	*			F			C			B		
AllWayAvgQ:	0.0	0.0	0.0	40.6	40.6	40.6	1.7	1.7	1.7	0.4	0.4	0.4

Note: Queue reported is the number of cars per lane.

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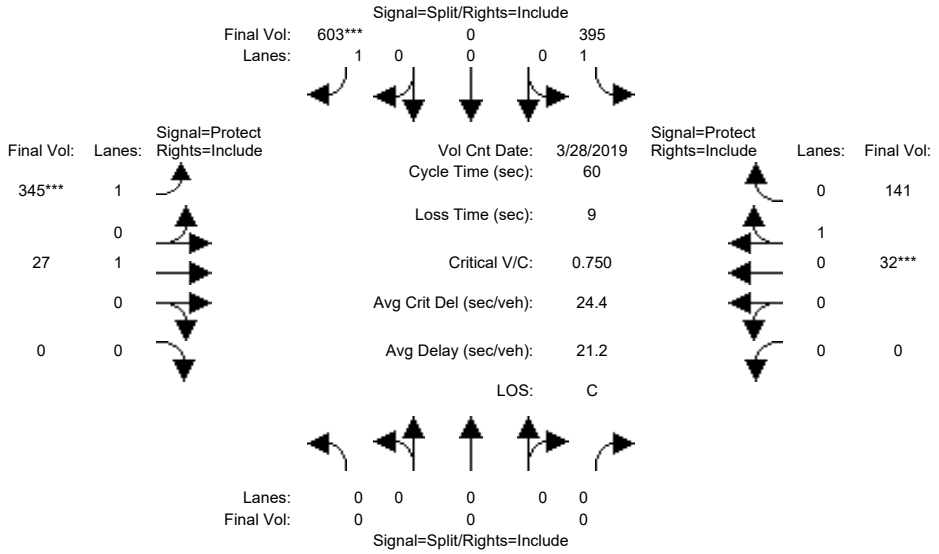
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM (with Mitigations)

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	393	0	576	298	27	0	0	32	138
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	393	0	576	298	27	0	0	32	138
Added Vol:	0	0	0	2	0	27	47	0	0	0	0	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	395	0	603	345	27	0	0	32	141
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	395	0	603	345	27	0	0	32	141
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	395	0	603	345	27	0	0	32	141
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	395	0	603	345	27	0	0	32	141
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.95	0.95
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.18	0.82
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	333	1467
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.23	0.00	0.34	0.20	0.01	0.00	0.00	0.10	0.10
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	26.1	0.0	26.1	14.9	24.9	0.0	0.0	10.0	10.0
Volume/Cap:	0.00	0.00	0.00	0.52	0.00	0.79	0.79	0.03	0.00	0.00	0.58	0.58
Delay/Veh:	0.0	0.0	0.0	13.0	0.0	20.3	30.7	10.4	0.0	0.0	25.8	25.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.0	0.0	20.3	30.7	10.4	0.0	0.0	25.8	25.8
LOS by Move:	A	A	A	B	A	C	C	B	A	A	C	C
HCM2k95thQ:	0	0	0	12	0	23	17	1	0	0	8	8

Note: Queue reported is the number of cars per lane.

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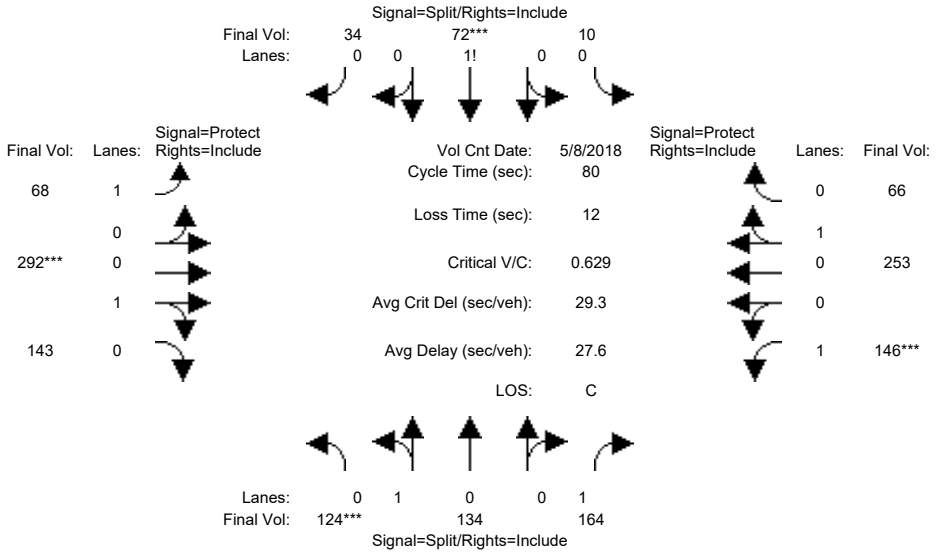
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	124	134	164	10	72	34	68	292	143	146	253	66
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	134	164	10	72	34	68	292	143	146	253	66
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	134	164	10	72	34	68	292	143	146	253	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	134	164	10	72	34	68	292	143	146	253	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	134	164	10	72	34	68	292	143	146	253	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	134	164	10	72	34	68	292	143	146	253	66
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.48	0.52	1.00	0.09	0.62	0.29	1.00	0.67	0.33	1.00	0.79	0.21
Final Sat.:	865	935	1750	151	1086	513	1750	1208	592	1750	1428	372
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.09	0.07	0.07	0.07	0.04	0.24	0.24	0.08	0.18	0.18
Crit Moves:	****				****			****			****	
Green Time:	17.7	17.7	17.7	10.0	10.0	10.0	13.3	29.9	29.9	10.3	26.9	26.9
Volume/Cap:	0.65	0.65	0.42	0.53	0.53	0.53	0.23	0.65	0.65	0.65	0.53	0.53
Delay/Veh:	31.9	31.9	27.5	35.3	35.3	35.3	29.3	22.9	22.9	39.4	22.2	22.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.9	31.9	27.5	35.3	35.3	35.3	29.3	22.9	22.9	39.4	22.2	22.2
LOS by Move:	C	C	C	D	D	D	C	C	C	D	C	C
HCM2k95thQ:	14	14	8	7	7	7	4	19	19	10	14	14

Note: Queue reported is the number of cars per lane.

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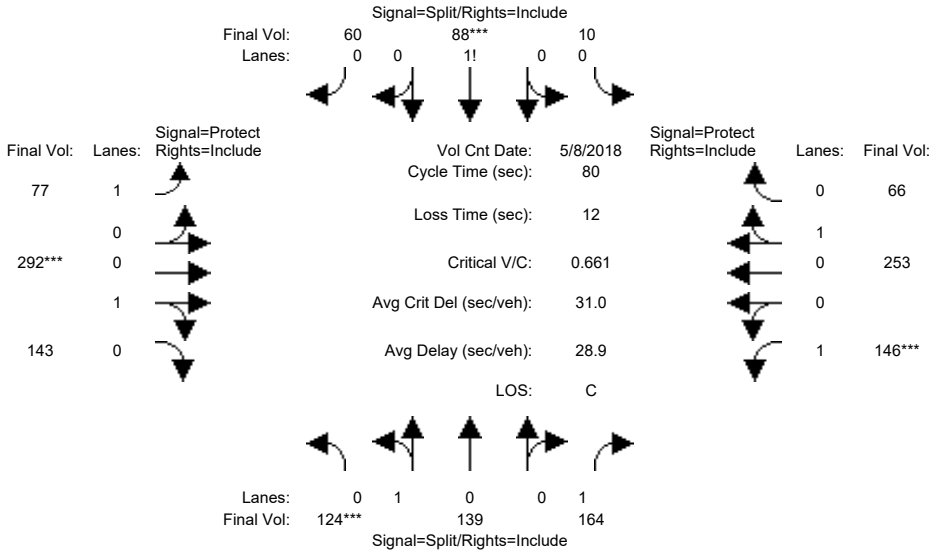
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	124	134	164	10	72	34	68	292	143	146	253	66
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	134	164	10	72	34	68	292	143	146	253	66
Added Vol:	0	5	0	0	16	26	9	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	139	164	10	88	60	77	292	143	146	253	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	139	164	10	88	60	77	292	143	146	253	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	139	164	10	88	60	77	292	143	146	253	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	139	164	10	88	60	77	292	143	146	253	66
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.47	0.53	1.00	0.06	0.56	0.38	1.00	0.67	0.33	1.00	0.79	0.21
Final Sat.:	849	951	1750	111	975	665	1750	1208	592	1750	1428	372
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.09	0.09	0.09	0.09	0.04	0.24	0.24	0.08	0.18	0.18
Crit Moves:	****				****			****			****	
Green Time:	17.7	17.7	17.7	10.9	10.9	10.9	13.0	29.3	29.3	10.1	26.4	26.4
Volume/Cap:	0.66	0.66	0.42	0.66	0.66	0.66	0.27	0.66	0.66	0.66	0.54	0.54
Delay/Veh:	32.5	32.5	27.5	39.5	39.5	39.5	29.9	23.7	23.7	40.5	22.8	22.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.5	32.5	27.5	39.5	39.5	39.5	29.9	23.7	23.7	40.5	22.8	22.8
LOS by Move:	C	C	C	D	D	D	C	C	C	D	C	C
HCM2k95thQ:	14	14	8	10	10	10	4	19	19	10	14	14

Note: Queue reported is the number of cars per lane.

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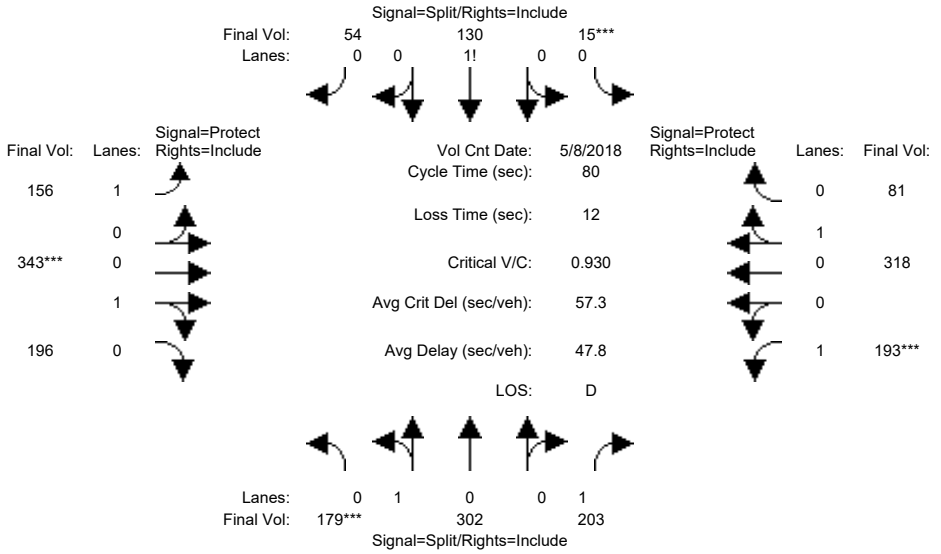
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	179	302	203	15	130	54	156	343	196	193	318	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	179	302	203	15	130	54	156	343	196	193	318	81
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	179	302	203	15	130	54	156	343	196	193	318	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	179	302	203	15	130	54	156	343	196	193	318	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	179	302	203	15	130	54	156	343	196	193	318	81
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	179	302	203	15	130	54	156	343	196	193	318	81
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.37	0.63	1.00	0.08	0.65	0.27	1.00	0.64	0.36	1.00	0.80	0.20
Final Sat.:	670	1130	1750	132	1143	475	1750	1145	655	1750	1435	365
Capacity Analysis Module:												
Vol/Sat:	0.27	0.27	0.12	0.11	0.11	0.11	0.09	0.30	0.30	0.11	0.22	0.22
Crit Moves:	****			****				****		****		
Green Time:	22.9	22.9	22.9	10.0	10.0	10.0	10.1	25.7	25.7	9.4	25.0	25.0
Volume/Cap:	0.93	0.93	0.41	0.91	0.91	0.91	0.71	0.93	0.93	0.93	0.71	0.71
Delay/Veh:	52.1	52.1	23.6	71.6	71.6	71.6	43.7	48.8	48.8	79.2	28.4	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.1	52.1	23.6	71.6	71.6	71.6	43.7	48.8	48.8	79.2	28.4	28.4
LOS by Move:	D	D	C	E	E	E	D	D	D	E	C	C
HCM2k95thQ:	29	29	9	16	16	16	11	32	32	17	19	19

Note: Queue reported is the number of cars per lane.

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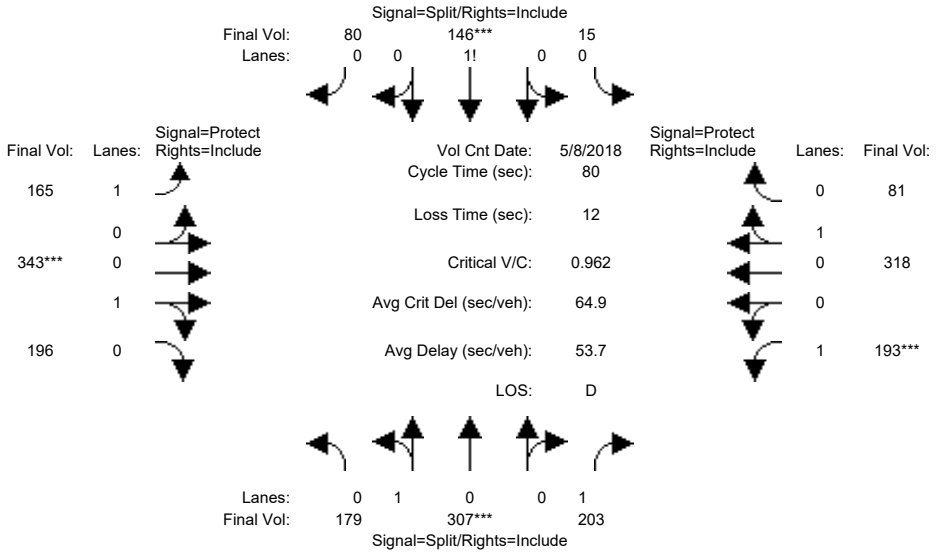
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	179	302	203	15	130	54	156	343	196	193	318	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	179	302	203	15	130	54	156	343	196	193	318	81
Added Vol:	0	5	0	0	16	26	9	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	179	307	203	15	146	80	165	343	196	193	318	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	179	307	203	15	146	80	165	343	196	193	318	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	179	307	203	15	146	80	165	343	196	193	318	81
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	179	307	203	15	146	80	165	343	196	193	318	81
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.37	0.63	1.00	0.06	0.61	0.33	1.00	0.64	0.36	1.00	0.80	0.20
Final Sat.:	663	1137	1750	109	1060	581	1750	1145	655	1750	1435	365
Capacity Analysis Module:												
Vol/Sat:	0.27	0.27	0.12	0.14	0.14	0.14	0.09	0.30	0.30	0.11	0.22	0.22
Crit Moves:		****			****			****			****	
Green Time:	22.5	22.5	22.5	11.5	11.5	11.5	10.2	24.9	24.9	9.2	23.9	23.9
Volume/Cap:	0.96	0.96	0.41	0.96	0.96	0.96	0.74	0.96	0.96	0.96	0.74	0.74
Delay/Veh:	58.7	58.7	24.0	80.1	80.1	80.1	46.2	55.6	55.6	87.6	30.7	30.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.7	58.7	24.0	80.1	80.1	80.1	46.2	55.6	55.6	87.6	30.7	30.7
LOS by Move:	E	E	C	F	F	F	D	E	E	F	C	C
HCM2k95thQ:	31	31	9	20	20	20	12	33	33	17	20	20

Note: Queue reported is the number of cars per lane.

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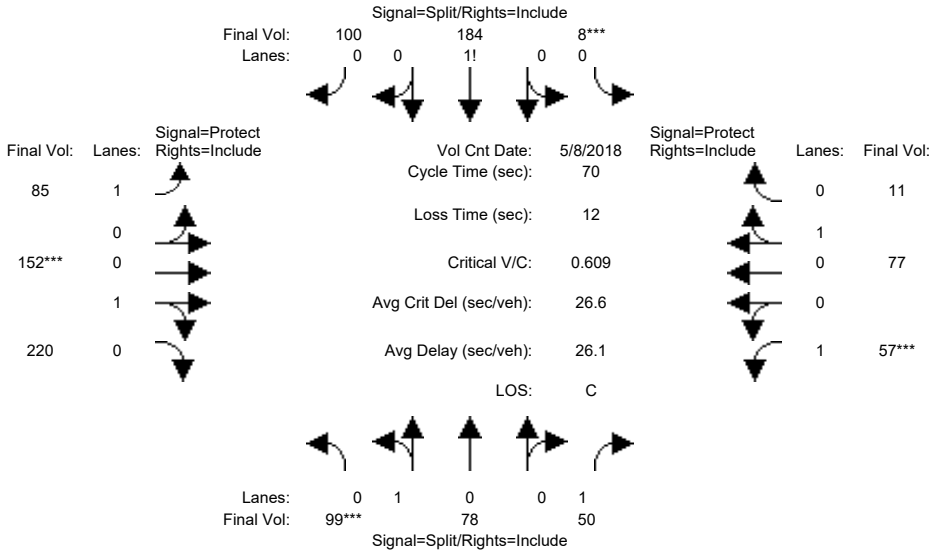
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	99	78	50	8	184	100	85	152	220	57	77	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	99	78	50	8	184	100	85	152	220	57	77	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	78	50	8	184	100	85	152	220	57	77	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	78	50	8	184	100	85	152	220	57	77	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	78	50	8	184	100	85	152	220	57	77	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	78	50	8	184	100	85	152	220	57	77	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.56	0.44	1.00	0.03	0.63	0.34	1.00	0.41	0.59	1.00	0.87	0.13
Final Sat.:	1007	793	1750	48	1103	599	1750	735	1065	1750	1575	225
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.03	0.17	0.17	0.17	0.05	0.21	0.21	0.03	0.05	0.05
Crit Moves:	****			****				****		****		
Green Time:	10.6	10.6	10.6	18.0	18.0	18.0	12.1	22.3	22.3	7.0	17.3	17.3
Volume/Cap:	0.65	0.65	0.19	0.65	0.65	0.65	0.28	0.65	0.65	0.33	0.20	0.20
Delay/Veh:	33.3	33.3	26.3	26.4	26.4	26.4	25.7	23.0	23.0	30.4	21.1	21.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.3	33.3	26.3	26.4	26.4	26.4	25.7	23.0	23.0	30.4	21.1	21.1
LOS by Move:	C	C	C	C	C	C	C	C	C	C	C	C
HCM2k95thQ:	10	10	2	14	14	14	4	16	16	3	3	3

Note: Queue reported is the number of cars per lane.

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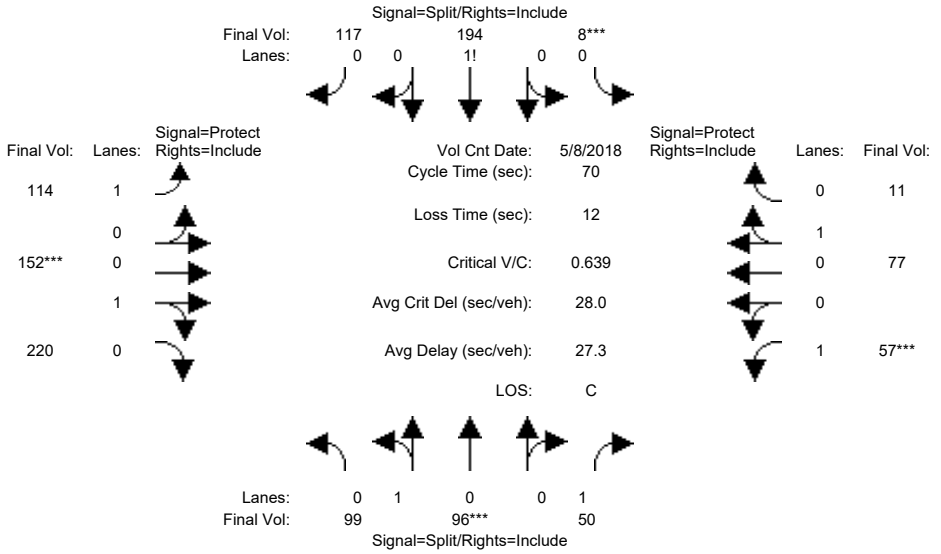
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	99	78	50	8	184	100	85	152	220	57	77	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	99	78	50	8	184	100	85	152	220	57	77	11
Added Vol:	0	18	0	0	10	17	29	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	96	50	8	194	117	114	152	220	57	77	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	96	50	8	194	117	114	152	220	57	77	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	96	50	8	194	117	114	152	220	57	77	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	96	50	8	194	117	114	152	220	57	77	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.51	0.49	1.00	0.02	0.61	0.37	1.00	0.41	0.59	1.00	0.87	0.13
Final Sat.:	914	886	1750	44	1064	642	1750	735	1065	1750	1575	225
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.03	0.18	0.18	0.18	0.07	0.21	0.21	0.03	0.05	0.05
Crit Moves:		****		****				****		****		
Green Time:	11.1	11.1	11.1	18.7	18.7	18.7	11.6	21.2	21.2	7.0	16.6	16.6
Volume/Cap:	0.68	0.68	0.18	0.68	0.68	0.68	0.39	0.68	0.68	0.33	0.21	0.21
Delay/Veh:	34.4	34.4	25.8	27.1	27.1	27.1	26.9	25.0	25.0	30.4	21.7	21.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.4	34.4	25.8	27.1	27.1	27.1	26.9	25.0	25.0	30.4	21.7	21.7
LOS by Move:	C	C	C	C	C	C	C	C	C	C	C	C
HCM2k95thQ:	11	11	2	15	15	15	6	16	16	3	3	3

Note: Queue reported is the number of cars per lane.

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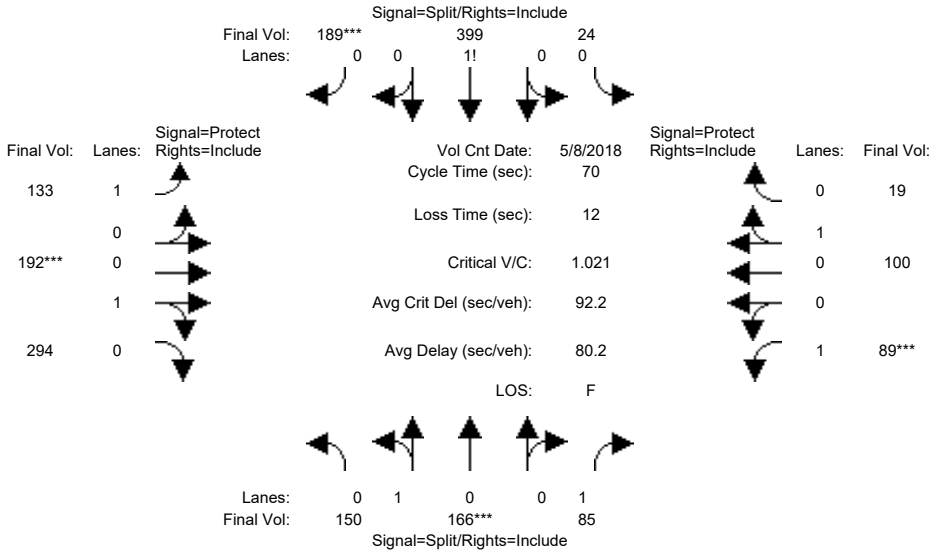
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	150	166	85	24	399	189	133	192	294	89	100	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	150	166	85	24	399	189	133	192	294	89	100	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	150	166	85	24	399	189	133	192	294	89	100	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	150	166	85	24	399	189	133	192	294	89	100	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	150	166	85	24	399	189	133	192	294	89	100	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	150	166	85	24	399	189	133	192	294	89	100	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.47	0.53	1.00	0.04	0.65	0.31	1.00	0.40	0.60	1.00	0.84	0.16
Final Sat.:	854	946	1750	69	1141	540	1750	711	1089	1750	1513	287
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.05	0.35	0.35	0.35	0.08	0.27	0.27	0.05	0.07	0.07
Crit Moves:		****				****		****		****		
Green Time:	11.3	11.3	11.3	22.4	22.4	22.4	10.0	17.3	17.3	7.0	14.3	14.3
Volume/Cap:	1.09	1.09	0.30	1.09	1.09	1.09	0.53	1.09	1.09	0.51	0.32	0.32
Delay/Veh:	108.9	109	26.5	89.1	89.1	89.1	30.0	96.0	96.0	32.3	24.2	24.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	108.9	109	26.5	89.1	89.1	89.1	30.0	96.0	96.0	32.3	24.2	24.2
LOS by Move:	F	F	C	F	F	F	C	F	F	C	C	C
HCM2k95thQ:	26	26	4	43	43	43	7	36	36	6	5	5

Note: Queue reported is the number of cars per lane.

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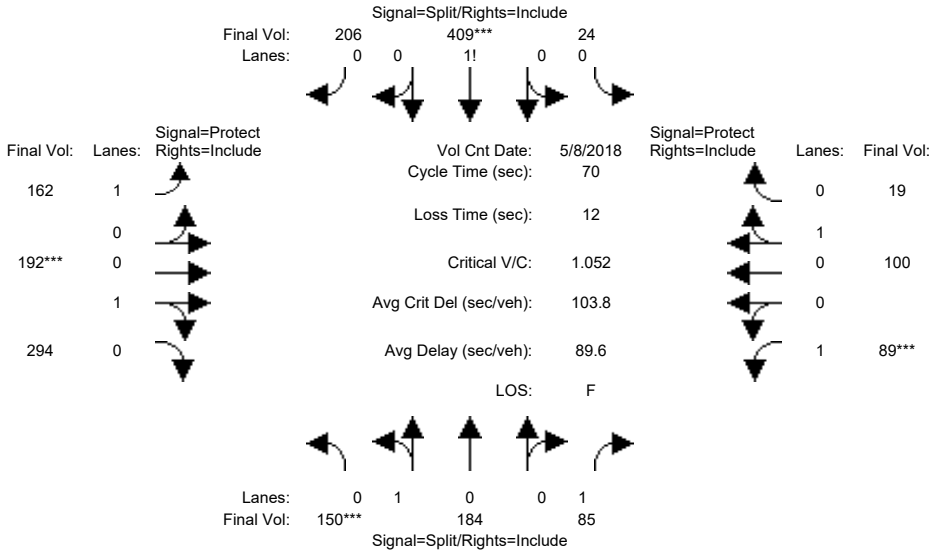
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	150	166	85	24	399	189	133	192	294	89	100	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	150	166	85	24	399	189	133	192	294	89	100	19
Added Vol:	0	18	0	0	10	17	29	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	150	184	85	24	409	206	162	192	294	89	100	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	150	184	85	24	409	206	162	192	294	89	100	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	150	184	85	24	409	206	162	192	294	89	100	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	150	184	85	24	409	206	162	192	294	89	100	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.45	0.55	1.00	0.04	0.64	0.32	1.00	0.40	0.60	1.00	0.84	0.16
Final Sat.:	808	992	1750	66	1120	564	1750	711	1089	1750	1513	287
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.05	0.37	0.37	0.37	0.09	0.27	0.27	0.05	0.07	0.07
Crit Moves:	****				****			****			****	
Green Time:	11.5	11.5	11.5	22.7	22.7	22.7	9.8	16.8	16.8	7.0	14.0	14.0
Volume/Cap:	1.13	1.13	0.29	1.13	1.13	1.13	0.66	1.13	1.13	0.51	0.33	0.33
Delay/Veh:	120.0	120	26.2	101.3	101	101.3	35.1	109	109.1	32.3	24.5	24.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	120.0	120	26.2	101.3	101	101.3	35.1	109	109.1	32.3	24.5	24.5
LOS by Move:	F	F	C	F	F	F	D	F	F	C	C	C
HCM2k95thQ:	29	29	4	47	47	47	10	37	37	6	5	5

Note: Queue reported is the number of cars per lane.

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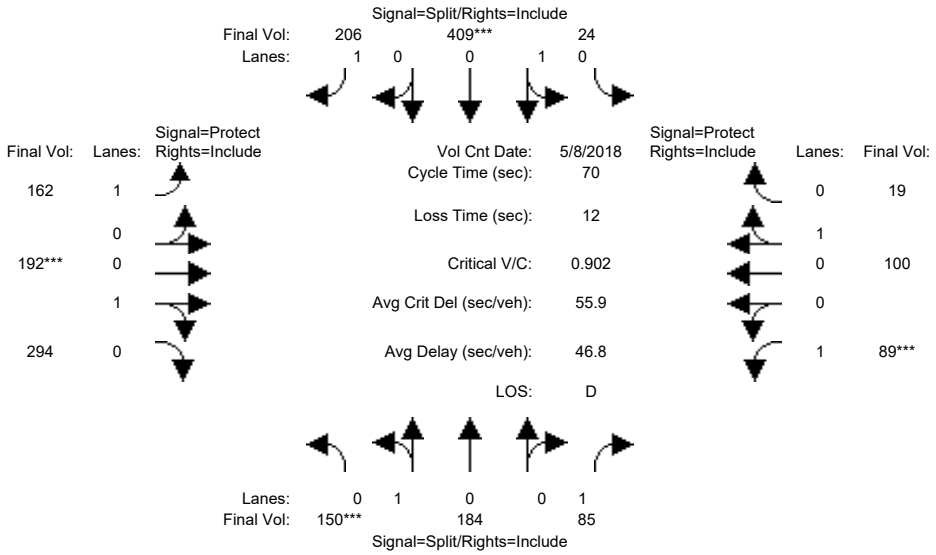
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM (with Mitigations)

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	150	166	85	24	399	189	133	192	294	89	100	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	150	166	85	24	399	189	133	192	294	89	100	19
Added Vol:	0	18	0	0	10	17	29	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	150	184	85	24	409	206	162	192	294	89	100	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	150	184	85	24	409	206	162	192	294	89	100	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	150	184	85	24	409	206	162	192	294	89	100	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	150	184	85	24	409	206	162	192	294	89	100	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.45	0.55	1.00	0.06	0.94	1.00	1.00	0.40	0.60	1.00	0.84	0.16
Final Sat.:	808	992	1750	100	1700	1750	1750	711	1089	1750	1513	287
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.05	0.24	0.24	0.12	0.09	0.27	0.27	0.05	0.07	0.07
Crit Moves:	****				****			****			****	
Green Time:	13.6	13.6	13.6	17.6	17.6	17.6	11.0	19.8	19.8	7.0	15.8	15.8
Volume/Cap:	0.96	0.96	0.25	0.96	0.96	0.47	0.59	0.96	0.96	0.51	0.29	0.29
Delay/Veh:	64.3	64.3	24.3	56.8	56.8	23.0	30.7	53.6	53.6	32.3	22.9	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.3	64.3	24.3	56.8	56.8	23.0	30.7	53.6	53.6	32.3	22.9	22.9
LOS by Move:	E	E	C	E	E	C	C	D	D	C	C	C
HCM2k95thQ:	22	22	4	27	27	9	9	29	29	6	5	5

Note: Queue reported is the number of cars per lane.

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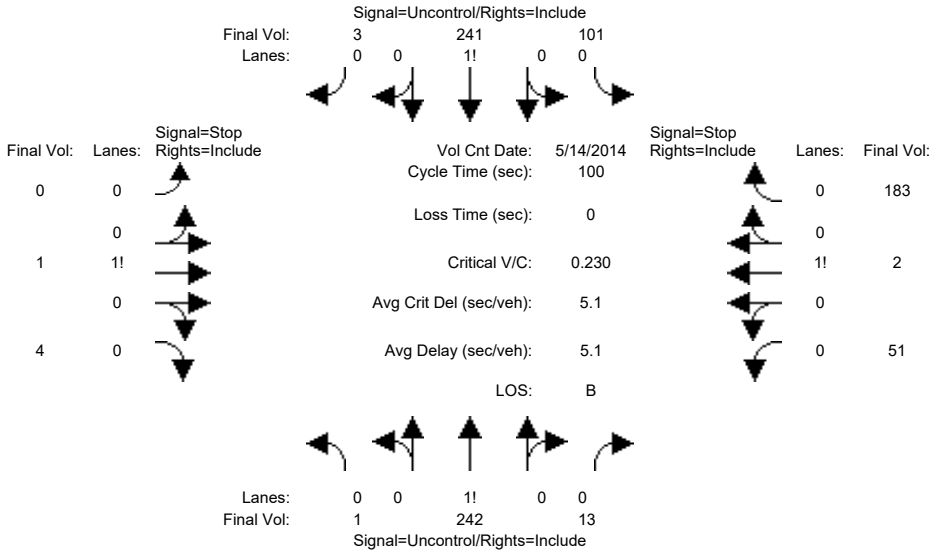
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	1	242	13	101	241	3	0	1	4	51	2	183
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	242	13	101	241	3	0	1	4	51	2	183
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	242	13	101	241	3	0	1	4	51	2	183
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	242	13	101	241	3	0	1	4	51	2	183
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	242	13	101	241	3	0	1	4	51	2	183
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	244	xxxx	xxxxx	255	xxxx	xxxxx	xxxx	702	243	698	697	249
Potent Cap.:	1334	xxxx	xxxxx	1322	xxxx	xxxxx	xxxx	365	801	358	368	795
Move Cap.:	1334	xxxx	xxxxx	1322	xxxx	xxxxx	xxxx	335	801	333	338	795
Volume/Cap:	0.00	xxxx	xxxx	0.08	xxxx	xxxx	xxxx	0.00	0.00	0.15	0.01	0.23
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.7	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	627	xxxx	606	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.0	xxxxx	1.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	10.8	xxxxx	14.7	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	B	*	B	*
ApproachDel:	xxxxxx			xxxxxx			10.8			14.7		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

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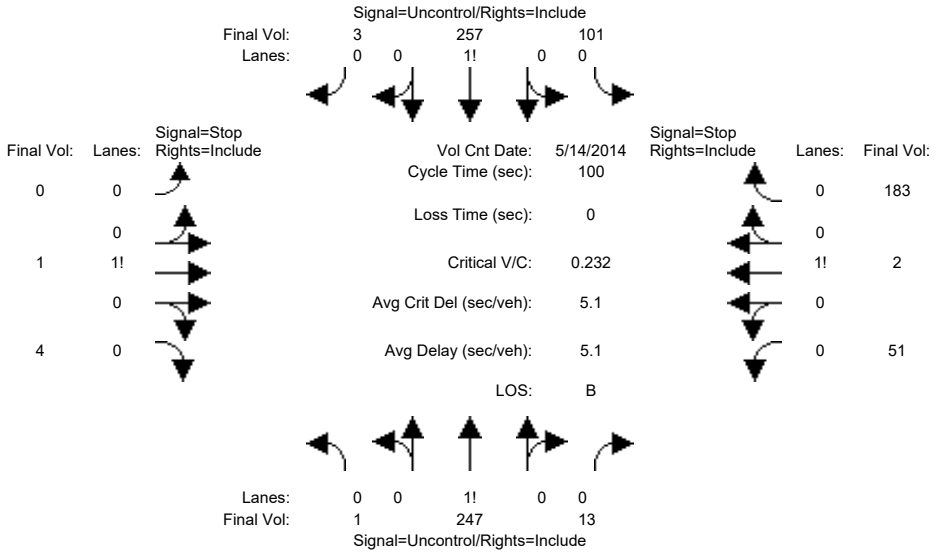
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	1	242	13	101	241	3	0	1	4	51	2	183
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	242	13	101	241	3	0	1	4	51	2	183
Added Vol:	0	5	0	0	16	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	247	13	101	257	3	0	1	4	51	2	183
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	247	13	101	257	3	0	1	4	51	2	183
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	247	13	101	257	3	0	1	4	51	2	183
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	260	xxxx	xxxxx	260	xxxx	xxxxx	xxxx	723	259	719	718	254
Potent Cap.:	1316	xxxx	xxxxx	1316	xxxx	xxxxx	xxxx	355	785	347	358	790
Move Cap.:	1316	xxxx	xxxxx	1316	xxxx	xxxxx	xxxx	326	785	322	328	790
Volume/Cap:	0.00	xxxx	xxxx	0.08	xxxx	xxxx	xxxx	0.00	0.01	0.16	0.01	0.23
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.7	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	613	xxxx	596	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.0	xxxxx	1.9	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	10.9	xxxxx	14.9	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	B	*	B	*
ApproachDel:	xxxxxx			xxxxxx			10.9			14.9		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

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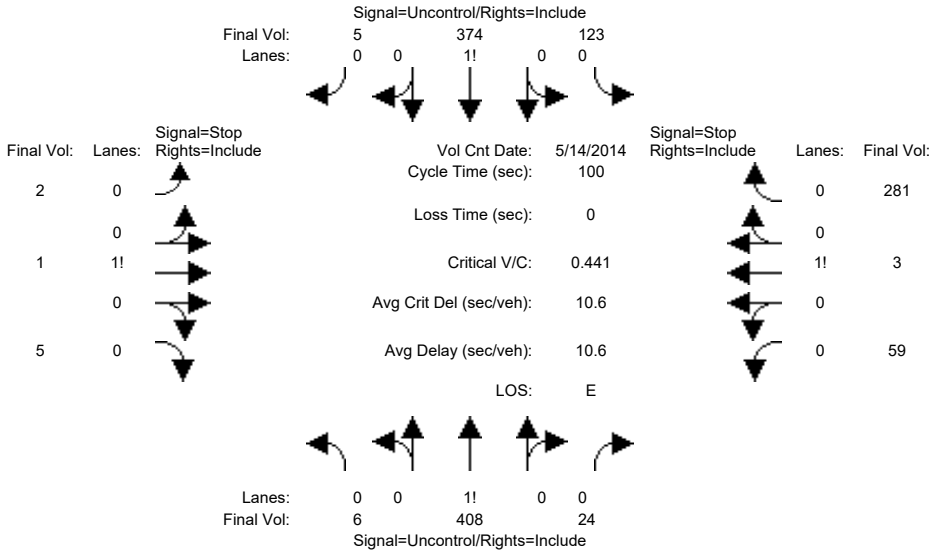
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	6	408	24	123	374	5	2	1	5	59	3	281
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	408	24	123	374	5	2	1	5	59	3	281
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	408	24	123	374	5	2	1	5	59	3	281
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	408	24	123	374	5	2	1	5	59	3	281
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	6	408	24	123	374	5	2	1	5	59	3	281
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	379	xxxx	xxxxx	432	xxxx	xxxxx	1197	1067	377	1058	1057	420
Potent Cap.:	1191	xxxx	xxxxx	1138	xxxx	xxxxx	164	224	674	205	227	638
Move Cap.:	1191	xxxx	xxxxx	1138	xxxx	xxxxx	83	197	674	184	200	638
Volume/Cap:	0.01	xxxx	xxxx	0.11	xxxx	xxxx	0.02	0.01	0.01	0.32	0.02	0.44
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.0	xxxx	xxxxx	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	218	xxxxx	xxxx	441	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	6.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	22.2	xxxxx	xxxxx	36.3	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	E	*
ApproachDel:	xxxxxx			xxxxxx			22.2			36.3		
ApproachLOS:	*			*			C			E		

Note: Queue reported is the number of cars per lane.

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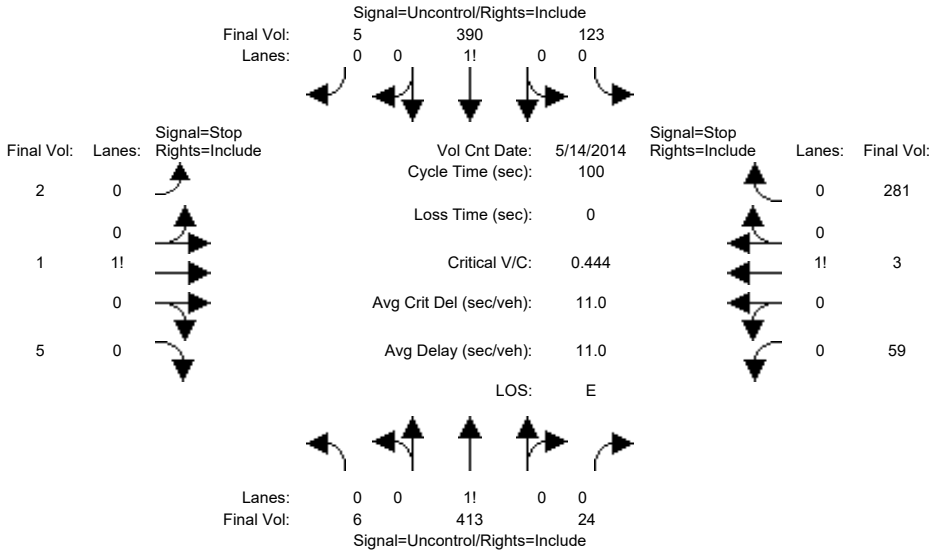
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	6	408	24	123	374	5	2	1	5	59	3	281
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	408	24	123	374	5	2	1	5	59	3	281
Added Vol:	0	5	0	0	16	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	413	24	123	390	5	2	1	5	59	3	281
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	413	24	123	390	5	2	1	5	59	3	281
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	6	413	24	123	390	5	2	1	5	59	3	281
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	395	xxxx	xxxxx	437	xxxx	xxxxx	1218	1088	393	1079	1078	425
Potent Cap.:	1175	xxxx	xxxxx	1134	xxxx	xxxxx	159	218	661	198	220	634
Move Cap.:	1175	xxxx	xxxxx	1134	xxxx	xxxxx	79	191	661	177	194	634
Volume/Cap:	0.01	xxxx	xxxx	0.11	xxxx	xxxx	0.03	0.01	0.01	0.33	0.02	0.44
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.1	xxxx	xxxxx	8.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	211	xxxxx	xxxx	433	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	7.0	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	22.8	xxxxx	xxxxx	38.2	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	E	*
ApproachDel:	xxxxxx			xxxxxx			22.8			38.2		
ApproachLOS:	*			*			C			E		

Note: Queue reported is the number of cars per lane.

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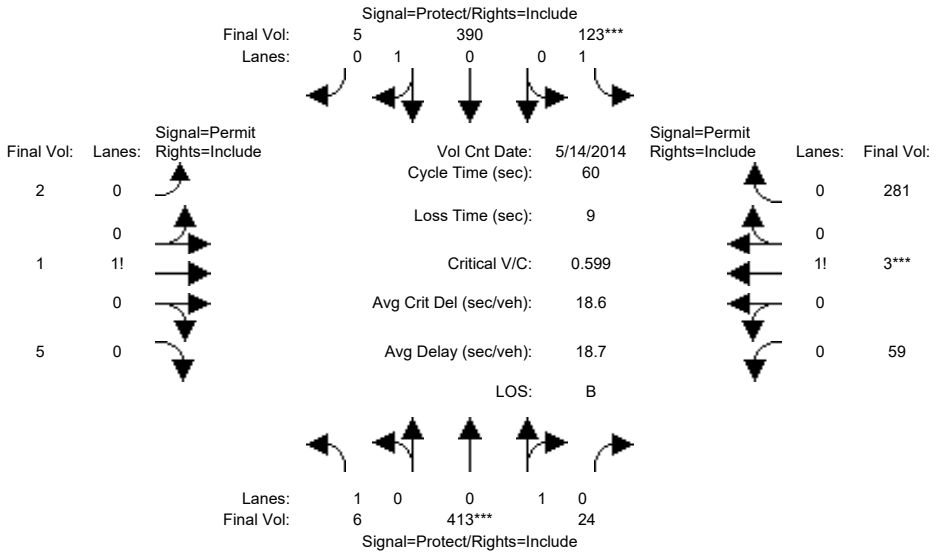
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM (with Mitigations)

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	6	408	24	123	374	5	2	1	5	59	3	281
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	408	24	123	374	5	2	1	5	59	3	281
Added Vol:	0	5	0	0	16	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	413	24	123	390	5	2	1	5	59	3	281
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	413	24	123	390	5	2	1	5	59	3	281
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	413	24	123	390	5	2	1	5	59	3	281
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	413	24	123	390	5	2	1	5	59	3	281
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	0.95	0.05	1.00	0.99	0.01	0.25	0.12	0.63	0.17	0.01	0.82
Final Sat.:	1750	1701	99	1750	1777	23	438	219	1094	301	15	1434
Capacity Analysis Module:												
Vol/Sat:	0.00	0.24	0.24	0.07	0.22	0.22	0.00	0.00	0.00	0.20	0.20	0.20
Crit Moves:		****		****							****	
Green Time:	10.9	24.3	24.3	7.0	20.5	20.5	19.6	19.6	19.6	19.6	19.6	19.6
Volume/Cap:	0.02	0.60	0.60	0.60	0.64	0.64	0.01	0.01	0.01	0.60	0.60	0.60
Delay/Veh:	20.2	15.4	15.4	30.0	19.0	19.0	13.6	13.6	13.6	18.6	18.6	18.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.2	15.4	15.4	30.0	19.0	19.0	13.6	13.6	13.6	18.6	18.6	18.6
LOS by Move:	C	B	B	C	B	B	B	B	B	B	B	B
HCM2k95thQ:	0	12	12	7	14	14	0	0	0	13	13	13

Note: Queue reported is the number of cars per lane.

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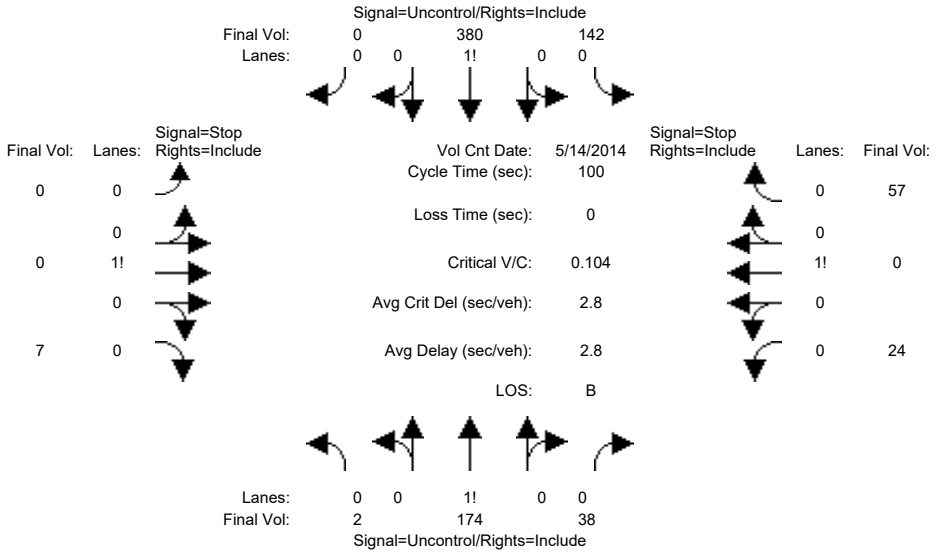
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	2	174	38	142	380	0	0	0	7	24	0	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	174	38	142	380	0	0	0	7	24	0	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	174	38	142	380	0	0	0	7	24	0	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	174	38	142	380	0	0	0	7	24	0	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	2	174	38	142	380	0	0	0	7	24	0	57
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	380	xxxx	xxxxx	212	xxxx	xxxxx	xxxx	xxxx	380	865	861	193
Potent Cap.:	1190	xxxx	xxxxx	1370	xxxx	xxxxx	xxxx	xxxx	671	276	295	854
Move Cap.:	1190	xxxx	xxxxx	1370	xxxx	xxxxx	xxxx	xxxx	671	250	262	854
Volume/Cap:	0.00	xxxx	xxxx	0.10	xxxx	xxxx	xxxx	xxxx	0.01	0.10	0.00	0.07
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx
Control Del:	8.0	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	10.4	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	B	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	497	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.6	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			10.4			13.6		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

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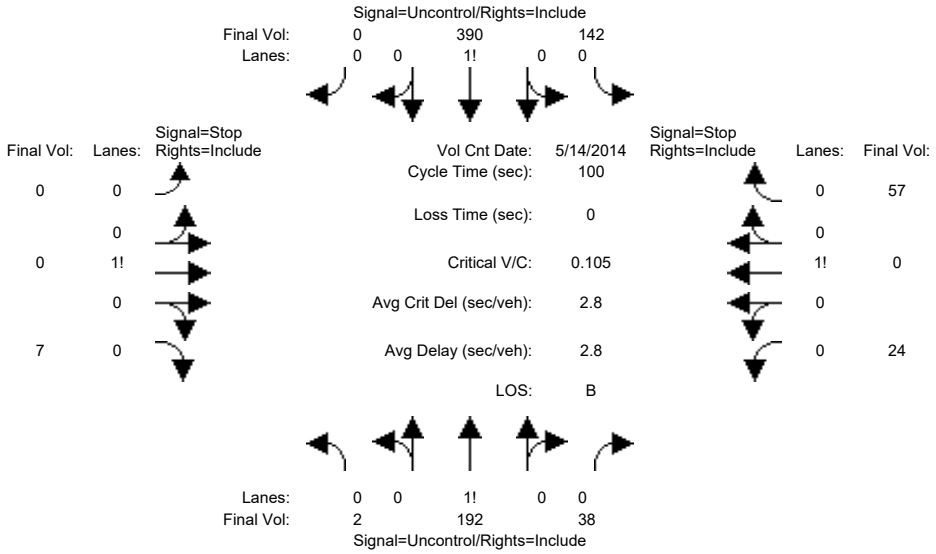
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	2	174	38	142	380	0	0	0	7	24	0	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	174	38	142	380	0	0	0	7	24	0	57
Added Vol:	0	18	0	0	10	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	192	38	142	390	0	0	0	7	24	0	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	192	38	142	390	0	0	0	7	24	0	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	2	192	38	142	390	0	0	0	7	24	0	57
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	390	xxxx	xxxxx	230	xxxx	xxxxx	xxxx	xxxx	390	893	889	211
Potent Cap.:	1180	xxxx	xxxxx	1350	xxxx	xxxxx	xxxx	xxxx	663	265	285	834
Move Cap.:	1180	xxxx	xxxxx	1350	xxxx	xxxxx	xxxx	xxxx	663	239	252	834
Volume/Cap:	0.00	xxxx	xxxx	0.11	xxxx	xxxx	xxxx	xxxx	0.01	0.10	0.00	0.07
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx
Control Del:	8.1	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	10.5	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	B	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	480	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	14.0	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			10.5			14.0		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

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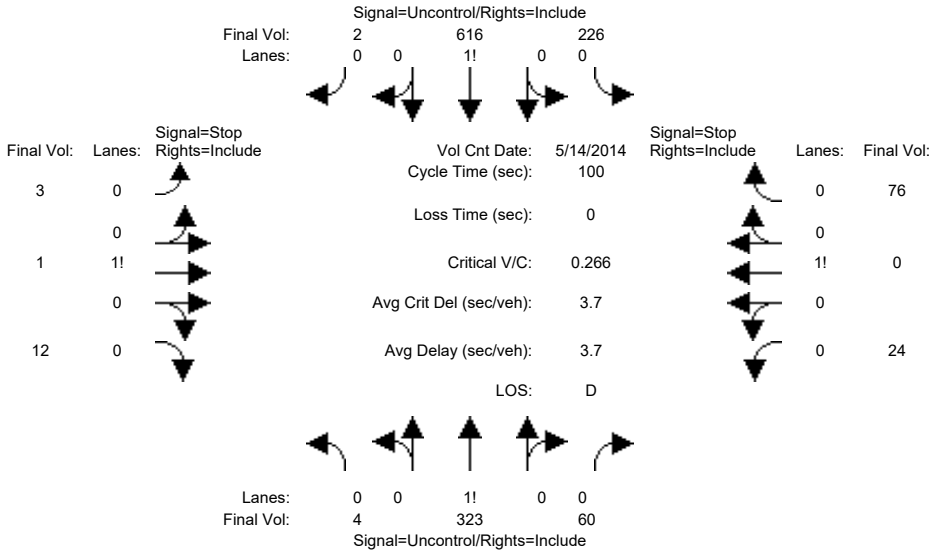
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	4	323	60	226	616	2	3	1	12	24	0	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	323	60	226	616	2	3	1	12	24	0	76
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	323	60	226	616	2	3	1	12	24	0	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	323	60	226	616	2	3	1	12	24	0	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	323	60	226	616	2	3	1	12	24	0	76
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	618	xxxx	xxxxx	383	xxxx	xxxxx	1468	1460	617	1437	1431	353
Potent Cap.:	972	xxxx	xxxxx	1187	xxxx	xxxxx	107	130	494	112	136	695
Move Cap.:	972	xxxx	xxxxx	1187	xxxx	xxxxx	79	102	494	90	106	695
Volume/Cap:	0.00	xxxx	xxxx	0.19	xxxx	xxxx	0.04	0.01	0.02	0.27	0.00	0.11
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.7	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.7	xxxx	xxxxx	8.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	222	xxxxx	xxxx	267	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	1.7	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	22.5	xxxxx	xxxxx	26.4	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			22.5			26.4		
ApproachLOS:	*			*			C			D		

Note: Queue reported is the number of cars per lane.

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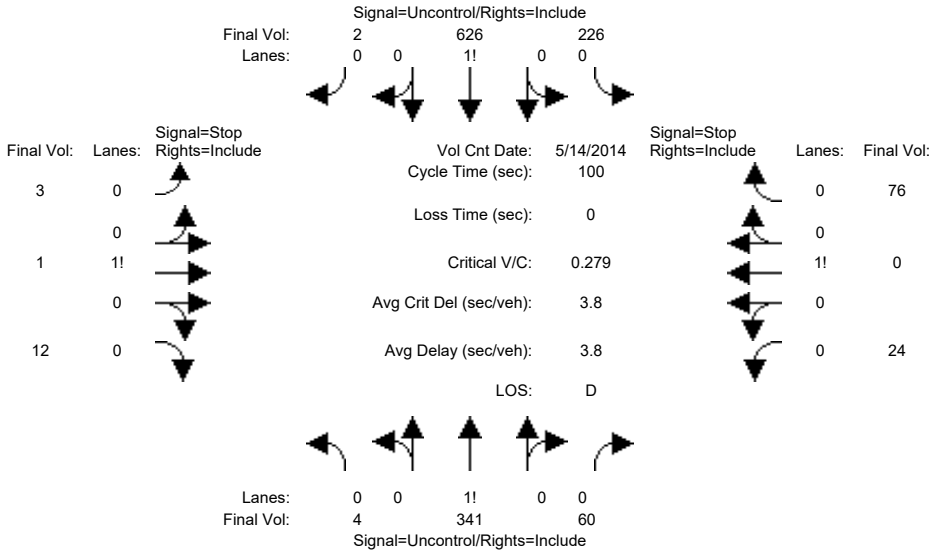
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	4	323	60	226	616	2	3	1	12	24	0	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	323	60	226	616	2	3	1	12	24	0	76
Added Vol:	0	18	0	0	10	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	341	60	226	626	2	3	1	12	24	0	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	341	60	226	626	2	3	1	12	24	0	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	341	60	226	626	2	3	1	12	24	0	76
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	628	xxxx	xxxxx	401	xxxx	xxxxx	1496	1488	627	1465	1459	371
Potent Cap.:	964	xxxx	xxxxx	1169	xxxx	xxxxx	102	125	487	107	131	679
Move Cap.:	964	xxxx	xxxxx	1169	xxxx	xxxxx	75	97	487	86	101	679
Volume/Cap:	0.00	xxxx	xxxx	0.19	xxxx	xxxx	0.04	0.01	0.02	0.28	0.00	0.11
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.7	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.8	xxxx	xxxxx	8.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	214	xxxxx	xxxx	256	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	1.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	23.2	xxxxx	xxxxx	27.8	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			23.2			27.8		
ApproachLOS:	*			*			C			D		

Note: Queue reported is the number of cars per lane.

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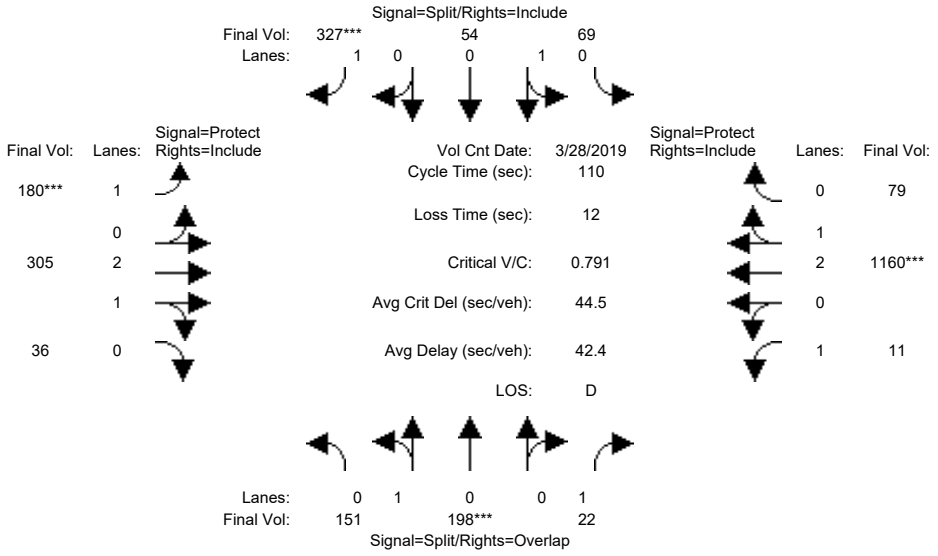
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	151	198	22	69	54	327	180	305	36	11	1160	79
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	151	198	22	69	54	327	180	305	36	11	1160	79
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	151	198	22	69	54	327	180	305	36	11	1160	79
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	151	198	22	69	54	327	180	305	36	11	1160	79
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	151	198	22	69	54	327	180	305	36	11	1160	79
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	151	198	22	69	54	327	180	305	36	11	1160	79
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.98	0.95
Lanes:	0.43	0.57	1.00	0.56	0.44	1.00	1.00	2.67	0.33	1.00	2.80	0.20
Final Sat.:	779	1021	1750	1010	790	1750	1750	5008	591	1750	5242	357
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.01	0.07	0.07	0.19	0.10	0.06	0.06	0.01	0.22	0.22
Crit Moves:		****				****	****				****	
Green Time:	27.0	27.0	45.5	26.0	26.0	26.0	14.3	26.5	26.5	18.6	30.8	30.8
Volume/Cap:	0.79	0.79	0.03	0.29	0.29	0.79	0.79	0.25	0.25	0.04	0.79	0.79
Delay/Veh:	48.3	48.3	19.2	34.8	34.8	49.4	63.4	33.8	33.8	38.3	39.5	39.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.3	48.3	19.2	34.8	34.8	49.4	63.4	33.8	33.8	38.3	39.5	39.5
LOS by Move:	D	D	B	C	C	D	E	C	C	D	D	D
HCM2k95thQ:	24	24	1	7	7	24	13	6	6	1	24	24

Note: Queue reported is the number of cars per lane.

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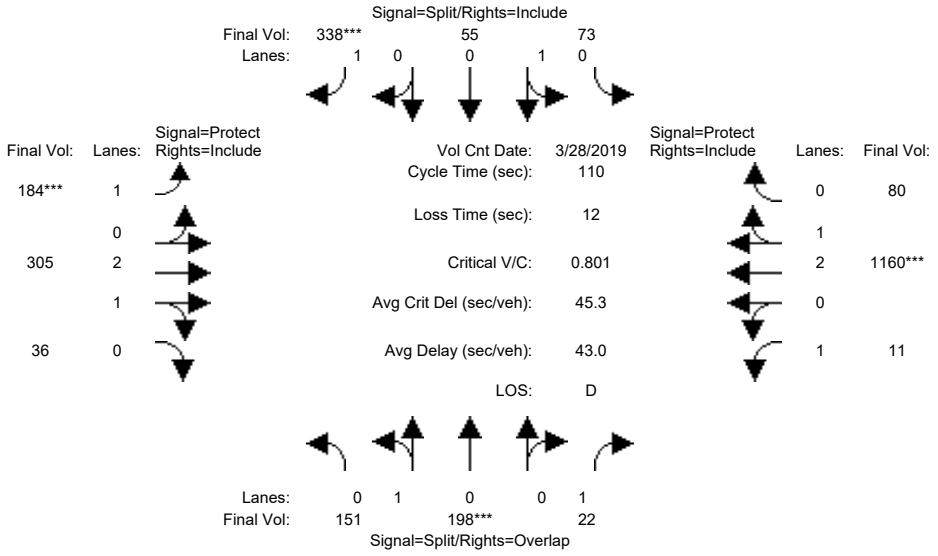
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	151	198	22	69	54	327	180	305	36	11	1160	79
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	151	198	22	69	54	327	180	305	36	11	1160	79
Added Vol:	0	0	0	4	1	11	4	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	151	198	22	73	55	338	184	305	36	11	1160	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	151	198	22	73	55	338	184	305	36	11	1160	80
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	151	198	22	73	55	338	184	305	36	11	1160	80
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	151	198	22	73	55	338	184	305	36	11	1160	80
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.98	0.95
Lanes:	0.43	0.57	1.00	0.57	0.43	1.00	1.00	2.67	0.33	1.00	2.80	0.20
Final Sat.:	779	1021	1750	1027	773	1750	1750	5008	591	1750	5238	361
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.01	0.07	0.07	0.19	0.11	0.06	0.06	0.01	0.22	0.22
Crit Moves:		****				****	****				****	
Green Time:	26.6	26.6	45.1	26.5	26.5	26.5	14.4	26.4	26.4	18.5	30.4	30.4
Volume/Cap:	0.80	0.80	0.03	0.29	0.29	0.80	0.80	0.25	0.25	0.04	0.80	0.80
Delay/Veh:	49.4	49.4	19.4	34.5	34.5	49.7	64.3	33.9	33.9	38.4	40.1	40.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.4	49.4	19.4	34.5	34.5	49.7	64.3	33.9	33.9	38.4	40.1	40.1
LOS by Move:	D	D	B	C	C	D	E	C	C	D	D	D
HCM2k95thQ:	24	24	1	8	8	24	13	6	6	1	24	24

Note: Queue reported is the number of cars per lane.

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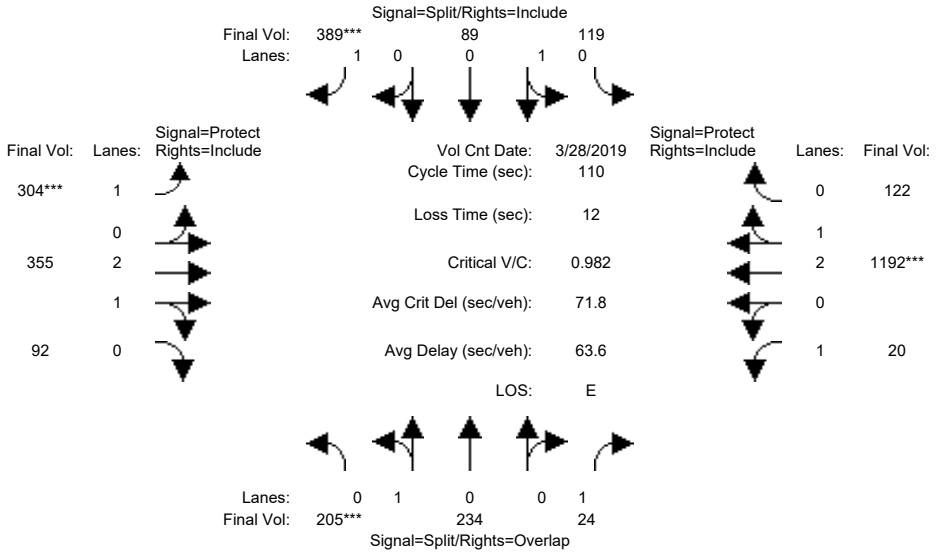
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	205	234	24	119	89	389	304	355	92	20	1192	122
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	205	234	24	119	89	389	304	355	92	20	1192	122
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	205	234	24	119	89	389	304	355	92	20	1192	122
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	205	234	24	119	89	389	304	355	92	20	1192	122
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	205	234	24	119	89	389	304	355	92	20	1192	122
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	205	234	24	119	89	389	304	355	92	20	1192	122
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.99	0.95
Lanes:	0.47	0.53	1.00	0.57	0.43	1.00	1.00	2.36	0.64	1.00	2.71	0.29
Final Sat.:	841	959	1750	1030	770	1750	1750	4446	1152	1750	5079	520
Capacity Analysis Module:												
Vol/Sat:	0.24	0.24	0.01	0.12	0.12	0.22	0.17	0.08	0.08	0.01	0.23	0.23
Crit Moves:	****					****	****				****	
Green Time:	27.3	27.3	46.2	24.9	24.9	24.9	19.5	26.9	26.9	18.8	26.3	26.3
Volume/Cap:	0.98	0.98	0.03	0.51	0.51	0.98	0.98	0.33	0.33	0.07	0.98	0.98
Delay/Veh:	78.7	78.7	18.8	38.3	38.3	82.5	91.1	34.2	34.2	38.3	61.8	61.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.7	78.7	18.8	38.3	38.3	82.5	91.1	34.2	34.2	38.3	61.8	61.8
LOS by Move:	E	E	B	D	D	F	F	C	C	D	E	E
HCM2k95thQ:	36	36	1	13	13	33	24	8	8	1	30	30

Note: Queue reported is the number of cars per lane.

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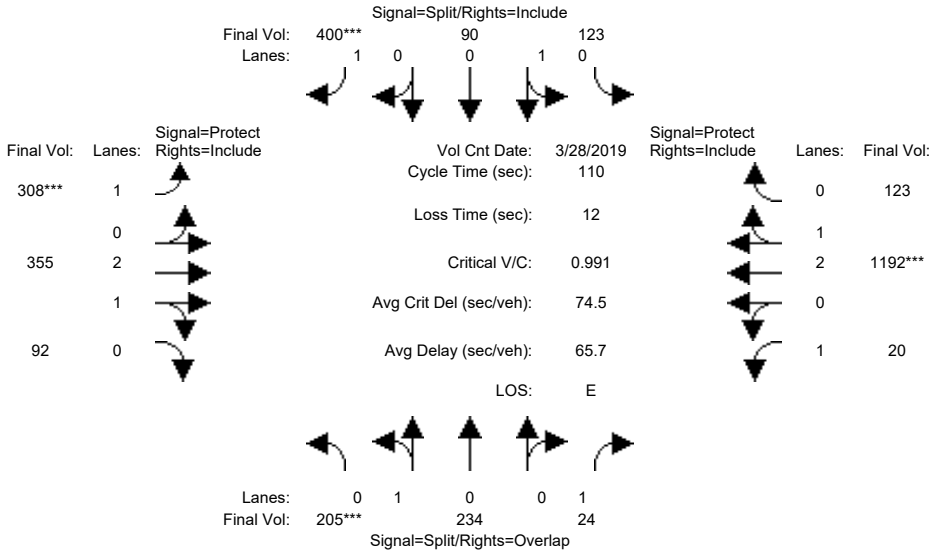
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	205	234	24	119	89	389	304	355	92	20	1192	122
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	205	234	24	119	89	389	304	355	92	20	1192	122
Added Vol:	0	0	0	4	1	11	4	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	205	234	24	123	90	400	308	355	92	20	1192	123
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	205	234	24	123	90	400	308	355	92	20	1192	123
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	205	234	24	123	90	400	308	355	92	20	1192	123
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	205	234	24	123	90	400	308	355	92	20	1192	123
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.99	0.95
Lanes:	0.47	0.53	1.00	0.58	0.42	1.00	1.00	2.36	0.64	1.00	2.71	0.29
Final Sat.:	841	959	1750	1039	761	1750	1750	4446	1152	1750	5076	524
Capacity Analysis Module:												
Vol/Sat:	0.24	0.24	0.01	0.12	0.12	0.23	0.18	0.08	0.08	0.01	0.23	0.23
Crit Moves:	****					****	****				****	
Green Time:	27.1	27.1	45.8	25.4	25.4	25.4	19.5	26.8	26.8	18.8	26.1	26.1
Volume/Cap:	0.99	0.99	0.03	0.51	0.51	0.99	0.99	0.33	0.33	0.07	0.99	0.99
Delay/Veh:	81.8	81.8	19.0	38.0	38.0	84.6	93.8	34.3	34.3	38.4	64.5	64.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	81.8	81.8	19.0	38.0	38.0	84.6	93.8	34.3	34.3	38.4	64.5	64.5
LOS by Move:	F	F	B	D	D	F	F	C	C	D	E	E
HCM2k95thQ:	36	36	1	13	13	35	25	8	8	1	30	30

Note: Queue reported is the number of cars per lane.

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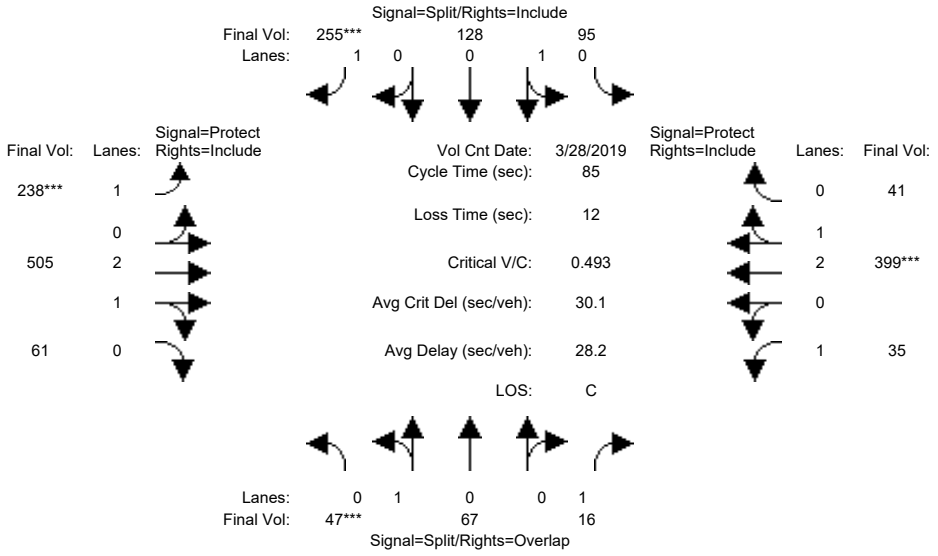
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	47	67	16	95	128	255	238	505	61	35	399	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	47	67	16	95	128	255	238	505	61	35	399	41
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	67	16	95	128	255	238	505	61	35	399	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	67	16	95	128	255	238	505	61	35	399	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	67	16	95	128	255	238	505	61	35	399	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	67	16	95	128	255	238	505	61	35	399	41
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.99	0.95
Lanes:	0.41	0.59	1.00	0.43	0.57	1.00	1.00	2.66	0.34	1.00	2.71	0.29
Final Sat.:	742	1058	1750	767	1033	1750	1750	4996	603	1750	5077	522
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.01	0.12	0.12	0.15	0.14	0.10	0.10	0.02	0.08	0.08
Crit Moves:	****					****	****				****	
Green Time:	10.9	10.9	26.1	25.1	25.1	25.1	23.4	21.8	21.8	15.2	13.5	13.5
Volume/Cap:	0.49	0.49	0.03	0.42	0.42	0.49	0.49	0.40	0.40	0.11	0.49	0.49
Delay/Veh:	36.1	36.1	20.6	24.6	24.6	25.4	26.6	26.4	26.4	29.4	33.0	33.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.1	36.1	20.6	24.6	24.6	25.4	26.6	26.4	26.4	29.4	33.0	33.0
LOS by Move:	D	D	C	C	C	C	C	C	C	C	C	C
HCM2k95thQ:	7	7	1	10	10	12	11	8	8	2	7	7

Note: Queue reported is the number of cars per lane.

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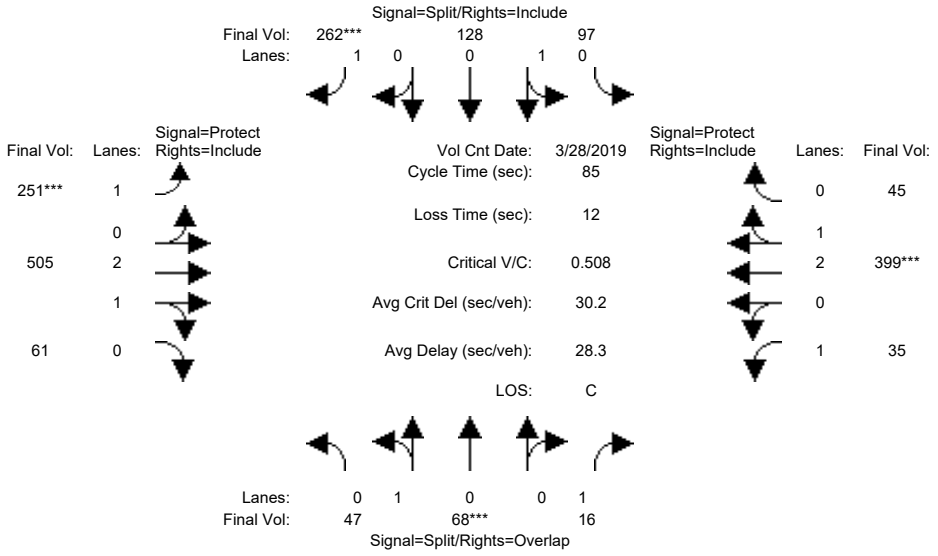
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	47	67	16	95	128	255	238	505	61	35	399	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	47	67	16	95	128	255	238	505	61	35	399	41
Added Vol:	0	1	0	2	0	7	13	0	0	0	0	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	68	16	97	128	262	251	505	61	35	399	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	68	16	97	128	262	251	505	61	35	399	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	68	16	97	128	262	251	505	61	35	399	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	68	16	97	128	262	251	505	61	35	399	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.99	0.95
Lanes:	0.41	0.59	1.00	0.43	0.57	1.00	1.00	2.66	0.34	1.00	2.68	0.32
Final Sat.:	736	1064	1750	776	1024	1750	1750	4996	603	1750	5032	567
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.01	0.13	0.13	0.15	0.14	0.10	0.10	0.02	0.08	0.08
Crit Moves:		****				****	****				****	
Green Time:	10.7	10.7	26.0	25.0	25.0	25.0	24.0	21.9	21.9	15.3	13.3	13.3
Volume/Cap:	0.51	0.51	0.03	0.42	0.42	0.51	0.51	0.39	0.39	0.11	0.51	0.51
Delay/Veh:	36.6	36.6	20.7	24.7	24.7	25.7	26.4	26.2	26.2	29.3	33.4	33.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.6	36.6	20.7	24.7	24.7	25.7	26.4	26.2	26.2	29.3	33.4	33.4
LOS by Move:	D	D	C	C	C	C	C	C	C	C	C	C
HCM2k95thQ:	7	7	1	10	10	13	11	8	8	2	7	7

Note: Queue reported is the number of cars per lane.

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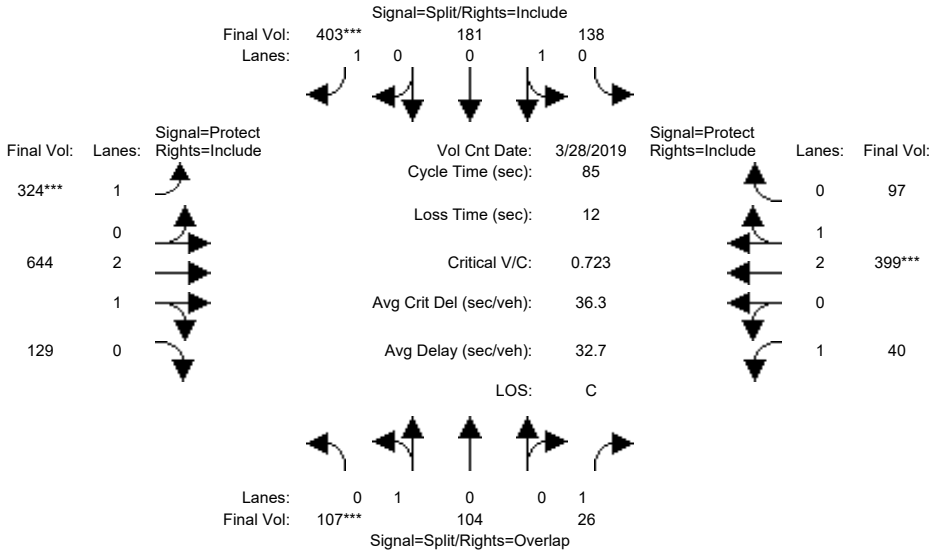
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	107	104	26	138	181	403	324	644	129	40	399	97
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	104	26	138	181	403	324	644	129	40	399	97
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	104	26	138	181	403	324	644	129	40	399	97
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	104	26	138	181	403	324	644	129	40	399	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	104	26	138	181	403	324	644	129	40	399	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	104	26	138	181	403	324	644	129	40	399	97
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.99	0.95
Lanes:	0.51	0.49	1.00	0.43	0.57	1.00	1.00	2.48	0.52	1.00	2.39	0.61
Final Sat.:	913	887	1750	779	1021	1750	1750	4664	934	1750	4503	1095
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.01	0.18	0.18	0.23	0.19	0.14	0.14	0.02	0.09	0.09
Crit Moves:	****					****	****				****	
Green Time:	13.8	13.8	25.8	27.1	27.1	27.1	21.8	20.1	20.1	12.0	10.4	10.4
Volume/Cap:	0.72	0.72	0.05	0.56	0.56	0.72	0.72	0.58	0.58	0.16	0.72	0.72
Delay/Veh:	42.4	42.4	21.0	25.2	25.2	30.3	34.6	29.4	29.4	32.4	39.7	39.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.4	42.4	21.0	25.2	25.2	30.3	34.6	29.4	29.4	32.4	39.7	39.7
LOS by Move:	D	D	C	C	C	C	C	C	C	C	D	D
HCM2k95thQ:	14	14	1	15	15	21	16	12	12	2	9	9

Note: Queue reported is the number of cars per lane.

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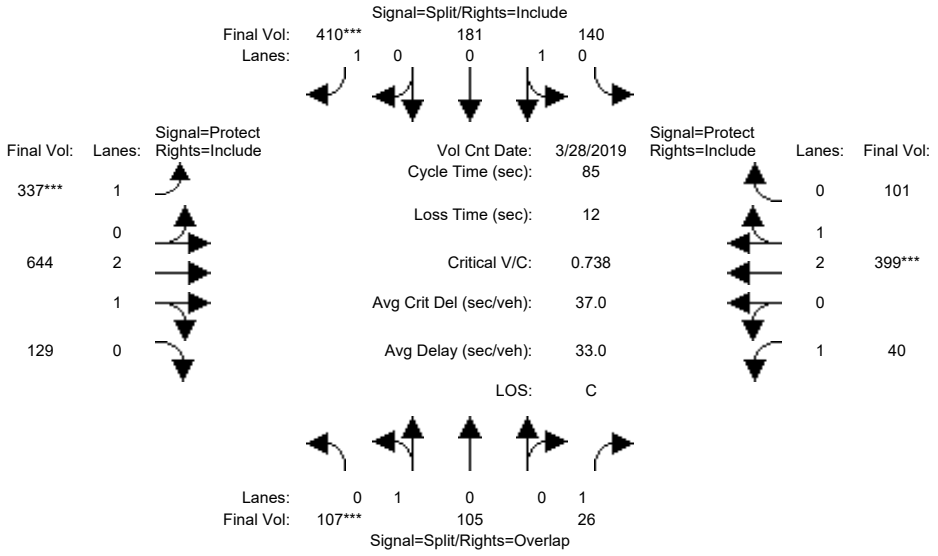
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	107	104	26	138	181	403	324	644	129	40	399	97
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	104	26	138	181	403	324	644	129	40	399	97
Added Vol:	0	1	0	2	0	7	13	0	0	0	0	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	105	26	140	181	410	337	644	129	40	399	101
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	105	26	140	181	410	337	644	129	40	399	101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	105	26	140	181	410	337	644	129	40	399	101
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	105	26	140	181	410	337	644	129	40	399	101
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.99	0.95
Lanes:	0.50	0.50	1.00	0.44	0.56	1.00	1.00	2.48	0.52	1.00	2.37	0.63
Final Sat.:	908	892	1750	785	1015	1750	1750	4664	934	1750	4467	1131
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.01	0.18	0.18	0.23	0.19	0.14	0.14	0.02	0.09	0.09
Crit Moves:	****					****	****				****	
Green Time:	13.6	13.6	25.7	27.0	27.0	27.0	22.2	20.3	20.3	12.1	10.3	10.3
Volume/Cap:	0.74	0.74	0.05	0.56	0.56	0.74	0.74	0.58	0.58	0.16	0.74	0.74
Delay/Veh:	43.7	43.7	21.0	25.4	25.4	31.1	35.0	29.2	29.2	32.3	40.3	40.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.7	43.7	21.0	25.4	25.4	31.1	35.0	29.2	29.2	32.3	40.3	40.3
LOS by Move:	D	D	C	C	C	C	D	C	C	C	D	D
HCM2k95thQ:	14	14	1	15	15	21	17	12	12	2	9	9

Note: Queue reported is the number of cars per lane.

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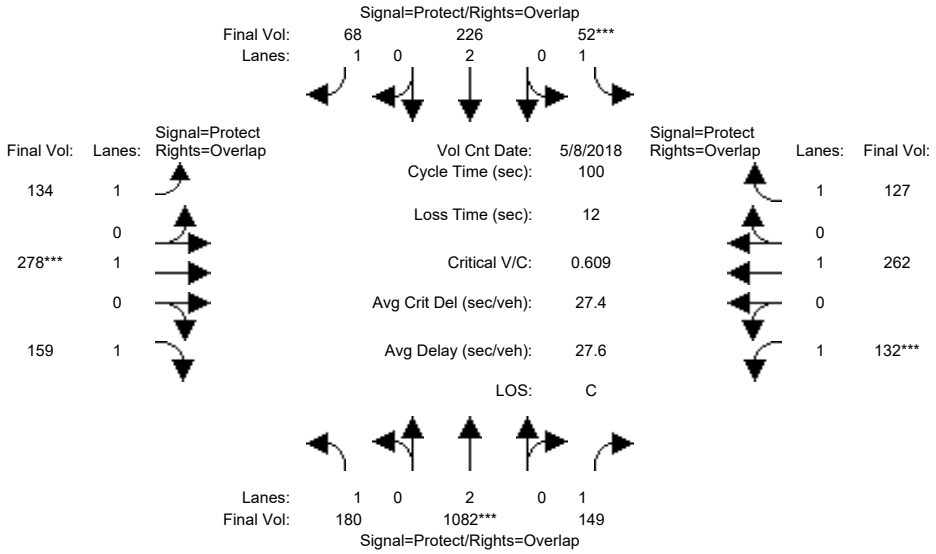
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	180	1082	149	52	226	68	134	278	159	132	262	127
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	180	1082	149	52	226	68	134	278	159	132	262	127
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	180	1082	149	52	226	68	134	278	159	132	262	127
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	180	1082	149	52	226	68	134	278	159	132	262	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	180	1082	149	52	226	68	134	278	159	132	262	127
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	180	1082	149	52	226	68	134	278	159	132	262	127
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.28	0.09	0.03	0.06	0.04	0.08	0.15	0.09	0.08	0.14	0.07
Crit Moves:		****		****				****		****		
Green Time:	26.6	45.5	57.6	7.0	25.9	38.6	12.7	23.4	50.0	12.1	22.8	29.8
Volume/Cap:	0.39	0.63	0.15	0.42	0.23	0.10	0.60	0.63	0.18	0.63	0.60	0.24
Delay/Veh:	30.5	21.5	9.9	46.9	29.3	19.7	46.0	37.2	13.8	47.6	37.0	26.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.5	21.5	9.9	46.9	29.3	19.7	46.0	37.2	13.8	47.6	37.0	26.8
LOS by Move:	C	C	A	D	C	B	D	D	B	D	D	C
HCM2k95thQ:	9	22	4	3	5	3	8	14	6	10	15	6

Note: Queue reported is the number of cars per lane.

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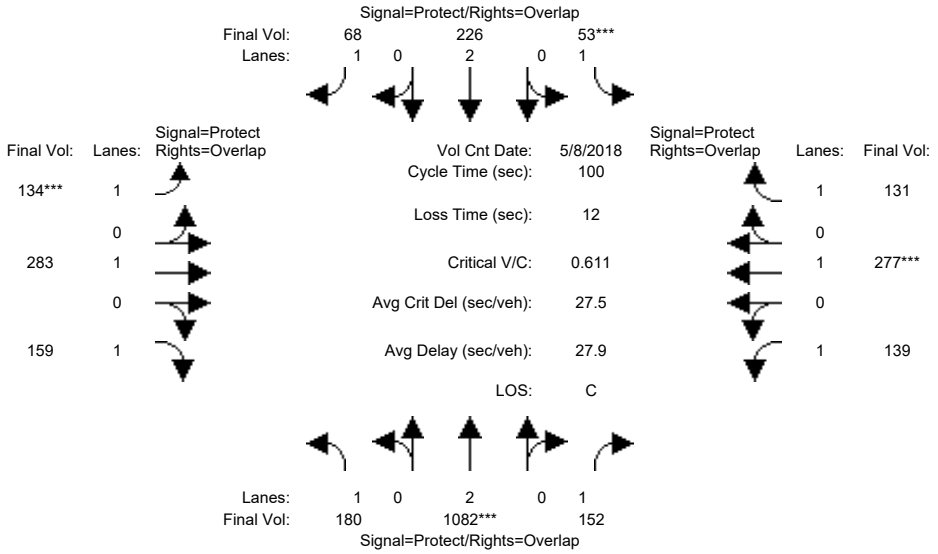
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	180	1082	149	52	226	68	134	278	159	132	262	127
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	180	1082	149	52	226	68	134	278	159	132	262	127
Added Vol:	0	0	3	1	0	0	0	5	0	7	15	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	180	1082	152	53	226	68	134	283	159	139	277	131
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	180	1082	152	53	226	68	134	283	159	139	277	131
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	180	1082	152	53	226	68	134	283	159	139	277	131
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	180	1082	152	53	226	68	134	283	159	139	277	131
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.28	0.09	0.03	0.06	0.04	0.08	0.15	0.09	0.08	0.15	0.07
Crit Moves:		****		****			****				****	
Green Time:	26.6	45.5	57.8	7.0	25.9	38.1	12.2	23.2	49.8	12.4	23.3	30.3
Volume/Cap:	0.39	0.63	0.15	0.43	0.23	0.10	0.63	0.64	0.18	0.64	0.63	0.25
Delay/Veh:	30.6	21.5	9.8	47.0	29.3	20.0	47.5	37.9	14.0	48.2	37.3	26.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.6	21.5	9.8	47.0	29.3	20.0	47.5	37.9	14.0	48.2	37.3	26.5
LOS by Move:	C	C	A	D	C	B	D	D	B	D	D	C
HCM2k95thQ:	9	22	4	3	5	3	8	15	6	11	16	7

Note: Queue reported is the number of cars per lane.

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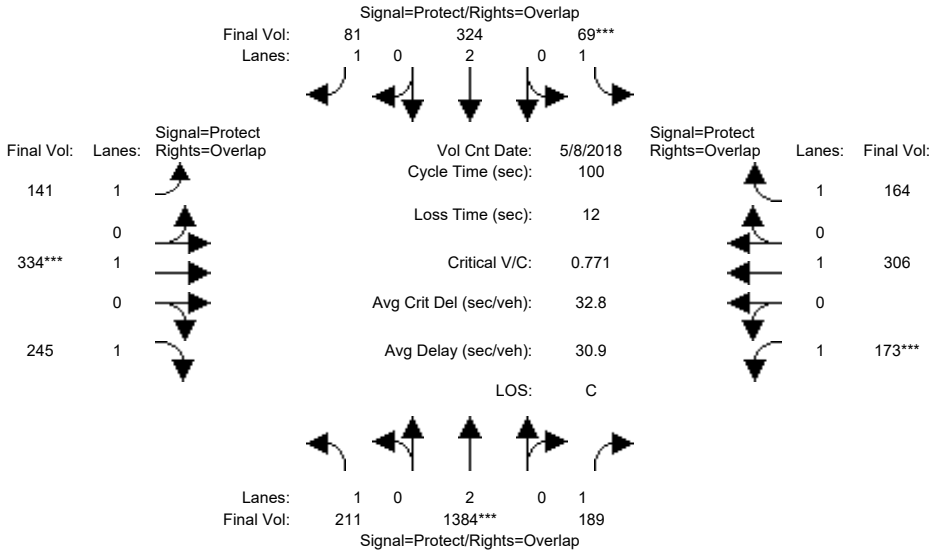
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	211	1384	189	69	324	81	141	334	245	173	306	164
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	211	1384	189	69	324	81	141	334	245	173	306	164
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	211	1384	189	69	324	81	141	334	245	173	306	164
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	211	1384	189	69	324	81	141	334	245	173	306	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	211	1384	189	69	324	81	141	334	245	173	306	164
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	211	1384	189	69	324	81	141	334	245	173	306	164
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.36	0.11	0.04	0.09	0.05	0.08	0.18	0.14	0.10	0.16	0.09
Crit Moves:		****		****				****		****		
Green Time:	29.1	46.2	58.7	7.0	24.1	35.7	11.6	22.3	51.4	12.5	23.2	30.2
Volume/Cap:	0.41	0.79	0.18	0.56	0.35	0.13	0.69	0.79	0.27	0.79	0.69	0.31
Delay/Veh:	29.2	25.3	9.6	50.9	31.7	21.8	52.4	46.2	13.9	59.7	39.9	27.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.2	25.3	9.6	50.9	31.7	21.8	52.4	46.2	13.9	59.7	39.9	27.2
LOS by Move:	C	C	A	D	C	C	D	D	B	E	D	C
HCM2k95thQ:	10	29	5	5	8	4	9	18	9	15	18	8

Note: Queue reported is the number of cars per lane.

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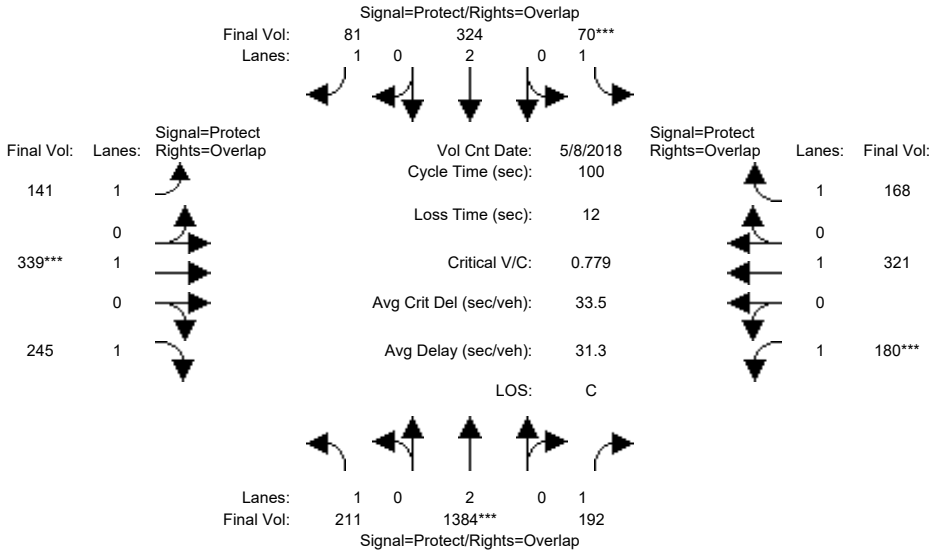
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	211	1384	189	69	324	81	141	334	245	173	306	164
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	211	1384	189	69	324	81	141	334	245	173	306	164
Added Vol:	0	0	3	1	0	0	0	5	0	7	15	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	211	1384	192	70	324	81	141	339	245	180	321	168
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	211	1384	192	70	324	81	141	339	245	180	321	168
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	211	1384	192	70	324	81	141	339	245	180	321	168
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	211	1384	192	70	324	81	141	339	245	180	321	168
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.36	0.11	0.04	0.09	0.05	0.08	0.18	0.14	0.10	0.17	0.10
Crit Moves:		****		****				****		****		
Green Time:	28.8	45.7	58.6	7.0	23.9	35.3	11.4	22.4	51.2	12.9	23.9	30.9
Volume/Cap:	0.42	0.80	0.19	0.57	0.36	0.13	0.71	0.80	0.27	0.80	0.71	0.31
Delay/Veh:	29.4	25.9	9.7	51.4	31.9	22.0	53.7	46.8	14.0	60.0	39.9	26.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.4	25.9	9.7	51.4	31.9	22.0	53.7	46.8	14.0	60.0	39.9	26.7
LOS by Move:	C	C	A	D	C	C	D	D	B	E	D	C
HCM2k95thQ:	10	29	5	5	8	4	9	18	9	15	19	9

Note: Queue reported is the number of cars per lane.

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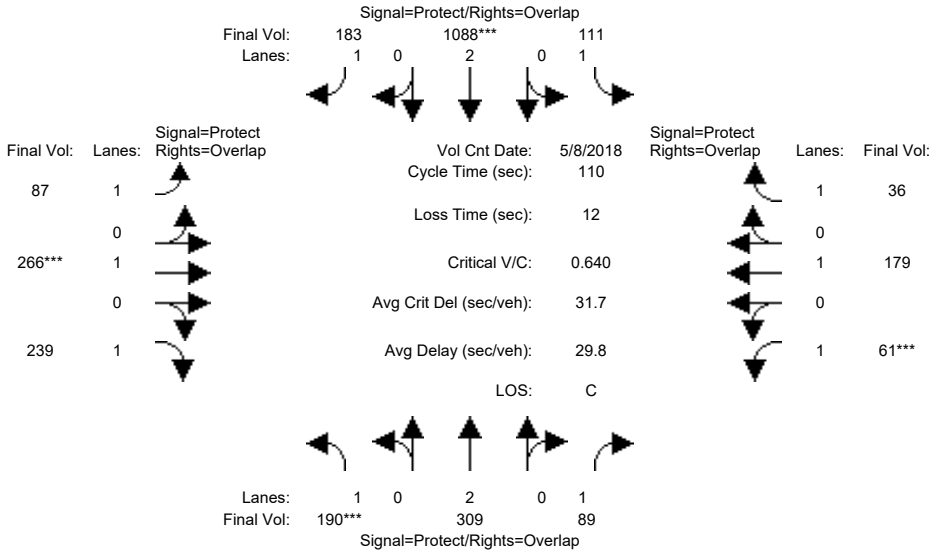
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	190	309	89	111	1088	183	87	266	239	61	179	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	190	309	89	111	1088	183	87	266	239	61	179	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	190	309	89	111	1088	183	87	266	239	61	179	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	190	309	89	111	1088	183	87	266	239	61	179	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	190	309	89	111	1088	183	87	266	239	61	179	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	190	309	89	111	1088	183	87	266	239	61	179	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.08	0.05	0.06	0.29	0.10	0.05	0.14	0.14	0.03	0.09	0.02
Crit Moves:	****				****			****		****		
Green Time:	18.5	39.5	46.5	27.7	48.7	61.1	12.4	23.8	42.3	7.0	18.4	46.1
Volume/Cap:	0.65	0.23	0.12	0.25	0.65	0.19	0.44	0.65	0.36	0.55	0.56	0.05
Delay/Veh:	47.7	24.7	19.4	33.2	24.8	12.2	47.1	42.8	24.5	55.6	44.4	19.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.7	24.7	19.4	33.2	24.8	12.2	47.1	42.8	24.5	55.6	44.4	19.0
LOS by Move:	D	C	B	C	C	B	D	D	C	E	D	B
HCM2k95thQ:	12	7	4	6	25	6	6	15	11	6	12	2

Note: Queue reported is the number of cars per lane.

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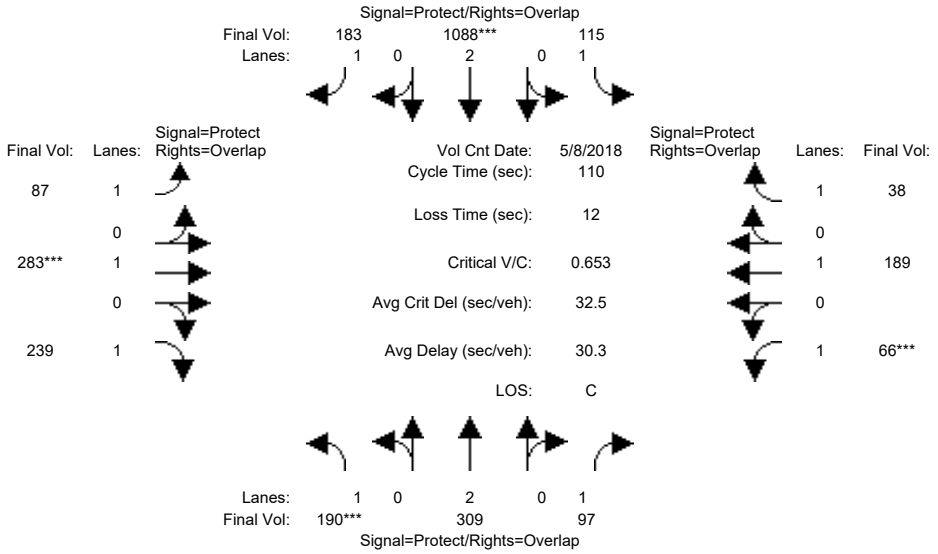
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	190	309	89	111	1088	183	87	266	239	61	179	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	190	309	89	111	1088	183	87	266	239	61	179	36
Added Vol:	0	0	8	4	0	0	0	17	0	5	10	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	190	309	97	115	1088	183	87	283	239	66	189	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	190	309	97	115	1088	183	87	283	239	66	189	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	190	309	97	115	1088	183	87	283	239	66	189	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	190	309	97	115	1088	183	87	283	239	66	189	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.08	0.06	0.07	0.29	0.10	0.05	0.15	0.14	0.04	0.10	0.02
Crit Moves:	****				****			****			****	
Green Time:	18.2	38.4	45.4	27.7	47.9	60.4	12.5	24.9	43.1	7.0	19.5	47.2
Volume/Cap:	0.66	0.23	0.13	0.26	0.66	0.19	0.44	0.66	0.35	0.59	0.56	0.05
Delay/Veh:	48.4	25.5	20.2	33.3	25.5	12.6	47.1	42.4	23.9	58.4	43.5	18.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.4	25.5	20.2	33.3	25.5	12.6	47.1	42.4	23.9	58.4	43.5	18.4
LOS by Move:	D	C	C	C	C	B	D	D	C	E	D	B
HCM2k95thQ:	13	7	4	6	25	6	6	16	11	7	12	2

Note: Queue reported is the number of cars per lane.

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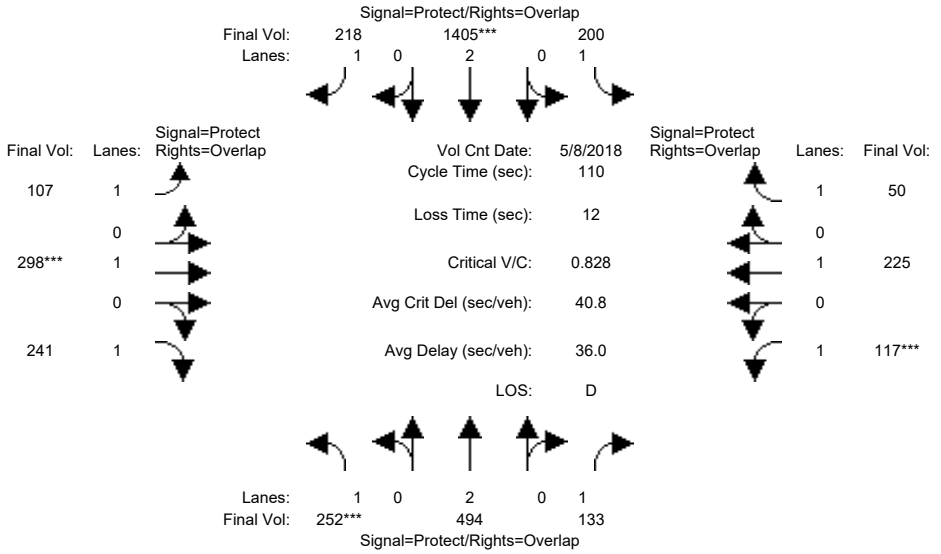
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	252	494	133	200	1405	218	107	298	241	117	225	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	252	494	133	200	1405	218	107	298	241	117	225	50
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	252	494	133	200	1405	218	107	298	241	117	225	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	252	494	133	200	1405	218	107	298	241	117	225	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	252	494	133	200	1405	218	107	298	241	117	225	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	252	494	133	200	1405	218	107	298	241	117	225	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.13	0.08	0.11	0.37	0.12	0.06	0.16	0.14	0.07	0.12	0.03
Crit Moves:	****				****			****		****		
Green Time:	19.1	36.3	45.2	31.9	49.1	59.5	10.4	20.8	40.0	8.9	19.3	51.3
Volume/Cap:	0.83	0.39	0.18	0.39	0.83	0.23	0.65	0.83	0.38	0.83	0.67	0.06
Delay/Veh:	60.7	28.6	20.8	31.8	30.2	13.4	56.7	57.5	26.2	81.3	47.7	16.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.7	28.6	20.8	31.8	30.2	13.4	56.7	57.5	26.2	81.3	47.7	16.2
LOS by Move:	E	C	C	C	C	B	E	E	C	F	D	B
HCM2k95thQ:	17	12	6	11	35	8	7	18	12	12	16	2

Note: Queue reported is the number of cars per lane.

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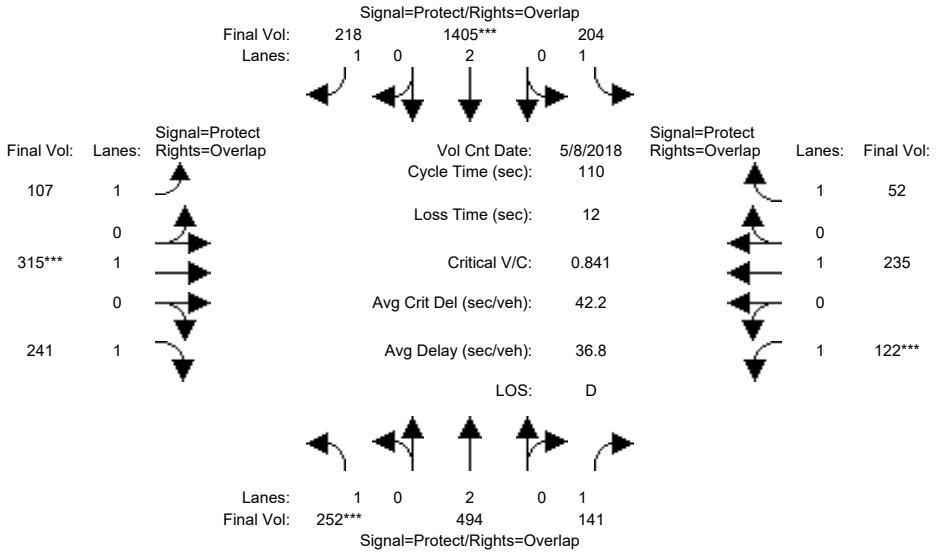
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	252	494	133	200	1405	218	107	298	241	117	225	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	252	494	133	200	1405	218	107	298	241	117	225	50
Added Vol:	0	0	8	4	0	0	0	17	0	5	10	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	252	494	141	204	1405	218	107	315	241	122	235	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	252	494	141	204	1405	218	107	315	241	122	235	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	252	494	141	204	1405	218	107	315	241	122	235	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	252	494	141	204	1405	218	107	315	241	122	235	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.13	0.08	0.12	0.37	0.12	0.06	0.17	0.14	0.07	0.12	0.03
Crit Moves:	****				****			****		****		
Green Time:	18.8	35.4	44.5	31.8	48.4	58.8	10.5	21.7	40.5	9.1	20.3	52.1
Volume/Cap:	0.84	0.40	0.20	0.40	0.84	0.23	0.64	0.84	0.37	0.84	0.67	0.06
Delay/Veh:	62.9	29.3	21.3	32.0	31.4	13.7	56.3	58.1	25.8	83.1	46.6	15.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.9	29.3	21.3	32.0	31.4	13.7	56.3	58.1	25.8	83.1	46.6	15.7
LOS by Move:	E	C	C	C	C	B	E	E	C	F	D	B
HCM2k95thQ:	17	12	6	11	36	8	7	19	12	13	16	2

Note: Queue reported is the number of cars per lane.

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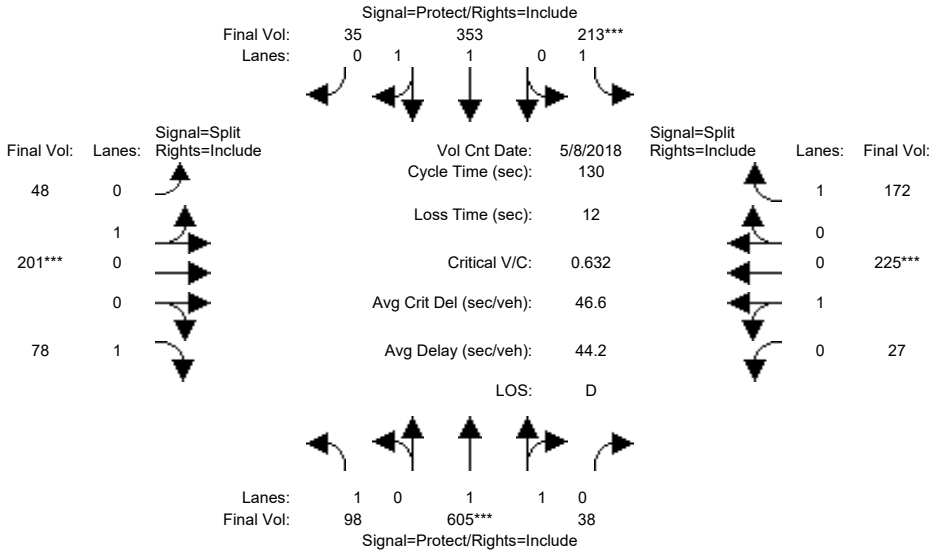
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #118: Monterey Road and Main Avenue



Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	98	605	38	213	353	35	48	201	78	27	225	172
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	605	38	213	353	35	48	201	78	27	225	172
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	605	38	213	353	35	48	201	78	27	225	172
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	605	38	213	353	35	48	201	78	27	225	172
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	605	38	213	353	35	48	201	78	27	225	172
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	605	38	213	353	35	48	201	78	27	225	172
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.88	0.12	1.00	1.81	0.19	0.19	0.81	1.00	0.11	0.89	1.00
Final Sat.:	1750	3481	219	1750	3366	334	347	1453	1750	193	1607	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.17	0.17	0.12	0.10	0.10	0.14	0.14	0.04	0.14	0.14	0.10
Crit Moves:		****		****				****			****	
Green Time:	21.2	35.7	35.7	25.0	39.6	39.6	28.4	28.4	28.4	28.8	28.8	28.8
Volume/Cap:	0.34	0.63	0.63	0.63	0.34	0.34	0.63	0.63	0.20	0.63	0.63	0.44
Delay/Veh:	49.0	42.7	42.7	52.1	35.3	35.3	49.4	49.4	41.8	49.1	49.1	44.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.0	42.7	42.7	52.1	35.3	35.3	49.4	49.4	41.8	49.1	49.1	44.5
LOS by Move:	D	D	D	D	D	D	D	D	D	D	D	D
HCM2k95thQ:	7	21	21	16	11	11	19	19	6	17	17	12

Note: Queue reported is the number of cars per lane.

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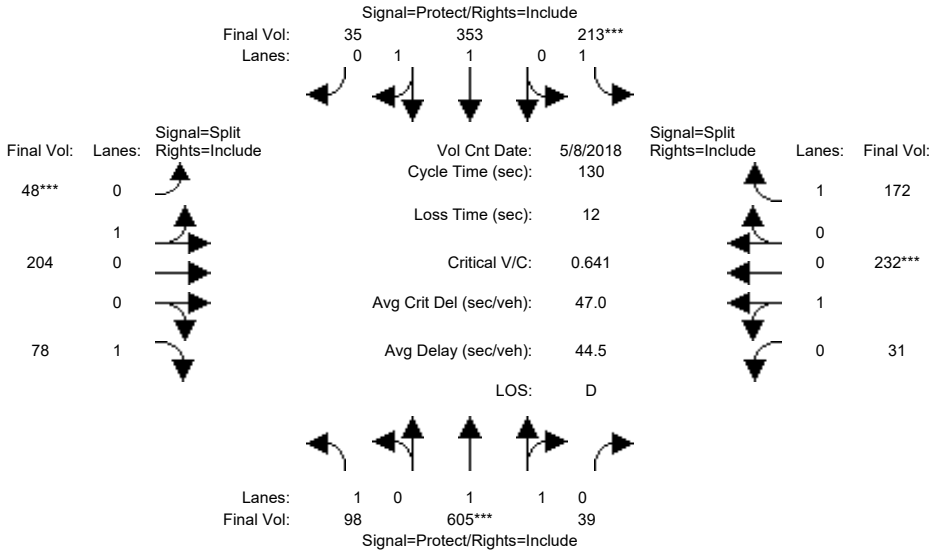
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #118: Monterey Road and Main Avenue



Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	98	605	38	213	353	35	48	201	78	27	225	172
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	605	38	213	353	35	48	201	78	27	225	172
Added Vol:	0	0	1	0	0	0	0	3	0	4	7	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	605	39	213	353	35	48	204	78	31	232	172
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	605	39	213	353	35	48	204	78	31	232	172
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	605	39	213	353	35	48	204	78	31	232	172
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	605	39	213	353	35	48	204	78	31	232	172
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.88	0.12	1.00	1.81	0.19	0.19	0.81	1.00	0.12	0.88	1.00
Final Sat.:	1750	3476	224	1750	3366	334	343	1457	1750	212	1588	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.17	0.17	0.12	0.10	0.10	0.14	0.14	0.04	0.15	0.15	0.10
Crit Moves:		****		****			****				****	
Green Time:	20.9	35.3	35.3	24.7	39.1	39.1	28.4	28.4	28.4	29.6	29.6	29.6
Volume/Cap:	0.35	0.64	0.64	0.64	0.35	0.35	0.64	0.64	0.20	0.64	0.64	0.43
Delay/Veh:	49.3	43.2	43.2	52.8	35.7	35.7	49.7	49.7	41.8	48.8	48.8	43.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.3	43.2	43.2	52.8	35.7	35.7	49.7	49.7	41.8	48.8	48.8	43.7
LOS by Move:	D	D	D	D	D	D	D	D	D	D	D	D
HCM2k95thQ:	7	21	21	16	11	11	19	19	6	18	18	12

Note: Queue reported is the number of cars per lane.

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City of Morgan Hill
The Crosswinds Residential Development

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2000 HCM Operations (Future Volume Alternative)
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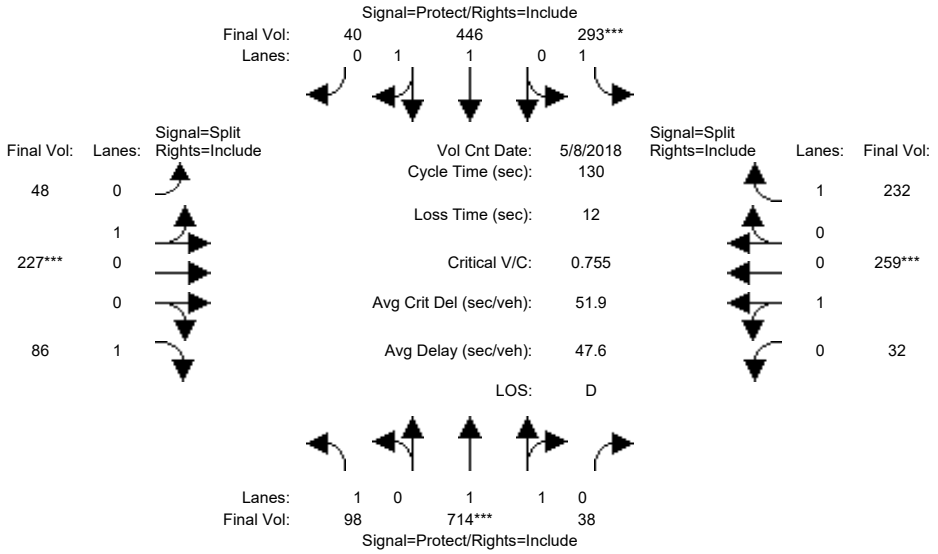

Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	98	714	38	293	446	40	48	227	86	32	259	232
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	714	38	293	446	40	48	227	86	32	259	232
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	714	38	293	446	40	48	227	86	32	259	232
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	714	38	293	446	40	48	227	86	32	259	232
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	714	38	293	446	40	48	227	86	32	259	232
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	714	38	293	446	40	48	227	86	32	259	232
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.90	0.10	1.00	1.83	0.17	0.17	0.83	1.00	0.11	0.89	1.00
Final Sat.:	1750	3513	187	1750	3395	305	314	1486	1750	198	1602	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.20	0.20	0.17	0.13	0.13	0.15	0.15	0.05	0.16	0.16	0.13
Crit Moves:		****		****				****			****	
Green Time:	19.1	35.0	35.0	28.8	44.8	44.8	26.3	26.3	26.3	27.8	27.8	27.8
Volume/Cap:	0.38	0.75	0.75	0.75	0.38	0.38	0.75	0.75	0.24	0.75	0.75	0.62
Delay/Veh:	51.1	46.9	46.9	55.5	32.4	32.4	57.5	57.5	43.8	56.1	56.1	49.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.1	46.9	46.9	55.5	32.4	32.4	57.5	57.5	43.8	56.1	56.1	49.4
LOS by Move:	D	D	D	E	C	C	E	E	D	E	E	D
HCM2k95thQ:	7	25	25	21	14	14	22	22	6	21	21	16

Note: Queue reported is the number of cars per lane.

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City of Morgan Hill
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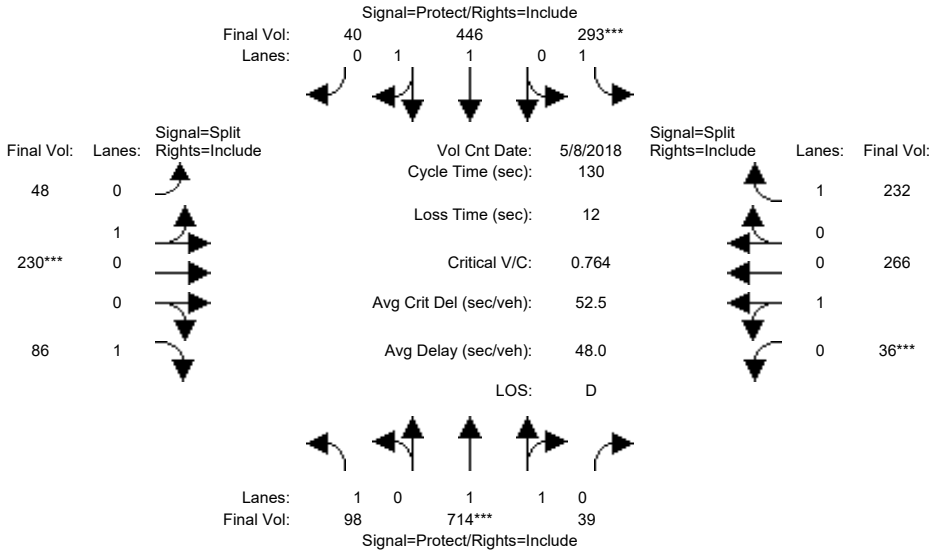
Year 2030 Cumulative with Project AM

Intersection #118: Monterey Road and Main Avenue



Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	98	714	38	293	446	40	48	227	86	32	259	232
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	714	38	293	446	40	48	227	86	32	259	232
Added Vol:	0	0	1	0	0	0	0	3	0	4	7	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	714	39	293	446	40	48	230	86	36	266	232
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	714	39	293	446	40	48	230	86	36	266	232
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	714	39	293	446	40	48	230	86	36	266	232
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	714	39	293	446	40	48	230	86	36	266	232
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.89	0.11	1.00	1.83	0.17	0.17	0.83	1.00	0.12	0.88	1.00
Final Sat.:	1750	3508	192	1750	3395	305	311	1489	1750	215	1585	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.20	0.20	0.17	0.13	0.13	0.15	0.15	0.05	0.17	0.17	0.13
Crit Moves:		****		****				****		****		
Green Time:	18.9	34.6	34.6	28.5	44.3	44.3	26.3	26.3	26.3	28.6	28.6	28.6
Volume/Cap:	0.39	0.76	0.76	0.76	0.39	0.39	0.76	0.76	0.24	0.76	0.76	0.60
Delay/Veh:	51.3	47.5	47.5	56.4	32.7	32.7	58.2	58.2	43.9	56.1	56.1	48.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.3	47.5	47.5	56.4	32.7	32.7	58.2	58.2	43.9	56.1	56.1	48.3
LOS by Move:	D	D	D	E	C	C	E	E	D	E	E	D
HCM2k95thQ:	7	26	26	21	14	14	23	23	6	21	21	16

Note: Queue reported is the number of cars per lane.

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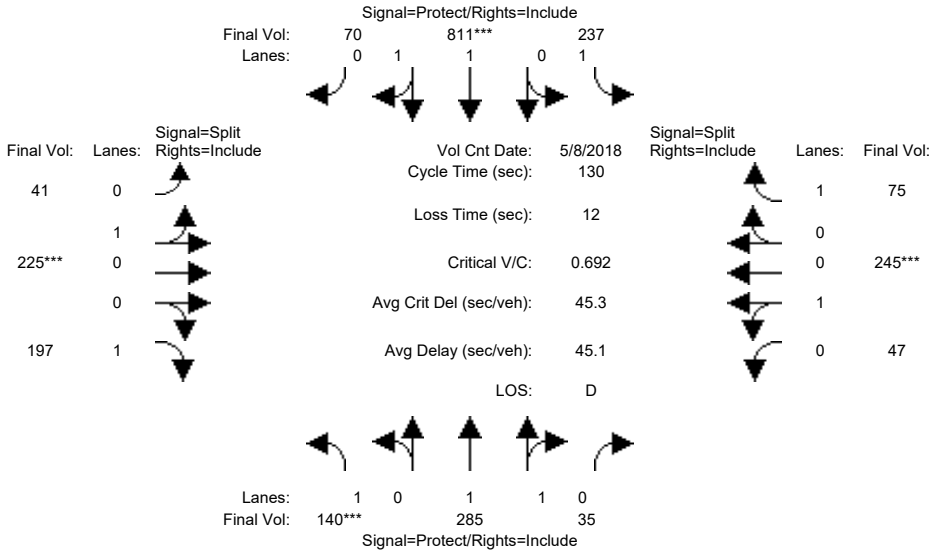
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #118: Monterey Road and Main Avenue



Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	140	285	35	237	811	70	41	225	197	47	245	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	285	35	237	811	70	41	225	197	47	245	75
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	285	35	237	811	70	41	225	197	47	245	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	285	35	237	811	70	41	225	197	47	245	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	285	35	237	811	70	41	225	197	47	245	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	285	35	237	811	70	41	225	197	47	245	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.78	0.22	1.00	1.84	0.16	0.15	0.85	1.00	0.16	0.84	1.00
Final Sat.:	1750	3295	405	1750	3406	294	277	1523	1750	290	1510	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.14	0.24	0.24	0.15	0.15	0.11	0.16	0.16	0.04
Crit Moves:	****				****			****			****	
Green Time:	15.0	23.3	23.3	36.5	44.7	44.7	27.8	27.8	27.8	30.5	30.5	30.5
Volume/Cap:	0.69	0.48	0.48	0.48	0.69	0.69	0.69	0.69	0.53	0.69	0.69	0.18
Delay/Veh:	65.1	48.5	48.5	39.7	38.4	38.4	52.5	52.5	46.7	50.4	50.4	40.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.1	48.5	48.5	39.7	38.4	38.4	52.5	52.5	46.7	50.4	50.4	40.0
LOS by Move:	E	D	D	D	D	D	D	D	D	D	D	D
HCM2k95thQ:	12	11	11	15	27	27	21	21	15	20	20	5

Note: Queue reported is the number of cars per lane.

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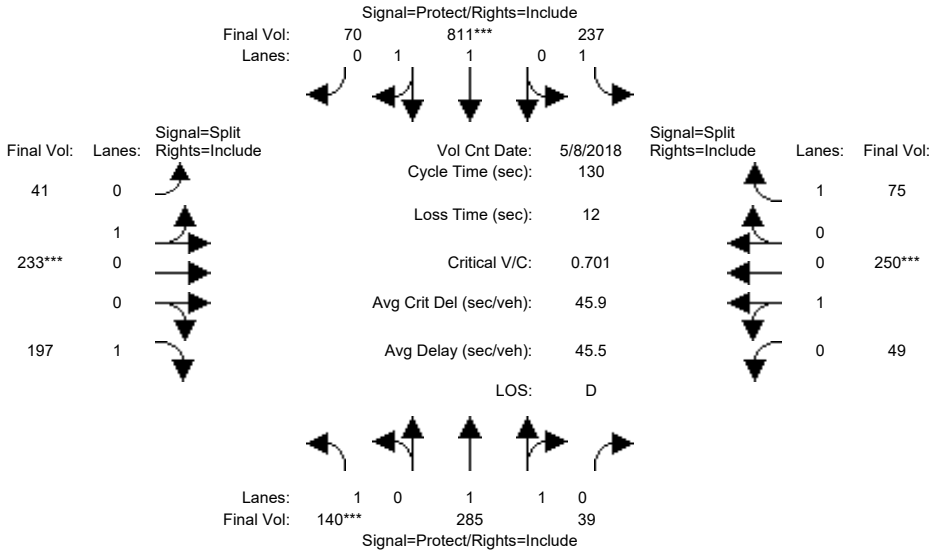
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #118: Monterey Road and Main Avenue



Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	140	285	35	237	811	70	41	225	197	47	245	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	285	35	237	811	70	41	225	197	47	245	75
Added Vol:	0	0	4	0	0	0	0	8	0	2	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	285	39	237	811	70	41	233	197	49	250	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	285	39	237	811	70	41	233	197	49	250	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	285	39	237	811	70	41	233	197	49	250	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	285	39	237	811	70	41	233	197	49	250	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.75	0.25	1.00	1.84	0.16	0.15	0.85	1.00	0.16	0.84	1.00
Final Sat.:	1750	3254	445	1750	3406	294	269	1531	1750	295	1505	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.14	0.24	0.24	0.15	0.15	0.11	0.17	0.17	0.04
Crit Moves:	****				****			****			****	
Green Time:	14.8	23.2	23.2	35.8	44.1	44.1	28.2	28.2	28.2	30.8	30.8	30.8
Volume/Cap:	0.70	0.49	0.49	0.49	0.70	0.70	0.70	0.70	0.52	0.70	0.70	0.18
Delay/Veh:	66.1	48.7	48.7	40.3	39.0	39.0	52.6	52.6	46.2	50.6	50.6	39.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	66.1	48.7	48.7	40.3	39.0	39.0	52.6	52.6	46.2	50.6	50.6	39.8
LOS by Move:	E	D	D	D	D	D	D	D	D	D	D	D
HCM2k95thQ:	12	11	11	15	27	27	21	21	15	21	21	5

Note: Queue reported is the number of cars per lane.

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City of Morgan Hill
The Crosswinds Residential Development

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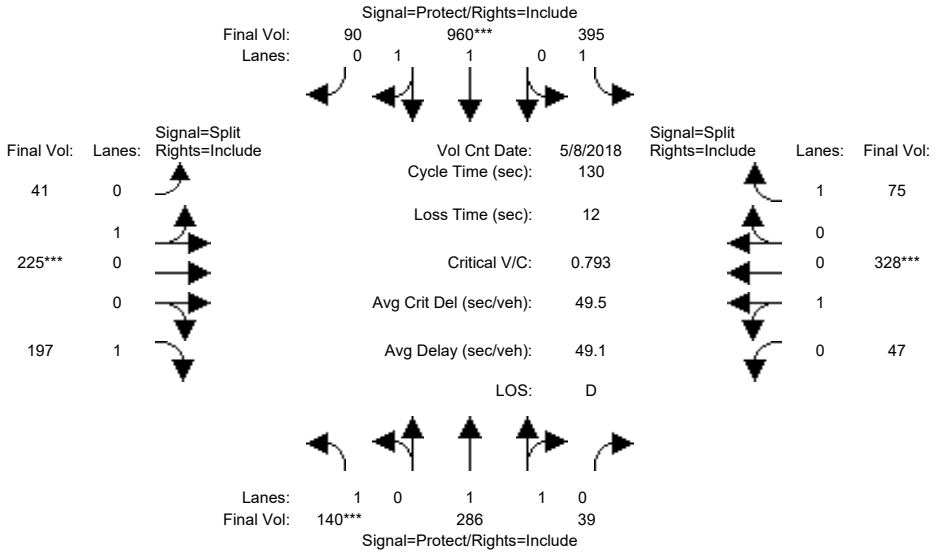
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #118: Monterey Road and Main Avenue



Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	140	286	39	395	960	90	41	225	197	47	328	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	286	39	395	960	90	41	225	197	47	328	75
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	286	39	395	960	90	41	225	197	47	328	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	286	39	395	960	90	41	225	197	47	328	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	286	39	395	960	90	41	225	197	47	328	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	286	39	395	960	90	41	225	197	47	328	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.75	0.25	1.00	1.82	0.18	0.15	0.85	1.00	0.13	0.87	1.00
Final Sat.:	1750	3256	444	1750	3383	317	277	1523	1750	226	1574	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.23	0.28	0.28	0.15	0.15	0.11	0.21	0.21	0.04
Crit Moves:	****				****			****			****	
Green Time:	13.1	16.7	16.7	42.9	46.5	46.5	24.2	24.2	24.2	34.1	34.1	34.1
Volume/Cap:	0.79	0.68	0.68	0.68	0.79	0.79	0.79	0.79	0.60	0.79	0.79	0.16
Delay/Veh:	78.4	58.2	58.2	41.0	40.8	40.8	62.7	62.7	51.7	53.6	53.6	37.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.4	58.2	58.2	41.0	40.8	40.8	62.7	62.7	51.7	53.6	53.6	37.1
LOS by Move:	E	E	E	D	D	D	E	E	D	D	D	D
HCM2k95thQ:	12	12	12	25	32	32	23	23	16	26	26	5

Note: Queue reported is the number of cars per lane.

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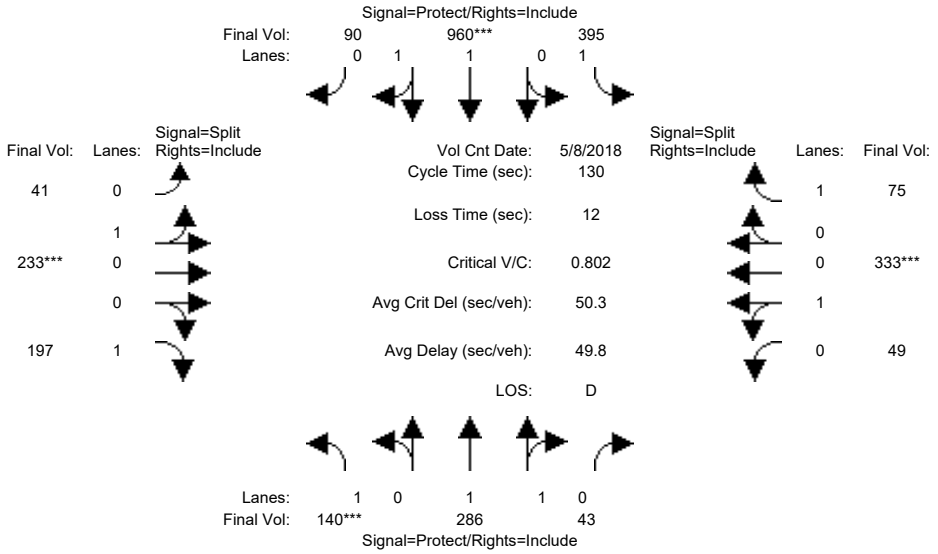

Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	140	286	39	395	960	90	41	225	197	47	328	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	286	39	395	960	90	41	225	197	47	328	75
Added Vol:	0	0	4	0	0	0	0	8	0	2	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	286	43	395	960	90	41	233	197	49	333	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	286	43	395	960	90	41	233	197	49	333	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	286	43	395	960	90	41	233	197	49	333	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	286	43	395	960	90	41	233	197	49	333	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.73	0.27	1.00	1.82	0.18	0.15	0.85	1.00	0.13	0.87	1.00
Final Sat.:	1750	3216	484	1750	3383	317	269	1531	1750	231	1569	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.23	0.28	0.28	0.15	0.15	0.11	0.21	0.21	0.04
Crit Moves:	****				****			****			****	
Green Time:	13.0	16.7	16.7	42.3	46.0	46.0	24.7	24.7	24.7	34.4	34.4	34.4
Volume/Cap:	0.80	0.69	0.69	0.69	0.80	0.80	0.80	0.80	0.59	0.80	0.80	0.16
Delay/Veh:	80.1	58.7	58.7	41.9	41.6	41.6	63.1	63.1	51.0	54.1	54.1	36.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.1	58.7	58.7	41.9	41.6	41.6	63.1	63.1	51.0	54.1	54.1	36.9
LOS by Move:	F	E	E	D	D	D	E	E	D	D	D	D
HCM2k95thQ:	12	13	13	25	32	32	23	23	16	26	26	5

Note: Queue reported is the number of cars per lane.

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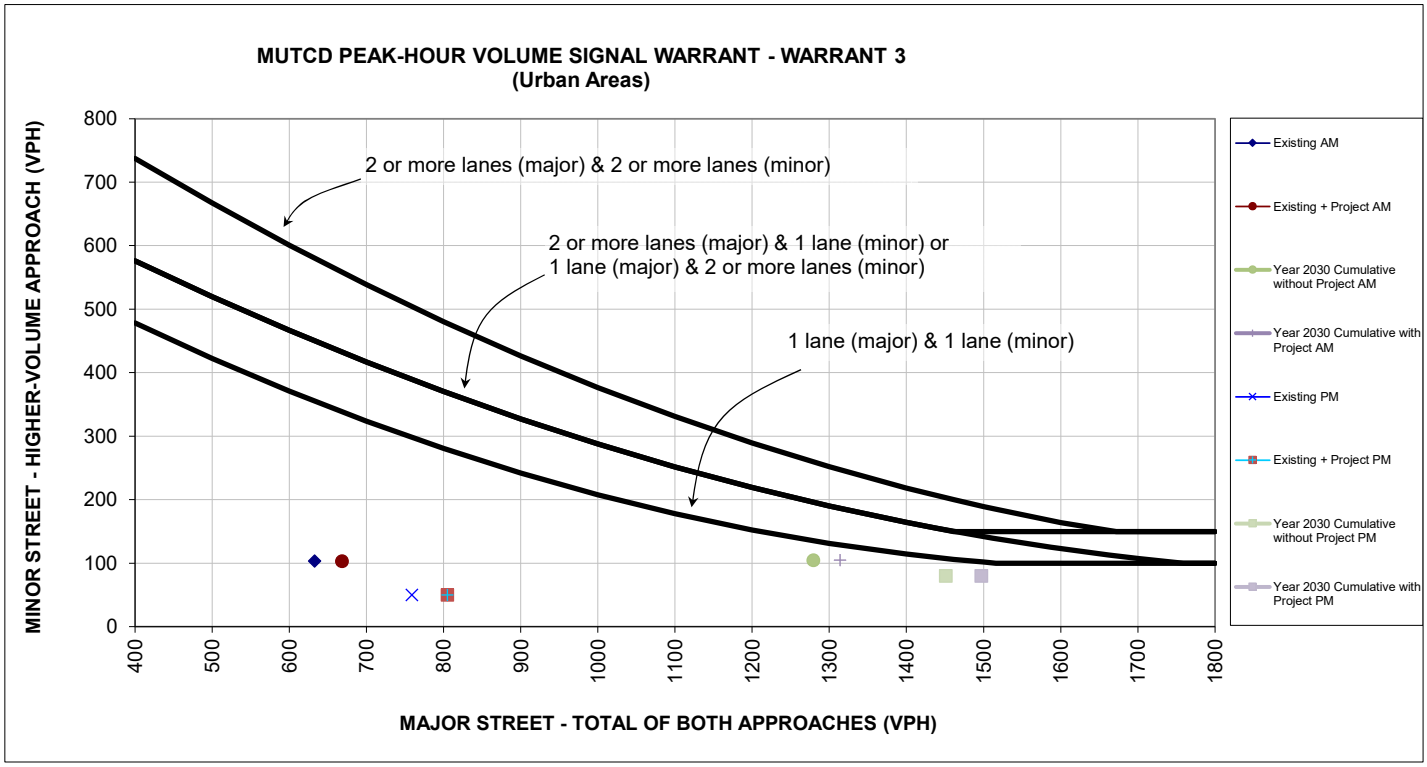
Appendix E

Signal Warrant Analysis

The Crosswinds Residential Development

7 . Mission View Drive and Avenida De Los Padres



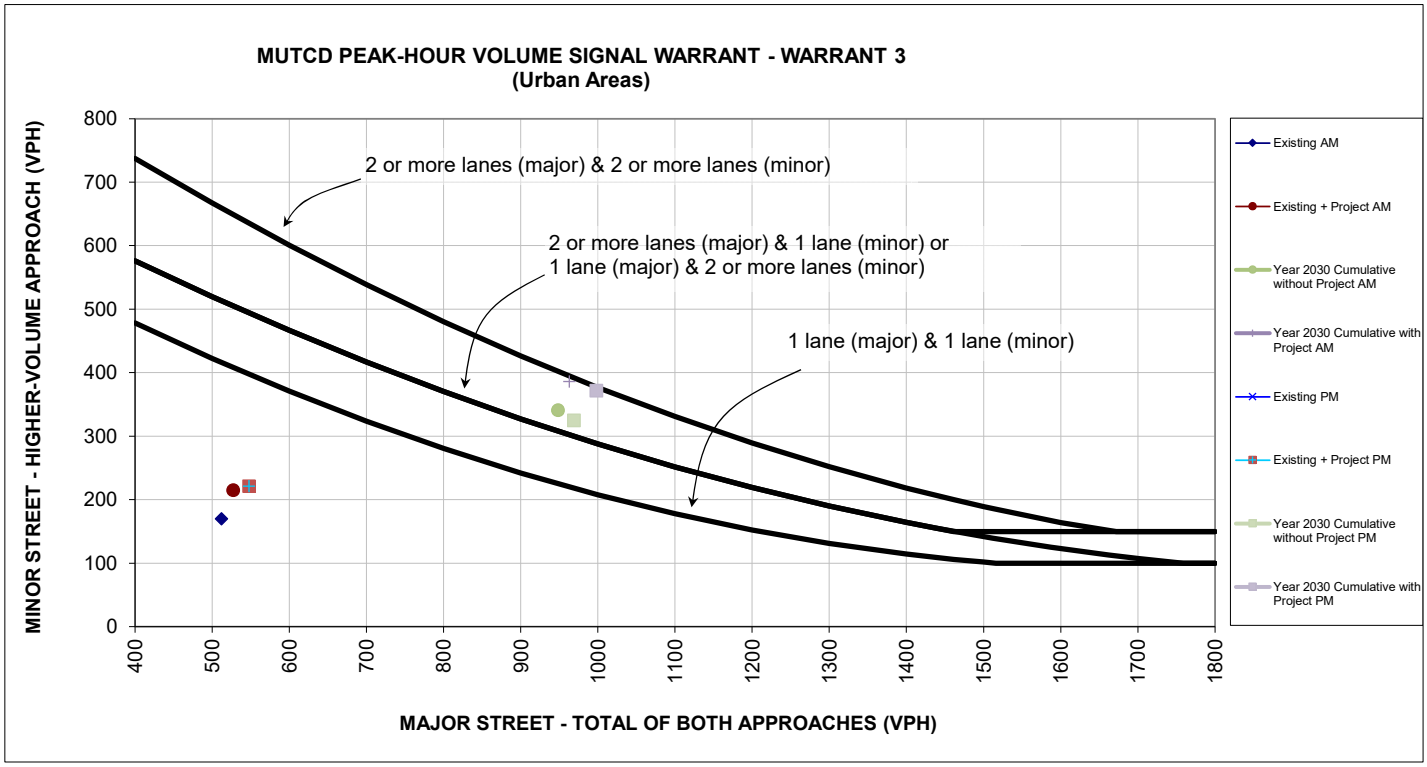
Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Approach Lanes: One	Approach Lanes: 2 or More	Existing AM	Existing + Project AM	Year 2030 Cumulative without Project AM	Year 2030 Cumulative with Project AM
Major Street - Both Approaches	Avenida De Los Padres	X		633	668	1279	1314
Minor Street - Highest Approach	Mission View Drive	X		103	103	105	105
Maximum warrant threshold for minor street volume				355	338	135	128
Difference between warrant threshold & minor street volume				252	235	30	23
		Warrant Met?		No	No	No	No

		Approach Lanes: One	Approach Lanes: 2 or More	Existing PM	Existing + Project PM	Year 2030 Cumulative without Project PM	Year 2030 Cumulative with Project PM
Major Street - Both Approaches	Avenida De Los Padres	X		759	805	1451	1497
Minor Street - Highest Approach	Mission View Drive	X		50	50	80	80
Maximum warrant threshold for minor street volume				298	279	107	102
Difference between warrant threshold & minor street volume				248	229	27	22
		Warrant Met?		No	No	No	No

The Crosswinds Residential Development

8 . Mission View Drive and Half Road



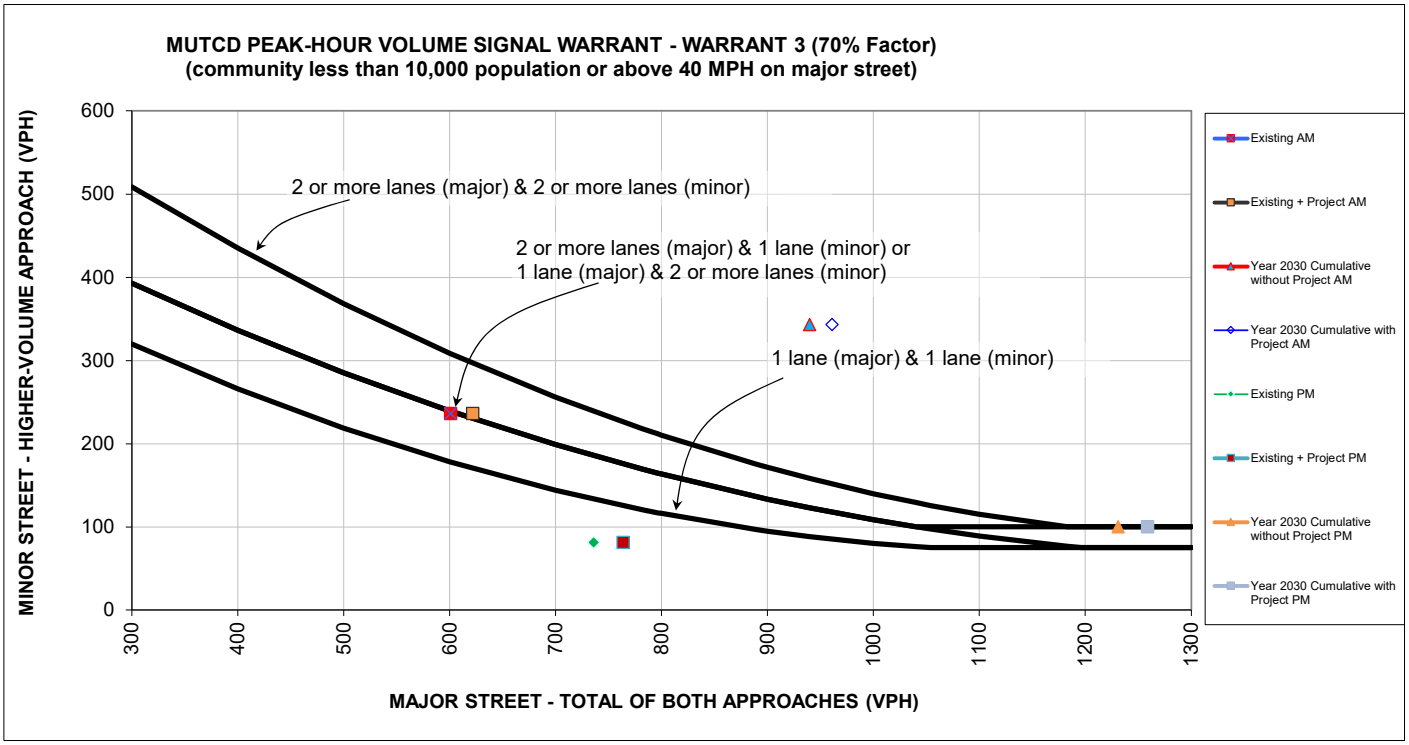
Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Approach Lanes: One	Approach Lanes: 2 or More	Existing AM	Existing + Project AM	Year 2030 Cumulative without Project AM	Year 2030 Cumulative with Project AM
Major Street - Both Approaches	Mission View Drive	X		512	527	948	963
Minor Street - Highest Approach	Half Road	X		170	215	341	386
Maximum warrant threshold for minor street volume				416	408	225	220
Difference between warrant threshold & minor street volume				246	193	116	166
		Warrant Met?		No	No	**Yes**	**Yes**

		Approach Lanes: One	Approach Lanes: 2 or More	Existing PM	Existing + Project PM	Year 2030 Cumulative without Project PM	Year 2030 Cumulative with Project PM
Major Street - Both Approaches	Mission View Drive	X		268	548	969	998
Minor Street - Highest Approach	Half Road	X		519	221	325	372
Maximum warrant threshold for minor street volume				559	397	218	208
Difference between warrant threshold & minor street volume				40	176	107	164
		Warrant Met?		No	No	**Yes**	**Yes**

The Crosswinds Residential Development

10 . Condit Road and Diana Avenue



Source: Figure 4C-4 of the Manual on Unifrom Traffic Control and Devices (MUTCD) from California Department of Transportation (Caltrans).
* 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Approach Lanes: One	Approach Lanes: 2 or More	Existing AM	Existing + Project AM	Year 2030 Cumulative without Project AM	Year 2030 Cumulative with Project AM
Major Street - Both Approaches	Diana Avenue	X		601	622	940	961
Minor Street - Highest Approach	Condit Road	X		236	236	343	343
Maximum warrant threshold for minor street volume				178	170	88	85
Difference between warrant threshold & minor street volume				58	66	255	258
		Warrant Met?		**Yes**	**Yes**	**Yes**	**Yes**

		Approach Lanes: One	Approach Lanes: 2 or More	Existing PM	Existing + Project PM	Year 2030 Cumulative without Project PM	Year 2030 Cumulative with Project PM
Major Street - Both Approaches	Diana Avenue	X		736	764	1231	1259
Minor Street - Highest Approach	Condit Road	X		81	81	100	100
Maximum warrant threshold for minor street volume				133	125	75	75
Difference between warrant threshold & minor street volume				52	44	25	25
		Warrant Met?		No	No	**Yes**	**Yes**

Appendix F

Intersection Queuing Calculations

DePaul/Cochrane
NB
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
NB
AM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 1.4
Percentile = 95% 4

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.2466	0.2466	0
0.3452	0.5918	1
0.2417	0.8335	2
0.1128	0.9463	3
0.0395	0.9857	4
0.0111	0.9968	5
0.0026	0.9994	6
0.0005	0.9999	7
0.0001	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
NB
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 0.3
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.7408	0.7408	0
0.2222	0.9631	1
0.0333	0.9964	2
0.0033	0.9997	3
0.0003	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
NB
PM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 1.2
Percentile = 95% 3

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.3012	0.3012	0
0.3614	0.6626	1
0.2169	0.8795	2
0.0867	0.9662	3
0.0260	0.9923	4
0.0062	0.9985	5
0.0012	0.9997	6
0.0002	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 8.5
Percentile = 95% 14

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0002	0.0002	0
0.0017	0.0019	1
0.0074	0.0093	2
0.0208	0.0301	3
0.0443	0.0744	4
0.0752	0.1496	5
0.1066	0.2562	6
0.1294	0.3856	7
0.1375	0.5231	8
0.1299	0.6530	9
0.1104	0.7634	10
0.0853	0.8487	11
0.0604	0.9091	12
0.0395	0.9486	13
0.0240	0.9726	14
0.0136	0.9862	15
0.0072	0.9934	16
0.0036	0.9970	17
0.0017	0.9987	18
0.0008	0.9995	19
0.0003	0.9998	20
0.0001	0.9999	21
0.0001	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
AM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 9.0
Percentile = 95% 14

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0001	0.0001	0
0.0011	0.0012	1
0.0050	0.0062	2
0.0150	0.0212	3
0.0337	0.0550	4
0.0607	0.1157	5
0.0911	0.2068	6
0.1171	0.3239	7
0.1318	0.4557	8
0.1318	0.5874	9
0.1186	0.7060	10
0.0970	0.8030	11
0.0728	0.8758	12
0.0504	0.9261	13
0.0324	0.9585	14
0.0194	0.9780	15
0.0109	0.9889	16
0.0058	0.9947	17
0.0029	0.9976	18
0.0014	0.9989	19
0.0006	0.9996	20
0.0003	0.9998	21
0.0001	0.9999	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 3.1
Percentile = 95% 6

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0450	0.0450	0
0.1397	0.1847	1
0.2165	0.4012	2
0.2237	0.6248	3
0.1733	0.7982	4
0.1075	0.9057	5
0.0555	0.9612	6
0.0246	0.9858	7
0.0095	0.9953	8
0.0033	0.9986	9
0.0010	0.9996	10
0.0003	0.9999	11
0.0001	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
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0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
PM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 3.3
Percentile = 95% 7

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0369	0.0369	0
0.1217	0.1586	1
0.2008	0.3594	2
0.2209	0.5803	3
0.1823	0.7626	4
0.1203	0.8829	5
0.0662	0.9490	6
0.0312	0.9802	7
0.0129	0.9931	8
0.0047	0.9978	9
0.0016	0.9994	10
0.0005	0.9998	11
0.0001	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
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0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
EBT/L
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 0.7
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.4966	0.4966	0
0.3476	0.8442	1
0.1217	0.9659	2
0.0284	0.9942	3
0.0050	0.9992	4
0.0007	0.9999	5
0.0001	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
EBT/L
AM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 0.7
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.4966	0.4966	0
0.3476	0.8442	1
0.1217	0.9659	2
0.0284	0.9942	3
0.0050	0.9992	4
0.0007	0.9999	5
0.0001	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
EBT/L
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 0.4
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.6703	0.6703	0
0.2681	0.9384	1
0.0536	0.9921	2
0.0072	0.9992	3
0.0007	0.9999	4
0.0001	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
EBT/L
PM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 0.5
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.6065	0.6065	0
0.3033	0.9098	1
0.0758	0.9856	2
0.0126	0.9982	3
0.0016	0.9998	4
0.0002	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
SB
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 0.6
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.5488	0.5488	0
0.3293	0.8781	1
0.0988	0.9769	2
0.0198	0.9966	3
0.0030	0.9996	4
0.0004	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
SB
AM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 0.8
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.4493	0.4493	0
0.3595	0.8088	1
0.1438	0.9526	2
0.0383	0.9909	3
0.0077	0.9986	4
0.0012	0.9998	5
0.0002	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
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0.0000	1.0000	23
0.0000	1.0000	24
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0.0000	1.0000	42
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0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
SB
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 3.3
Percentile = 95% 7

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0369	0.0369	0
0.1217	0.1586	1
0.2008	0.3594	2
0.2209	0.5803	3
0.1823	0.7626	4
0.1203	0.8829	5
0.0662	0.9490	6
0.0312	0.9802	7
0.0129	0.9931	8
0.0047	0.9978	9
0.0016	0.9994	10
0.0005	0.9998	11
0.0001	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
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0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
SB
PM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 5.2
Percentile = 95% 9

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0055	0.0055	0
0.0287	0.0342	1
0.0746	0.1088	2
0.1293	0.2381	3
0.1681	0.4061	4
0.1748	0.5809	5
0.1515	0.7324	6
0.1125	0.8449	7
0.0731	0.9181	8
0.0423	0.9603	9
0.0220	0.9823	10
0.0104	0.9927	11
0.0045	0.9972	12
0.0018	0.9990	13
0.0007	0.9997	14
0.0002	0.9999	15
0.0001	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

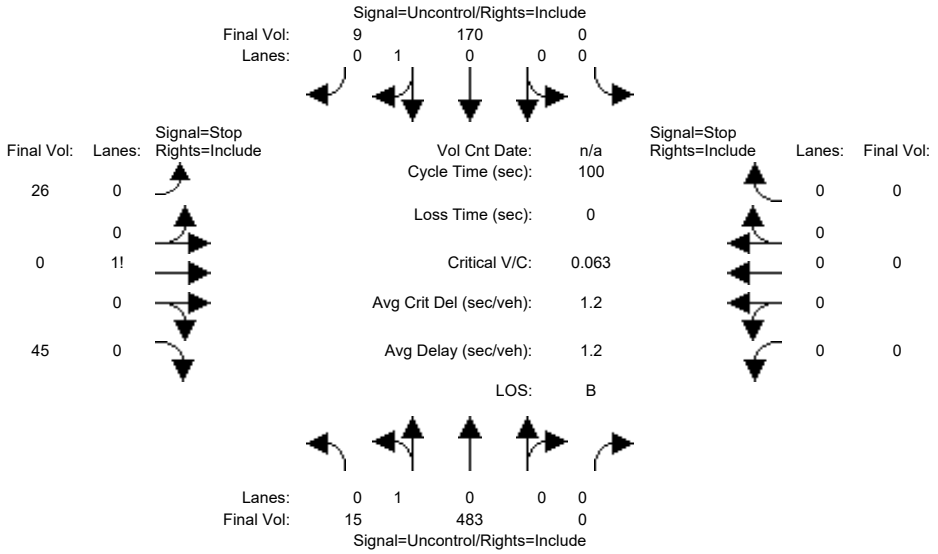
Appendix G

Project Driveway Operations Analyses

City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #11592: Mission View Drive and Project Driveway A



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	483	0	0	170	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	483	0	0	170	0	0	0	0	0	0	0
Added Vol:	15	0	0	0	0	9	26	0	45	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	483	0	0	170	9	26	0	45	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	483	0	0	170	9	26	0	45	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	15	483	0	0	170	9	26	0	45	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	179	xxxx	xxxxx	xxxx	xxxx	xxxxx	688	688	175	xxxx	xxxx	xxxxx
Potent Cap.:	1409	xxxx	xxxxx	xxxx	xxxx	xxxxx	415	372	874	xxxx	xxxx	xxxxx
Move Cap.:	1409	xxxx	xxxxx	xxxx	xxxx	xxxxx	412	368	874	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	0.00	0.05	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	620	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.6	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			11.6			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the number of cars per lane.

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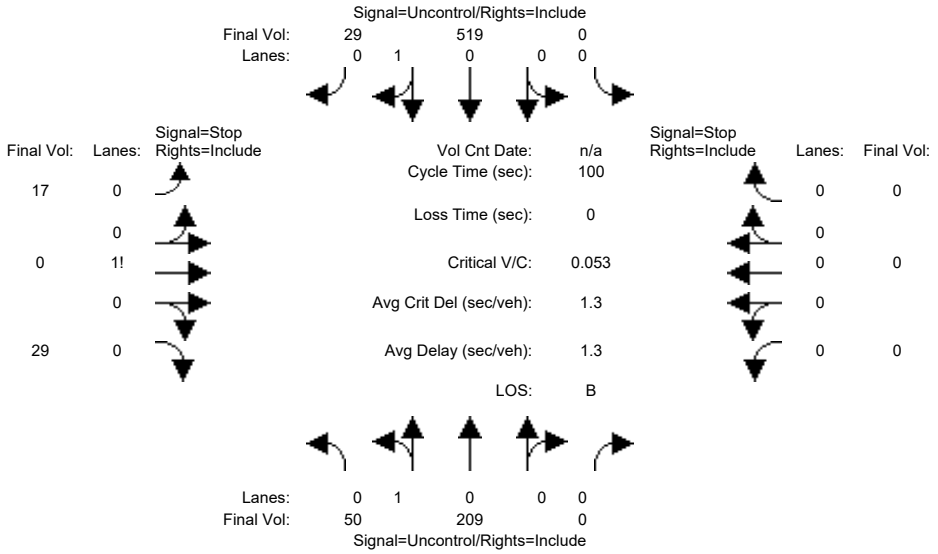
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #11592: Mission View Drive and Project Driveway A



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	209	0	0	519	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	209	0	0	519	0	0	0	0	0	0	0
Added Vol:	50	0	0	0	0	29	17	0	29	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	50	209	0	0	519	29	17	0	29	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	50	209	0	0	519	29	17	0	29	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	50	209	0	0	519	29	17	0	29	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	548	xxxx	xxxxx	xxxx	xxxx	xxxxx	843	843	534	xxxx	xxxx	xxxxx
Potent Cap.:	1032	xxxx	xxxxx	xxxx	xxxx	xxxxx	337	303	550	xxxx	xxxx	xxxxx
Move Cap.:	1032	xxxx	xxxxx	xxxx	xxxx	xxxxx	324	288	550	xxxx	xxxx	xxxxx
Volume/Cap:	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	0.00	0.05	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	437	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	8.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	14.2	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			14.2			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the number of cars per lane.

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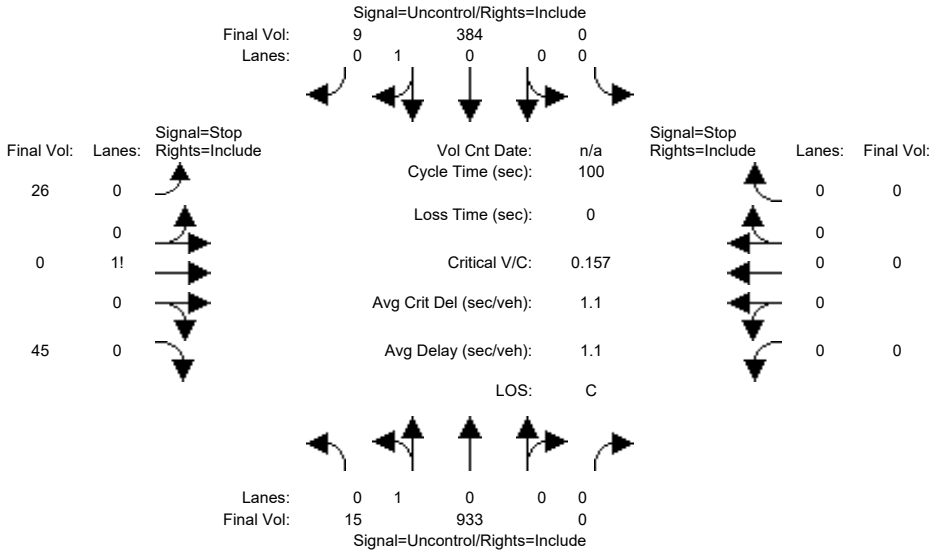
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #11592: Mission View Drive and Project Driveway A



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	933	0	0	384	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	933	0	0	384	0	0	0	0	0	0	0
Added Vol:	15	0	0	0	0	9	26	0	45	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	933	0	0	384	9	26	0	45	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	933	0	0	384	9	26	0	45	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	15	933	0	0	384	9	26	0	45	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	393	xxxx	xxxxx	xxxx	xxxx	xxxxx	1352	1352	389	xxxx	xxxx	xxxxx
Potent Cap.:	1177	xxxx	xxxxx	xxxx	xxxx	xxxxx	167	152	664	xxxx	xxxx	xxxxx
Move Cap.:	1177	xxxx	xxxxx	xxxx	xxxx	xxxxx	166	150	664	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.16	0.00	0.07	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	316	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.8	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	19.7	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	C	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			19.7			xxxxxx		
ApproachLOS:	*			*			C			*		

Note: Queue reported is the number of cars per lane.

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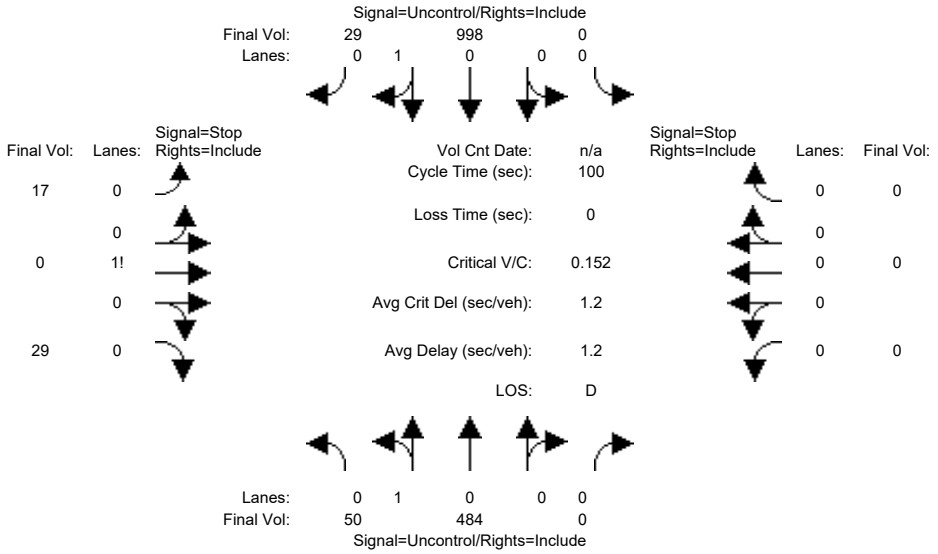
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #11592: Mission View Drive and Project Driveway A



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	484	0	0	998	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	484	0	0	998	0	0	0	0	0	0	0
Added Vol:	50	0	0	0	0	29	17	0	29	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	50	484	0	0	998	29	17	0	29	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	50	484	0	0	998	29	17	0	29	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	50	484	0	0	998	29	17	0	29	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1027	xxxx	xxxxx	xxxx	xxxx	xxxxx	1597	1597	1013	xxxx	xxxx	xxxxx
Potent Cap.:	684	xxxx	xxxxx	xxxx	xxxx	xxxxx	119	108	293	xxxx	xxxx	xxxxx
Move Cap.:	684	xxxx	xxxxx	xxxx	xxxx	xxxxx	112	100	293	xxxx	xxxx	xxxxx
Volume/Cap:	0.07	xxxx	xxxx	xxxx	xxxx	xxxx	0.15	0.00	0.10	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	10.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	B	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	183	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.0	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	10.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	31.1	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	B	*	*	*	*	*	*	D	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			31.1			xxxxxx		
ApproachLOS:	*			*			D			*		

Note: Queue reported is the number of cars per lane.

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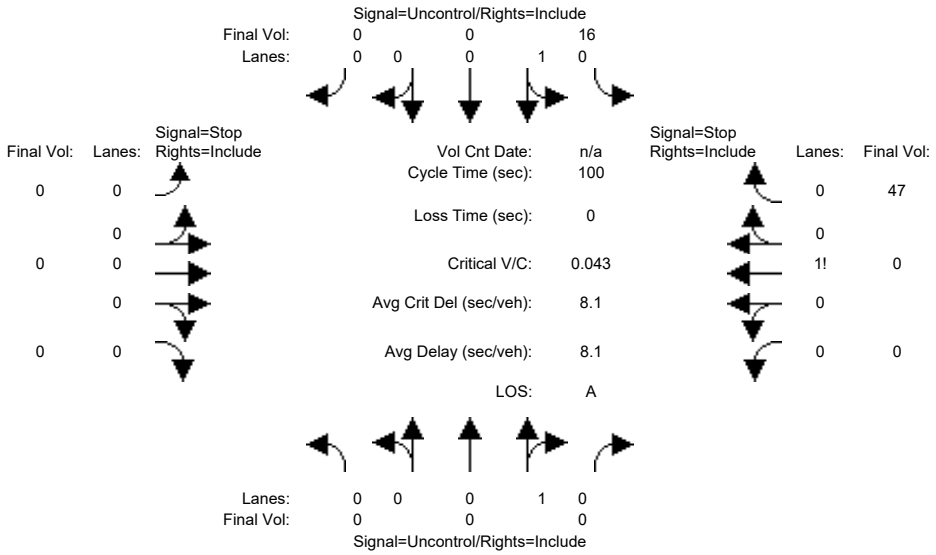
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #11591: DePaul Drive and Project Driveway B



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	16	0	0	0	0	0	0	0	47
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	16	0	0	0	0	0	0	0	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	16	0	0	0	0	0	0	0	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	16	0	0	0	0	0	0	0	47
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0
Potent Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Move Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.04
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.4
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.4		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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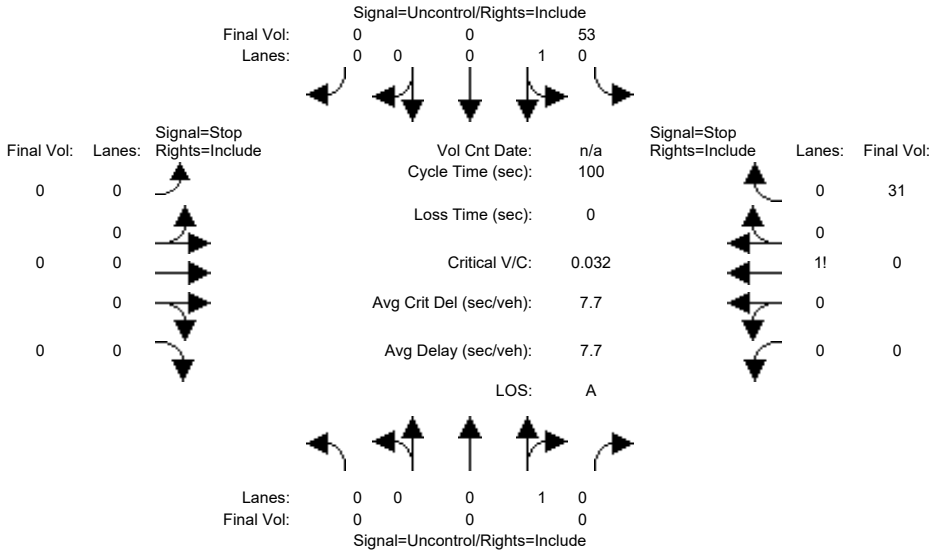
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #11591: DePaul Drive and Project Driveway B



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	53	0	0	0	0	0	0	0	31
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	53	0	0	0	0	0	0	0	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	53	0	0	0	0	0	0	0	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	53	0	0	0	0	0	0	0	31
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0
Potent Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Move Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Volume/Cap:	xxxx	xxxx	xxxx	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.4
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.4		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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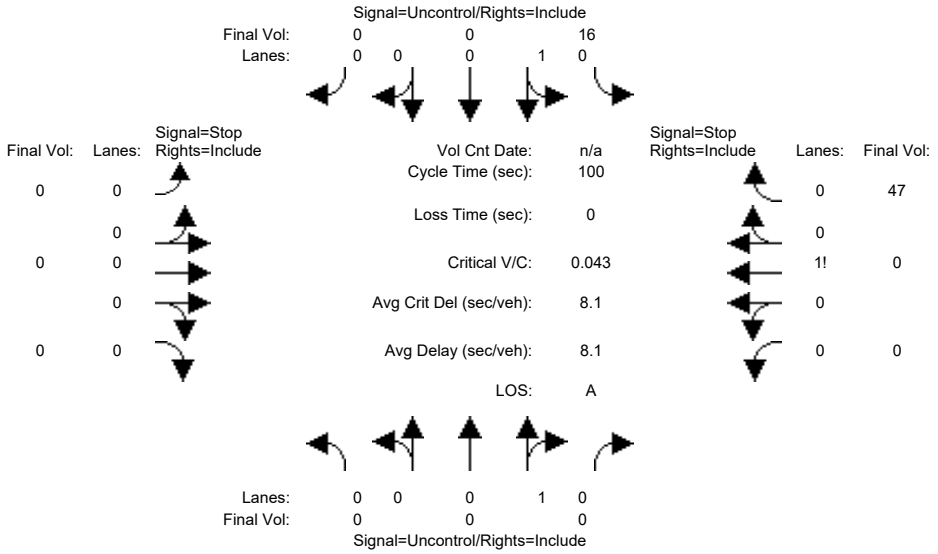
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #11591: DePaul Drive and Project Driveway B



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	16	0	0	0	0	0	0	0	47
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	16	0	0	0	0	0	0	0	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	16	0	0	0	0	0	0	0	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	16	0	0	0	0	0	0	0	47
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0
Potent Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Move Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.04
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.4
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.4		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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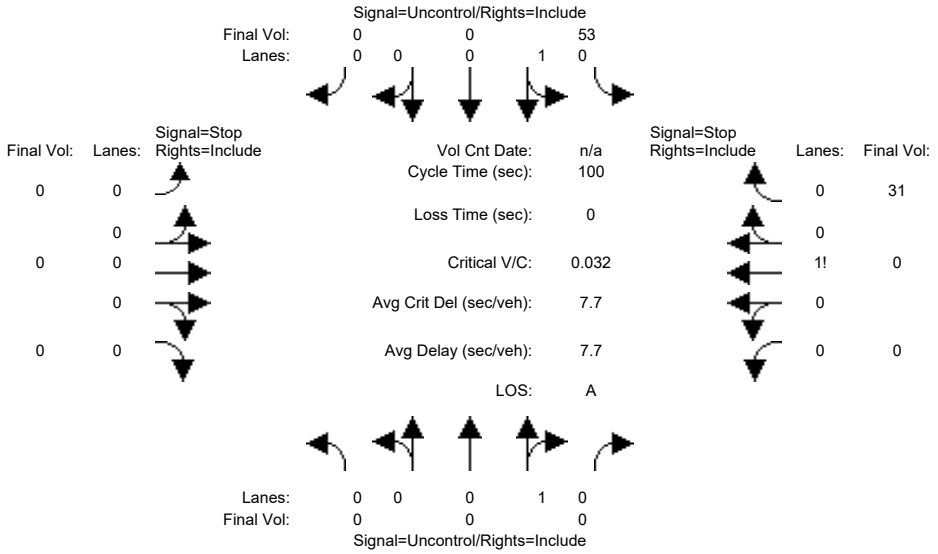
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #11591: DePaul Drive and Project Driveway B



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	53	0	0	0	0	0	0	0	31
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	53	0	0	0	0	0	0	0	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	53	0	0	0	0	0	0	0	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	53	0	0	0	0	0	0	0	31
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0
Potent Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Move Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Volume/Cap:	xxxx	xxxx	xxxx	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.4
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.4		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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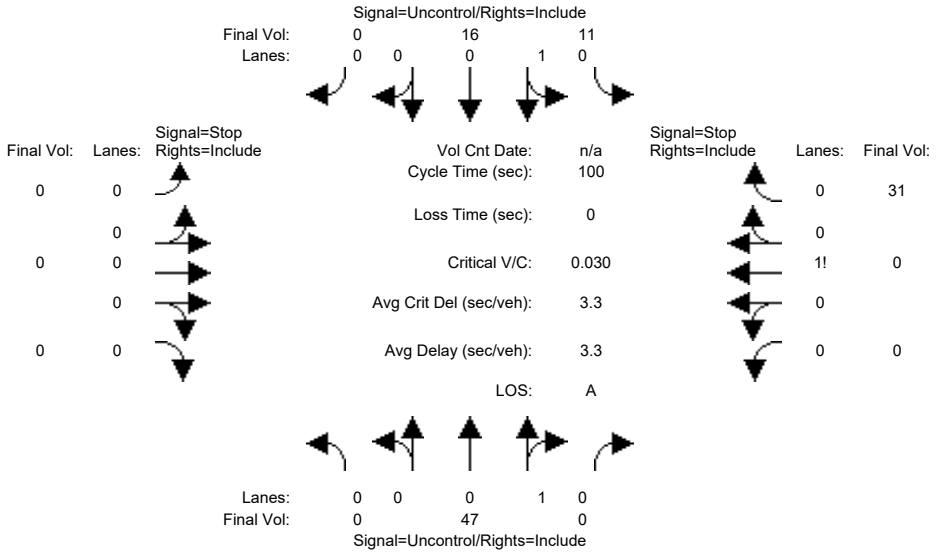
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #11620: DePaul Drive and Project Driveway C



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	47	0	11	16	0	0	0	0	0	0	31
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	47	0	11	16	0	0	0	0	0	0	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	47	0	11	16	0	0	0	0	0	0	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	47	0	11	16	0	0	0	0	0	0	31
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	47	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	47
Potent Cap.:	xxxx	xxxx	xxxxx	1573	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1028
Move Cap.:	xxxx	xxxx	xxxxx	1573	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1028
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.6
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.6		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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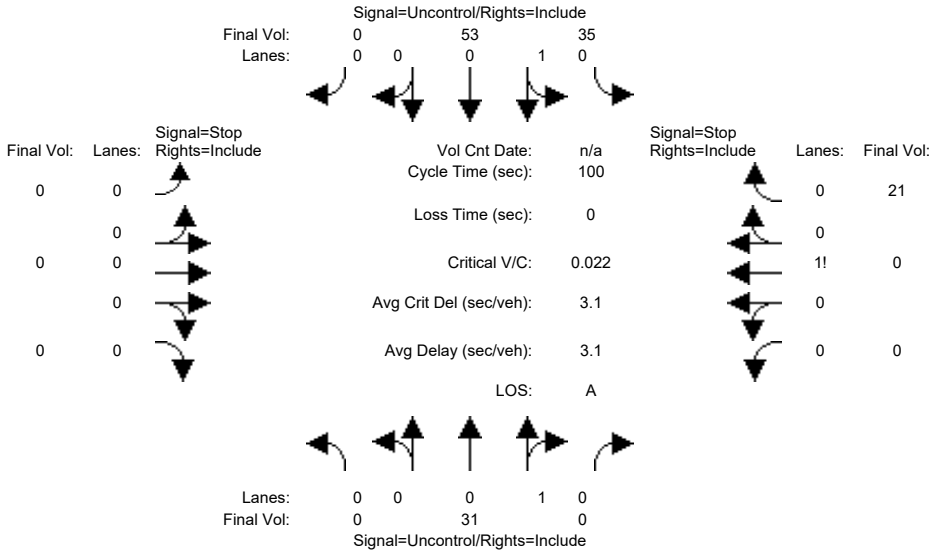
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #11620: DePaul Drive and Project Driveway C



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	31	0	35	53	0	0	0	0	0	0	21
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	31	0	35	53	0	0	0	0	0	0	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	31	0	35	53	0	0	0	0	0	0	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	31	0	35	53	0	0	0	0	0	0	21
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	31	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	31
Potent Cap.:	xxxx	xxxx	xxxxx	1595	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1049
Move Cap.:	xxxx	xxxx	xxxxx	1595	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1049
Volume/Cap:	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.02
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.5
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.5		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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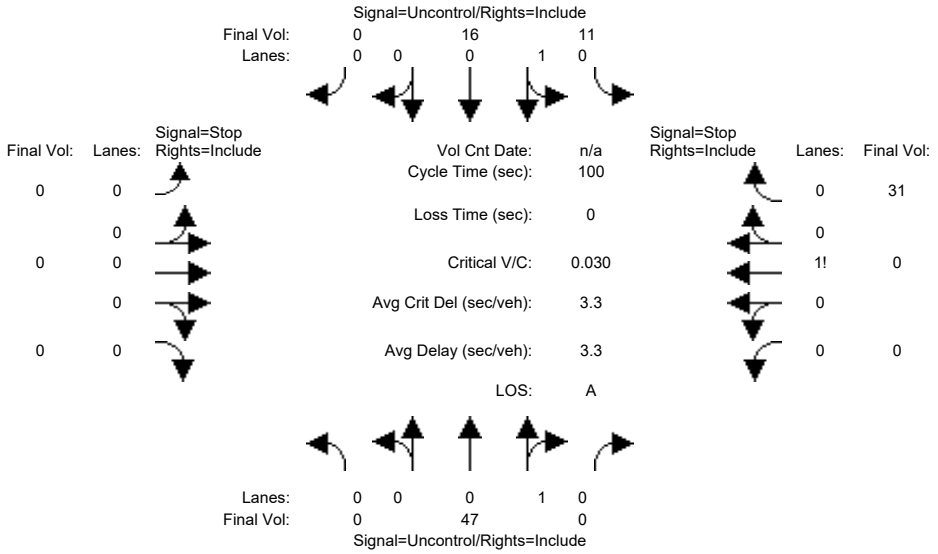
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #11620: DePaul Drive and Project Driveway C



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	47	0	11	16	0	0	0	0	0	0	31
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	47	0	11	16	0	0	0	0	0	0	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	47	0	11	16	0	0	0	0	0	0	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	47	0	11	16	0	0	0	0	0	0	31
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	47	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	47
Potent Cap.:	xxxx	xxxx	xxxxx	1573	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1028
Move Cap.:	xxxx	xxxx	xxxxx	1573	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1028
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.6
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.6		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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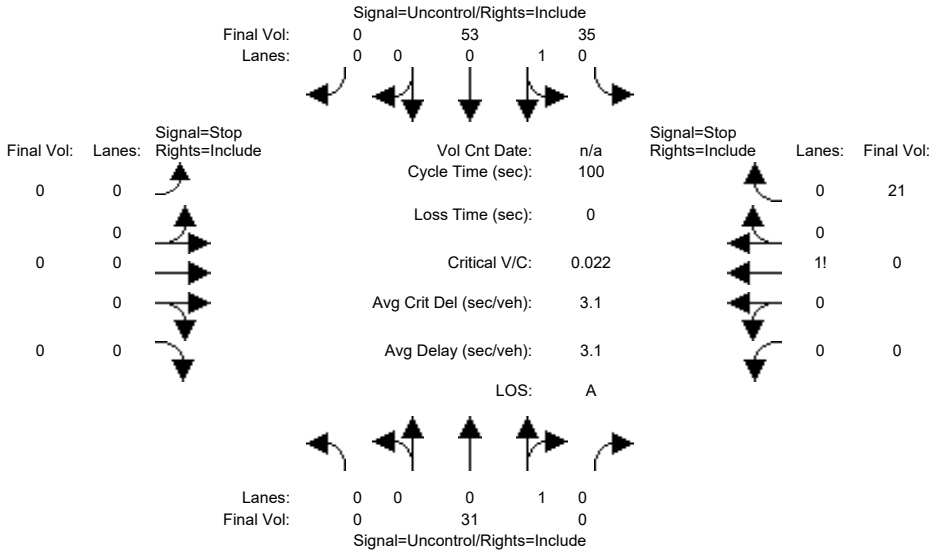
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #11620: DePaul Drive and Project Driveway C



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	31	0	35	53	0	0	0	0	0	0	21
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	31	0	35	53	0	0	0	0	0	0	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	31	0	35	53	0	0	0	0	0	0	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	31	0	35	53	0	0	0	0	0	0	21
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	31	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	31
Potent Cap.:	xxxx	xxxx	xxxxx	1595	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1049
Move Cap.:	xxxx	xxxx	xxxxx	1595	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1049
Volume/Cap:	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.02
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.5
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.5		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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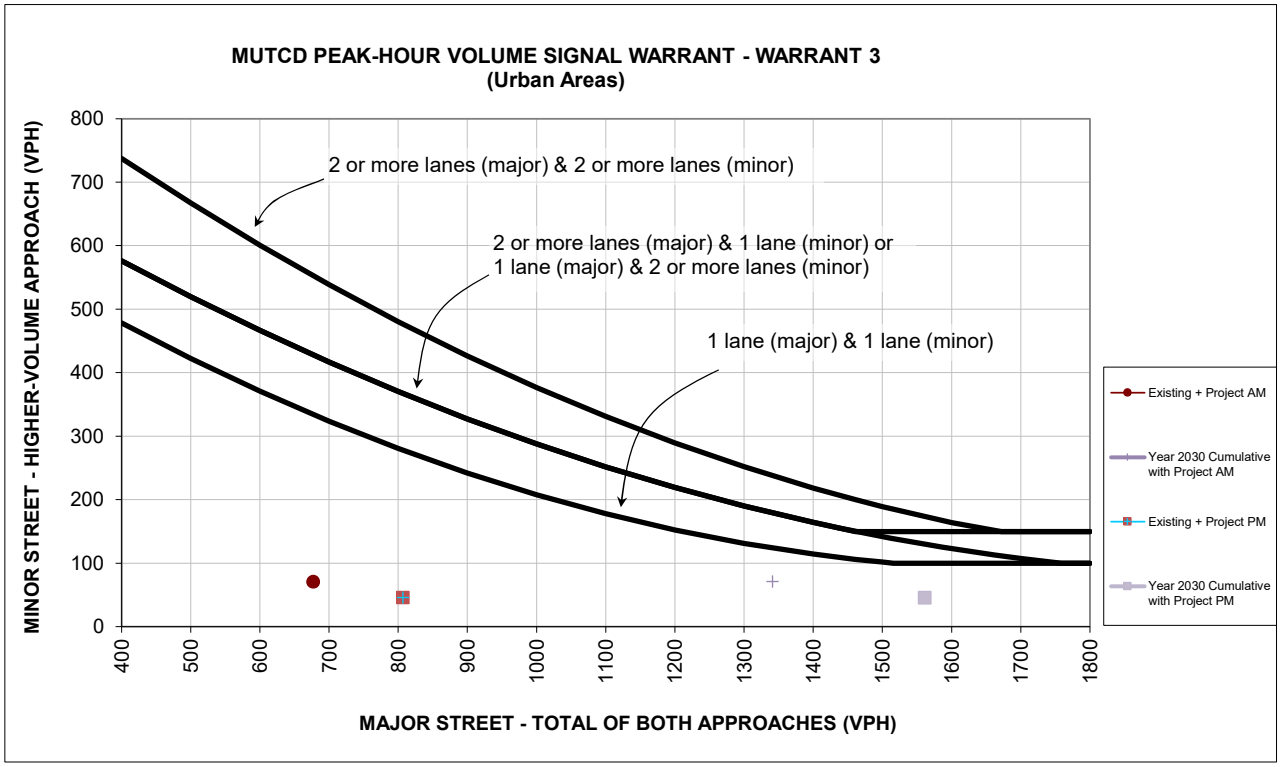
The Crosswinds Residential Development

14 . Mission View Drive and Project Driveway A



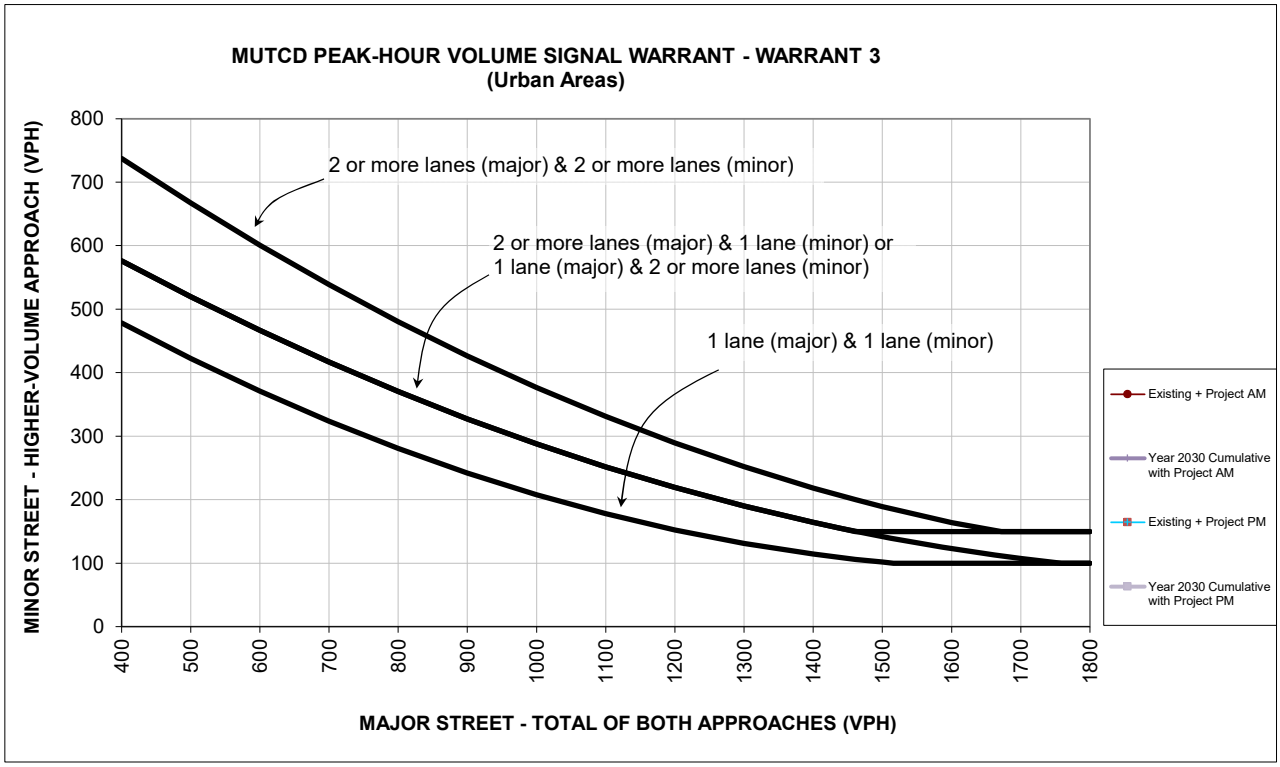
Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Approach Lanes: One	Approach Lanes: 2 or More	Existing + Project AM	Year 2030 Cumulative with Project AM
Major Street - Both Approaches	Project Driveway A	X		677	1341
Minor Street - Highest Approach	Mission View Drive	X		71	71
Maximum warrant threshold for minor street volume				334	124
Difference between warrant threshold & minor street volume				263	53
		Warrant Met?		No	No

		Approach Lanes: One	Approach Lanes: 2 or More	Existing + Project PM	Year 2030 Cumulative with Project PM
Major Street - Both Approaches	Project Driveway A	X		807	1561
Minor Street - Highest Approach	Mission View Drive	X		46	46
Maximum warrant threshold for minor street volume				278	100
Difference between warrant threshold & minor street volume				232	54
		Warrant Met?		No	No

The Crosswinds Residential Development

15 . DePaul Drive and Project Driveway B



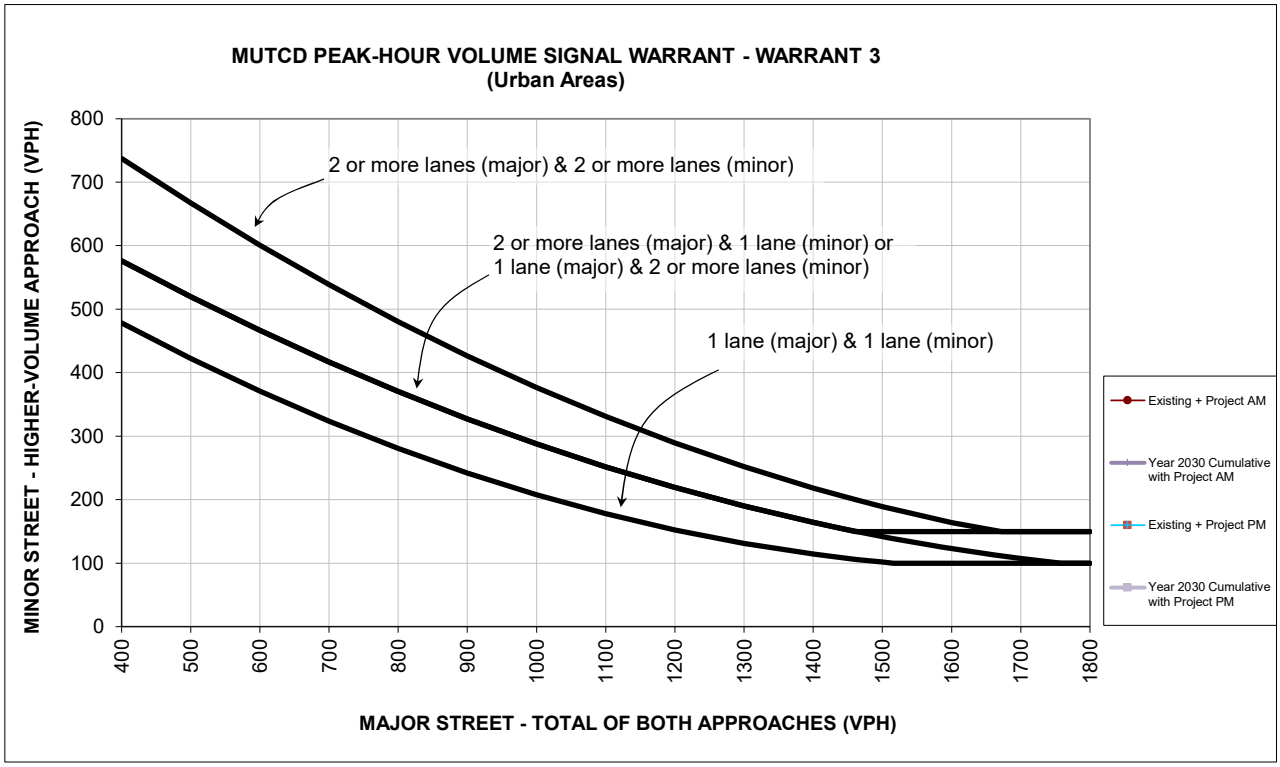
Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Approach Lanes: One	Approach Lanes: 2 or More	Existing + Project AM	Year 2030 Cumulative with Project AM
Major Street - Both Approaches	DePaul Drive	X		47	47
Minor Street - Highest Approach	Project Driveway B	X		16	16
Maximum warrant threshold for minor street volume				711	711
Difference between warrant threshold & minor street volume				695	695
		Warrant Met?		No	No

		Approach Lanes: One	Approach Lanes: 2 or More	Existing + Project PM	Year 2030 Cumulative with Project PM
Major Street - Both Approaches	DePaul Drive	X		53	53
Minor Street - Highest Approach	Project Driveway B	X		31	31
Maximum warrant threshold for minor street volume				706	706
Difference between warrant threshold & minor street volume				675	675
		Warrant Met?		No	No

The Crosswinds Residential Development

16 . DePaul Drive and Project Driveway C



Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Approach Lanes: One	Approach Lanes: 2 or More	Existing + Project AM	Year 2030 Cumulative with Project AM
Major Street - Both Approaches	DePaul Drive	X		74	74
Minor Street - Highest Approach	Project Driveway C	X		31	31
Maximum warrant threshold for minor street volume				691	691
Difference between warrant threshold & minor street volume				660	660
		Warrant Met?		No	No

		Approach Lanes: One	Approach Lanes: 2 or More	Existing + Project PM	Year 2030 Cumulative with Project PM
Major Street - Both Approaches	DePaul Drive	X		119	119
Minor Street - Highest Approach	Project Driveway C	X		21	21
Maximum warrant threshold for minor street volume				659	659
Difference between warrant threshold & minor street volume				638	638
		Warrant Met?		No	No

Vehicle Queuing Analysis Summary

Measurement	Mission View Drive and Project Driveway A				DePaul Drive and Project Driveway B				DePaul Drive and Project Driveway C			
	Northbound Left		Eastbound		Southbound Left		Westbound		Southbound Left		Westbound	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Existing plus Project Conditions												
Cycle Length/Control Delay (sec)[1]	7.6	8.7	11.6	14.2	7.2	7.3	8.4	8.4	7.3	7.3	8.6	8.5
Lanes	1	1	2	2	1	1	1	1	1	1	1	1
Volume (vph)	15	50	71	46	16	53	47	31	11	35	31	21
Volume (vphpl)	15	50	36	23	16	53	47	31	11	35	31	21
Avg. Queue (veh/ln.)	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0
Avg. Queue[1] (ft./ln)	0	3	3	3	0	3	3	3	0	3	3	0
95th %. Queue (veh/ln.)	0	1	1	1	0	1	1	1	0	1	1	0
95th %. Queue (ft./ln)[2]	0	25	25	25	0	25	25	25	0	25	25	0
Year 2030 Cumulative with Project Conditions												
Control Delay (sec)	8.1	10.7	19.7	31.1	7.2	7.3	8.4	8.4	7.3	7.3	8.6	8.5
Lanes	1	1	2	2	1	1	1	1	1	1	1	1
Volume (vph)	15	50	71	46	16	53	47	31	11	35	31	21
Volume (vphpl)	15	50	36	23	16	53	47	31	11	35	31	21
95th %. Queue (veh/ln.)	0	1	1	1	0	1	1	1	0	1	1	0
95th %. Queue (ft./ln)[1]	0	25	25	25	0	25	25	25	0	25	25	0

Notes:

[1] Assumes 25 feet per vehicle queued

Mission View/Project Driveway A
NBL
AM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

Mission View/Project Driveway A
NBL
AM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

Mission View/Project Driveway A
NBL
PM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Project Driveway A
NBL
PM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Project Driveway A
EB
AM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Project Driveway A
EB
AM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.2
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.8187	0.8187	0
0.1637	0.9825	1
0.0164	0.9989	2
0.0011	0.9999	3
0.0001	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Project Driveway A
EB
PM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Project Driveway A
EB
PM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.2
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.8187	0.8187	0
0.1637	0.9825	1
0.0164	0.9989	2
0.0011	0.9999	3
0.0001	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway B
SBL
AM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

DePaul/Project Driveway B
SBL
AM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

DePaul/Project Driveway B
SBL
PM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
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0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway B
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Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.1
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0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway B
WB
AM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway B
WB
AM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.1
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0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

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0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway B
WB
PM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
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0.0045	0.9998	2
0.0002	1.0000	3
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0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway C
SBL
AM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

DePaul/Project Driveway C
SBL
AM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

DePaul/Project Driveway C
SBL
PM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway C
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0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
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0.0000	1.0000	16
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0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
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0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway C
WB
PM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

DePaul/Project Driveway C
WB
PM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

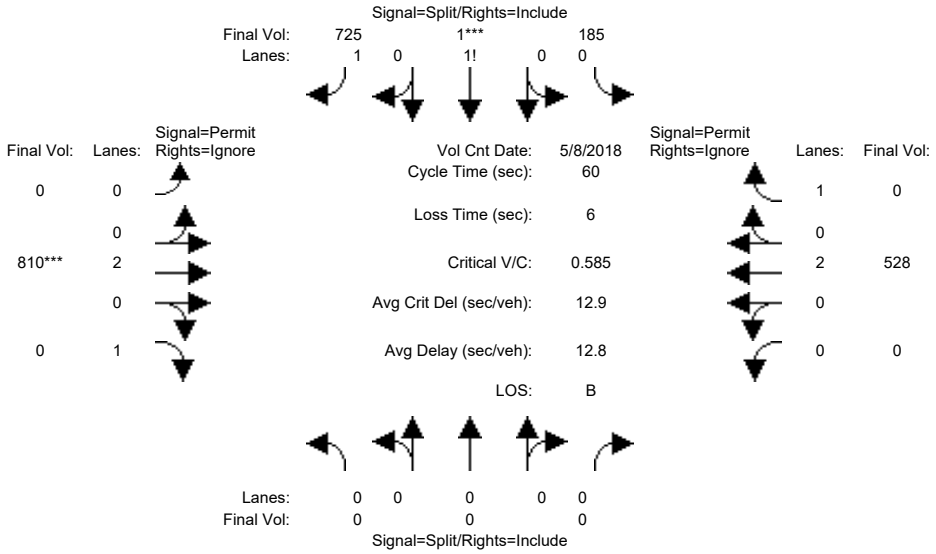
Appendix H

Freeway On-Ramp and Off-Ramp Queuing Analyses

City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	185	1	725	0	810	238	0	528	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	185	1	725	0	810	238	0	528	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	185	1	725	0	810	238	0	528	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	185	1	725	0	810	0	0	528	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	185	1	725	0	810	0	0	528	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	185	1	725	0	810	0	0	528	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.33	0.01	1.66	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	590	3	2907	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.31	0.31	0.25	0.00	0.21	0.00	0.00	0.14	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	32.1	32.1	32.1	0.0	21.9	0.0	0.0	21.9	0.0
Volume/Cap:	0.00	0.00	0.00	0.59	0.59	0.47	0.00	0.59	0.00	0.00	0.38	0.00
Delay/Veh:	0.0	0.0	0.0	10.0	10.0	8.8	0.0	16.1	0.0	0.0	14.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	10.0	10.0	8.8	0.0	16.1	0.0	0.0	14.3	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	15	15	11	0	12	0	0	7	0

Note: Queue reported is the number of cars per lane.

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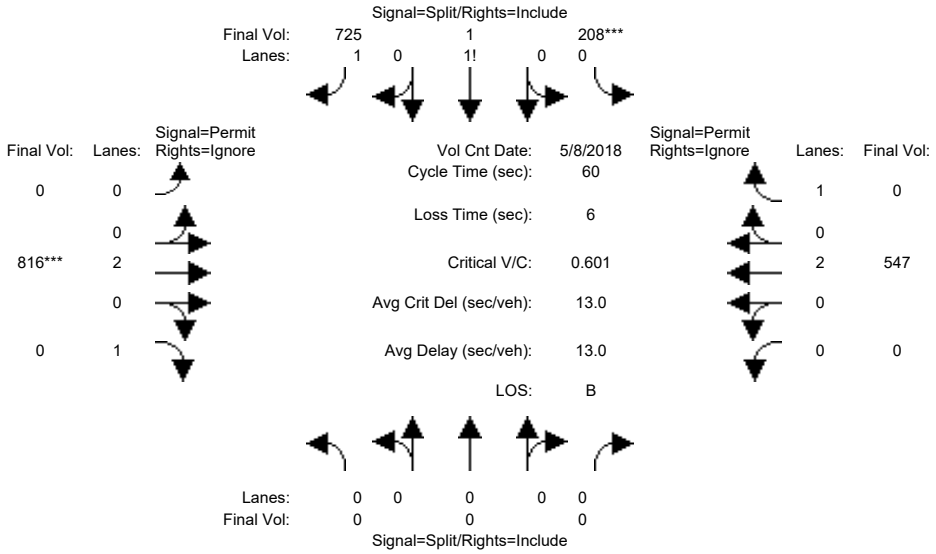
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	185	1	725	0	810	238	0	528	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	185	1	725	0	810	238	0	528	0
Added Vol:	0	0	0	23	0	0	0	6	0	0	19	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	208	1	725	0	816	238	0	547	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	208	1	725	0	816	0	0	547	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	208	1	725	0	816	0	0	547	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	208	1	725	0	816	0	0	547	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.36	0.01	1.63	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	637	3	2860	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.33	0.33	0.25	0.00	0.21	0.00	0.00	0.14	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	32.6	32.6	32.6	0.0	21.4	0.0	0.0	21.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.60	0.60	0.47	0.00	0.60	0.00	0.00	0.40	0.00
Delay/Veh:	0.0	0.0	0.0	10.0	10.0	8.6	0.0	16.6	0.0	0.0	14.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	10.0	10.0	8.6	0.0	16.6	0.0	0.0	14.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	16	16	11	0	12	0	0	7	0

Note: Queue reported is the number of cars per lane.

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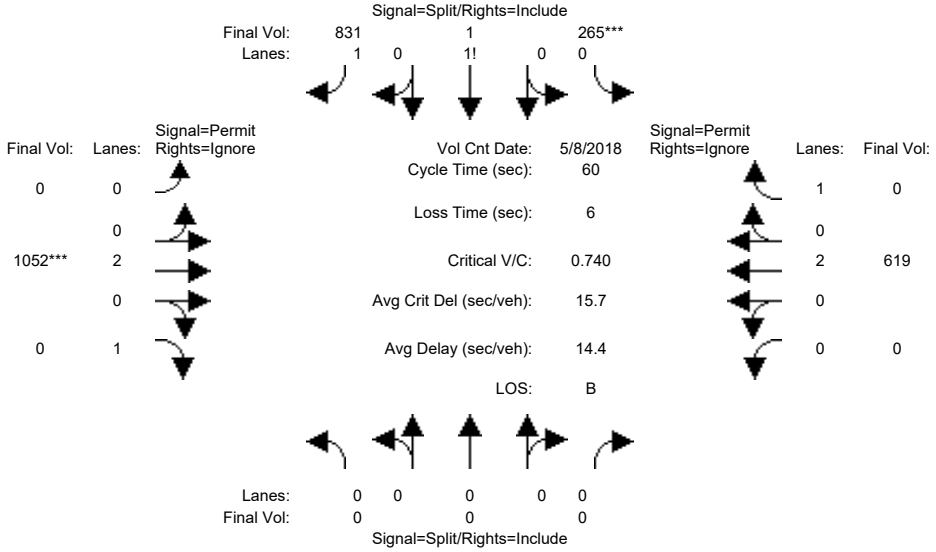
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	265	1	831	0	1052	267	0	619	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	265	1	831	0	1052	267	0	619	152
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	265	1	831	0	1052	267	0	619	152
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	265	1	831	0	1052	0	0	619	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	265	1	831	0	1052	0	0	619	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	265	1	831	0	1052	0	0	619	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.38	0.01	1.61	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	680	3	2817	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.39	0.39	0.30	0.00	0.28	0.00	0.00	0.16	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	31.6	31.6	31.6	0.0	22.4	0.0	0.0	22.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.74	0.74	0.56	0.00	0.74	0.00	0.00	0.44	0.00
Delay/Veh:	0.0	0.0	0.0	13.1	13.1	9.9	0.0	18.4	0.0	0.0	14.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.1	13.1	9.9	0.0	18.4	0.0	0.0	14.3	0.0
LOS by Move:	A	A	A	B	B	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	22	22	14	0	16	0	0	8	0

Note: Queue reported is the number of cars per lane.

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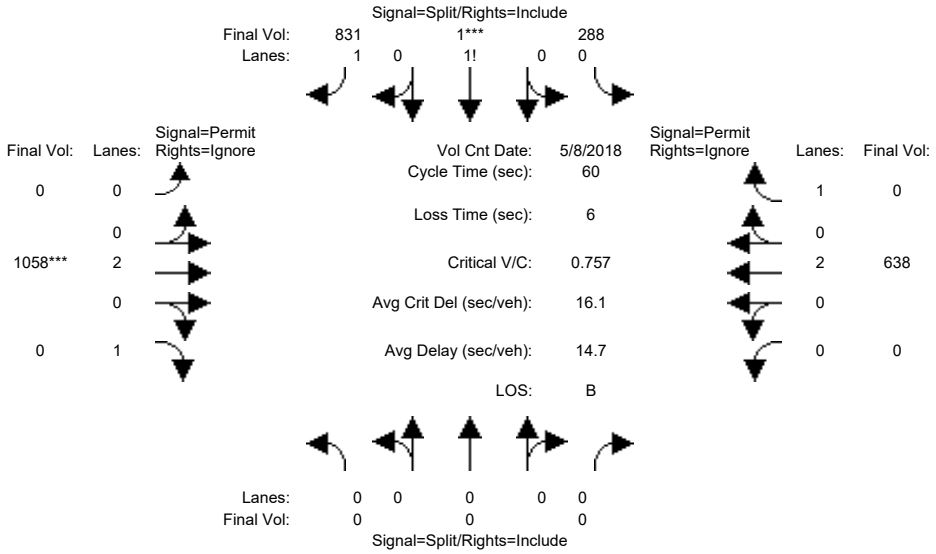
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	265	1	831	0	1052	267	0	619	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	265	1	831	0	1052	267	0	619	152
Added Vol:	0	0	0	23	0	0	0	6	0	0	19	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	288	1	831	0	1058	267	0	638	163
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	288	1	831	0	1058	0	0	638	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	288	1	831	0	1058	0	0	638	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	288	1	831	0	1058	0	0	638	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.40	0.01	1.59	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	715	2	2782	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.40	0.40	0.30	0.00	0.28	0.00	0.00	0.17	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	31.9	31.9	31.9	0.0	22.1	0.0	0.0	22.1	0.0
Volume/Cap:	0.00	0.00	0.00	0.76	0.76	0.56	0.00	0.76	0.00	0.00	0.46	0.00
Delay/Veh:	0.0	0.0	0.0	13.3	13.3	9.7	0.0	19.0	0.0	0.0	14.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.3	13.3	9.7	0.0	19.0	0.0	0.0	14.6	0.0
LOS by Move:	A	A	A	B	B	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	23	23	14	0	17	0	0	9	0

Note: Queue reported is the number of cars per lane.

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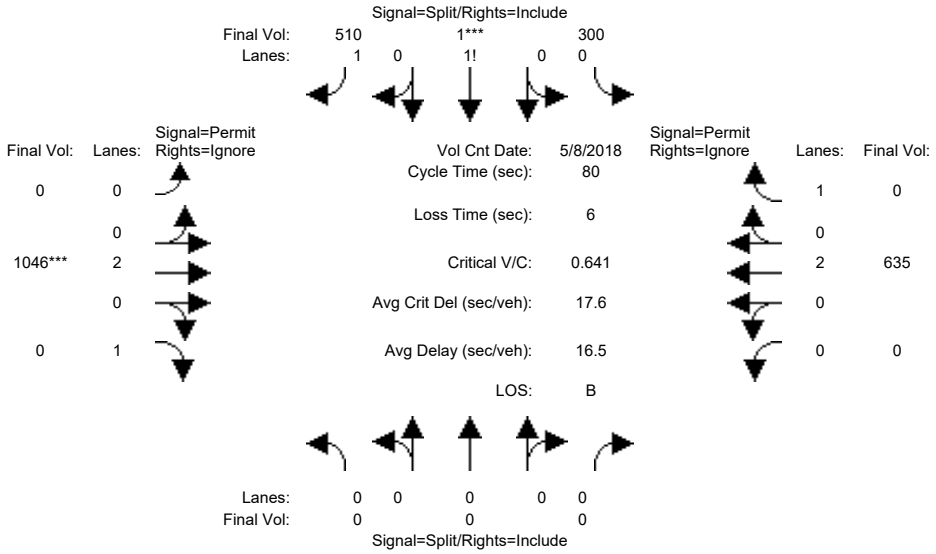
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	300	1	510	0	1046	741	0	635	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	300	1	510	0	1046	741	0	635	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	300	1	510	0	1046	741	0	635	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	300	1	510	0	1046	0	0	635	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	300	1	510	0	1046	0	0	635	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	300	1	510	0	1046	0	0	635	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.54	0.01	1.45	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	944	3	2553	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.32	0.32	0.20	0.00	0.28	0.00	0.00	0.17	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	39.6	39.6	39.6	0.0	34.4	0.0	0.0	34.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.64	0.64	0.40	0.00	0.64	0.00	0.00	0.39	0.00
Delay/Veh:	0.0	0.0	0.0	16.0	16.0	12.9	0.0	18.8	0.0	0.0	15.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.0	16.0	12.9	0.0	18.8	0.0	0.0	15.8	0.0
LOS by Move:	A	A	A	B	B	B	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	21	21	12	0	18	0	0	10	0

Note: Queue reported is the number of cars per lane.

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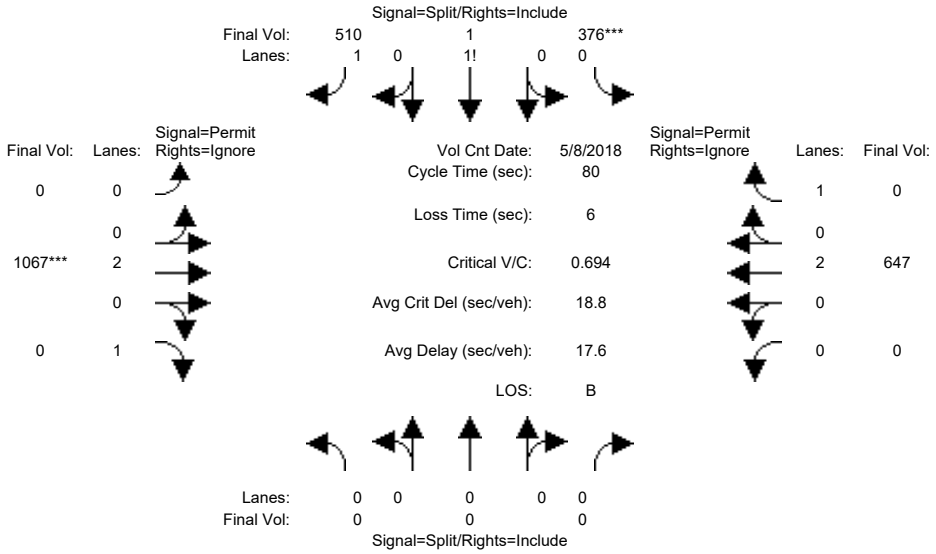
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	300	1	510	0	1046	741	0	635	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	300	1	510	0	1046	741	0	635	0
Added Vol:	0	0	0	76	0	0	0	21	0	0	12	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	376	1	510	0	1067	741	0	647	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	376	1	510	0	1067	0	0	647	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	376	1	510	0	1067	0	0	647	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	376	1	510	0	1067	0	0	647	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.59	0.01	1.40	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1041	3	2456	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.36	0.36	0.21	0.00	0.28	0.00	0.00	0.17	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	41.6	41.6	41.6	0.0	32.4	0.0	0.0	32.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.69	0.69	0.40	0.00	0.69	0.00	0.00	0.42	0.00
Delay/Veh:	0.0	0.0	0.0	16.1	16.1	11.7	0.0	21.1	0.0	0.0	17.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.1	16.1	11.7	0.0	21.1	0.0	0.0	17.3	0.0
LOS by Move:	A	A	A	B	B	B	A	C	A	A	B	A
HCM2k95thQ:	0	0	0	24	24	12	0	20	0	0	11	0

Note: Queue reported is the number of cars per lane.

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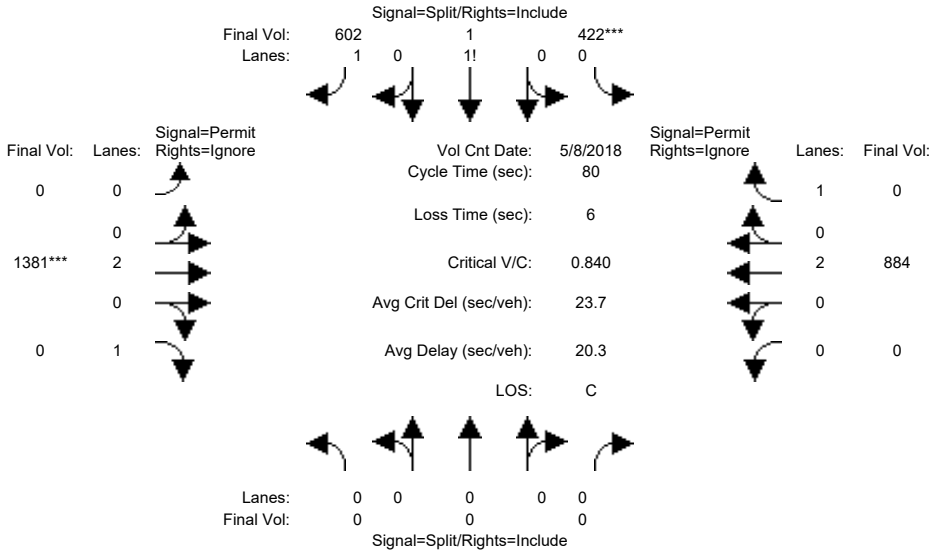
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	422	1	602	0	1381	741	0	884	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	422	1	602	0	1381	741	0	884	157
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	422	1	602	0	1381	741	0	884	157
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	422	1	602	0	1381	0	0	884	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	422	1	602	0	1381	0	0	884	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	422	1	602	0	1381	0	0	884	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.58	0.01	1.41	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1020	2	2478	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.41	0.41	0.24	0.00	0.36	0.00	0.00	0.23	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	39.4	39.4	39.4	0.0	34.6	0.0	0.0	34.6	0.0
Volume/Cap:	0.00	0.00	0.00	0.84	0.84	0.49	0.00	0.84	0.00	0.00	0.54	0.00
Delay/Veh:	0.0	0.0	0.0	22.9	22.9	13.8	0.0	24.3	0.0	0.0	17.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.9	22.9	13.8	0.0	24.3	0.0	0.0	17.1	0.0
LOS by Move:	A	A	A	C	C	B	A	C	A	A	B	A
HCM2k95thQ:	0	0	0	33	33	15	0	27	0	0	15	0

Note: Queue reported is the number of cars per lane.

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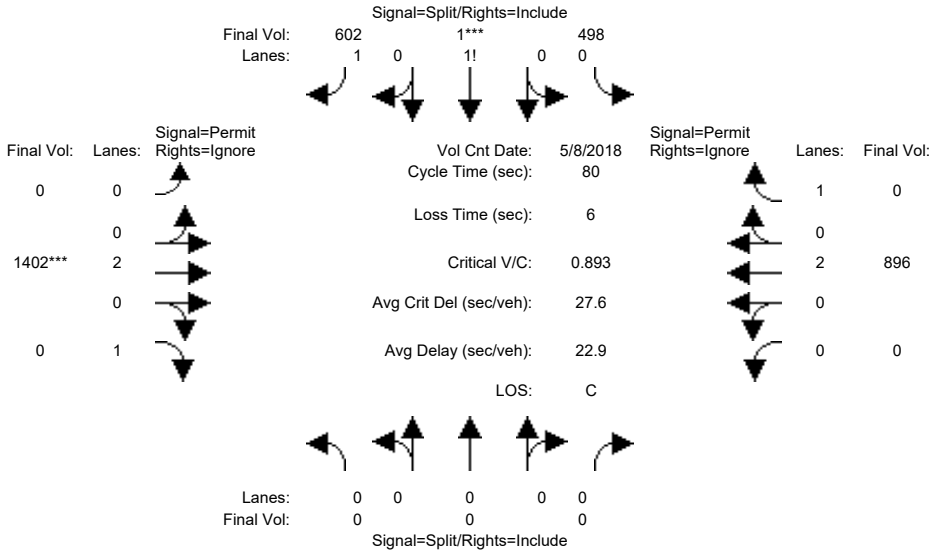
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	422	1	602	0	1381	741	0	884	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	422	1	602	0	1381	741	0	884	157
Added Vol:	0	0	0	76	0	0	0	21	0	0	12	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	498	1	602	0	1402	741	0	896	164
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	498	1	602	0	1402	0	0	896	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	498	1	602	0	1402	0	0	896	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	498	1	602	0	1402	0	0	896	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.62	0.01	1.37	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1089	2	2408	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.46	0.46	0.25	0.00	0.37	0.00	0.00	0.24	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	41.0	41.0	41.0	0.0	33.0	0.0	0.0	33.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.89	0.89	0.49	0.00	0.89	0.00	0.00	0.57	0.00
Delay/Veh:	0.0	0.0	0.0	26.1	26.1	12.9	0.0	28.8	0.0	0.0	18.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	26.1	26.1	12.9	0.0	28.8	0.0	0.0	18.5	0.0
LOS by Move:	A	A	A	C	C	B	A	C	A	A	B	A
HCM2k95thQ:	0	0	0	39	39	15	0	30	0	0	16	0

Note: Queue reported is the number of cars per lane.

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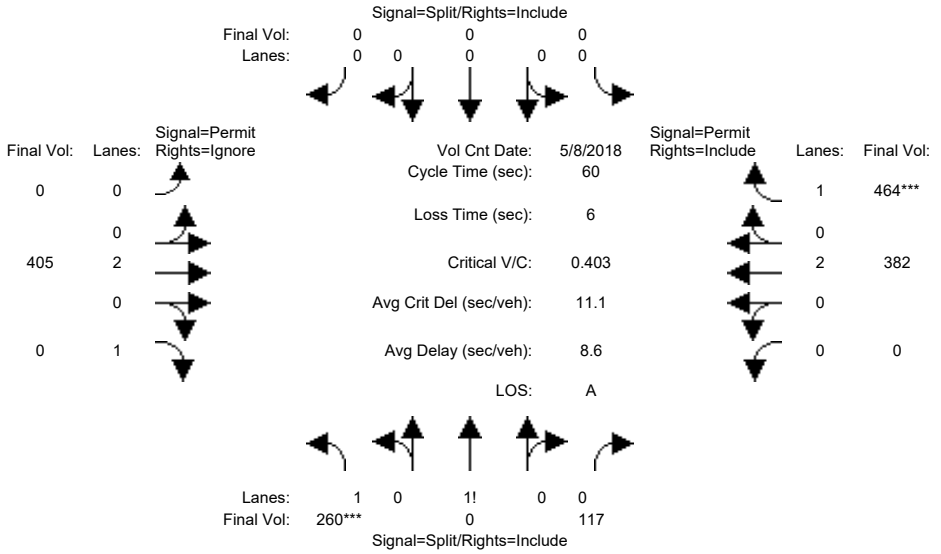
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	117	0	0	0	0	405	0	0	382	464
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	117	0	0	0	0	405	0	0	382	464
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	117	0	0	0	0	405	0	0	382	464
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	117	0	0	0	0	405	0	0	382	464
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	117	0	0	0	0	405	0	0	382	464
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	117	0	0	0	0	405	0	0	382	464
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.53	0.00	0.47	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2671	0	829	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.14	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.10	0.27
Crit Moves:	****											****
Green Time:	18.8	0.0	18.8	0.0	0.0	0.0	0.0	35.2	0.0	0.0	35.2	35.2
Volume/Cap:	0.31	0.00	0.45	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.17	0.45
Delay/Veh:	15.8	0.0	16.9	0.0	0.0	0.0	0.0	5.8	0.0	0.0	5.7	7.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.8	0.0	16.9	0.0	0.0	0.0	0.0	5.8	0.0	0.0	5.7	7.3
LOS by Move:	B	A	B	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	9	0	0	0	0	3	0	0	3	11

Note: Queue reported is the number of cars per lane.

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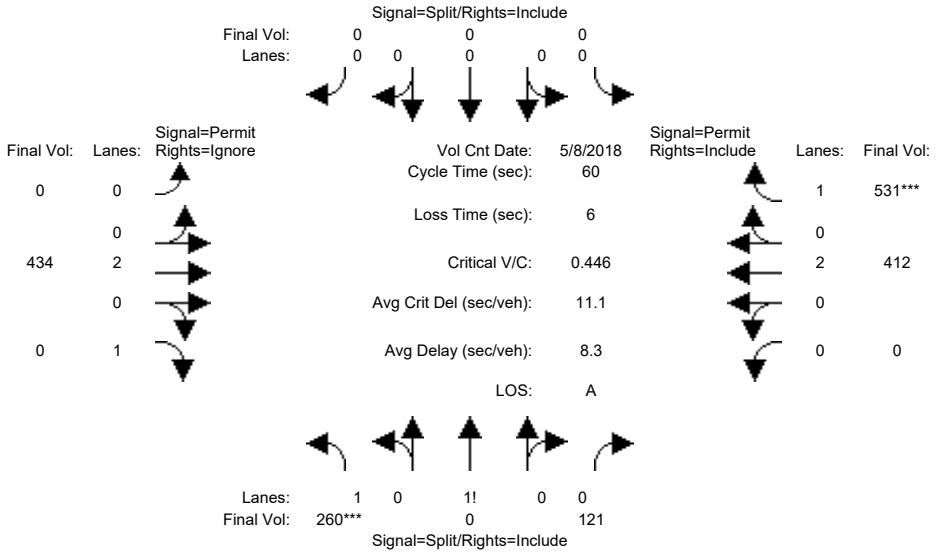
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	117	0	0	0	0	405	0	0	382	464
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	117	0	0	0	0	405	0	0	382	464
Added Vol:	0	0	4	0	0	0	0	29	0	0	30	67
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	121	0	0	0	0	434	0	0	412	531
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	121	0	0	0	0	434	0	0	412	531
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	121	0	0	0	0	434	0	0	412	531
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	121	0	0	0	0	434	0	0	412	531
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.52	0.00	0.48	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2656	0	844	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.14	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11	0.30
Crit Moves:	****											****
Green Time:	17.3	0.0	17.3	0.0	0.0	0.0	0.0	36.7	0.0	0.0	36.7	36.7
Volume/Cap:	0.34	0.00	0.50	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.18	0.50
Delay/Veh:	17.0	0.0	18.2	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.1	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.0	0.0	18.2	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.1	6.9
LOS by Move:	B	A	B	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	9	0	0	0	0	3	0	0	4	12

Note: Queue reported is the number of cars per lane.

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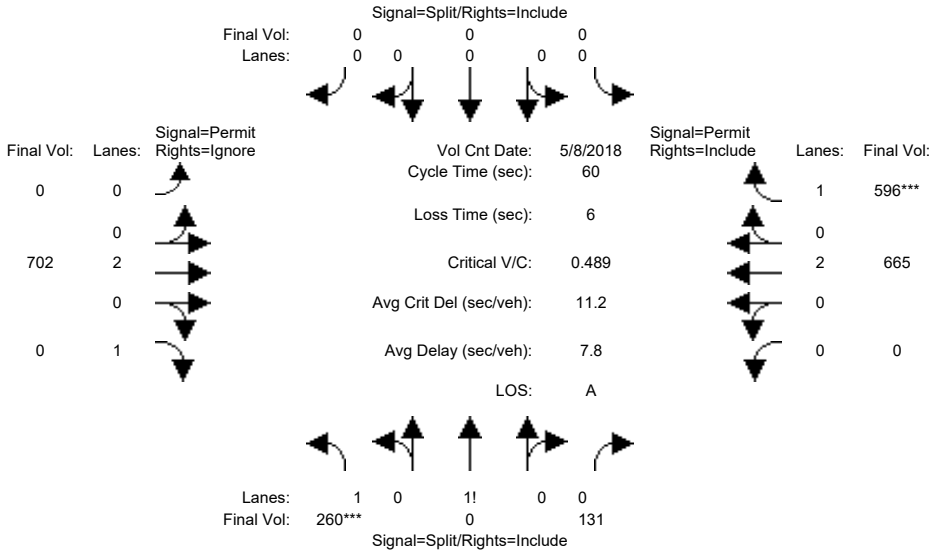
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	131	0	0	0	0	702	0	0	665	596
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	131	0	0	0	0	702	0	0	665	596
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	131	0	0	0	0	702	0	0	665	596
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	131	0	0	0	0	702	0	0	665	596
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	131	0	0	0	0	702	0	0	665	596
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	131	0	0	0	0	702	0	0	665	596
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.50	0.00	0.50	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2622	0	878	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.15	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.17	0.34
Crit Moves:	****											****
Green Time:	16.4	0.0	16.4	0.0	0.0	0.0	0.0	37.6	0.0	0.0	37.6	37.6
Volume/Cap:	0.36	0.00	0.54	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.28	0.54
Delay/Veh:	17.8	0.0	19.4	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.2	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.8	0.0	19.4	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.2	6.9
LOS by Move:	B	A	B	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	10	0	0	0	0	6	0	0	6	14

Note: Queue reported is the number of cars per lane.

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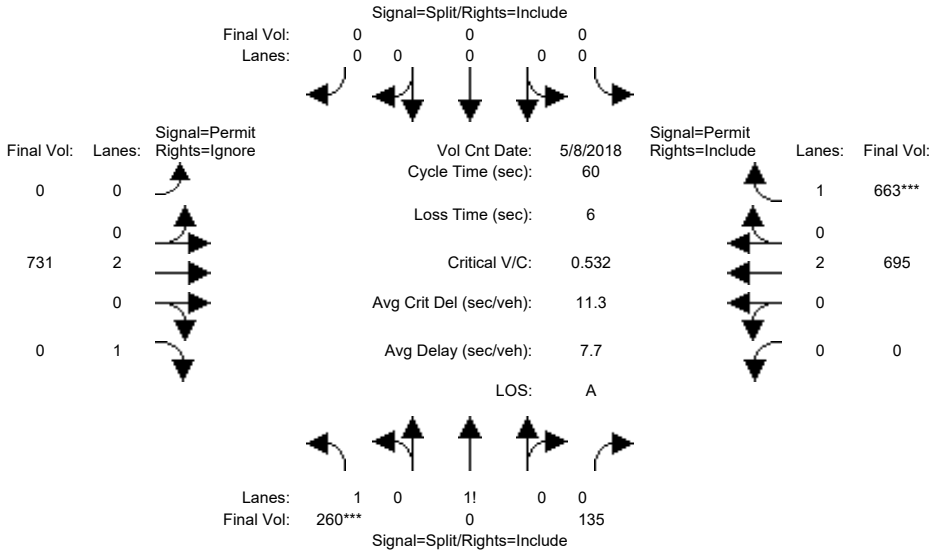
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	131	0	0	0	0	702	0	0	665	596
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	131	0	0	0	0	702	0	0	665	596
Added Vol:	0	0	4	0	0	0	0	29	0	0	30	67
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	135	0	0	0	0	731	0	0	695	663
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	135	0	0	0	0	731	0	0	695	663
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	135	0	0	0	0	731	0	0	695	663
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	135	0	0	0	0	731	0	0	695	663
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.49	0.00	0.51	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2608	0	892	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.15	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.18	0.38
Crit Moves:	****											****
Green Time:	15.4	0.0	15.4	0.0	0.0	0.0	0.0	38.6	0.0	0.0	38.6	38.6
Volume/Cap:	0.39	0.00	0.59	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.28	0.59
Delay/Veh:	18.6	0.0	20.9	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.7	7.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.6	0.0	20.9	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.7	7.0
LOS by Move:	B	A	C	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	11	0	0	0	0	6	0	0	6	16

Note: Queue reported is the number of cars per lane.

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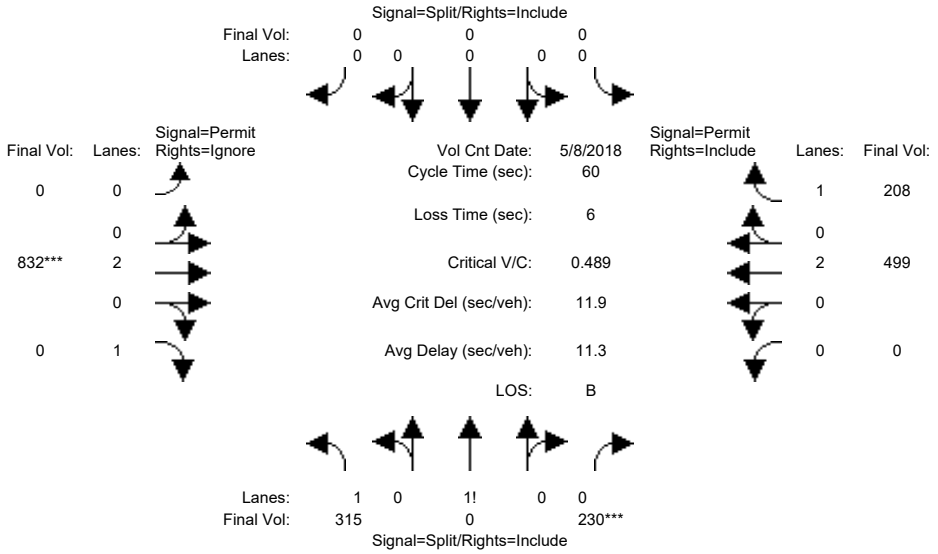
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	315	0	230	0	0	0	0	832	0	0	499	208
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	0	230	0	0	0	0	832	0	0	499	208
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	315	0	230	0	0	0	0	832	0	0	499	208
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	315	0	230	0	0	0	0	832	0	0	499	208
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	0	230	0	0	0	0	832	0	0	499	208
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	315	0	230	0	0	0	0	832	0	0	499	208
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.41	0.00	0.59	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2461	0	1039	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.22	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.13	0.12
Crit Moves:			****					****				
Green Time:	27.2	0.0	27.2	0.0	0.0	0.0	0.0	26.8	0.0	0.0	26.8	26.8
Volume/Cap:	0.28	0.00	0.49	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.29	0.27
Delay/Veh:	10.4	0.0	11.9	0.0	0.0	0.0	0.0	11.9	0.0	0.0	10.6	10.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.4	0.0	11.9	0.0	0.0	0.0	0.0	11.9	0.0	0.0	10.6	10.6
LOS by Move:	B	A	B	A	A	A	A	B	A	A	B	B
HCM2k95thQ:	6	0	11	0	0	0	0	10	0	0	6	5

Note: Queue reported is the number of cars per lane.

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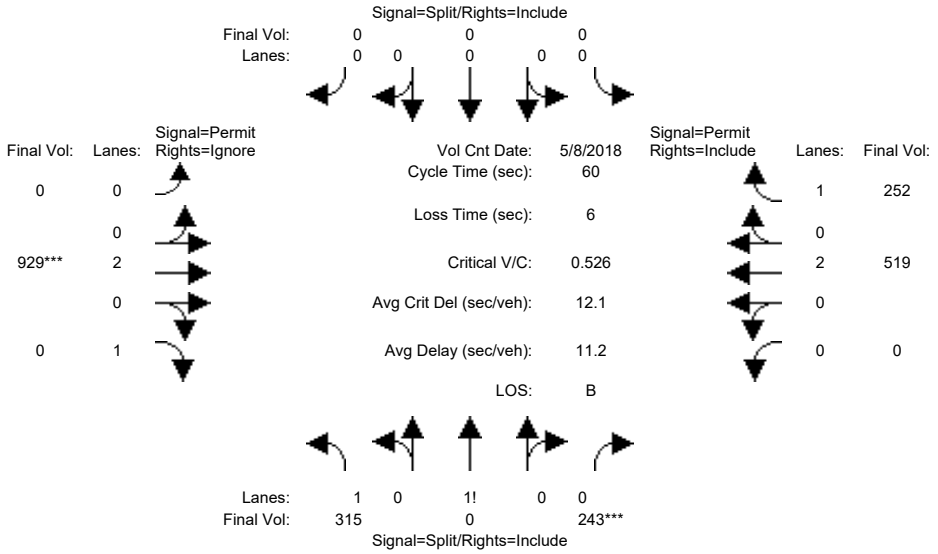
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	315	0	230	0	0	0	0	832	0	0	499	208
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	0	230	0	0	0	0	832	0	0	499	208
Added Vol:	0	0	13	0	0	0	0	97	0	0	20	44
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	315	0	243	0	0	0	0	929	0	0	519	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	315	0	243	0	0	0	0	929	0	0	519	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	0	243	0	0	0	0	929	0	0	519	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	315	0	243	0	0	0	0	929	0	0	519	252
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.39	0.00	0.61	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2438	0	1062	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.23	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.14	0.14
Crit Moves:			****					****				
Green Time:	26.1	0.0	26.1	0.0	0.0	0.0	0.0	27.9	0.0	0.0	27.9	27.9
Volume/Cap:	0.30	0.00	0.53	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.29	0.31
Delay/Veh:	11.1	0.0	12.9	0.0	0.0	0.0	0.0	11.7	0.0	0.0	10.0	10.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.1	0.0	12.9	0.0	0.0	0.0	0.0	11.7	0.0	0.0	10.0	10.3
LOS by Move:	B	A	B	A	A	A	A	B	A	A	B	B
HCM2k95thQ:	6	0	12	0	0	0	0	11	0	0	6	7

Note: Queue reported is the number of cars per lane.

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City of Morgan Hill
The Crosswinds Residential Development

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Year 2030 Cumulative without Project PM

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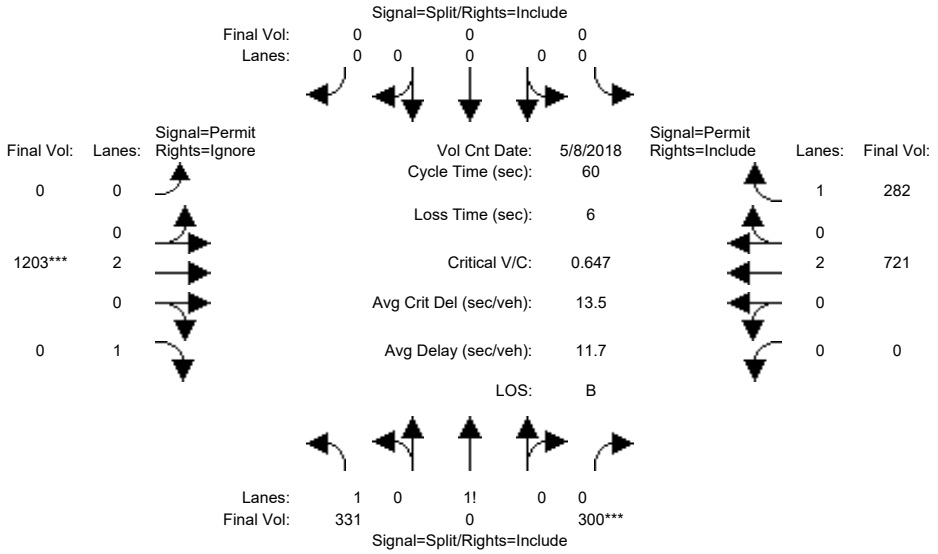

Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	331	0	300	0	0	0	0	1203	0	0	721	282
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	0	300	0	0	0	0	1203	0	0	721	282
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	331	0	300	0	0	0	0	1203	0	0	721	282
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	331	0	300	0	0	0	0	1203	0	0	721	282
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	0	300	0	0	0	0	1203	0	0	721	282
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	331	0	300	0	0	0	0	1203	0	0	721	282
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.36	0.00	0.64	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2372	0	1128	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.27	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.19	0.16
Crit Moves:			****					****				
Green Time:	24.7	0.0	24.7	0.0	0.0	0.0	0.0	29.3	0.0	0.0	29.3	29.3
Volume/Cap:	0.34	0.00	0.65	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.39	0.33
Delay/Veh:	12.2	0.0	15.7	0.0	0.0	0.0	0.0	12.3	0.0	0.0	9.8	9.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.2	0.0	15.7	0.0	0.0	0.0	0.0	12.3	0.0	0.0	9.8	9.6
LOS by Move:	B	A	B	A	A	A	A	B	A	A	A	A
HCM2k95thQ:	7	0	16	0	0	0	0	15	0	0	9	7

Note: Queue reported is the number of cars per lane.

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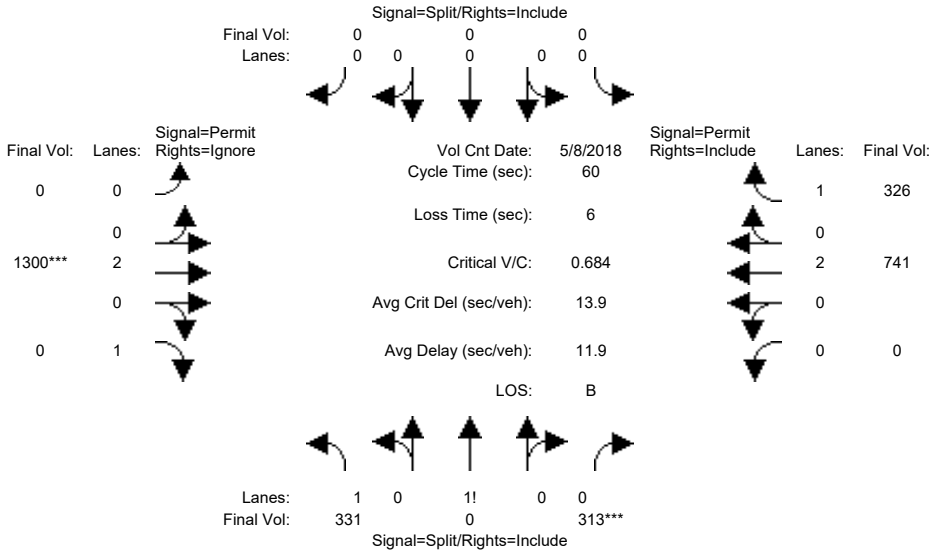
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	331	0	300	0	0	0	0	1203	0	0	721	282
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	0	300	0	0	0	0	1203	0	0	721	282
Added Vol:	0	0	13	0	0	0	0	97	0	0	20	44
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	331	0	313	0	0	0	0	1300	0	0	741	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	331	0	313	0	0	0	0	1300	0	0	741	326
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	0	313	0	0	0	0	1300	0	0	741	326
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	331	0	313	0	0	0	0	1300	0	0	741	326
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.35	0.00	0.65	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2355	0	1145	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.27	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.20	0.19
Crit Moves:			****					****				
Green Time:	24.0	0.0	24.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	30.0	30.0
Volume/Cap:	0.35	0.00	0.68	0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.39	0.37
Delay/Veh:	12.7	0.0	17.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	9.4	9.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.7	0.0	17.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	9.4	9.5
LOS by Move:	B	A	B	A	A	A	A	B	A	A	A	A
HCM2k95thQ:	7	0	17	0	0	0	0	16	0	0	9	8

Note: Queue reported is the number of cars per lane.

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Freeway On-Ramp Queuing Analysis

Existing Conditions

Time Interval	Ramp Meter Rate	Arrival Distribution	HOV Bypass	Mixed-Flow	Total	Queue Length
			16%			
US 101 NB Diagonal On-Ramp from WB Cochrane Road						
7:30-7:45	150	27%	20	107	127	0
7:45-8:00	150	21%	16	83	99	0
8:00-8:15	150	27%	20	104	124	0
8:15-8:30	150	25%	18	96	114	0
	600	100%	74	390	464	**0**
			0%			
US 101 SB Loop On-Ramp from WB Cochrane Road						
4:30-4:45	150	22%	0	35	35	0
4:45-5:00	150	24%	0	37	37	0
5:00-5:15	150	24%	0	38	38	0
5:15-5:30	150	30%	0	47	47	0
	600	100%	0	157	157	**0**

Freeway On-Ramp Queuing Analysis

Existing Plus Project Conditions

Time Interval	Ramp Meter Rate	Arrival Distribution	HOV Bypass	Mixed-Flow	Total	Queue Length
			16%			
US 101 NB Diagonal On-Ramp from WB Cochrane Road						
7:30-7:45	150	27%	23	122	145	0
7:45-8:00	150	21%	18	95	113	0
8:00-8:15	150	27%	23	119	142	0
8:15-8:30	150	25%	21	110	130	0
	600	100%	85	446	531	**0**
			0%			
US 101 SB Loop On-Ramp from WB Cochrane Road						
4:30-4:45	150	22%	0	37	37	0
4:45-5:00	150	24%	0	39	39	0
5:00-5:15	150	24%	0	40	40	0
5:15-5:30	150	30%	0	49	49	0
	600	100%	0	164	164	**0**

Freeway On-Ramp Queuing Analysis

Year 2030 Cumulative without Project Conditions

Time Interval	Ramp Meter Rate	Arrival Distribution	HOV Bypass	Mixed-Flow	Total	Queue Length
			16%			
US 101 NB Diagonal On-Ramp from WB Cochrane Road						
7:30-7:45	150	27%	26	137	163	0
7:45-8:00	150	21%	20	107	127	0
8:00-8:15	150	27%	25	134	159	0
8:15-8:30	150	25%	23	123	146	0
	600	100%	95	501	596	**0**
			0%			
US 101 SB Loop On-Ramp from WB Cochrane Road						
4:30-4:45	150	22%	0	35	35	0
4:45-5:00	150	24%	0	37	37	0
5:00-5:15	150	24%	0	38	38	0
5:15-5:30	150	30%	0	47	47	0
	600	100%	0	157	157	**0**

Freeway On-Ramp Queuing Analysis

Year 2030 Cumulative with Project Conditions

Time Interval	Ramp Meter Rate	Arrival Distribution	HOV Bypass	Mixed-Flow	Total	Queue Length
			16%			
US 101 NB Diagonal On-Ramp from WB Cochrane Road						
7:30-7:45	150	27%	29	152	181	2
7:45-8:00	150	21%	23	119	141	0
8:00-8:15	150	27%	28	149	177	0
8:15-8:30	150	25%	26	137	163	0
	600	100%	106	557	663	**2**
			0%			
US 101 SB Loop On-Ramp from WB Cochrane Road						
4:30-4:45	150	22%	0	37	37	0
4:45-5:00	150	24%	0	39	39	0
5:00-5:15	150	24%	0	40	40	0
5:15-5:30	150	30%	0	49	49	0
	600	100%	0	164	164	**0**

Appendix H

Water Supply and Demand Evaluation

TODD GROUNDWATER

April 13, 2021

REVISED MEMORANDUM

To: Maria Kisyova and Amber Sharpe, David J. Powers & Associates, Inc.

From: Kate White, PE, Todd Groundwater

Re: The Crosswinds at Morgan Hill
Water Supply and Demand Evaluation, City of Morgan Hill

The City of Morgan Hill has requested David J. Powers to prepare a project-level analysis for a proposed residential development called the Crosswinds at Morgan Hill Project (Project). The Project is located at the intersection of Half Road and Mission View Drive in Morgan Hill and will consist of 269 residential units. David J. Powers has asked Todd Groundwater to provide a water supply and demand evaluation memorandum for the Project.

The California Water Code Section 10910 (also termed Senate Bill 610 or SB610) requires that a Water Supply Assessment (WSA) be prepared for a project that is subject to CEQA and is considered a project subject to SB610 as defined in Water Code Section 10912. The Crosswinds at Morgan Hill is subject to CEQA but is not subject to SB610 according to Water Code Section 10912. Therefore, a WSA is not needed for the Project but WSA-related information is provided in this memorandum to comprehensively document supply and demand conditions.

THE CROSSWINDS AT MORGAN HILL PROJECT DESCRIPTION

The Project is on an approximately 33-acre site in Morgan Hill (**Figure 1**). Its proposed 269 residential units will have the following breakdown:

- 56 single family
- 64 duet units
- 149 condominium units.

The site is bounded by Half Road to the southeast, Mission View Drive to the northeast, and DePaul Drive to the southwest (**Figure 2**). There will be a total of 40 below-market-rate units. The single-family detached residences would be constructed on the eastern and southern perimeters of the Project site, along Mission View Drive and Half Road. The attached duets would be constructed in the center of the Project site and three-story condominiums would be constructed along the western and northwestern perimeters of the site, along DePaul Drive and adjacent to a vacant parcel. A recreation center with a pool will

be located near the center of the site. Site improvements will include parking, small neighborhood parks, and landscape areas. Approximately 5.3 acres will be open space.

The development is proposed to be built in three phases with the northern portion built first followed by the southern half of the site. The third phase will be infill of two undeveloped portions on the northwest side of the site.

CURRENT SITE WATER USE

A residence, containerized tree nursery, and a reportedly unirrigated agricultural field occupy the site. One or two private wells supply water to the residence and tree nursery. According to the property seller, private well water use on the site has remained steady over the last ten years (as of 2019) (Decker, 2019).

The area immediately west of the Project site consists of additional containerized tree nursery land and an agricultural field. South of the Project site, across Half Road, is a vacant field with grasses and buildings used for industrial purposes. East of the Project site, across Mission View Drive, is a field with orchards and associated structures, and single-family residences. North of the Project site is an adjacent vacant parcel of land, health center and associated parking.

An estimate of the current groundwater use on the site is provided in **Table 1**.

Table 1. Current Water Use

Water Use Category on Project Site	Current Water Use (AFY)
	Private Well Use[1]
One Rural Residence (currently vacant)	0.64
Agriculture (containerized tree nursery)	17.90
Total Current Water Use	**18.54**

AFY=acre-feet/year

1. Private well water use provided by property seller (Decker, 2019) and based on Santa Clara Valley Water District water billing records for July 2016-July 2018 for Well 09503E16J005 (non-agricultural) and Well 09503E16Q001 (agricultural). Water use has reportedly been steady for the past 10 years (as of 2019). The agricultural well also supplies water to a tree nursery area to the west. It was estimated that about one-third of the agricultural well water use occurs on the Project site (53.7 AFY/3=17.9).

PROJECT WATER DEMAND

Table 2 shows the projected water demands for the Project at buildout. Two different water demand estimates are presented for each development type listed in **Table 2**. The first set of demands was estimated using recommended water demand unit factors presented in the City's Water System Master Plan (WSMP) (Akel, 2017); these demands are shown in the second column from the right on **Table 2**. These are based on the recommended factors that are consistent with the 2015 UWMP, account for continued water conservation efforts implemented by the City and are based on net development area. They are assumed to represent development that uses advanced water conservation fixtures and practices and has drought tolerant vegetation. The second set of demand estimates use typical factors based on the number of units or building areas (last column on the right on **Table 2**); the estimates for residential use are higher than those using the WSMP recommended factors. An average of the two (42.31 AFY) was selected as the proposed buildout water demand of the Project. It is assumed that unaccounted water, such as water losses and fire protection, is included in these water demand factors.

Once completed, the Project will involve a net increase in groundwater demands of about 23.77 AFY, which is the buildout Project demand of 42.31 AF minus estimated current water demand of 18.54 AF.

Table 2. Buildout Water Demands

Development Type	Area (acres)	Land Use	Water Use Demand Factor[1,2]	Water Demand based on WSMP net area[3] (AFY)	Water Demand based on units or building area[4] (AFY)
Single Family Detached	3.88	56 Residential units	1,700 gpd/net acre or 0.2 AFY/unit	7.39	11.20
Duet Units	4.55	64 Duet units	1,900 gpd/net acre or 0.2 AFY/unit	9.68	12.80
Condominiums	6.49	149 Condos	2,300 gpd/net acre or 0.18 AF/unit	16.72	26.82
Recreation Center	1.16	Rec Center with kitchenette, restrooms and pool	3 AFY[3]	3.00	3.00
Irrigation	Included in other categories	Total of 8.16 acres of irrigated area[4]	Estimated Total Water Use[4]	16.21	16.21
Public and Private Right of Ways	11.80	Streets and rights of ways	Included in Irrigation category		
Open Space	5.30	Medians, parks, other landscaping	Included in Irrigation category		
Total	**33.18**	**269 units**		**33.79**	**50.82**
			Average	**42.31**	

1. Gallons per day (gpd) per net acre values are from Water System Master Plan Table 3.4 column entitled: Recommended Factor (Consistent with 2015 UWMP) (Akel, 2017). Used Residential Detached Medium, Residential Attached Low, and Residential Attached Medium factors.
2. 0.20 AFY/unit for single family homes and 0.18 AFY/unit values from Paso Robles 2015 UWMP.

3. Estimated water use for clubhouse with kitchenette, restrooms and pool extrapolated from other similar recreational/spa centers.
4. Irrigated area and demand is Estimated Total Water Use (ETWU) from City's Water Efficiency Checklist (Dividend Homes, 2020) and from sheet L-12 of The Crosswinds at Morgan Hill Full Submittal Drawings and Tentative Tract Map (June 8, 2020).

CITY OF MORGAN HILL WATER DEMAND

This section summarizes water demands for the City of Morgan Hill. It includes discussion of factors that affect total water demand including climate, population, and mix of customer types such as residential, commercial, industrial, and irrigation. A comparison of Project water demand projections to 2015 UWMP demand projections occurs at the end of this section.

Climate and Population

Climate has a notable influence on water availability and demand on a seasonal and annual basis. During drought, influences include greater water demand for outdoor uses, specifically landscape irrigation, and less supply availability because of reduced precipitation and greater evaporation. The City has a temperate climate, characterized by dry summers and wet winters with average annual maximum and minimum temperatures of 74- and 46-degrees Fahrenheit, respectively. Reflecting this pattern, water demand in the City is greater in the summer than in the winter. Average annual rainfall is about 20 inches. The average annual ET deficit of 51 inches generally represents the amount of irrigation water needed to supplement the rainfall and maintain turf areas.

Climate change may affect future water supply availability for the City of Morgan Hill by increasing temperatures, changing local precipitation patterns with less rain in the winter months and more rain in the spring months, longer summers, and increasing water demands.

The City relies solely on groundwater for its water supply. The groundwater is managed by the Santa Clara Valley Water District (Valley Water). Valley Water is actively managing County supplies through programs such as recharge, conjunctive use, and conservation. Valley Water is developing a Climate Change Action Plan (CCAP) that will identify potential future climate change vulnerabilities and risks to all core service areas (including water supply and groundwater management) and will provide goals and strategies to reduce risks (SCVWD, 2020).

City population, a key factor in water demand, was evaluated in the 2015 UWMP. Between 2015 and 2040, the City's population is anticipated to increase by about 19,218 persons, a 45 percent increase. In response to past rapid growth, the City initiated a Residential Development Control System to regulate growth by limiting the number of new homes approved per year. As a result, the 2040 population estimate of 61,600 is a function of the maximum number of housing allotments and is a ceiling and not a target (Akel, 2016).

City's Current and Projected Water Demands

The City's current and projected water demands are shown in **Table 3,** as documented in the 2015 UWMP. In 2015, total water use, including unaccounted-for water was 5,846 AFY. Note that in 2015, City and State mandatory water use restrictions were in place in response to drought conditions but have since been lifted. Consequently, 2015 demands are lower than what would be expected under normal conditions. Total water use is anticipated to increase to 10,972 AFY by 2040. These projections are generally based on the population projections and the City's 2020 urban water use target of 159 gpcd (61,600 (2040 population) x 159 gpcd = 10,972 AFY).

Approximately 59 percent of the City's total water use is projected to be consumed by single-family residential customers. Multi-family residential customers will use about 10.8 percent and commercial/industrial/institutional customers will use about 9.8 percent. Landscape irrigation is estimated to consume about 19.8 percent of the potable demand between 2020 and 2040.

Table 3. City of Morgan Hill Current and Projected Water Use (AFY)

Customer Type	Current	Projected				
	2015	2020	2025	2030	2035	2040
Single-Family Residential	3,206	5,096	5,457	5,818	6,179	6,540
Multi-Family Residential	581	924	990	1,055	1,120	1,186
Commercial, Industrial and Institutional	527	838	898	957	1,016	1,076
Landscape	1,064	1,691	1,811	1,931	2,051	2,170
Losses	467	assumed incorporated into above demands				
Total Additional Water Uses and Losses	**5,846**	**8,549**	**9,155**	**9,760**	**10,366**	**10,972**

From City's UWMP Table 4-2 and 4-4 (Akel, 2016)

Project Demands Compared to City UWMP Projected Demands

As mentioned previously, water use projections in the 2015 UWMP were based on population projections set forth in the City's 2016 General Plan Update[1] and on the City's 2020 urban water use target of 159 gpcd. This section compares 2015 UWMP population and water demand projections to those of the Project to determine if Project demands are included in the UWMP planning projections.

The population increase associated with the Project can be estimated assuming that each of the 269 units will have an average of 3 occupants[2] resulting in 807 new residents associated with the Project. This increase is well within the UWMP population increase of 3,400 anticipated to occur between 2020 and 2025.

1. The 2035 General Plan Update (adopted July 27, 2016) has a 2035 population of 58,200. It appears that the 2015 UWMP linearly projected population growth to 2040.
2. People per dwelling unit derived from information in Table 4-3A of 2015 UWMP (Akel, 2016).

A similar comparison can be made between estimated Project demands at buildout and UWMP demand increases. Project water demand is projected to be about 42.31 AFY at buildout (**Table 2**). **Table 3** shows that the UWMP-projected increase in single family demands would be 1,444 AFY between 2020 and 2040 and that multi-family demands would increase 262 AFY between 2020 and 2040. The Project would use about 2.5 percent (42.31/(1,444 + 262) of the 2015 UWMP-allotted single family plus multi-family growth in terms of demand.

The Project demands are within the UWMP water demand projection increases for residential water use sectors (2020 to 2040) (**Table 3**). Therefore, it is assumed that The Crosswinds at Morgan Hill Project water demands have been included in the 2015 UWMP projections. Note that this WSA does not address the ability of the City's water system to actually deliver water to the Project.

The City performs water supply and demand analysis on a five-year cycle as required by the State of California Department of Water Resources and as described in the City's UWMPs. The next UWMP is to be completed by July 1, 2021. UWMPs support the City's long-term resource planning to ensure that adequate water supplies are available to meet existing and future water needs.

CITY OF MORGAN HILL WATER SUPPLY

Water supply for the City of Morgan Hill is solely from groundwater. There are currently 15 active municipal groundwater wells located throughout the central and northern portions of the City that have a firm total capacity[3] of about 19,000 AFY (Akel, 2017 and City of Morgan Hill, 2019). The City has two other inactive wells that are permanently out of service.

The City pumps groundwater from two groundwater basins: the Santa Clara Valley Basin and the Gilroy-Hollister Valley Basin, with Cochrane Road coinciding approximately with the boundary between these two basins. The northern portion of the City overlies the Santa Clara Subbasin (DWR #2-009.02) in the Santa Clara Valley Basin while the southern portion of the City overlies the Llagas Subbasin (DWR basin 3-003.01) in the Gilroy-Hollister Valley Basin (**Figure 1**). The Santa Clara Subbasin has been divided into two areas for management purposes: the Coyote Valley Subarea and the Santa Clara Plain Subarea. The City overlies the Coyote Valley Subarea and has 3 active municipal wells in the Coyote Valley Subarea and 12 active wells in the Llagas Subbasin. The Santa Clara and Llagas subbasins are not adjudicated.

Santa Clara Subbasin

The Santa Clara Subbasin is a northwest trending valley that extends from the northern border of Santa Clara County to a groundwater divide near the City of Morgan Hill. It has a surface area of about 297 square miles and is bounded by the Santa Cruz Mountains to the west and the Diablo Range to the east (SCVWD, 2016). Groundwater north of the

3. Firm total capacity assumes the largest well is out of service.

groundwater divide near Cochrane Road flows north and northwest to San Francisco Bay while groundwater to the south flows southeast in the Llagas Subbasin toward the Pajaro River, at the boundary of San Benito County, and ultimately to Monterey Bay. The groundwater divide location moves north or south as much as one mile depending upon local groundwater conditions (SVCWD, 2016). The Coyote Valley Subarea is in the southern portion of the Santa Clara Subbasin and is about 7 miles long and 2 miles wide.

The Santa Clara Subbasin consists of Quaternary alluvium deposits of unconsolidated gravel, sand, silt and clay that eroded from adjacent mountain ranges. It contains interfingering alluvial fans, stream deposits and terrace deposits. The slightly or semi-consolidated alluvial deposits of the Santa Clara Formation underlie the unconsolidated young alluvial sediments in some areas of the Santa Clara Subbasin.

The Santa Clara Plain extends from Santa Clara County's northern boundary to approximately Metcalf Road in Coyote Valley. Its thickness ranges from 150 feet near Coyote Narrows/Metcalf Road to over 1,500 feet in the interior of the Subarea and thins towards the western and eastern edges. A shallow aquifer zone occurs within 150 feet of ground surface and a 20 to 100-foot-thick aquitard separates the shallow aquifer from a lower, principal aquifer zones forming a confined area in the central portion of the Subarea. Most of the wells tap the lower zone which exists at depths between 200 and 1,000 feet (SCVWD, 2016).

The Coyote Valley Subarea consists of thick alluvial sand and gravel deposits with interbedded thin, discontinuous clays and has no laterally extensive aquitard. The aquifer sediments overlying the Santa Clara Formation vary in thickness from a few feet along the west side of the valley to more than 400 feet along the east side (SCVWD, 2016).

Recharge occurs along the edges and southern portion of the Santa Clara Subbasin. This recharge contributes to the recharge of principal aquifers in the confined area through subsurface flow (SCVWD, 2016). Groundwater generally flows toward the north or northwest, following surface topography and on a local scale, flows toward areas of high pumping.

The Santa Clara Subbasin groundwater is generally of good quality and does not need treatment beyond disinfection (SCVWD, 2016). Santa Clara Plain groundwater quality is typically very good with only infrequent detections above health-based levels. Coyote Valley groundwater is typically good quality with the exception of elevated nitrate concentrations in some areas. Nitrate concentrations in the Coyote Valley are from fertilizers and septic systems in this more rural and agricultural-based Subarea (SCVWD, 2016).

Llagas Subbasin

The Llagas Subbasin is a northwest-trending, elongated valley in the southern part of Santa Clara County. It is the northern part of the Gilroy-Hollister Groundwater Basin and is bounded by the Santa Cruz Mountains to the west and the Diablo Range to the east. The Llagas Subbasin is about 15 miles long and 3 to 6 miles wide with a surface area of 88 square miles (SCVWD, 2016).

Like the Santa Clara Subbasin, it consists of Quaternary alluvium deposits of unconsolidated gravel, sand, silt and clay that eroded from adjacent mountain ranges and has interfingering alluvial fans, stream deposits and terrace deposits. The Llagas Subbasin thickness ranges from about 500 feet in the north to over 1,000 feet beneath the Pajaro River (SCVWD, 2016). Confined conditions exist in the central and southern portions of the Subbasin.

Recharge occurs along the northern, western, and eastern edges of the Subbasin. Groundwater generally flows south, toward the Pajaro River, following surface topography and on a local scale, flows toward areas of high pumping.

Llagas Subbasin groundwater is generally of good quality with the exception of localized elevated nitrate and perchlorate detections (SCVWD, 2016). The most significant single environmental release in the Llagas Subbasin was the perchlorate contamination associated with the Olin site[4]. The site has been undergoing remediation since 2004 and the plume has diminished significantly to an area mostly south of Tennant Avenue.

Groundwater Management

The Santa Clara Valley Water District (SCVWD or Valley Water) is the Groundwater Sustainability Agency for the Santa Clara and Llagas subbasins in accordance with the Sustainable Groundwater Management Act (SGMA).

SGMA became effective on January 1, 2015 and provides a framework for sustainable management of groundwater resources by local agencies. The Santa Clara and the Llagas subbasins are on the following timeline because they were designated as high priority basins but are not overdrafted:

- Local agencies must form local groundwater sustainability agencies (GSAs) by 2017
- GSAs must prepare and adopt groundwater sustainability plans (GSPs) by 2022; and
- Once GSPs are adopted, GSAs must implement them and achieve sustainability within 20 years.

Based on its long history of sustainable management, Valley Water submitted an Alternative Groundwater Sustainability Plan to California's Department of Water Resources (DWR) to fulfill its SGMA requirements. This alternative, entitled 2016 Groundwater Management Plan (GWMP) was submitted in 2016 (SCVWD, 2016). In accordance with SGMA, 2017 and 2018 Water Year[5] Reports also have been prepared that provide information on groundwater conditions and management activities to maintain the long-term viability of groundwater resources in the Santa Clara and Llagas subbasins. Valley Water also produces calendar-year based information on groundwater levels, storage, land subsidence and groundwater quality conditions.

4. Todd Engineers and Kennedy/Jenks Consultants, Groundwater Vulnerability Study, prepared for SCVWD, September 2009.

5. A water year extends from October 1 of the previous year to September 30. For example, water year 2018 is from October 1, 2017 to September 30, 2018.

The 2019 Water Year Report (SCVWD, 2020) concluded the following:

- Having previously fully recovered to pre-drought conditions, groundwater elevation and storage remained in healthy condition through Water Year (WY) 2019.
- WY 2019 was a wet year and adequate surface water supplies were available to support a full managed recharge program with 81,400 AF of local and imported surface water used for groundwater replenishment.
- Treated water delivered by Valley Water (103,000 AF) and recycled water use (17,100 AF) also provided in-lieu recharge, and countywide water conservation programs reduced water demands by more than 70,000 AF.
- This comprehensive recharge continues to support a balanced long-term water budget.
- In WY 2019, inflows exceeded outflows in the Santa Clara and Llagas subbasins, resulting in a net increase in storage of 11,400 and 6,600 AF, respectively.
- Valley Water continues to implement the comprehensive activities described in the GWMP (SCVWD, 2016). These include:
    - Maintain existing conjunctive water management programs and evaluate opportunities for enhancement or increased efficiency.
    - Continue to aggressively protect groundwater quality through Valley Water programs and collaboration with land use agencies, regulatory agencies, and basin stakeholders.
    - Continue to incorporate groundwater sustainability planning in Valley Water planning efforts.
    - Maintain adequate monitoring programs and modeling tools.
    - Continue and enhance groundwater management partnerships with water retailers and land use agencies.
    - Evaluate the potential new authorities provided by SGMA.

Tables 4 and **5** on the next page are from the 2019 Water Year Report (SCVWD, 2020) and summarize WY 2019 groundwater pumping and total water use. Most water use in the Santa Clara Subbasin is for municipal and industrial use while most water use in the Llagas Subbasin is for agricultural purposes. Imported water is a large component of supply in the Santa Clara Subbasin.

Table 4. Groundwater Pumping by Water Use in Water Year 2019

Water Use Sector	Measurement Method	Santa Clara Subbasin (AFY)	Llagas Subbasin (AFY)	Total Pumping (AFY)
M&I	Metered	61,600	16,400	78,000
	Estimated	1,500	600	2,100
Domestic	Metered	100	200	300
	Estimated	400	1,700	2,100
Agricultural	Metered	2,700	16,900	19,600
	Estimated	900	6,600	7,500
Total		**67,200**	**42,400**	**109,600**

From Table 1 in 2019 WY Report (SCVWD, 2020)

Table 5. Santa Clara County Total Water Use in Water Year 2019

Water Use (AFY)	Santa Clara Subbasin	Llagas Subbasin	Total	Measurement Method	Source	Sector
Groundwater Pumped	67,200	42,400	109,600	Metered (89%) and estimated	Natural recharge, managed recharge of local runoff and imported (SWP/CVP) water	M&I, domestic and agricultural
Valley Water Treated Water	103,000	0	103,000	Metered	Local runoff and imported (SWP/CVP) water	M&I
Valley Water Raw Surface Water Deliveries	700	1,300	2,000	Metered (95%) and estimated	Local runoff and imported (SWP/CVP) water	M&I, domestic and agricultural
SFPUC Supplies to Local Retailers	43,300	0	43,300	Metered	Surface water reservoirs	M&I
Recycled Water	15,200	1,900	17,100	Metered	Treated wastewater	M&I and agricultural
Total	**229,400**	**45,600**	**275,000**			

From Table 2 in 2019 WY Report (SCVWD, 2020)

Groundwater Use and Supply

Table 6 lists Morgan Hill's annual groundwater use between 2011 and 2018. About 80 percent of the City's supplies are from the Llagas Subbasin. Groundwater use declined in 2015, reflecting State-wide water use restrictions in response to the drought but rebounded in recent years.

Table 6. City of Morgan Hill 2011 to 2018 Groundwater Use (AFY)

Groundwater Source	2011	2012	2013	2014	2015	2016	2017	2018
Llagas Subbasin of the Gilroy-Hollister Groundwater Basin	6,076	6,203	7,454	6,195	4,741	4,480	5,155	5,832
Santa Clara Subbasin, Coyote Valley Subarea of the Santa Clara Valley Groundwater Basin	1,381	1,374	1,484	1,300	1,105	1,800	1,942	1,449
Total	**7,457**	**7,577**	**8,938**	**7,495**	**5,846**	**6,280**	**7,097**	**7,281**

From 2015 UWMP Table 6-1 (Akel, 2016) and Morgan Hill (2019)

Table 7 lists projected supplies to 2040 as documented in the UWMP. It includes natural recharge to the Llagas and Santa Clara subbasins (22,500 AFY and 2,400 AFY, respectively) as well as recharged imported water and recycled water (39,000 AFY to 48,500 AFY). These other water supplies were included in the 2015 UWMP (Akel, 2016) for completeness of the Llagas and Coyote Valley groundwater budgets. While the City of Morgan Hill does not directly contract with Valley Water for water supplies, it is dependent upon the additional water that Valley Water provides for recharge or to offset pumping in the Llagas and Santa Clara subbasins.

Table 7. City of Morgan Hill Projected Supply (AFY)

Water Supply Source	Projected				
	2020	2025	2030	2035	2040
Llagas Subbasin (Natural Recharge)	22,500	22,500	22,500	22,500	22,500
Santa Clara Valley Subbasin (Natural Recharge)	2,400	2,400	2,400	2,400	2,400
Other[1]	39,000	42,900	46,600	48,400	48,500
TOTAL	**63,900**	**67,800**	**71,500**	**73,300**	**73,400**

From 2015 UWMP Table 6-9 (Akel, 2016)

1. Other includes raw water and local surface water deliveries that are managed and negotiated by Valley Water for recharge in the Llagas Subbasin and Coyote Valley Subarea. It also includes City of Gilroy recycled water demand, which offsets pumping from the Llagas Subbasin.

COMPARISON OF SUPPLY AND DEMAND

To determine water supply sufficiency, a comparison of supply and demand during normal, single dry and multiple dry years during a 20-year projection was conducted. Based on the City's 2015 UWMP, **Table 8** summarizes water supply and demand for the City in a normal year, while **Tables 9** and **10** show supply and demand in single-year and multi-year dry conditions. On an annual basis, the City has been able to provide sufficient supplies to meet demand during normal, single-dry, and multiple-dry year periods.

Review of **Tables 8**, **9**, and **10** shows that water supply will decrease in times of drought, reflecting less natural recharge but demands were assumed to remain the same. If a severe drought occurs, the City could impose water use restrictions that could temporarily reduce water use to per capita levels similar to those in 2015 (123 gpcd). For comparison, the UWMP assumed projections based on a 159 gpcd use.

The Project site buildout water demands of 42.31 AFY (**Table 2**) are within the UWMP projections and thus considered to be included in the demand components of the 2015 UWMP summary tables listed below.

Table 8. Normal Year Supply and Demand Comparison (AFY)

	2020	2025	2030	2035	2040
Supply Totals	63,900	67,800	71,500	73,300	73,400
Demand Totals	8,549	9,155	9,760	10,366	10,972
Difference	55,351	58,645	61,740	62,934	62,428

From 2015 UWMP, Table 7-2 (Akel, 2016) and errata sheet (revised data available on DWR website)

Table 9. Single Dry Year Supply and Demand Comparison (AFY)

	2020	2025	2030	2035	2040
Supply Totals	60,705	60,705	60,705	60,705	60,705
Demand Totals	8,549	9,155	9,760	10,366	10,972
Difference	52,156	51,550	50,945	50,339	49,733

From 2015 UWMP, Table 7-3 (Akel, 2016) and errata sheet (revised data available on DWR website)

Table 10. Multiple Dry Year Supply and Demand Comparison (AFY)

	2020	2025	2030	2035	2040
First Year					
Supply Totals	60,705	60,705	60,705	60,705	60,705
Demand Totals	8,549	9,155	9,760	10,366	10,972
Difference	52,156	51,550	50,945	50,339	49,733
Second Year					
Supply Totals	54,315	54,315	54,315	54,315	54,315
Demand Totals	8,549	9,155	9,760	10,366	10,972
Difference	45,766	45,160	44,555	43,949	43,343
Third Year					
Supply Totals	41,535	41,535	41,535	41,535	41,535
Demand Totals	8,549	9,155	9,760	10,366	10,972
Difference	32,986	32,380	31,775	31,169	30,563

From 2015 UWMP, Table 7-4 (Akel, 2016) and errata sheet (revised data available on DWR website)

Note that the groundwater supply amounts listed in **Tables 8**, **9**, and **10** are a shared resource managed by Valley Water through the SGMA process. The 2015 UWMP also included tables listing projected supplies and demands for the entire Llagas Subbasin and for the entire Coyote Valley Subarea using data that Valley Water provided to the City in mid-2016. These tables are shown in **Appendix A**. DWR requested that only City demands be included in these tables and the modified tables are the ones shown above.

Those subbasin or subarea-wide supply and demand comparisons in the 2015 UWMP indicated potential deficits, especially in multi-year droughts (see **Appendix A**). These deficits could be as high as 32,533 AF in the third year of a severe drought (see **Appendix A** Table 7-4). However, more recently, the 2019 Water Year Report (SCVWD, 2020) concluded that Valley Water's comprehensive recharge continues to support balanced long-term water budgets for these two subbasins.

As discussed above, Valley District continues to implement its groundwater sustainability program to maintain the long-term viability of groundwater resources.

CONCLUSIONS

The findings of this water supply and demand evaluation are summarized below.

- The Crosswinds at Morgan Hill Project will be built on a 33-acre site. Currently, one residence and a containerized tree nursery occupy the site.
- The Project will consist of 269 residential units (56 single family, 64 duet, and 149 condominium units) and a recreational center.
- The City of Morgan Hill will supply the Project with potable water. Groundwater is the only source of supply to the City.
- Current site water usage averages about 18.54 AFY.
- Once completed, the Project will use an estimated 42.31 AFY of water resulting in a net increase of groundwater use of about 23.77 AFY.
- Water supply needed to serve the Project's water demand can be considered as included in the 2015 UWMP projections.
- The City's sole source of supply, groundwater from the Llagas and Santa Clara subbasins, is a shared resource managed by Valley Water through the SGMA process. The 2019 Water Year Report (SCVWD, 2020) for SGMA reporting concluded that Valley Water's comprehensive recharge continues to support a balanced long-term water budgets for these two subbasins.

In conclusion:

The City's water supply is from groundwater, which is a shared resource. The ongoing, active management of the Llagas and Santa Clara subbasins by Valley Water through the SGMA process and its strong partnership with large groundwater pumpers, including the City of Morgan Hill, is expected to result in continued sustainable groundwater management in the future resulting in a reliable long-term water supply for the Project.

REFERENCES

Akel Engineering Group, Inc., 2016, City of Morgan Hill Urban Water Management Plan, August (includes errata sheet and revised numbers for select tables available on DWR website: https://wuedata.water.ca.gov/uwmp_export.asp).

Akel Engineering Group, Inc., 2017, City of Morgan Hill Water System Master Plan, October.

The Crosswinds at Morgan Hill Full Submittal Drawings and Tentative Tract Map, 2020, prepared by Ruggeri-Jensen-Azar, Dividend Homes, Dahlin, June 8.

Decker, Katy, Project Manager Haley & Aldrich (represents Project seller), 2019, email to Thomas Jodry that was forwarded to David J Powers and City of Morgan Hill, May 22.

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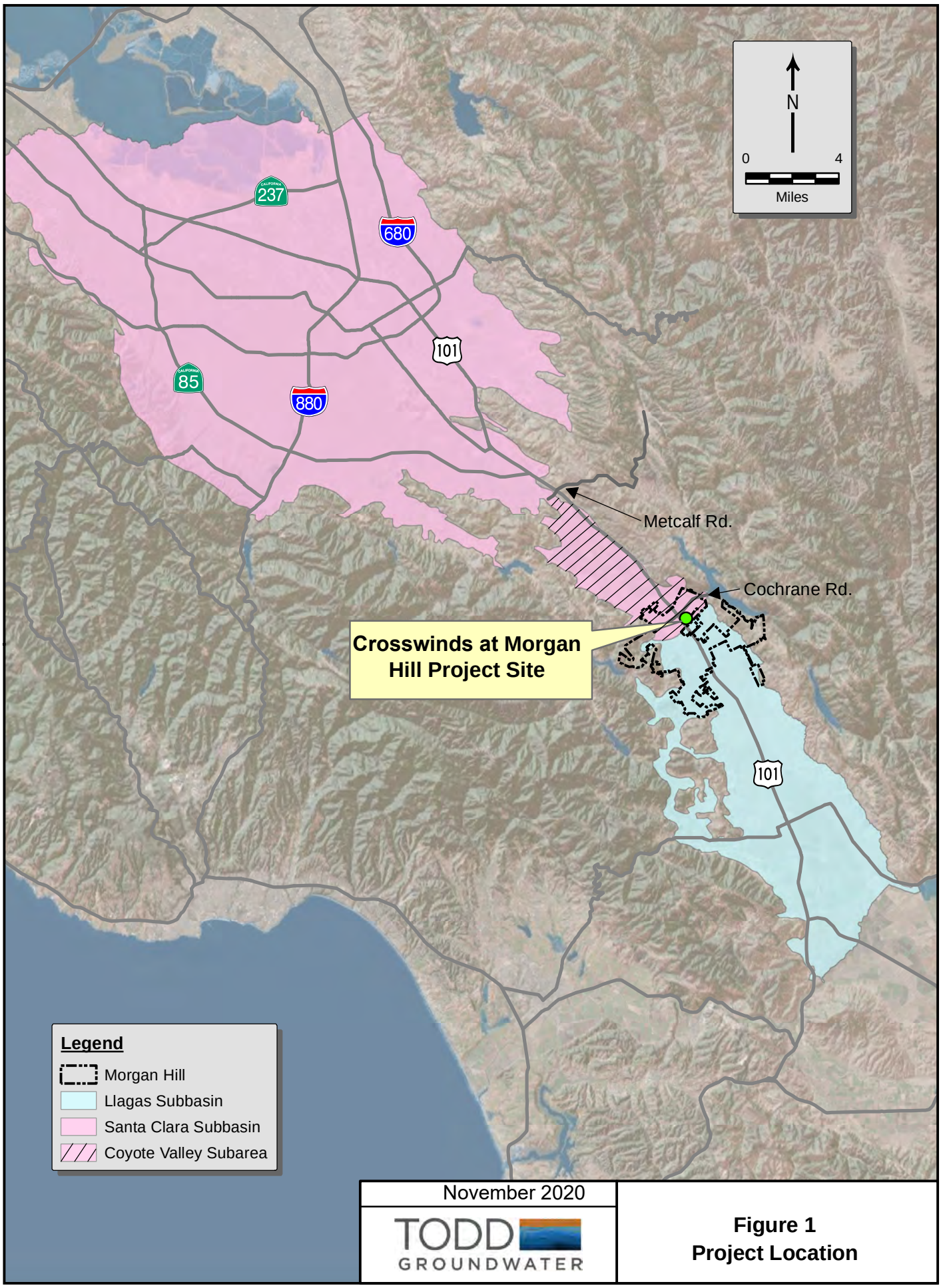
Santa Clara Valley Water District (SCVWD or Valley Water), 2020, Water Year 2019 Report for the Santa Clara and Llagas Subbasins, March.

Santa Clara Valley Water District (SCVWD or Valley Water), 2016, 2016 Groundwater Management Plan, Santa Clara and Llagas Subbasins, November.



November 2020

TODD GROUNDWATER

Figure 1
Project Location

0 60 120 180

NORTH

From Plate T1.2 of The Crosswinds Full Submittal Drawings (June 8, 2020)

November 2020

TODD GROUNDWATER

Figure 2
The Crosswinds at Morgan Hill Project Schematic

Appendix A

Select Tables from City of Morgan Hill Urban Water Management Plan (Akel, 2016)

Table 7-2 Normal Year Supply and Demand Comparison

	2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)
Supply	63,900	67,800	71,500	73,300	73,400
Demand	61,765	65,542	69,468	72,811	74,068
Difference	2,135	2,258	2,032	489	-668

Table 7-2A Projected Supply vs Demand Comparison (Llagas)

Demand Condition	2020 (afy)	2025 (afy)	2030 (afy)	2035 (afy)	2040 (afy)
Projected Water Supply of the Llagas Subbasin[1]					
Natural Groundwater Recharge	22,500	22,500	22,500	22,500	22,500
Local Surface Water	16,000	18,300	20,300	21,500	21,600
SCVWD CVP Deliveries	10,600	10,700	10,700	10,400	10,200
Recycled Water Supply	2,600	3,200	3,700	3,700	3,700
Total without Recycled Water	49,100	51,500	53,500	54,400	54,300
Total with Recycled Water	51,700	54,700	57,200	58,100	58,000
Projected Average Daily Water Demand					
City of Gilroy[2]	9,186	10,306	11,650	12,882	14,114
City of Morgan Hill[3]	7,019	7,516	8,013	8,510	9,008
Other Users[4]	32,044	33,105	33,937	34,350	33,593
Total	48,249	50,927	53,600	55,742	56,715
Supply vs Demand Comparison - Excluding Recycled Water					
Difference (Supply - Demand)	851	573	-100	-1,342	-2,415
Percent of Total Supply	98%	99%	100%	102%	104%

Supply vs Demand Comparison - Including Recycled Water					
Difference (Supply - Demand)	3,451	3,773	3,600	2,358	1,285
Percent of Total Supply	93%	93%	94%	96%	98%

Notes:

1. Projected supply per South County Supply document received from SCVWD staff May 27, 2016.
2. Demand consistent with City of Gilroy draft 2015 UWMP.
3. City of Morgan Hill demand excludes Boys Ranch wells, which are located in the Coyote Valley subarea.
4. Demand for other users calculated from document received from SCVWD staff May 27, 2016.

Table 7-2B Projected Supply vs Demand Comparison (Coyote Valley)

Demand Condition	2020 (afy)	2025 (afy)	2030 (afy)	2035 (afy)	2040 (afy)
Projected Water Supply of the Coyote Valley Subarea[1]					
Natural Groundwater recharge	2,400	2,400	2,400	2,400	2,400
Local Surface Water	6,200	6,400	6,300	6,200	6,200
SCVWD CVP Deliveries	3,500	4,400	5,600	6,600	6,800
Total	12,100	13,200	14,300	15,200	15,400
Projected Average Daily Water Demand					
City of Morgan Hill[2]	1,530	1,639	1,747	1,856	1,964
Other Users[3]	11,986	13,063	14,295	15,474	15,736
Total	13,516	14,702	16,042	17,330	17,700
Supply vs Demand Comparison					
Difference (Supply - Demand)	-1,416	-1,502	-1,742	-2,130	-2,300
Percent of Total Supply	112%	111%	112%	114%	115%

Notes:

1. Projected supply per South County Supply document received from SCVWD staff May 27, 2016.
2. City of Morgan Hill demand includes pumping from the Boys Ranch wells, which are located in the Coyote Valley subarea.
3. Demand for other users calculated from document received from SCVWD staff May 27, 2016.

Table 7-3 Single Dry Year Supply and Demand Comparison

	2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)
Supply	60,705	60,705	60,705	60,705	60,705
Demand	61,765	65,542	69,468	72,811	74,068
Difference	-1,060	-4,837	-8,763	-12,106	-13,363

Table 7-4 Multiple Dry Years Supply and Demand Comparison

		2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)
First year (2013)	Supply	60,705	60,705	60,705	60,705	60,705
	Demand	61,765	65,542	69,468	72,811	74,068
	Difference	-1,060	-4,837	-8,763	-12,106	-13,363
Second year (2014)	Supply	54,315	54,315	54,315	54,315	54,315
	Demand	61,765	65,542	69,468	72,811	74,068
	Difference	-7,450	-11,227	-15,153	-18,496	-19,753
Third year (2015)	Supply	41,535	41,535	41,535	41,535	41,535
	Demand	61,765	65,542	69,468	72,811	74,068
	Difference	-20,230	-24,007	-27,933	-31,276	-32,533

SCH#: 2021010358

Final Environmental Impact Report

Crosswinds Residential Project

File Numbers: EA2020-0007, SD2020-0003, and SR2020-0010: Half – Dividend (Crosswinds)

Prepared by the

CITY OF MORGAN HILL

In Consultation with

DAVID J. POWERS & ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS & PLANNERS

May 2023

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Appendix B: Technical Reports and Supporting Documentation

Section 1.0 Introduction

This document, together with the Draft Environmental Impact Report (Draft EIR), constitutes the Final Environmental Impact Report (Final EIR) for the Crosswinds Residential project.

1.1 Purpose of the Final EIR

In conformance with the California Environmental Quality Act (CEQA) and CEQA Guidelines, this Final EIR provides objective information regarding the environmental consequences of the proposed project. The Final EIR also examines mitigation measures and alternatives to the project intended to reduce or eliminate significant environmental impacts. The Final EIR is intended to be used by the City of Morgan Hill and any Responsible Agencies in making decisions regarding the project.

Pursuant to CEQA Guidelines Section 15090(a), prior to approving a project, the lead agency shall certify that:

(1) The Final EIR has been completed in compliance with CEQA;
(2) The Final EIR was presented to the decision-making body of the lead agency, and that the decision-making body reviewed and considered the information contained in the final EIR prior to approving the project; and
(3) The Final EIR reflects the lead agency's independent judgment and analysis.

1.2 Contents of the Final EIR

CEQA Guidelines Section 15132 specify that the Final EIR shall consist of:

a) The Draft EIR or a revision of the Draft;
b) Comments and recommendations received on the Draft EIR either verbatim or in summary;
c) A list of persons, organizations, and public agencies commenting on the Draft EIR;
d) The Lead Agency's responses to significant environmental points raised in the review and consultation process; and
e) Any other information added by the Lead Agency.

1.3 Public Review

In accordance with CEQA and the CEQA Guidelines (Public Resources Code Section 21092.5[a] and CEQA Guidelines Section 15088[b]), the City shall provide a written response to a public agency on comments made by that public agency at least 10 days prior to certifying the EIR. The Final EIR and all documents referenced in the Final EIR are available for public review at the City of Morgan Hill, Community Development Department on weekdays during normal business hours. The Final EIR is also available for review on the City's website: (https://www.morganhill.ca.gov/2088/Half-Dividend-Crosswinds-Residential-Dev).

Section 2.0 Draft EIR Public Review Summary

The Draft EIR for the Crosswinds Residential project, dated November 2022, was circulated to affected public agencies and interested parties for a 60-day review period from November 4, 2022, through January 3, 2023. The City undertook the following actions to inform the public of the availability of the Draft EIR:

- A Notice of Availability of Draft EIR was published on the City's website: (https://www.morganhill.ca.gov/2088/Half-Dividend-Crosswinds-Residential-Dev) and in the Morgan Hill Times;
- Notification of the availability of the Draft EIR was mailed to project-area residents and other members of the public who had indicated interest in the project;
- The Draft EIR was delivered to the State Clearinghouse on November 3, 2022, as well as sent to various governmental agencies, organizations, businesses, and individuals (see Section 3.0 for a list of agencies, organizations, businesses, and individuals that received the Draft EIR); and
- Copies of the Draft EIR were made available on the City's website (https://www.morganhill.ca.gov/2088/Half-Dividend-Crosswinds-Residential-Dev).

Section 3.0 Draft EIR Recipients

CEQA Guidelines Section 15086 requires that a local lead agency consult with and request comments on the Draft EIR prepared for a project of this type from responsible agencies (government agencies that must approve or permit some aspect of the project), trustee agencies for resources affected by the project, adjacent cities and counties, and transportation planning agencies.

The NOA for the Draft EIR was sent to owners and occupants adjacent to the project site and to adjacent jurisdictions. The following agencies received a copy of the Draft EIR from the City or via the State Clearinghouse:

- California Air Resources Board
- California Department of Conservation
- California Department of Fish and Wildlife, Bay Delta Region 3
- California Department of Forestry and Fire Protection
- California Department of Housing and Community Development
- California Department of Parks and Recreation, California Department of Resources Recycling and Recovery
- California Department of Toxic Substances Control
- California Department of Transportation, District 4
- California Department of Water Resources
- California Native American Heritage Commission
- California Natural Resources Agency
- California Office of Historic Preservation
- California Public Utilities Commission
- California Regional Water Quality Control Board, Central Coast Region 3 (RWQCB)
- California State Lands Commission
- State Water Resources Control Board, Division of Drinking Water
- State Water Resources Control Board, Division of Drinking Water, District 17
- State Water Resources Control Board, Division of Water Quality

Section 4.0 Responses to Draft EIR Comments

In accordance with CEQA Guidelines Section 15088, this document includes written responses to comments received by the City of Morgan Hill on the Draft EIR.

Comments are organized under headings containing the source of the letter and its date. The specific comments from each of the letters and/or emails are presented with each response to that specific comment directly following. Copies of the letters and emails received by the City of Morgan Hill are included in their entirety in Appendix A of this document. Comments received on the Draft EIR are listed below.

Comment Letter and Commenter **Page of Response**

Regional and Local Agencies 6

A. County of Santa Clara, Roads and Airports Department (dated December 22, 2022) 6

B. Santa Clara Valley Transportation Authority (dated January 3, 2023) 7

C. Valley Water (dated January 3, 2023) 10

Organizations, Businesses, and Individuals 19

D. Joe Baranowski (January 3, 2023) 19

Regional and Local Agencies

A. County of Santa Clara, Roads and Airports Department (dated December 22, 2022)

Comment A.1: The County of Santa Clara Roads and Airports Department (The County) appreciates the opportunity to review the Public Notice of Availability of an Environmental Impact Report for Half-Dividend (Crosswinds) Residential Development. We submit the following comments:

- We recommend that the City take over/annex the full road maintenance and improvement along the site's Half Road frontage up to Mission View Dr.

Response A.1: As stated in Section 4.17, Transportation, Page 192 of the Draft EIR, the project would provide sidewalks along its frontages along Half Road (up to Mission View Drive), Mission View Drive, and DePaul Drive. As described on Page 206, the project applicant will pay a fair share contribution toward the installation of a signal at the Half Road and Mission View Drive intersection. No other improvements are proposed along Half Road. Comment A.1 does not question the adequacy of the Draft EIR analysis. The recommendation for the City to take over/annex the full road maintenance and improvement is outside of the project scope. The City does not currently have plans to annex the road. The County has the option to discuss this recommendation with the City; this discussion would be separate from the project.

Comment A.2:

- We would like to know who will maintain the new signalized intersection of Mission View Dr and Half Rd. if approved. County maintains both approaches of Half Rd but not Mission View Dr.

Response A.2: Comment A.2 does not question the adequacy of the Draft EIR analysis. As described on Page 206 of the Draft EIR, the project applicant will pay a fair share contribution toward the installation of a signal at the Half Road and Mission View Drive intersection under Year 2030 cumulative plus project conditions. The City will fund the maintenance of the new intersection.

Comment A.3:

- Provide pedestrian connection between the cul-de-sac at DePaul Dr and Half Rd.

Response A.3: As stated in Section 4.17, Transportation in the Draft EIR, sidewalks would be located along DePaul Drive including the proposed cul-de-sac north of Half Road. Although, no pedestrian connection is proposed between the cul-de-sac, as shown on plan sheet L.10, an emergency vehicle access (EVA) path is proposed to be located between the cul-de-sac and Half Road, which pedestrians/bicyclists could also use to cross from the cul-de-sac to Half Road.

Comment A.4:

- 8. The Mission View Drive and Half Road intersection is projected to operate at an unacceptable LOS F during both the AM and PM peak hours under Year 2030 Cumulative without and with project conditions. Additionally, based on the peak hour traffic signal warrant checks, this intersection would have traffic volumes that meet thresholds that warrant signalization during both the AM and PM peak hours under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City's level of service standards.
    - The County's Condition of Approval: The project applicant shall pay a fair share contribution toward installing a signal at the Mission View Drive and Half Road intersection.

Response A.4: Comment A.4 includes an excerpt from Page 206 of the Draft EIR regarding the project's effect on operations of Mission View Drive and Half Road and the County's recommended condition of approval. As stated in the Draft EIR (Page 206), as a condition of approval, the project applicant shall pay a fair share contribution toward the installation of a signal at the Mission View Drive and Half Road intersection, which is consistent with the County's recommendation.

B. Santa Clara Valley Transportation Authority (dated January 3, 2023)

Comment B.1: The Vehicle Miles Traveled Impact and Mitigation Measures
The DEIR notes that the proposed project would have a Significant and Unavoidable impact in the area of Vehicle Miles Traveled (VMT) during project operations, Impact TRN-2.2. The DEIR and Transportation Impact Analysis (TIA) report indicate that "The project applicant would need to implement VMT reduction measures to achieve a 24 percent reduction (27.41 to 20.94) in its VMT per capita for the proposed residential project to reduce the project's VMT impact to less than significant (under Options 1 and 2). However, the available feasible mitigation measures are not capable of such reduction" (DEIR p. 193).:

Response B.1: Comment B.1 summarizes the VMT impact and mitigation measure required, as discussed in Section 4.17 Transportation, Page 193 of the Draft EIR. This comment does not question the adequacy of the Draft EIR analysis. Therefore, no further response is required.

Comment B.2: In light of the fact that this project will have a Significant and Unavoidable VMT impact, VTA recommends that the City work with the project applicant to provide further measures to incrementally reduce project VMT. In addition to those measures included in Mitigation Measure TRN-2.2, VTA recommends the following:

- The subsidized transit pass program included in Mitigation Measure TRN-2.2 should include a monitoring and verification mechanism to ensure that the passes are being provided over time. For instance, the City can require that the project management entity/Homeowners

Association submit a receipt annually showing that the required transit passes have been purchased, and documentation showing that the passes have been distributed to residents.

Response B.2: Mitigation measure MM TRN-2.1 on page 193 and Appendix G Transportation Analysis pages ii, 12, 13, 48, and 49 of the Traffic Impact Analysis of the Draft EIR have been updated to state that the project applicant shall develop and implement a Transportation Demand Management (TDM) plan which targets achieving a reduction in residential vehicle trips to and from the site. The TDM plan shall be prepared by a qualified traffic consultant and in coordination with the City of Morgan Hill Development Services Director or Designee. The TDM plan shall quantify the reduction in VMT. The TDM shall require the project applicant to make a financial contribution to the City's on-site demand rideshare service (MoGo), as a one-time or annual financial contribution based on City approval, or the management entity/Homeowners Association (HOA) will be required to provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director or Director's designee prior to issuance of occupancy. The suggested mitigation measure for the Homeowners Association to submit a receipt and documentation showing that the required transit passes have been distributed would not reduce the significant and unavoidable VMT impact, as it would serve to ensure the implementation of the measure, but would not lead to further reduction in VMT beyond what the Draft EIR has disclosed could be achieved by the measure. Nonetheless, the mitigation has been updated to include VTA's recommendation (refer to Section 5.0 Draft EIR Text Revisions for the revisions to mitigation measure MM TRN-2.1 and Appendix B of this FEIR, for the revisions to the Transportation Analysis).

Comment B.3:

- The project should provide a mid-block pedestrian crossing to connect between the new sidewalk along the project's Mission View Drive frontage and the existing sidewalk on the east side of Mission View Drive. Consideration should be given to providing bulb- outs and a pedestrian signal or warning device to improve safety for pedestrians crossing Mission View Drive to access VTA bus services and other destinations north of the site along Cochrane Road.

Response B.3: The project does not propose a mid-block crosswalk along Mission View Drive, as suggested by the comment. Furthermore, the posted speed limit on Mission View Drive is 40 miles per hour. However, vehicle travel speeds along Mission View Drive are likely greater than 40 miles per hour due to the spacing and lack of controlled intersections between Cochrane Road and Half Road. Given the speeds along Mission View Drive, a mid-block crossing along Mission View Drive as suggested by the comment would require the construction of a median along

Mission View Drive to physically restrict and discourage crossing at location other than the mid-block crossing. The project does not propose a mid-block crosswalk along Mission View Drive, as suggested by the comment, since its implementation would require a right-of-way along Mission View Drive that is not controlled by the project applicant. Controlled crossings at the intersections of Cochrane Road with Mission View Drive and DePaul Drive are proposed as a part of the project (as described on Page 192 of the Draft EIR). Improvements on Mission View Drive would include continuous sidewalks along the project frontage and a controlled crossing at the project access point and at its future signalized intersection with Half Road. As stated on Page 192 of the Draft EIR, the proposed project would improve pedestrian safety and circulation throughout the project area. Therefore, the project would not result in a significant impact to pedestrian facilities or safety in the area.

Comment B.4:

- While VTA understands that there will be no general vehicle (non-emergency vehicle) access between the DePaul Drive extension and Half Road, the project should provide a connection for pedestrians and cyclists at the end of the proposed DePaul Drive cul-de-sac, to improve connectivity to the points south including Live Oak High School and the Madrone Channel Trail.

Response B.4: As stated above, the project would include sidewalks along the DePaul Drive including sidewalks, including a sidewalk along the cul-de-sac. The project would also include sidewalks along the Mission View Drive and Half Road frontages to improve the connectivity to Live Oak High School and the Madrone Channel Trail. As stated in Response B.3., the project would improve connectivity in the project area. As a part of the City's Bikeways, Trails, Parks and Recreation Master Plan, a planned multi-use trail would be constructed by the City and located along the west side of Mission View Drive by 2030. The multi-use trail would be a two-way, off-street paved trail for pedestrian and bicycle use. In addition, as mentioned on Page 192 of the Draft EIR, the project could generate up to three new bicycle trips during each of the peak hours and the demand generated by the proposed project could be accommodated by existing bicycle facilities in the vicinity of the site. The proposed project would provide adequate pedestrian and bicycle access to Live Oak High School and the Madrone Channel Trail.

Comment B.5: Bus Stop Improvements

VTA previously submitted these comments, however the site plan was not updated to reflect any recommendations. These recommendations help support further reducing solo vehicle trips. VTA Route 87 serves the frontage of the project on Mission View Drive. The stop spacing in- between the two nearest stops of the development is 3,400 feet and does not have close enough pedestrian facilities nearby to access the nearest stops. A new southbound bus stop should be installed after the main entrance on Mission View Drive. A bus stop in the northbound direction is also recommended on the condition that there will be a signalized crosswalk for the new development. The preferred location for the new bus stop is past the main entrance on Mission View Drive. VTA

would like to determine the location when off-site plans are drafted (see attachment). VTA also recommends to:

- Install street lighting at the bus stop
- Place trees and landscaping outside of the bus stop area C
- Install a new passenger pad 8'x40' minimum per VTA Standards

Response B.5: As stated on Page 193 of the Draft EIR, per VTA's recommendation, the project applicant will be required to pay a fair share contribution toward the installation of a southbound bus stop after (or adjacent to) the main entrance on Mission Drive. The condition of approval will be updated to state that the project applicant will also make a fair share contribution toward a northbound bus stop on Mission View Drive (refer to Section 5.0 Draft EIR Text Revisions of this Final EIR). The bus stops will include street lighting, landscaping, and a new passenger pad as mentioned in the condition of approval. The new bus stop would be consistent with the VTA standards for the location of the proposed landscaping/trees and the dimensions of the new passenger pad. The bus stop locations are not included on the project site plan since the project applicant will be contributing toward the payment of the bus stop, however, the bus stop would not be constructed as a part of the project. City staff will coordinate with VTA regarding the proposed location of the new bus stops; this coordination will be separate from the proposed project.

C. Valley Water (dated January 3, 2023)

Comment C.1: The Santa Clara Valley Water District (Valley Water) has reviewed the draft Environmental Impact Report (EIR), dated November 2022, for the proposed Crosswinds residential development on Half Road (Project). The following comments are based on Valley Water's review of the draft EIR:

1. **Section 4.9.2.1 – Project Impacts, Water Well and Septic System (Page 126):** Valley Water agrees with the DEIR evaluation that the one abandoned well located during the on-site reconnaissance should be properly destroyed in accordance with Valley Water Ordinance 90-1. Based on Valley Water well records, there is one active water supply well (09S03E16J005) with a well log located on APN 728-30-004. However, due to the long agricultural history of the Santa Clara and Llagas subbasins and subsequent land development, there are likely many abandoned or unregistered wells in the subbasins. While some of these wells may have been sealed prior to well permitting requirements, many have open casings and may be discovered during construction of the Project. If other abandoned or unregistered wells or well-like structures are discovered or encountered during Project construction, Valley Water's Wells Hotline should be immediately contacted to assist in the identification of these wells or structures and help determine the appropriate means of addressing them, such as proper destruction by a C-57 licensed driller with related work permit and inspection by Valley Water Wells Unit. Therefore, Valley Water also agrees with MM HAZ-2.7 listed in Table 1.2-1, which states "If the wells are identified, or subsequently encountered during earthwork activities, the wells shall be properly destroyed in accordance with Valley Water Ordinance 90-1.".

Response C.1: As mentioned in Comment C.1, mitigation measure MM HAZ-2.7 on Pages 126 and 127 of the Draft EIR requires wells identified during earthwork activities to be properly destroyed in accordance with Valley Water Ordinance 90-1. Based on Comment C.1, the mitigation has been updated to also require the project applicant or contractor to contact Valley Water's Wells Hotline immediately to assist in the identification of abandoned/unregistered wells or structures and help determine the appropriate means of addressing them (refer to Section 5.0 Draft EIR Text Revisions of this Final EIR). As stated in the Draft EIR, Page 127, with the implementation of mitigation measure MM HAZ-2.7, the abandonment of the well and septic system would not result in a significant environmental impact.

Comment C.2: Section 4.10.1.1 – Hydrology and Water Quality, Existing Conditions, Groundwater (Page 133): Previously on page 126, the DEIR stated there was only one water well identified during the on-site reconnaissance. However, this section of text on page 133 explains "there are two existing wells on the property associated with agricultural activities that have been occurring on the property for decades. With the cessation of agricultural activities, the wells are no longer in regular use." If there are two wells on the property, please fix the text on 126 for consistency to include the correct number of wells and provide details that both abandoned wells will be destroyed.

Response C.2: Based on Comment C.2, a correction to Page 133 has been made to state that there is one existing well on the property associated with residence on-site. Given the residence is vacant, the well is no longer in regular use (refer to Section 5.0 Draft EIR Text Revisions of this Final EIR). As stated in mitigation measure MM HAZ-2.7 and Response C.1, the well will be properly abandoned, in accordance with Valley Ordinance 90-1.

Comment C.3: 3. Section 4.10.1.1 – Hydrology and Water Quality, Existing Conditions, Groundwater Section and Post-Construction Water Quality Section (Pages 133 and 136): The DEIR states "The site does not contain aquifer recharge facilities, such as streams or ponds." While this statement is true, the stormwater runoff options 1 and 2 of the post-construction water quality (page 136) both mention Madrone Channel, which is a Valley Water managed aquifer recharge facility. Option 1 states "discharge into the public storm drain system to Madrone Channel" and option 2 states "no discharge to Madrone Channel". Valley Water recommends adding text to either page 133 or 136 explaining that Madrone Channel is used by Valley Water for managed aquifer recharge that supports groundwater sustainability in the Llagas Subbasin. Additional details about the managed recharge in Madrone Channel can be found in Valley Water's 2021 Groundwater Management Plan, Appendix I (https://www.valleywater.org/your-water/where-your-water-comes/groundwater/sustainable). Since Option 1 could discharge stormwater directly into Madrone Channel and Madrone Channel is a managed recharge facility, Valley Water recommends adding text to explain if Option 1 would have any impact on the quality of stormwater flowing into Madrone Channel and thus the quality of recharge to the aquifer.

Response C.3: Based on Comment C.3, Page 136 of the Draft EIR has been updated to state that under Option 1, the site would collect the runoff filtered through the bioretention areas and underground retention facilities, before being discharged into the public storm drain system to Madrone Channel. The Madrone Channel is used by Valley Water for managed aquifer recharge that supports groundwater sustainability in the Llagas Subbasin. Since runoff would be treated prior to being discharged to Madrone Channel, this option would not result in a significant impact to the quality of stormwater flowing into the Madrone Channel or quality of recharge to the aquifer (refer to Section 5.0 Draft EIR Text Revisions of this Final EIR).

Comment C.4: **4. Section 4.10.2.1 – Hydrology and Water Quality, Project Impacts, Impact HYD-2 (Page 136):** The EIR correctly states that the Project site is not in a groundwater recharge facility. Although the site is not a part of, or adjacent to, a formally managed recharge facility, the project is in an area of the county that supports natural groundwater recharge (see the 2021 Groundwater Management Plan for the Santa Clara and Llagas Subbasin). Natural groundwater recharge is an important element of the county's overall water supply, representing approximately 15% of the supply available. The cumulative effect of development throughout the county over the last 50 years has substantially reduced natural groundwater recharge as naturally pervious surfaces have been developed with impervious surface. Natural groundwater recharge is especially important in the Coyote Valley sub-area of the Santa Clara Subbasin, which relies exclusively on natural recharge and managed in-stream recharge in Coyote Creek to maintain groundwater levels. To avoid the potential cumulative impact to natural groundwater recharge from new impervious surface, the proposed bioretention basins and other elements of the stormwater management plan should be designed to maintain as much natural groundwater recharge that is currently provided by the property.

Response C.4: Section 4.10.2.2 Cumulative Impacts, Page 138 of the Draft EIR discusses cumulative hydrology and water quality impacts. This cumulative hydrology discussion has been updated to state that the proposed bioretention basins would be designed to maintain as much on-site groundwater recharge as is feasible to avoid the cumulative impacts to natural groundwater recharge from new impervious surfaces. The site's stormwater facilities would be sized to allow infiltration of the 95th percentile, 24-hour rainfall event. In addition, the City standards require detention of the 25-year storm; under Option 1, stormwater would be directed to underground retention facilities designed for a 25-year, 24-hour storm event and under Option 2, 100 percent of stormwater from the site would be directed to underground retention facilities designed for a 100-year storm event. Refer to Section 5.0 Draft EIR Text Revisions of this Final EIR.

Comment C.5: **5. Section 4.10.2.1 – Hydrology and Water Quality, Project Impacts, Post-Construction Water Quality (Page 136):** The bottom of the page states "The existing well on the 33-acre property would be properly removed under permit from Valley Water, as required per the

District Well Ordinance". If there are two wells on the property (as stated on page 133), the text on page 136 should be updated to reflect both wells.

Response C.5: As stated in Response C.2, Page 133 has been updated to correctly state that there is one existing well on-site, the reference to two wells was a typo. Refer to Section 5.0 Draft EIR Text Revisions of this Final EIR.

Comment C.6: **6. Section 4.10.2.2 – Hydrology and Water Quality, Project Impacts, Impact HYD-3 (Page 137):** While the project site is not a managed aquifer recharge facility, as correctly stated on page 136, the 33 acres of pervious surfaces currently allow for natural recharge. Both natural recharge and managed recharge support sustainable groundwater conditions in the Santa Clara and Llagas Subbasins. Page 137 explains that the 33 acres of "nearly entirely pervious" surfaces will be converted by the proposed development to about 75% impervious and 25% pervious surfaces. Valley Water recommends additional text is provided in the EIR to explain if, and how the reduction in pervious surfaces will affect natural recharge to the aquifer. Given the differences in the stormwater management plans for Option 1 versus Option 2, please also add text explaining if one of the options is preferable in terms of maintaining current natural recharge at the site.

Response C.6: As mentioned in Section 3.2 Project Description, Page 5 and under the Impact HYD-3 discussion, Page 137 of the Draft EIR, most of the site is undeveloped with fallowed agricultural fields. Some of the rainfall at the existing site percolates into the groundwater aquifer, however, most of it is not recharged but is lost due to evapotranspiration. Under Option 1, the reduction of pervious surfaces would reduce natural recharge as more impervious surfaces would increase the amount of runoff from the site, resulting in less rainfall percolation into the groundwater aquifer. However, this additional runoff would be directed to bioretention areas and underground retention facilities on-site to reduce runoff from leaving the site and enhance on-site percolation. Stormwater runoff from the site would be retained and then directed to the Madrone Channel, a recharge facility managed by Valley Water. Under Option 2, stormwater would be directed to subsurface infiltration facilities (sized to retain the 100-year storm event), resulting in the percolation of more stormwater into the groundwater aquifer, which would result in more on-site recharge to the aquifer compared to Option 1. Page 136 of the Draft EIR has been revised to include this clarification.

Comment C.7: **7. Section 4.10.2.2 – Hydrology and Water Quality, Project Impacts, Impact HYD-3 (Page 137):** The EIR states that the project would not "substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site" and "create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage system..." The basis of this determination should be supported by a detailed analysis which compares pre- versus post-development conditions and provides justification for the design of the proposed retention basins. Furthermore, the EIR proposes two options to manage stormwater runoff. According to Section 3.2.4 of the EIR - 'Storm Drainage Improvements,' Option 1 would be designed to detain runoff from the 25-year, 24-hour storm event, and "Excess runoff from the site

would drain to the Santa Clara Valley Water District's (Valley Water's) Madrone Channel (Page 19)." The EIR should include a more detailed discussion of the potential impacts from Project Option 1 and determine the anticipated runoff (both volume and rate) if Option 1 is subjected to the 100-year, 24-hour storm event. The City has been working with Akel Engineering on a hydrology report detailing the Madrone Channel drainage basin and the allowable runoff contributions into Madrone Channel. Moreover, this study concluded that all developments north of Half Road should be restricted to a total of flow rate of 120 cfs; this equates to 0.42 cfs/acre. If Option 1 is the chosen alternative, the EIR should acknowledge this restriction and design the mitigation measures accordingly.

Response C.7: Under Project Option 1, based on a stormwater memo completed by Akel Engineering in December 2022, stormwater runoff for proposed developments north of Half Road would be allotted 120 cubic feet per second (cfs) at a rate of 0.42 cfs/acre.[1] Stormwater runoff that would be generated by the proposed Crosswinds project during the 100-year storm event would not exceed 13.4 cfs, which equates to 0.42 cfs/acre.[2]. Stormwater runoff from future developments north of Half Road (including the Crosswinds development) would not exceed 118.7 cfs during a 100-year event (which equates to 0.42 cfs/acre)[3] Therefore, the project and cumulative projects north of Half Road, would not exceed the runoff capacity for the Madrone Channel. Page 137 of the Draft EIR, which includes a discussion of drainage impacts, has been updated with the above information. Refer to Section 5.0 Draft EIR Text Revisions of this Final EIR. Given the project's runoff under Option 1 would not cause the Madrone Channel to exceed capacity under even a 100-year, 24-hour event, no mitigation measures are required to reduce drainage impacts.

Comment C.8: **8. Section 4.10.2.2 – Hydrology and Water Quality, Cumulative Impacts, Impact HYD-C (Page 138):** The text states that "the project would not impact groundwater recharge and would not conflict with the SCVWD's 2016 Groundwater Management Plan." Valley Water recommends updating this text to reflect Valley Water's 2021 Groundwater Management Plan. Valley Water also recommends revising this text as needed in response to Valley Water's previous comments about natural recharge and stormwater into Madrone Channel (recharge facility).

Response C.8: The reference to Valley Water's 2016 Groundwater Management Plan has been updated to the 2021 Groundwater Management Plan under Impact HYD-5, Page 138 of the Draft EIR. The discussion has been updated to clarify that stormwater would be treated on-site prior to being directed to the Madrone Channel (a managed recharged facility). Stormwater from the site would be retained via bioretention basins/facilities to reduce runoff from leaving the site and enhance

[1] Akel Engineering Group. Proposed New 42" Storm Drain Outfall at Half Road. December 2022.
[2] 0.42 cfs/acre x 33 acre project site = 13.4 cfs
[3] 0.42 cfs/acre x 283 acres (pending and approved projects in the area) = 118.7 cfs

on-site percolation, under Options 1 and 2 (Option 2 contains subsurface infiltration facilities sized to retain the 100-year storm event, resulting in more on-site recharge). Cumulative developments would be subject to similar requirements for bioretention basins that would result in on-site recharge, which would reduce impacts to the Madrone Channel recharge facility. Page 138 of the Draft EIR has been updated with this clarification. Refer to Section 5.0 Draft EIR Text Revisions of this Final EIR.

Comment C.9: **9. Section 4.10.2.2 – Hydrology and Water Quality, Cumulative Impacts, Impact HYD-C (Page 138):** The EIR states that the proposed development, from a cumulative standpoint, would not have a significant impact to the existing hydrology. A hydrologic analysis of the Madrone Channel drainage basin should be included with the EIR to support this finding. The analysis should assess the anticipated runoff (volume and rate) generated under post-development conditions, and account for contributions from other planned developments within the Madrone Channel drainage basin. Moreover, the analysis should demonstrate that Madrone Channel has adequate capacity (including freeboard) to receive and convey the cumulative runoff without inducing flooding downstream of the development. As noted, in Comment #3, the EIR should acknowledge the allotted runoff quantity for all developments north of Half Road, as determined in the study by Akel Engineering, which is roughly 120 CFS, or 0.4 CFS/acre. Moreover, the mitigation measure proposed under Option 1 should consider this restriction when determining the runoff generated cumulatively with other proposed developments in the Madrone Channel drainage basin.

Response C.9: As stated in Response C.7, stormwater runoff from future developments north of Half Road (including the Crosswinds development) would not exceed 109 cfs during a 100-year event,[4] which would not exceed the capacity (120 cfs) for runoff at the Madrone Channel under Option 1. Stormwater runoff from the site would be filtered through the bioretention areas and underground retention facilities before being discharged into the public storm drain system to Madrone Channel. Stormwater runoff from the project site would not result in a significant cumulative impact to the Madrone Channel basin (see Section 5.0 Draft EIR Text Revisions of this Final EIR).

Comment C.10: **10. Section 4.19.1.2 – Utilities and Service Systems, Project Impacts, Existing Conditions, Water Service (Page 214):** The DEIR states on page 214 "One or two private wells supply water to the residence and tree nursery." Please ensure this sentence and all the previously mentioned sentences about the number of existing wells on this property are consistent. Some statements say one well and others say two wells.

Response C.10: As stated in Responses C.2 and C.5, there is one existing well on the site, associated with the vacant residence, and the reference to two wells is a typo.

[4] Akel Engineering Group. Proposed New 42" Storm Drain Outfall at Half Road. December 2022.

There is an abandoned off-site well at the adjacent property to the west, which was historically used to supply water to the project site's tree nursey. The off-site well is no longer active. Page 214 and Appendix H Water Supply Assessment of the Draft EIR have been updated to state this. Refer to Section 5.0 Draft EIR Text Revisions.

Comment C.11: 11. Section 4.19.1.2 – Utilities and Service Systems, Project Impacts, Existing Conditions, Water Service (Page 214): The DEIR states that current groundwater use on-site is 18.54 acre-feet per year (AFY). However, based on Valley Water well production records, there is only one well (09S03E16J005) on the Project APNs with a reported production history that is typically <1 AFY. Given that information, the estimated groundwater use of 18.54 AFY greatly over-estimates actual reported groundwater use. In turn, this greatly over-estimates the statement on page 219 about increased groundwater demands "…the project would result in a net increase in groundwater demands of about 23.77 AFY." If actual groundwater use was closer to 1 AFY, then the net increase in groundwater demands due to the Project would be closer to the gross water demands of about 42 AFY. Valley Water recommends reevaluating the water supply assessment regarding actual, historical groundwater use on-site.

Response C.11: As stated in Response C.10, there is one existing well on the site the site, associated with the vacant residence. There is an abandoned off-site well at the adjacent property to the west, which was historically used to supply water to the project's tree nursey. The off-site well is no longer active. At the time the project's Water Supply Assessment was prepared (in 2020 and 2021), the off-site agricultural well was still active. Since this time, the off-site well has been destroyed. Page 214 of the Draft EIR has been updated to state that the off-site agricultural well is abandoned and no longer serves the site. Pages 219 and 220 and Appendix H Water Supply Assessment of the Draft EIR have been revised to include the updated net demand increase from 23.77 AFY to 41.67 AFY. Given the project is consistent with the General Plan assumptions, the project's water demand is consistent with the Urban Water Management Plan and would not exceed projections for the site. Therefore, the project would continue to have a less than significant impact related to the project's water demand as stated on Page 220 of the Draft EIR. See Section 5.0 Draft EIR Text Revisions of this Final EIR.

Comment C.12: 12. Section 4.19.1.2 – Utilities and Service Systems, Project Impacts, Existing Conditions, Storm Drainage (Page 215): The DEIR correctly states "The Madrone Channel (managed by Valley Water) is located approximately 1,000 feet west of the site. The Madrone Channel carries stormwater runoff from the area and also functions as a groundwater recharge basin." Please use this or similar text to address our comment on page 133 about Madrone Channel.

Response C.12: As recommended in Comment C.12, Page 133 of the Draft EIR has been updated to state that Madrone Channel is managed by Valley Water which functions as a groundwater recharge basin. See Section 5.0 Draft EIR Text Revisions of this Final EIR.

Comment C.13: **13.Section 4.19.2.1 – Utilities and Service Systems, Project Impacts, Text Related to Table 4.19-2 (Page 219):** The DEIR states "As shown in Table 4.19-2, the proposed project would result in a gross water demand of 42.31 acre-feet per year (AFY)…". However, the table 4.19-2 states that 42.31 AFY is an average between Water Demand based on WSMP net area and the Water Demand based on units of building area. Therefore, Valley Water recommends adding the word "average" to the sentence to more accurately reflect the information presented in the table: "As shown in Table 4.19-2, the proposed project would result in an average gross water demand of 42.31 acre-feet per year (AFY)…"

Response C.13: As recommended in Comment C.13, Draft EIR Page 219 has been to state updated to state that the proposed project would result in an average gross water demand of 42.31 acre-feet per year (AFY). See Section 5.0 Draft EIR Text Revisions of this Final EIR.

Comment C.14: **14 Utilities and Service Systems, Project Impacts, UTL-2, Water Supply Reliability (Page 220):** The analysis of water supply concludes that the project is consistent with the City's 2016 (and presumably 2020) Urban Water Management Plan (UWMP). The UWMPs for Morgan Hill and for Valley Water both assume substantial increases in water conservation to manage future water demands. To meet water conservation targets assumed in the UWMPs, Valley Water suggest that all available water conservation measures be required of the project, including requiring all multi-family residential units to install a submeter to encourage efficient water use. Studies have shown that adding submeters can reduce water use 15 to 30 percent.

Response C.14: As recommended in Comment C.14, all feasible water conservation measures would be implemented by the proposed project including the installation of individual water meters in all single-family residential and duet units. In addition, a water submeter would be installed in the condominium buildings to manage the water use of the condominium units. Page 219 and 220 of the Draft EIR have been updated with these clarifications (refer to Section 5.0 Draft EIR Text Revisions of this Final EIR).

Comment C.15: **15. Section 4.19.2.1 – Utilities and Service Systems, Project Impacts, UTL-2 (Page 220):** The DEIR correctly states, "The City's sole source of water supply, groundwater from the Llagas and Santa Clara subbasins, is a shared resource managed by Valley Water through the Sustainable Groundwater Management Act (SGMA) process" and references the 2018 SGMA Water Year regarding a balanced long-term groundwater budget.

Since the 2018 water year report is about five years old, Valley Water recommends adding the following text to this paragraph to provide the most current information on Valley Water's groundwater management under SGMA:

"Valley Water's 2016 Groundwater Management Plan (GWMP) for the Santa Clara and Llagas Subbasins describes groundwater sustainability goals, and the strategies, programs, and activities that support such goals. In 2019, the Department of Water Resources (DWR) approved the 2016

GWMP for both basins, determining it satisfies the objectives of SGMA. In 2021, Valley Water submitted to DWR the first required periodic update of the GWMP that describes updated groundwater management outcome measures, programs, and activities."

The 2021 GWMP is publicly available here on this webpage: https://www.valleywater.org/your-water/where-your-water-comes/groundwater/sustainable" The 2021 GWMP should also be referenced in the discussion on Impact HYD-5 on page 138.

Response C.15: As recommended in Comment C.15, Page 138 of the Draft EIR has been updated to reference the Valley Water 2021 Groundwater Management Plan. The recommended text update regarding the Groundwater Management Plan update has also been added to Page 220 of the Draft EIR text. See Section 5.0 Draft EIR Text Revisions of this Final EIR.

Comment C.16: **16. General:** The proposed sanitary sewer modifications along Half Road will require an encroachment permit for any modifications that will cross, or take place over the pipeline, and/or impact any appurtenances for the pipeline. It should be noted that Valley Water is a Responsible Agency under CEQA due its discretionary approval authority over Half Road pipeline and its appurtenances.

Response C.16: As noted in Comment C.16, Valley Water is a Responsible Agency for the project, and the project would require the obtainment of an encroachment permit for the proposed sanitary sewer modifications. Page 23 of the Draft EIR has been updated with a clarification that an encroachment permit from Valley Water will be required for the sanitary sewer modifications. Refer to Section 5.0 Draft EIR Text Revisions of this Final EIR.

D. Joe Baranowski (January 3, 2023)

Comment D.1: The DEIR correctly emphasizes that project impacts must be considered on a cumulative basis.

(pg. 25) The CEQA Guidelines advise that a discussion of cumulative impacts should reflect both their severity and the likelihood of their occurrence (CEQA Guidelines Section 15130(b)). To accomplish these two objectives, the analysis should include either a list of past, present, and probable future projects or a summary of projections from an adopted general plan or similar document (CEQA Guidelines Section 15130(b)(1)). This EIR uses the list of projects approach.

The analysis must determine whether the project's contribution to any cumulatively significant impact is cumulatively considerable, as defined by CEQA Guideline Section 15065(a)(3). The cumulative impacts discussion for each environmental issue accordingly addresses the following issues: 1) would the effects of all of past, present, and probable future (pending) development result in a significant cumulative impact on the resource in question; and, if that cumulative impact is likely to be significant, 2) would the contribution from the proposed project to that significant cumulative impact be cumulatively considerable?

> **Response D.1:** Comment D.1 summarizes the description and approach to evaluating cumulative impacts discussed on Page 25 of the Draft EIR. The comment does not question the adequacy of the Draft EIR analysis. Therefore, no further response is required.

Comment D.2: Comment 1: Cumulative Toxic Air Contaminants are underestimated because 'cumulative' pending projects are not accounted for at all or are incorrectly modeled.

Page 65 of the DEIR, Table 4.3-10 shows that effects of TAC Sources (e.g., cancer risk) to Project Site Receptors is based on Average Daily Trips on Mission View Drive of 14,020.

Appendix B of the DEIR states that: The average daily traffic (ADT) for Mission View Drive were based on AM and PM peak-hour cumulative plus project traffic volumes for the nearby roadways provided by the project's traffic consultant. The calculated ADT on Mission View Drive was 14,020 vehicles.

The only reference to the assumed Mission View Drive ADT value was "Correspondence with Maria Kisyova, Assistant Project Manager, David J. Powers & Associates, Inc., November 10, 2020, Hexagon - The Crosswinds Trip Gen and Volumes 11-10-20."

However, the DEIR states that:

The only other known TAC source within 1,000 feet that would affect residents of the proposed project are operational truck trips that would be associated with the approved Redwood Tech project immediately west of the site. At this time, the number of operational truck trips, truck routes, or associated emissions with the pending Redwood Tech project are unknown. However, based on modeling completed for a former industrial project proposed on that site in 2019 approximately two times larger than the current Redwood Tech project, the combined effect of emissions of truck operations from the pending Redwood Tech project and vehicle emissions from Mission View Drive would not likely result in a substantial cumulative effect from TAC sources (i.e., would not likely exceed cumulative BAAQMD thresholds) on sensitive receptors at the site. If the Redwood Tech project undergoes construction after the proposed project (under Options 1 and 2) starts operations (and residents are on-site), the cumulative effect of construction and operations of the Redwood Tech project may result in substantial cancer risks without the implementation of conditions of approval for construction emissions.

The assumption regarding TAC sources in the above paragraph are wrong for a number of reasons.

Response D.2: It should be clarified this excerpt from Draft EIR Page 65 is a discussion of TAC effects on future project residents, which is not considered a CEQA impact (refer to *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal. 4th 369 (BIA v. BAAQMD)which concluded that effects of the environment on the project are not considered CEQA impacts). The Draft EIR properly analyzes the project's TAC impacts on the environment, including the potential to exacerbate existing conditions. To address the reverse situation, i.e., future project resident exposure to TACs, conditions of approval are recommended for the project for General Plan consistency to address impacts on the future residents. The 14,020 average daily trips (ADT) for Mission View Drive referenced in Appendix B Air Quality and Greenhouse Gas Assessment of the Draft EIR refers to the ADT from the project and cumulative volumes.[5] The average daily trips on Mission View Drive from cumulative plus project traffic volumes are derived from buildout of the General Plan. The cumulative traffic volumes on Mission View Drive reflect Year 2030 cumulative conditions, which are based on General Plan buildout projections, and reflect far greater traffic growth than traffic from only the Redwood Tech, Crosswinds, and Cochrane Commons Phase II projects combined. . The Draft EIR, therefore, provides a conservative analysis for TAC impacts (including vehicle emissions from Mission View Drive) on nearby sensitive receptors. As discussed on Pages 62 and 63 of the Draft EIR, both the proposed project and Redwood Tech

[5] The cumulative average daily trips on Mission View Drive are based on average of the AM and PM peak hour cumulative plus project volumes multiplied by 10. The peak hour volumes are assumed to be 10 percent of ADT; this is an observed and generally accepted standard factor based on various traffic data.
Personal Communications. Del Rio, Robert, Hexagon Transportation Consultants. April 17, 2023.

project would be required to implement construction best management practices that identify construction equipment necessary to reduce impacts on sensitive receptors to less than significant levels.

<u>Comment D.3:</u> A) The modeling done for the "former industrial project approximately two times larger than the current Redwood Tech project" is not consistent with ITE standards or known information.

An expert with qualifications that include registration as a Civil and Traffic Engineer in California, over 50 years professional consulting practice in these fields and both preparation and review of the traffic and transportation components of numerous environmental documents prepared under CEQA, reviewed the Redwood@101 Project and wrote a report dated May 20, 2021, which the City received and is aware of.

In that report, the author noted that the Redwood@101 project is "best described as a Business Park". That Land Use best matches the developer's documentation and statements to the Morgan Hill Planning Commission and City Council where the exact designation of "Business Park" was indeed spoken. The expert stated that the Redwood@101 land use, as stated BY THE DEVELOPER, corresponds to the description for Land Use Category 770, Business Park in the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition.

Based on the Redwood@101 building area the ITE Trip Generation manual indicates that approximately 6040 Average Daily Trips (ADTs) would be generated by the Redwood@101 project. This is higher than the number of ADT that were assumed for the 'twice as large" project.

Regarding the number of Truck Trips, the "twice as large" study assumed that "each truck service door would turn over once per day on average". That assumption is not consistent with modern operations or with ITE studies on buildings with a high number of dock doors.

<u>Response D.3:</u> The referenced May 20, 2021 memorandum was prepared by a third party regarding the Redwood Tech project. The letter attempted to justify why ITE Land Use Category 770 should be used for the Redwood Tech project, and claimed the Redwood Tech project was not subjected to a complete traffic analysis. This letter was withdrawn and no changes were made regarding approval of the Redwood Tech project. This comment pertains to future conditions that could affect future project residents based on the amount of traffic that would be generated by an adjacent industrial project, does not address an impact of the Crosswinds Residential project on the environment, and, according to the case law cited in the prior response, is outside the requirements of CEQA. As noted above, the exposure of future project residents to TACs source was included in the Draft EIR for informational purposes.

Based on the ITE Trip Generation Manual Land Use Category 770 Business Park description, this category may include offices, retail, and wholesale stores,

restaurants, recreational areas and warehousing, manufacturing, light industrial, or scientific research functions. The previous Trammel Crow industrial and Redwood Tech buildings were assumed to be tilt-up warehouse buildings with limited supporting office space and large truck dock doors. Thus, the buildings would not allow for customer-based uses such as office, retail, wholesale stores, restaurants, and recreational areas upon which the LU 770 Business Park ITE trip rates are based, which are higher than the LU 110 Light Industrial category trip rates.

The ITE Land Use Category 110 Light Industrial, which is described as uses that typically have minimal office space and include industrial activities such as material testing and assembly would be applicable to the previous industrial project and Redwood Tech project. Furthermore, trip rates for other potentially applicable land use categories such as "Industrial Park (LU 130) and Manufacturing (LU 140) are lower than those for Light Industrial (LU 110). The cumulative traffic analysis is based on the Cumulative Year 2030 condition peak-hour traffic volumes which reflects a proportion (15 Years or 75 percent) of traffic growth associated with the buildout of the City's General Plan (refer to Appendix G of the Draft EIR), also refer to Response D.8 for further detail). As noted above, this comment and the underlying issue of the traffic produced by a prior proposal for an adjacent site is outside the requirements of CEQA given it pertains to the effects of the environment on future project residents.

<u>Comment D.4:</u> B) The Average Daily Trips that the approved Cochrane Commons Phase 2 project will generate on Mission View Drive are not accounted for at all.

The DEIR incorrectly states that Table 3.4-1 identifies the approved (but not yet constructed or occupied) and pending projects within one mile of the project site that are evaluated in the cumulative analysis. Other pending projects in the City are located at least two miles away from the project site.

The "Cochrane Commons Mixed-Use Development Transportation Operations Analysis, December 10, 2021" shows that the approved project that is less than two miles away for the Crosswinds project site is estimated to generate 9,857 Average Daily Trips, many of which will result in travel along Mission View Drive.

As the DEIR states: *The substantial exposure to TACs for new project receptors is evaluated via the following criteria: (1) increased cancer risk, and (2) annual $PM_{2.5}$ concentration. Exposure to annual $PM_{2.5}$ concentrations from Mission View Drive traffic is above the BAAQMD single-source threshold of 0.3 µg/m^3. Cancer risk mostly results from exposure to diesel particulate matter, although gasoline vehicle exhaust contributes to this effect. Annual $PM_{2.5}$ concentrations are based on the exposure to $PM_{2.5}$ resulting from emissions attributable to truck and automobile exhaust, the wearing of brakes and tires, and roadway dust from vehicles traveling over pavement. Reducing particulate matter exposure would reduce both annual $PM_{2.5}$ exposures and cancer risk.*

The exposure to TACs for the Crosswinds project has used a false assumption for the number of CUMULATIVE Average Daily Trips that will be occurring on Mission View Drive and thus the results do not reflect the cumulative exposure or associated risk.

Response D.4: This comment pertains to future conditions that could affect future project residents based on the amount of traffic that would be generated by development in the area, does not address an impact of the Crosswinds Residential project on the environment, and, according to the case law cited in Response D.2, is outside the requirements of CEQA. As noted above, the exposure of future project residents to TACs source was included in the Draft EIR for informational purposes. Several conditions of approval were placed on the project to comply with requirements of the General Plan to ensure future resident exposure to TACs was consistent with BAAQMD guidelines. The average daily trips on Mission View Drive were derived from cumulative plus project traffic volumes from buildout of the General Plan. The cumulative traffic volumes in Appendix G Transportation Analysis in the Draft EIR reflect Year 2030 cumulative conditions, which are based on General Plan buildout projections, and reflect far greater traffic growth than traffic from only the Redwood Tech, Crosswinds, and Cochrane Commons Phase II projects combined. The Draft EIR, therefore, provides a conservative analysis for TAC impacts (including vehicle emissions from Mission View Drive) on future project residents.

Comment D.5: Comment 2: The traffic operations analysis done for the Crosswinds project is completely meaningless because 'cumulative' pending projects are not accounted for at all. This IS a matter of CEQA and thus of the DEIR review because CEQA guidelines require that consistency to a General Plan must be considered.

Appendix G of the DEIR states: *The traffic operations analysis provides supplemental analysis for use by the City of Morgan Hill in identifying potential improvement of the transportation system that may be included as part of the project's Conditions of Approval. However, the identified roadway operations and improvements are not required or considered project impacts per CEQA guidelines.*

First of all we should be clear that California Public Resources Code, Section 21099 (b)(4) states that the updated VMT *subdivision does not preclude the application of local general plan policies, zoning codes, conditions of approval, thresholds, or any other planning requirements pursuant to the police power or any other authority.*

Response D.5: Comment D.5 suggests that roadway operations and improvements outside of an evaluation of Vehicle Miles Traveled (VMT) were not considered in the Transportation Analysis for the proposed project. However, consistent with City requirements, a Traffic Operations Analysis, which includes the evaluation of intersection level of service, was completed as part of the Transportation Analysis (see Appendix G of the Draft EIR). Page 14 of the Transportation Analysis states that the Traffic Operations Analysis provides supplemental analysis, beyond the VMT analysis required by CEQA, for use by the City of Morgan Hill in identifying potential

improvement of the transportation system that may be included as part of the project's Conditions of Approval to demonstrate the project's consistency with the Morgan Hill 2035 General Plan goals and policies. The comment further argues that pending projects were improperly omitted from the cumulative analysis. However, the Transportation Analysis in Appendix G of the Draft EIR included trips from planned growth projected to be built out by 2030 (Year 2030 Cumulative Conditions), which includes Cochrane Commons, rather than employing a cumulative scenario derived from a list of pending and approved projects, which can serve to understate future growth. The Year 2030 condition peak-hour traffic volumes reflect a proportion (15 Years or 75 percent) of traffic growth associated with the buildout of the City's General Plan, which is a more conservative approach to evaluating future cumulative conditions in this case than relying on a list of pending and approved projects. Section 15130(b)(1) of the CEQA Guidelines allows for either approach, i.e., using the list approach or growth projections based on General Plan buildout.

Comment D.6: CEQA guidelines require that a lead agency conducting environmental review of a project must consider whether the project would conflict with any applicable land use plan, policy or regulation including the General Plan.

Response D.6: This comment correctly summarizes aspects of the CEQA Guidelines. As discussed in Section 4.11 Land Use and Planning, Page 141, the proposed project is consistent with the site's General Plan designation of Residential Attached Low-Density, and where relevant, the project's consistency with various General Plan Policies was discussed throughout the Draft EIR's analysis.

Comment D.7: The Morgan Hill General Plan requires a traffic impact study be done when a project generates 100 or more net new peak hour trips. The Crosswinds project exceeds the Trip Generation Threshold by a wide margin.

The Morgan Hill Transportation Impact Study Policy states that at a minimum the following shall be included in a transportation study.

1) The study shall acknowledge and identify the use of other traffic reports completed for other projects within the same area.
2) Existing Project Conditions: Background traffic volumes, existing volumes plus the volumes from approved but not yet constructed or occupied development in the area plus traffic from the proposed project.

3) Cumulative No Project Conditions and Cumulative Plus Project Conditions – from approved projects plus traffic from pending projects.

Response D.7: Comment D.7 references portions of the City of Morgan Hill Guidelines for the Preparation of Transportation Impact Reports dated May 28,

2008 (last amended February 24, 2010). A comprehensive transportation analysis which included a Vehicles Mile Traveled (VMT) evaluation in conformance with CEQA requirements and a supplemental transportation operations analysis (including a level of service (LOS) analysis pursuant to General Plan policy) was completed for the proposed project. An LOS analysis of existing conditions, existing plus project conditions, cumulative no project conditions (Year 2030), and cumulative plus project conditions was completed as a part of the Transportation Analysis. It is important to note that LOS provided for in the City's guidelines is no longer consistent with current state regulations for the evaluation of transportation impacts per CEQA (the Senate Bill (SB)743 and revised CEQA guidelines now require public agencies to base the determination of transportation impacts on vehicle miles traveled, rather than traffic delay and congestion). Instead, the City's 2008 transportation guidelines are used as a guide in the preparation of transportation analyses for development projects within the City to study the capacity of the roadway network to handle additional traffic, and what conditions to require of projects. Several conditions of approval are included to address the traffic issues raised by the analysis. This comment pertains to the methodology for evaluation of traffic congestion, and is not relevant to the Draft EIR's analysis.

Comment D.8: Instead the City and their consultants have willfully and knowingly chosen to simply ignore the projected impacts from VERY large projects already approved in the immediate vicinity of Crosswinds. NONE of the results in the Crosswinds traffic operations analysis are relevant. The number of new Average Daily Trips in the immediate area from projects that have been recently approved (plus Crosswinds) but not yet developed is approximately 18,500 and yet not a single analysis of any type has considered the cumulative traffic impact. This is absurd, irresponsible and a gross failure to follow the City's General Plan and a failure to give any consideration whatsoever to the health, safety, and welfare of Morgan Hill residents living in the area.

Response D.8: The referenced daily trips are not utilized in the traffic operations analysis. Rather, the operations analysis is based on weekday peak hour volumes during the morning and evening commute periods. Furthermore, the referenced 18,500 daily trips is an inaccurate estimation of daily trips associated with the referenced developments in the project area. When considering the Cochrane Commons (approximately 8,200 daily trips), Redwood Tech (approximately 3,500 daily trips), and this proposed project (approximately 2,500 daily trips), a total of approximately 14,200 daily trips may be generated by these three specific projects. In referencing the daily trips, the comment incorrectly presumes that the cumulative analysis completed for the proposed project did not consider the referenced approved projects. The comment also incorrectly suggests that all daily trips generated by the above developments would be added to Mission View Drive and Cochrane Road.

However, when considering the peak hour trip volumes for the above three projects, based on the individual project traffic operations studies, a total of

approximately 330 AM and 590 PM peak hour trips were estimated to travel through the Mission View Drive and Cochrane Road intersection. The comment suggests that the traffic associated with these individual projects must be considered in the cumulative analysis. The cumulative analysis, as discussed in Appendix G Transportation Analysis in the Draft EIR, reflects Year 2030 cumulative conditions, which accounts for growth beyond what would be considered if only the above three projects were evaluated. As stated in Response D.4, the Cumulative Year 2030 condition peak-hour traffic volumes reflect a proportion (15 Years or 75 percent) of traffic growth associated with the buildout of the City's General Plan. The Cumulative Year 2030 peak hour volumes at the Cochrane Road and Mission View Drive intersection reflect an additional 1,425 AM and 1,547 PM peak hour trips traveling through the Mission View Drive and Cochrane Road intersection when compared to existing traffic volumes. Thus, the peak hour volumes used in the Year 2030 cumulative analysis reflect peak hour traffic growth that is more than three times greater than that which would be accounted for if only considering the two other approved projects referenced in the comment. Therefore, the use of projected Year 2035 General Plan volumes to develop the Year 2030 cumulative volumes provides for a conservative estimate and evaluation of the effects of a greater amount of traffic volume on the roadway system. Also, the use of the General Plan traffic growth projections provides an evaluation of roadway operations that is consistent with the City's General Plan and a consistent basis in which all development projects can be compared.

Section 5.0 Draft EIR Text Revisions

This section contains revisions to the text of the Crosswinds Residential Project Draft EIR dated November 2022. Revised or new language is underlined. All deletions are shown with a ~~line through the text~~.

Page 22 **Section 3.2.6, Green Building Measures; the text will be REVISED as follows:**

The project would include the following green building measures, in compliance with the California Green Building Standards Code:

- Solar-ready area for PV solar panels on the roof
- Low volatile organic compound (VOC) emission interior wall and ceiling paints
- Insulation with 30 percent post-consumer recycled content for walls and floors
- Energy Star ~~General Electric (GE)~~ appliances.
- High efficiency heating, ventilation, and air conditioning (HVAC) units.
- Drought-tolerant landscaping and low flow irrigation system.
- Bicycle storage for residents.
- Electric vehicle (EV) charging stations.

Page 23 **Section 3.4, Uses of the EIR; the text will be ADDED as follows:**

3.4 USES OF THE EIR

This EIR would provide decision-makers in the City of Morgan Hill, other public agencies, and the general public with relevant environmental information to use in considering the project. If the proposed project is approved, the EIR could be used by the City in conjunction with appropriate discretionary approvals including, but not limited to, the following:

- Vesting Tentative Map
- Design Permit
- Issuance of Demolition, Grading, Building, and Occupancy Permits
- Tree Removal Permits
- Encroachment Permit from Valley Water (sanitary sewer modifications)

Page 25 **Section 4.0, Environmental Setting, Impacts, and Mitigation; the text in the second paragraph will be ADDED as follows:**

The CEQA Guidelines advise that a discussion of cumulative impacts should reflect both their severity and the likelihood of their occurrence (CEQA Guidelines Section 15130(b)). To accomplish these two objectives, the analysis should include either a list of past, present, and probable future projects or a summary of projections from an adopted general plan or similar document (CEQA

Guidelines Section 15130(b)(1)). This EIR uses both the list of projects approach and summary of projections approach, based on the particular topic.

Page 25 **Section 4.0, Environmental Setting, Impacts, and Mitigation; the text in Table 3.4-1 will be ADDED as follows:**

Table 3.4-1 below identifies the approved (but not yet constructed or occupied) and pending projects within one mile of the project site that are evaluated in the cumulative analysis. Other pending projects in the City are located at least two miles away from the project site.

Table 3.4-1: Cumulative Projects List

Name and Location	Description	Distance to Proposed Project
Redwood Tech at 101, west of DePaul Road, south of Cochrane Road, east of U.S. 101, and north of Half Road	Construction of five industrial buildings totaling approximately 500,000 square feet	Less than 50 feet west of the site
Cochrane Commons Phase II Project	Construction of 498 residential units, consisting of a mix of townhomes and apartments, 135,000 square feet of retail space, a 140-room hotel	0.3 mile north of the site
Borello Subdivision Peet Road	Construction of 244 residential units. The project is processing the final phase of the development which includes 114 lots.	0.5 mile north of the site
Santa Clara Valley Water District 18300 Peet Road	21,625 square foot industrial warehouse (under construction)	0.5 mile north of the site
Condit-Cardinale Automotive, 17085 Condit Road	Construction a 36,665 square foot commercial car dealership (pending)	0.8 mile southwest of the site
Condit Road, 650 feet south of Diana Avenue	Construction of a 32,795 square foot commercial car dealership (approved)	0.9 mile south of the site

Page 53 **Section 4.3.2, Impact Discussion: Text in Table 4.3-4 has been revised as follows:**

Table 4.3-1: Summary of Residential and De Paul Drive Extension Phasing				
Project Land Uses	**Size**	**Units**	**Square Feet**	**Acreage**
Phase 1 (Whole Site Preparation/Grading), 2023				
Single Family Housing	269	Dwelling Units	512,363	30.5
Phase 2 (40 condominium units, 32 single-family attached units, and 22 ~~34~~ single-family detached units), 2023-2024				
Single Family Housing	54	Dwelling Units	39,600	12.2
Condo/Townhouse	40	Dwelling Units	40,000	
Recreational Swimming Pool	3	1,000 square feet	3,000	
Other Asphalt Surface	1.2	Acre	52,272	
Phase 3 (32 single-family attached units, 34 single-family detached units, ~~66 single-family detached units~~ and 45 condominium units), 2024-2026				
Single Family Housing	66	Dwelling Units	118,000	12.9
Condo/Townhouse	45	Dwelling Units	45,000	
Other Asphalt Surface	1.3	Acre	56,528	
DePaul Extension, 2024-2025				
Other Asphalt Surface	1.4	Acre	60,984	1.4
Phase 4 (64 condominium units), 2026-2027				
Condo/Townhouse	64	Dwelling Units	64,000	2.9
Other Asphalt Surface	0.5	Acre	21,780	

Page 66 **Section 4.3.3, Non-CEQA Effects; the condition of approval text will be REVISED as follows:**

Condition of Approval: The project shall include the following conditions prior to building occupancy to reduce long-term increased cancer risk and annual $PM_{2.5}$ exposure for new project occupants:

1. Install air filtration in the project's residential units within 75 feet of Mission View Drive travel lanes. Air filtration devices shall be rated MERV13 or higher. To ensure adequate health protection to sensitive receptors (i.e., residents), this ventilation system, whether mechanical or passive, shall filter all fresh air that would be circulated into the dwelling units.

2. The ventilation system shall be designed to keep the building at positive pressure when doors and windows are closed to reduce the intrusion of unfiltered outside air into the building.

3. As part of implementing this measure, an ongoing maintenance plan,~~,~~ to be prepared by the Homeowners Association's (HOA's) heating, ventilation, and air conditioning (HVAC) contractor, for the buildings' HVAC air filtration system shall be required.

4. The HOA shall ensure the Covenants, Conditions and Restrictions and other property documents: (1) require cleaning, maintenance, and monitoring of the affected buildings for air flow leaks, and (2) include assurance that new owners or tenants are provided information on the ventilation system. The HOA's property managers/contractors will be responsible for maintaining the air filtration system at common buildings, such as the proposed clubhouse. The individual homeowners shall be responsible for maintaining the air filtration systems. The HOA shall provide information such as newsletters to encourage residents to comply with air filtration system maintenance requirements.

Page 124 **Section 4.9.2, Impact Discussion; MM HAZ-2.5 text will be REVISED as follows:**

MM HAZ-2.5: Prior to issuance of any grading permits, the project applicant shall excavate lead-impacted soils identified at sample location~~s SS-R-16A, SS-R-16D, and~~ SS-R-17B (near the single-family residence and barn structure) to a depth of at least 2.5 below the ground. The soil shall be properly disposed of in accordance with state and SCCDEH and California Code of Regulations, Title 8 waste disposal requirements. The SCCDEH (or equivalent oversight agency) may also approve leaving in-place some of the contaminated soil if the contaminated soil will be buried under hardscape and/or several feet of clean soil and not at risk of being encountered by future site users or nearby residents.

Pages 126-127 **Section 4.9.2, Impact Discussion; the text will be ADDED in MM HAZ-2.7 as follows:**

MM HAZ-2.7: Prior to issuance of a grading permit, the project applicant shall research well records from Valley Water and attempt to locate abandoned wells at the site. The project applicant or contractor shall contact Valley Water's Wells Hotline immediately to assist in the identification of abandoned/unregistered wells or structures and help determine the appropriate means of addressing them. If the wells are identified, or subsequently encountered during earthwork activities, the wells shall be properly destroyed in accordance with Valley Water Ordinance 90-1. If septic systems are encountered during earthwork activities, those systems shall be abandoned in accordance with SCCDEH requirements.

Page 133 **Section 4.9.1, Existing Setting; the text will be REVISED in the second paragraph as follows:**

Groundwater

The depth to groundwater at the project site is approximately 20 to 30 feet below ground surface.[6] The site does not contain aquifer recharge facilities, such as streams or ponds. There is one existing well ~~are two existing wells~~ on the property associated with the site's vacant residence ~~agricultural activities~~ that ~~have been occurring~~ has occurred on the property for decades. Given the residence is vacant~~With the cessation of agricultural activities~~, the well is ~~wells are~~ no longer in regular use.

Page 136 **Section 4.9.2, Impact Discussion; the text will be ADDED in the third and sixth paragraphs as follows:**

Under Option 1, the project would include underground retention facilities designed for a 25-year, 24-hour storm event. In addition, an on-site network of drainpipes would collect the runoff filtered through the bioretention areas and underground retention facilities, before being discharged into the public storm drain system to Madrone Channel. The Madrone Channel is used by Valley Water for managed aquifer recharge that supports groundwater sustainability in the Llagas Subbasin.

Under Option 2, the project would include underground retention facilities designed for a 100-year, 24-hour storm event. Stormwater runoff would be retained and treated on-site, with no discharge to the Madrone Channel.

With implementation of either stormwater retention option, the project would meet SWMP requirements. Conformance with the SWMP, as proposed by the project under both options, would reduce the potential for the project to result in post-construction water quality impacts. **(Less than Significant Impact)**

Impact HYD-2:	The project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. **(Less than Significant Impact)**

The depth to groundwater is approximately 20 to 30 feet below ground surface based on a geotechnical investigation completed for the 58-acre property immediately west of DePaul Drive, deep enough such that ground disturbance during construction, expected at most to be 10 feet during utility trenching and up to 13 feet for off-site sewer installation (under Options 1 and 2), would not interfere with groundwater flow or expose any aquifers. The project site is not an aquifer

[6] Haley Aldrich. *Due-Diligence Level Geotechnical Investigation DePaul Technology Center*. January 21, 2019. Groundwater depth estimation was for the property immediately west of the site (adjacent to DePaul Drive).

recharge facility (i.e., streams or ponds); therefore, development of the project site (under Options 1 and 2) would not substantially interfere with aquifer recharge. Since groundwater would be treated prior to being discharged, Option 1 would not result in a significant impact to the quality of stormwater flowing into the Madrone Channel (managed by Valley Water) or quality of recharge to the aquifer.

Most of the site is undeveloped with fallowed agricultural fields. Some of the rainfall at the existing site percolates into the groundwater aquifer, however, most of it is not recharged but is lost due to evapotranspiration. Under Option 1, the reduction of pervious surfaces would reduce natural recharge as more impervious surfaces would increase the amount of runoff from the site, resulting in less rainfall percolation into the groundwater aquifer. However, this additional runoff would be directed to bioretention retention areas and underground retention facilities on-site to reduce runoff from leaving the site and enhance on-site percolation. Stormwater runoff from the site would be retained and then directed to the Madrone Channel, a recharge facility managed by Valley Water. Under Option 2, stormwater would be directed to subsurface infiltration facilities (sized to retain the 100-year storm event), resulting in the percolation of more stormwater into the groundwater aquifer, which would result in more on-site recharge to the aquifer compared to Option 1. However, neither option would substantially interfere with groundwater recharge.

In addition, t~~T~~he existing well on the 33-acre property would be properly removed under permit from the Santa Clara Valley Water District, as required per the District Well Ordinance. For the above reasons, the project would not substantially decrease groundwater supplies or interfere with groundwater recharge. **(Less than Significant Impact)**

Page 137 Section 4.10.2, Impact Discussion; the text will be ADDED after the third paragraph as follows:

Furthermore, on-site systems proposed under Option 1 would be constructed to detain a volume of water up to a 25-year storm event while releasing water at a rate reflective of the 10-year predevelopment flow. This design limits stormwater flows off-site to less than 10-year predevelopment flows. Alternatively, on-site systems proposed under Option 2 would be constructed to retain a volume of water up to a 100-year storm event.

Based on a stormwater drainage memo completed in December 2022 regarding the Madrone Channel stormwater runoff capacity (see Appendix B of this Final EIR), the Madrone Channel has the capacity for the site's runoff during the 100-year storm event. Stormwater runoff for proposed developments north of Half Road would be allotted 120 cubic feet per second (cfs) at a rate of 0.42 cfs/acre. Stormwater runoff that would be generated by the proposed Crosswinds project during the 100-year storm event would not exceed 13.4 cfs.

Page 138 Section 4.10.2, Impact Discussion; the text will be ADDED in the second paragraph as follows:

Impact HYD-5:	The project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. **(No Impact)**

The project (under Options 1 and 2) would comply with the City's Stormwater Management Guidance Manual for Low Impact Development and Post-Construction Requirements. The project would not impact groundwater recharge and would not conflict with Valley Water's ~~the SCVWD's 2016~~ Groundwater Management Plan. For these reasons, the project would not conflict with implementation of a water quality or groundwater management plan. **(No Impact)**

Page 138 Section 4.10.2, Impact Discussion; the text will be ADDED in the third paragraph as follows:

Section 4.10.2.2 Cumulative Impacts

Impact HYD-C:	The project would not result in a cumulatively considerable contribution to a cumulatively significant hydrology and water quality impact. **(Less than Significant Cumulative Impact)**

The geographic area for cumulative hydrology and water quality impacts is the Madrone Channel storm water drainage basin. Cumulative developments near the project site would be subject to similar hydrological and urban runoff conditions. All cumulative projects occurring within Morgan Hill would be required to implement the same project conditions related to construction water quality as the proposed project (including preparation of a SWPPP if disturbance is greater than one acre), under Options 1 and 2. The site's stormwater facilities would be sized to allow infiltration of the 95th percentile, 24-hour rainfall event. In addition, the City standards require detention of the 25-year storm; under Option 1, stormwater would be directed to underground retention facilities designed for a 25-year, 24-hour storm event and under Option 2, 100 percent of stormwater from the site would be directed to underground retention facilities designed for a 100-year storm event. Under both options, the proposed bioretention basins/facilities would be designed to maintain as much on-site groundwater recharge as is feasible to avoid contributing to the cumulative impacts to natural groundwater recharge from new impervious surfaces. Cumulative developments would be subject to similar requirements for bioretention basins that would result in on-site recharge, which would reduce impacts to the Madrone Channel recharge facility.

Stormwater runoff for proposed developments north of Half Road would be allotted 120 cubic feet per second (cfs) at a rate of 0.42 cfs/acre. Stormwater runoff from future developments north of Half Road (including the Crosswinds development) would not exceed 109 cfs during a 100-year event. Therefore, the project and cumulative projects north of Half Road, would not exceed the flow capacity at the Madrone Channel. For these reasons, the cumulative projects, including the

proposed project (under both options), would not result in significant cumulative hydrology or water quality impacts. **(Less than Significant Cumulative Impact)**

Page 192 Section 4.17.2, Impact Discussion; the text will be ADDED in the condition of approval as follows:

Condition of Approval TRN-1: The project shall pay a fair share contribution toward the installation of a southbound and northbound bus stop, including street lighting, landscaping, and a new passenger pad, after the main entrance on Mission View Drive.

Pages 192-193 Section 4.17.2, Impact Discussion; the text will be ADDED in MM TRN-2 as follows:

Mitigation Measure: The following mitigation measures would reduce the VMT per capita generated by the project.

MM TRN-2.1: Prior to project occupancy, the project applicant shall develop and implement a Transportation Demand Management (TDM) plan which targets achieving a reduction in residential vehicle trips to and from the site. The TDM plan shall be prepared by a qualified traffic consultant and in coordination with the City of Morgan Hill Development Services Director or Designee. The TDM plan shall quantify the reduction in VMT. The TDM shall require the project applicant to make a financial contribution to the City's on-site demand rideshare service (MoGo), as a one-time or annual financial contribution based on City approval, or ~~D~~during project operations, the management entity/Homeowners Association (HOA) shall provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director or Director's designee prior to issuance of occupancy. The HOA shall submit a receipt and documentation to the City showing that the transit passes have been purchased annually.

The project (under Options 1 and 2) would also incorporate the following design features to reduce project VMT by improving pedestrian connections and providing bicycle facilities:

- The project (under Options 1 and 2) will improve the surrounding pedestrian network by including sidewalks which terminate at the common property line, allowing for connections to the adjacent property in the event there is development in the future. The project proposes continuous sidewalks along the project frontages (under Options 1 and 2). The proposed frontage improvements along Mission View Drive, Half Road, and De Paul Drive include sidewalk improvements.

- The proposed project (under Options 1 and 2) will include 64 bicycle parking spaces distributed through the proposed development.

Page 214 Section 4.19.2, Impact Discussion; the text will be ADDED and REVISED in the second paragraph as follows:

The 33-acre site is mostly undeveloped and consists of grassland and boxed trees. A vacant single-family residence constructed in the 1950s is located on the southwestern section of the site. One ~~or two~~ private well~~s~~ supplies~~y~~ water to the residence ~~and tree nursery~~. There is an abandoned off-site well at the adjacent property to the west, which was historically used to supply water to the project site's tree nursey. The off-site well is no longer active. Total current groundwater use on site is approximately 0.64 acre-feet per year (AFY), as shown in Table 4.19-1 below.

Table 4.19-2: Current Groundwater Use On-Site	
Water Use Category	**Current Water Use (AFY)**
Vacant Rural Residence	0.64
~~Containerized Trees~~	~~17.90~~
Total Current Water Use	**0.64~~18.54~~**
Source: Todd Groundwater. *Half Road and Mission View Water Demand Memo*. February 2023 ~~April 13, 2021~~.	

Pages 219-220 Section 4.9.2, Impact Discussion; the text will be REVISED as follows:

As shown in Table 4.19-2, the proposed project would result in a gross water demand of 42.31 acre-feet per year (AFY), or approximately 13.8 million gallons per year (under Options 1 and 2).[7] It is assumed that full buildout of the project would be completed by 2026. When considering the existing water use on-site (0.64~~18.54~~ AFY), the project would result in a net increase in groundwater demands of about 41.67 ~~23.77~~ AFY.

Total water use in the City of Morgan Hill is expected to increase to 9,155 AFY in 2025, 9,760 AFY in 2030, and 10,366 AFY in 2035. Estimates of water use increases are based on expected population growth in the City. The population increases and water demand projections of the proposed project were compared to those of the UWMP to determine if the water demand of the project is included in the UWMP planning projections. Assuming an average of 3.14 occupants per residential unit, the project would result in 845 new residents. The UWMP expects a population increase of 6,800 persons to occur between 2020 and 2030; therefore, the project's population increase is accounted for in UWMP population projections. The UWMP projects an increase of 1,706 AFY for single-family and multi-family development water demand between 2020 and 2040. The project would use approximately 2.5 percent of the water demand allotted for single-family plus multi-family growth

[7] 1 acre-foot = 325,851.43 gallons

set forth in the UWMP. The project demands are consistent with the UWMP water demand projection increases for residential water use sectors; therefore, the proposed project's water demands were accounted for in the 2015 UWMP projections. As a result, there would be sufficient water supplies available to serve the project (under both project options).

Water Supply Reliability

The WSA compared supply and demand during normal, single-dry, and multiple-dry years for a 20-year projection. On an annual basis, the City has been able to provide sufficient supplies to meet demand during normal, single-dry, and multiple-dry year periods. The proposed project is included within the population and water demand projections included in the UWMP. The proposed residential uses of the project are consistent with allowable density under the current General Plan designation. Therefore, the project is included as part of the expected citywide demand increases through 2040. The UWMP found that the City will continue to adequately meet increased demands within its jurisdiction for normal, single-dry and multiple-dry year scenarios through 2040. Thus, the estimated net increase in demand on the site of 41.67 ~~23.77~~ AFY (or 13.6 million ~~7,745,488~~ gallons per year) would be adequately supplied by existing sources.

Pages 219-220 Section 4.19.2, Impact Discussion; the text in the first paragraph of Page 220 will be ADDED as follows:

Total water use in the City of Morgan Hill is expected to increase to 9,155 AFY in 2025, 9,760 AFY in 2030, and 10,366 AFY in 2035. Estimates of water use increases are based on expected population growth in the City. The population increases and water demand projections of the proposed project were compared to those of the UWMP to determine if the water demand of the project is included in the UWMP planning projections. Assuming an average of 3.14occupants per residential unit, the project would result in 845 new residents. The UWMP expects a population increase of 6,800 persons to occur between 2020 and 2030; therefore, the project's population increase is accounted for in UWMP population projections. The UWMP projects an increase of 1,706 AFY for single-family and multi-family development water demand between 2020 and 2040. The project would use approximately 2.5 percent of the water demand allotted for single-family plus multi-family growth set forth in the UWMP. In addition, the water conservation measures that would be implemented by the proposed project include the installation of individual water meters in all single-family residential and duet units and a water submeter in the condominium units to manage water use. The project demands are consistent with the UWMP water demand projection increases for residential water use sectors; therefore, the proposed project's water demands were accounted for in the 2015 UWMP projections. As a result, there would be sufficient water supplies available to serve the project (under both project options).

Page 220 Section 4.19.2, Impact Discussion; the text in the third paragraph will be REVISED as follows:

The City's sole source of water supply, groundwater from the Llagas and Santa Clara subbasins, is a shared resource managed by Valley Water through the Sustainable Groundwater Management Act

(SGMA) process. The 2018 Water Year Report for SGMA reporting concluded that Valley Water's comprehensive recharge programs continue to support a balanced long-term water budget for the two subbasins. Valley Water's 2016 Groundwater Management Plan (GWMP) for the Santa Clara and Llagas Subbasins describes groundwater sustainability goals, and the strategies, programs, and activities that support such goals. In 2019, the Department of Water Resources (DWR) approved the 2016 GWMP for both basins, determining it satisfies the objectives of SGMA. In 2021, Valley Water submitted to DWR the first required periodic update of the GWMP that describes updated groundwater management outcome measures, programs, and activities. The ongoing, active management of these Llagas and Santa Clara subbasins will ensure that there is reliable long-term supply of water for the proposed project (under Options 1 and 2). **(Less than Significant Impact)**

Appendix A: Draft EIR Comment Letters

County of Santa Clara

Roads and Airports Department

101 Skyport Drive
San Jose, CA 95110-1302
(408) 573-2460 FAX 441-0276

December 22, 2022

Gina Paolini,
Development Services,
17575 Peak Avenue,
Morgan Hill, CA 95037
gina.paolini@morganhill.ca.gov

SUBJECT: Public Notice of Availability of an Environmental Impact Report for Half-Dividend (Crosswinds) Residential Development

The County of Santa Clara Roads and Airports Department (The County) appreciates the opportunity to review the Public Notice of Availability of an Environmental Impact Report for Half-Dividend (Crosswinds) Residential Development. We submit the following comments:

- We recommend that the City take over/annex the full road maintenance and improvement along the site's Half Road frontage up to Mission View Dr.
- We would like to know who will maintain the new signalized intersection of Mission View Dr and Half Rd. if approved. County maintains both approaches of Half Rd but not Mission View Dr.
- Provide pedestrian connection between the cul-de-sac at DePaul Dr and Half Rd.
- *8. Mission View Drive and Half Road*
  The Mission View Drive and Half Road intersection is projected to operate at an unacceptable LOS F during both the AM and PM peak hours under Year 2030 Cumulative without and with project conditions. Additionally, based on the peak hour traffic signal warrant checks, this intersection would have traffic volumes that meet thresholds that warrant signalization during both the AM and PM peak hours under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City's level of service standards.
    - The County's Condition of Approval: The project applicant shall pay a fair share contribution toward installing a signal at the Mission View Drive and Half Road intersection.

Thank you again for your continued outreach and coordination with the County. If you have any questions or concerns about these comments, please feel free to contact me at ben.aghegnehu@rda.sccgov.org

Thank you,

Board of Supervisors: Mike Wasserman, Otto Lee, Susan Ellenberg, S. Joseph Simitian, Cindy Chavez
County Executive: Jeffrey V. Smith

Santa Clara Valley Transportation Authority

January 3, 2022

City of Morgan Hill
Development Services
17575 Peak Avenue, Morgan Hill, CA 95037
(Sent via email 01/04/22) gina.paolini@morganhill.ca.gov

Re: Draft Environmental Impact Report (DEIR) Comments for Half-Dividend (Crosswinds) Project

Dear Gina,

Thank you for the opportunity to review this project. VTA has the following comments on the Draft Environmental Impact Report for the Half-Dividend Crosswinds project.

Vehicle Miles Traveled Impact and Mitigation Measures

The DEIR notes that the proposed project would have a Significant and Unavoidable impact in the area of Vehicle Miles Traveled (VMT) during project operations, Impact TRN-2.2. The DEIR and Transportation Impact Analysis (TIA) report indicate that "The project applicant would need to implement VMT reduction measures to achieve a 24 percent reduction (27.41 to 20.94) in its VMT per capita for the proposed residential project to reduce the project's VMT impact to less than significant (under Options 1 and 2). However, the available feasible mitigation measures are not capable of such reduction" (DEIR p. 193).

In light of the fact that this project will have a Significant and Unavoidable VMT impact, VTA recommends that the City work with the project applicant to provide further measures to incrementally reduce project VMT. In addition to those measures included in Mitigation Measure TRN-2.2, VTA recommends the following:

- The subsidized transit pass program included in Mitigation Measure TRN-2.2 should include a monitoring and verification mechanism to ensure that the passes are being provided over time. For instance, the City can require that the project management entity / Homeowners Association submit a receipt annually showing that the required transit passes have been purchased, and documentation showing that the passes have been distributed to residents.
- The project should provide a mid-block pedestrian crossing to connect between the new sidewalk along the project's Mission View Drive frontage and the existing sidewalk on the east side of Mission View Drive. Consideration should be given to providing bulb-outs and a pedestrian signal or warning device to improve safety for pedestrians crossing Mission View Drive to access VTA bus services and other destinations north of the side along Cochrane Road.

- While VTA understands that there will be no general vehicle (non-emergency vehicle) access between the DePaul Drive extension and Half Road, the project should provide a connection for pedestrians and cyclists at the end of the proposed DePaul Drive cul-de-sac, to improve connectivity to the points south including Live Oak High School and the Madrone Channel Trail.

Bus Stop Improvements

VTA previously submitted these comments, however the site plan was not updated to reflect any recommendations. These recommendations help support further reducing solo vehicle trips. VTA Route 87 serves the frontage of the project on Mission View Drive. The stop spacing in-between the two nearest stops of the development is 3,400 feet and does not have close enough pedestrian facilities nearby to access the nearest stops. A new southbound bus stop should be installed after the main entrance on Mission View Drive. A bus stop in the northbound direction is also recommended on the condition that there will be a signalized crosswalk for the new development. The preferred location for the new bus stop is past the main entrance on Mission View Drive. VTA would like to determine the location when off-site plans are drafted (see attachment). VTA also recommends to:

- Install street lighting at the bus stop
- Place trees and landscaping outside of the bus stop area C
- Install a new passenger pad 8’x40’ minimum per VTA Standards

Thank you for the opportunity to review this project, If you have any questions, please contact me at 408-550-4559.

Sincerely,

Brent Pearse
Transportation Planner

MH1907

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File: 31916
Various

January 3, 2023

Gina Paolini
City of Morgan Hill Development Services
17575 Peak Avenue
Morgan Hill, CA 95037
gina.paolini@morganhill.ca.gov

Subject: Half-Dividend (Crosswinds) Residential Development Draft EIR Comments

Dear Gina:

The Santa Clara Valley Water District (Valley Water) has reviewed the draft Environmental Impact Report (EIR), dated November 2022, for the proposed Crosswinds residential development on Half Road (Project). The following comments are based on Valley Water's review of the draft EIR:

1. **Section 4.9.2.1 – Project Impacts, Water Well and Septic System (Page 126):** Valley Water agrees with the DEIR evaluation that the one abandoned well located during the on-site reconnaissance should be properly destroyed in accordance with Valley Water Ordinance 90-1. Based on Valley Water well records, there is one active water supply well (09S03E16J005) with a well log located on APN 728-30-004. However, due to the long agricultural history of the Santa Clara and Llagas subbasins and subsequent land development, there are likely many abandoned or unregistered wells in the subbasins. While some of these wells may have been sealed prior to well permitting requirements, many have open casings and may be discovered during construction of the Project. If other abandoned or unregistered wells or well-like structures are discovered or encountered during Project construction, Valley Water's Wells Hotline should be immediately contacted to assist in the identification of these wells or structures and help determine the appropriate means of addressing them, such as proper destruction by a C-57 licensed driller with related work permit and inspection by Valley Water Wells Unit. Therefore, Valley Water also agrees with MM HAZ-2.7 listed in Table 1.2-1, which states "If the wells are identified, or subsequently encountered during earthwork activities, the wells shall be properly destroyed in accordance with Valley Water Ordinance 90-1.".

2. **Section 4.10.1.1 – Hydrology and Water Quality, Existing Conditions, Groundwater (Page 133):** Previously on page 126, the DEIR stated there was only one water well identified during the on-site reconnaissance. However, this section of text on page 133 explains "there are two existing wells on the property associated with agricultural activities that have been occurring on the property for decades. With the cessation of agricultural activities, the wells are no longer in regular use." If there are two wells on the property, please fix the text on 126 for consistency to include the correct number of wells and provide details that both abandoned wells will be destroyed.

3. **Section 4.10.1.1 – Hydrology and Water Quality, Existing Conditions, Groundwater Section and Post-Construction Water Quality Section (Pages 133 and 136):** The DEIR states "The site does not contain aquifer recharge facilities, such as streams or ponds.". While this statement is true, the stormwater runoff options 1 and 2 of the post-construction water quality (page 136) both mention Madrone Channel, which is a Valley Water managed aquifer recharge facility. Option 1 states "discharge into the public storm drain system to Madrone Channel" and option 2 states "no discharge to Madrone Channel". Valley Water recommends adding text to either page 133 or 136 explaining that Madrone Channel is used by Valley Water for managed aquifer recharge that supports groundwater sustainability in the Llagas Subbasin. Additional details about the managed recharge in Madrone Channel can be found in Valley Water's 2021

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Groundwater Management Plan, Appendix I (https://www.valleywater.org/your-water/where-your-water-comes/groundwater/sustainable). Since Option 1 could discharge stormwater directly into Madrone Channel and Madrone Channel is a managed recharge facility, Valley Water recommends adding text to explain if Option 1 would have any impact on the quality of stormwater flowing into Madrone Channel and thus the quality of recharge to the aquifer.

4. **Section 4.10.2.1 – Hydrology and Water Quality, Project Impacts, Impact HYD-2 (Page 136):** The EIR correctly states that the Project site is not in a groundwater recharge facility. Although the site is not part a part of, or adjacent to, a formally managed recharge facility, the project is in an area of the county that supports natural groundwater recharge (see the *2021 Groundwater Management Plan for the Santa Clara and Llagas Subbasin*). Natural groundwater recharge is an important element of the county's overall water supply, representing approximately 15% of the supply available. The cumulative effect of development throughout the county over the last 50 years has substantially reduced natural groundwater recharge as naturally pervious surfaces have been developed with impervious surface. Natural groundwater recharge is especially important in the Coyote Valley sub-area of the Santa Clara Subbasin, which relies exclusively on natural recharge and managed in-stream recharge in Coyote Creek to maintain groundwater levels. To avoid the potential cumulative impact to natural groundwater recharge from new impervious surface, the proposed bioretention basins and other elements of the stormwater management plan should be designed to maintain as much natural groundwater recharge that is currently provided by the property.

5. **Section 4.10.2.1 – Hydrology and Water Quality, Project Impacts, Post- Construction Water Quality (Page 136):** The bottom of the page states "The existing well on the 33-acre property would be properly removed under permit from Valley Water, as required per the District Well Ordinance". If there are two wells on the property (as stated on page 133), the text on page 136 should be updated to reflect both wells.

6. **Section 4.10.2.2 – Hydrology and Water Quality, Project Impacts, Impact HYD-3 (Page 137):** While the project site is not a managed aquifer recharge facility, as correctly stated on page 136, the 33 acres of pervious surfaces currently allow for natural recharge. Both natural recharge and managed recharge support sustainable groundwater conditions in the Santa Clara and Llagas Subbasins. Page 137 explains that the 33 acres of "nearly entirely pervious" surfaces will be converted by the proposed development to about 75% impervious and 25% pervious surfaces. Valley Water recommends additional text is provided in the EIR to explain if, and how the reduction in pervious surfaces will affect natural recharge to the aquifer. Given the differences in the stormwater management plans for Option 1 versus Option 2, please also add text explaining if one of the options is preferable in terms of maintaining current natural recharge at the site.

7. **Section 4.10.2.2 – Hydrology and Water Quality, Project Impacts, Impact HYD-3 (Page 137):** The EIR states that the project would not "substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site" and "create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage system..." The basis of this determination should be supported by a detailed analysis which compares pre- versus post-development conditions and provides justification for the design of the proposed retention basins. Furthermore, the EIR proposes two options to manage stormwater runoff. According to Section 3.2.4 of the EIR – 'Storm Drainage Improvements,' Option 1 would be designed to detain runoff from the 25-year, 24-hour storm event, and "Excess runoff from the site would drain to the Santa Clara Valley Water District's (Valley Water's) Madrone Channel (Page 19)." The EIR should include a more detailed discussion of the potential impacts from Project Option 1 and determine the anticipated runoff (both volume and rate) if Option 1 is subjected to the 100-year, 24-hour storm event. The City has been working with Akel Engineering on a hydrology report detailing the Madrone Channel drainage basin and the allowable runoff contributions into Madrone Channel. Moreover, this study concluded that all developments north of Half Road should be restricted to a total of flow rate of 120 CFS; this equates to 0.42 CFS/acre. If Option 1 is the chosen alternative, the EIR should acknowledge this restriction and design the mitigation measures accordingly.

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8. **Section 4.10.2.2 – Hydrology and Water Quality, Cumulative Impacts, Impact HYD-C (Page 138):** The text state that "the project would not impact groundwater recharge and would not conflict with the SCVWD's 2016 Groundwater Management Plan." Valley Water recommends updating this text to reflect

   Valley Water's 2021 Groundwater Management Plan. Valley Water also recommends revising this text as needed in response to Valley Water's previous comments about natural recharge and stormwater into Madrone Channel (recharge facility).

9. **Section 4.10.2.2 – Hydrology and Water Quality, Cumulative Impacts, Impact HYD-C (Page 138):** The EIR states that the proposed development, from a cumulative standpoint, would not have a significant impact to the existing hydrology. A hydrologic analysis of the Madrone Channel drainage basin should be included with the EIR to support this finding. The analysis should assess the anticipated runoff (volume and rate) generated under post-development conditions, and account for contributions from other planned developments within the Madrone Channel drainage basin. Moreover, the analysis should demonstrate that Madrone Channel has adequate capacity (including freeboard) to receive and convey the cumulative runoff without inducing flooding downstream of the development. As noted, in Comment #3, the EIR should acknowledge the allotted runoff quantity for all developments north of Half Road, as determined in the study by Akel Engineering, which is roughly 120 CFS, or 0.4 CFS/acre. Moreover, the mitigation measure proposed under Option 1 should consider this restriction when determining the runoff generated cumulatively with other proposed developments in the Madrone Channel drainage basin.

10. **Section 4.19.1.2 – Utilities and Service Systems, Project Impacts, Existing Conditions, Water Service (Page 214):** The DEIR states on page 214 "One or two private wells supply water to the residence and tree nursery." Please ensure this sentence and all the previously mentioned sentences about the number of existing wells on this property are consistent. Some statements say one well and others say two wells.

11. **Section 4.19.1.2 – Utilities and Service Systems, Project Impacts, Existing Conditions, Water Service (Page 214):** The DEIR states that current groundwater use on-site is 18.54 acre-feet per year (AFY). However, based on Valley Water well production records, there is only one well (09S03E16J005) on the Project APNs with a reported production history that is typically <1 AFY. Given that information, the estimated groundwater use of 18.54 AFY greatly over-estimates actual reported groundwater use. In turn, this greatly over-estimates the statement on page 219 about increased groundwater demands "…the project would result in a net increase in groundwater demands of about 23.77 AFY." If actual groundwater use was closer to 1 AFY, then the net increase in groundwater demands due to the Project would be closer to the gross water demands of about 42 AFY. Valley Water recommends reevaluating the water supply assessment regarding actual, historical groundwater use on-site.

12. **Section 4.19.1.2 – Utilities and Service Systems, Project Impacts, Existing Conditions, Storm Drainage (Page 215):** The DEIR correctly states "The Madrone Channel (managed by Valley Water) is located approximately 1,000 feet west of the site. The Madrone Channel carries stormwater runoff from the area and also functions as a groundwater recharge basin." Please use this or similar text to address our comment on page 133 about Madrone Channel.

13. **Section 4.19.2.1 – Utilities and Service Systems, Project Impacts, Text Related to Table 4.19-2 (Page 219):** The DEIR states "As shown in Table 4.19-2, the proposed project would result in a gross water demand of 42.31 acre-feet per year (AFY)…". However, the table 4.19-2 states that 42.31 AFY is an average between Water Demand based on WSMP net area and the Water Demand based on units of building area. Therefore, Valley Water recommends adding the word "average" to the sentence to more accurately reflect the information presented in the table: "As shown in Table 4.19-2, the proposed project would result in an average gross water demand of 42.31 acre-feet per year (AFY)…"

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14. **Section 4.19.2.1 – Utilities and Service Systems, Project Impacts, UTL-2, Water Supply Reliability (Page 220):** The analysis of water supply concludes that the project is consistent with the City's 2016 (and presumably 2020) Urban Water Management Plan (UWMP). The UWMPs for Morgan Hill and for Valley Water both assume substantial increases in water conservation to manage future water demands. To meet water conservation targets assumed in the UWMPs, Valley Water suggest that all available water conservation measures be required of the project, including requiring all multi-family residential units to install a submeter to encourage efficient water use. Studies have shown that adding submeters can reduce water use 15 to 30 percent.

15. **Section 4.19.2.1 – Utilities and Service Systems, Project Impacts, UTL-2 (Page 220):** The DEIR correctly states, "The City's sole source of water supply, groundwater from the Llagas and Santa Clara

    subbasins, is a shared resource managed by Valley Water through the Sustainable Groundwater Management Act (SGMA) process" and references the 2018 SGMA Water Year regarding a balanced long-term groundwater budget.

    Since the 2018 water year report is about five years old, Valley Water recommends adding the following text to this paragraph to provide the most current information on Valley Water's groundwater management under SGMA:

    "Valley Water's 2016 Groundwater Management Plan (GWMP) for the Santa Clara and Llagas Subbasins describes groundwater sustainability goals, and the strategies, programs, and activities that support such goals. In 2019, the Department of Water Resources (DWR) approved the 2016 GWMP for both basins, determining it satisfies the objectives of SGMA. In 2021, Valley Water submitted to DWR the first required periodic update of the GWMP that describes updated groundwater management outcome measures, programs, and activities."

    The 2021 GWMP is publicly available here on this webpage: https://www.valleywater.org/your-water/where-your-water-comes/groundwater/sustainable" The 2021 GWMP should also be referenced in the discussion on Impact HYD-5 on page 138.

16. **General:** The proposed sanitary sewer modifications along Half Road will require an encroachment permit for any modifications that will cross, or take place over the pipeline, and/or impact any appurtenances for the pipeline. It should be noted that Valley Water is a Responsible Agency under CEQA due its discretionary approval authority over Half Road pipeline and its appurtenances.

If you have any further questions regarding Valley Water's comments, you may contact me at (408) 630-3066 or email me at bhwang@valleywater.org.

Thank you,

DocuSigned by:
2810C0F620844F8...

Benjamin Hwang, P.E.
Associate Engineer - Civil
Community Projects Review Unit

Cc: Y. Arroyo, B. Hwang, R. Saleh, U. Chatwani, T. Ripp, M. Richert, M. Martin, V. De La Piedra, G. Cook, J. Gurdak, V. Garcia, L. Xu, J. Xu, File

Half-Dividend (Crosswinds) Residential Development Draft EIR Comments

From: Joe Baranowski,
Date: January 3, 2022

The DEIR correctly emphasizes that project impacts must be considered on a cumulative basis.

(pg. 25) The CEQA Guidelines advise that a discussion of cumulative impacts should reflect both their severity and the likelihood of their occurrence (CEQA Guidelines Section 15130(b)). To accomplish these two objectives, the analysis should include either a list of past, present, and probable future projects or a summary of projections from an adopted general plan or similar document (CEQA Guidelines Section 15130(b)(1)). This EIR uses the list of projects approach.

The analysis must determine whether the project's contribution to any cumulatively significant impact is cumulatively considerable, as defined by CEQA Guideline Section 15065(a)(3). The cumulative impacts discussion for each environmental issue accordingly addresses the following issues: 1) would the effects of all of past, present, and probable future (pending) development result in a significant cumulative impact on the resource in question; and, if that cumulative impact is likely to be significant, 2) would the contribution from the proposed project to that significant cumulative impact be cumulatively considerable?

Comment 1: Cumulative Toxic Air Contaminants are underestimated because 'cumulative' pending projects are not accounted for at all or are incorrectly modeled.

Page 65 of the DEIR, Table 4.3-10 shows that effects of TAC Sources (e.g., cancer risk) to Project Site Receptors is based on Average Daily Trips on Mission View Drive of 14,020.

Appendix B of the DEIR states that: *The average daily traffic (ADT) for Mission View Drive were based on AM and PM peak-hour cumulative plus project traffic volumes for the nearby roadways provided by the project's traffic consultant. The calculated ADT on Mission View Drive was 14,020 vehicles.*

The only reference to the assumed Mission View Drive ADT value was "Correspondence with Maria Kisyova, Assistant Project Manager, David J. Powers & Associates, Inc., November 10, 2020, *Hexagon - The Crosswinds Trip Gen and Volumes 11-10-20*."

However, the DEIR states that:

The only other known TAC source within 1,000 feet that would affect residents of the proposed project are operational truck trips that would be associated with the approved Redwood Tech project immediately west of the site. At this time, the number of operational truck trips, truck routes, or associated emissions with the pending Redwood Tech project are unknown. However, based on modeling completed for a former industrial project proposed on that site in 2019

approximately two times larger than the current Redwood Tech project, the combined effect of emissions of truck operations from the pending Redwood Tech project and vehicle emissions from Mission View Drive would not likely result in a substantial cumulative effect from TAC sources (i.e., would not likely exceed cumulative BAAQMD thresholds) on sensitive receptors at the site. If the Redwood Tech project undergoes construction after the proposed project (under Options 1 and 2) starts operations (and residents are on-site), the cumulative effect of construction and operations of the Redwood Tech project may result in substantial cancer risks without the implementation of conditions of approval for construction emissions.

The assumption regarding TAC sources in the above paragraph are wrong for a number of reasons.

A) **The modeling done for the "former industrial project approximately two times larger than the current Redwood Tech project" is not consistent with ITE standards or known information.**

An expert with qualifications that include registration as a Civil and Traffic Engineer in California, over 50 years professional consulting practice in these fields and both preparation and review of the traffic and transportation components of numerous environmental documents prepared under CEQA, reviewed the Redwood@101 Project and wrote a report dated May 20, 2021 which the City received and is aware of.

In that report, the author noted that the Redwood@101 project is "best described as a Business Park". That Land Use best matches the developer's documentation and statements to the Morgan Hill Planning Commission and City Council where the exact designation of "Business Park" was indeed spoken. The expert stated that the Redwood@101 land use, as stated BY THE DEVELOPER, corresponds to the description for Land Use Category 770, Business Park in the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition.

Based on the Redwood@101 building area the ITE Trip Generation manual indicates that approximately 6040 Average Daily Trips (ADTs) would be generated by the Redwood@101 project. This is higher than the number of ADT that were assumed for the 'twice as large" project.

Regarding the number of Truck Trips, the "twice as large" study assumed that "each truck service door would turn over once per day on average". That assumption is not consistent with modern operations or with ITE studies on buildings with a high number of dock doors.

B) **The Average Daily Trips that the approved Cochrane Commons Phase 2 project will generate on Mission View Drive are not accounted for at all.**

The DEIR incorrectly states that *Table 3.4-1 identifies the approved (but not yet constructed or occupied) and pending projects within one mile of the project site that are evaluated in the cumulative analysis. Other pending projects in the City are located at least two miles away from*

the project site.

The *"Cochrane Commons Mixed-Use Development Transportation Operations Analysis, December 10, 2021"* shows that the approved project that is less than two miles away for the Crosswinds project site is estimated to generate 9,857 Average Daily Trips, many of which will result in travel along Mission View Drive.

As the DEIR states: *The substantial exposure to TACs for new project receptors is evaluated via the following criteria: (1) increased cancer risk, and (2) annual $PM_{2.5}$ concentration. Exposure to annual $PM_{2.5}$ concentrations from Mission View Drive traffic is above the BAAQMD single-source threshold of 0.3 $\mu g/m_3$. Cancer risk mostly results from exposure to diesel particulate matter, although gasoline vehicle exhaust contributes to this effect. Annual $PM_{2.5}$ concentrations are based on the exposure to $PM_{2.5}$ resulting from emissions attributable to truck and automobile exhaust, the wearing of brakes and tires, and roadway dust from vehicles traveling over pavement. Reducing particulate matter exposure would reduce both annual $PM_{2.5}$ exposures and cancer risk.*

The exposure to TACs for the Crosswinds project has used a false assumption for the number of CUMULATIVE Average Daily Trips that will be occurring on Mission View Drive and thus the results do not reflect the cumulative exposure or associated risk.

Comment 2: The traffic operations analysis done for the Crosswinds project is *completely meaningless* because 'cumulative' pending projects are not accounted for at all. This IS a matter of CEQA and thus of the DEIR review because CEQA guidelines require that consistency to a General Plan must be considered.

Appendix G of the DEIR states: *The traffic operations analysis provides supplemental analysis for use by the City of Morgan Hill in identifying potential improvement of the transportation system that may be included as part of the project's Conditions of Approval. However, the identified roadway operations and improvements are not required or considered project impacts per CEQA guidelines.*

First of all we should be clear that California Public Resources Code, Section 21099 (b)(4) states that the updated VMT subdivision *does not preclude the application of local general plan policies, zoning codes, conditions of approval, thresholds, or any other planning requirements pursuant to the police power or any other authority*.

CEQA guidelines require that a lead agency conducting environmental review of a project must consider whether the project would conflict with any applicable land use plan, policy or regulation including the General Plan.

The Morgan Hill General Plan requires a traffic impact study be done when a project generates 100 or more net new peak hour trips. The Crosswinds project exceeds the Trip Generation Threshold by a wide margin.

The Morgan Hill Transportation Impact Study Policy states that **at a minimum** the following **shall be** included in a transportation study.

1) The study shall acknowledge and identify the use of other traffic reports completed for other projects within the same area.

2) Existing Project Conditions: Background traffic volumes, existing volumes plus the volumes from approved but not yet constructed or occupied development in the area plus traffic from the proposed project.

3) Cumulative No Project Conditions and Cumulative Plus Project Conditions – from approved projects plus traffic from pending projects

Instead the City and their consultants have willfully and knowingly chosen to simply ignore the projected impacts from VERY large projects already approved in the immediate vicinity of Crosswinds. NONE of the results in the Crosswinds traffic operations analysis are relevant. The number of new Average Daily Trips in the immediate area from projects that have been recently approved (plus Crosswinds) but not yet developed is approximately **18,500** and yet not a single analysis of any type has considered the cumulative traffic impact. This is absurd, irresponsible and a gross failure to follow the City's General Plan and a failure to give any consideration whatsoever to the health, safety, and welfare of Morgan Hill residents living in the area.

Appendix B Technical Reports and Supporting Documentation

AKEL
ENGINEERING GROUP, INC.

Smart Planning Our Water Resources

December 16, 2022

City of Morgan Hill
17575 Peak Avenue
Morgan Hill, CA. 95037

Final

Attn: Chris Ghione, Public Services Director

Subject: **Proposed New 42" Storm Drain Outfall at Half Road**

Dear Chris,

The purpose of this letter memorandum is to provide an update on the size requirement for the proposed storm drain outfall at Half Road, and which was identified in the 2018 Storm Drain Master Plan (2018 SDMP). This letter memorandum includes the following sections

- Relevant Documents
- Madrone Channel Remaining Capacity
- Proposed Half Road Outfall
- Managing the Madrone Remaining Allotments
- Conclusions and Recommendations

1.0 RELEVANT DOCUMENTS

The following relevant documents were reviewed and referenced during this analysis, as they impacted the size requirement for the Half Road Outfall.

1. **2018 Morgan Hill Storm Drainage System Master Plan** (Akel) – This document is a City-wide hydrology and hydraulic evaluation of the storm drainage requirements and includes proposed improvements to mitigate existing deficiencies as well as to accommodate future growth.
2. **2022 Madrone Channel 2D Floodplain Study** (Kasraie, August 2022) – This hydrology document was focused on the Madrone Channel tributary and evaluated the capacity constraints for existing land use conditions, as well as for the impacts of potential future developments from currently vacant lands. This study was commissioned by the City of Morgan Hill and by Valley Water.
3. **Post-Construction Stormwater Control Plan for San Sebastian: Phase 3 & 4** (RJA, March 2021) – This hydrology report compared the pre-development and post-development runoff for the project during 2-year, 10-year, 25-year, and 100-year storm events.
4. **Post-Construction Stormwater Runoff Management Plan for The Crosswinds** (RJA, May 2020) – This hydrology report compared the pre-development and post-development

runoff for the project during 2-year, 10-year, 25-year. 100-Year hydrology calculations could not be found in this report.

5. **Stormwater and Hydrology Report for Redwood Technology Center at 101** (Kier & Wright, June 2022) **–** This hydrology report compared the pre-development and post-development runoff for the project during 2-year, 5-year, 10-year, 25-year, and 100-year storm events, and also included a detention basin analysis to reduce the impact to the downstream outfall. It should be noted that this hydrology report included Redwood Tech, the undeveloped lands north of Redwood Tech, as well as the De Paul Health Center.

2.0 MADRONE CHANNEL REMAINING CAPACITY

Valley Water has been diligently monitoring the capacity adequacy of the receiving waters within Santa Clara County, and their regional models have identified the Madrone Channel with capacity constraints, even during existing conditions. Due to the imminent nature of the developments along Half Road, Valley Water and the City of Morgan Hill agreed to work together and complete a more detailed 2-dimensional (2D) floodplain analysis for the Madrone Channel. Akel Engineering Group retained the services of Kasraie consulting, a renowned hydrologist, to complete this analysis.

The Kasraie analysis concluded that under existing conditions, 100-year 24-hour storm runoff from vacant lands within the Madrone tributary area does not all drain towards the Madrone Channel, but rather sheet flows in a southerly/southeasterly direction. Furthermore, the existing pipelines and outfalls are designed for 10-year 24-hour storm events, and do not usually facilitate the 100-year 24-hour runoff to discharge directly to the Madrone Channel.

According to the Kasraie analysis, the 2D floodplain analysis indicates the capacity constraint in the Madrone Channel is at the channel crossing under Tennant Avenue. This constraint can currently accommodate an additional capacity of **120 cfs**, including freeboard in the channel.

The Kasraie report also advised with a rough estimate for distributing this available 120 cfs to undeveloped lands:

- Additional runoff during 100-year storm events can be accepted at an approximate rate of 0.5 cfs per acre, and only for lands currently draining towards the Madrone Channel.

Madrone Channel Remaining Capacity
The 2D floodplain analysis indicates the capacity constraint in the Madrone Channel is at the channel crossing under Tennant Avenue. This constraint can currently accommodate an additional capacity of **120 cfs**, including freeboard in the channel.

It is important to note that this rough estimate was based on the existing drainage patterns in the 2D floodplain Model and which identifies lands currently draining towards the Madrone Channel. Lands that currently sheet flow southwards, and away from the Madrone Channel, were excluded from this rough 0.5 cfs per acre estimate.

Runoff flows exceeding the 120 cfs will trigger the construction of the 72-inch parallel culvert improvement at the Tennant Avenue crossing. It should be noted that, prior to any such culvert improvements, Valley Water will require a study to determine if this culvert improvement results in increased flooding, during 100-year storm events, in downstream channel reaches.

3.0 PROPOSED HALF ROAD OUTFALL

This section discusses the Half Road pipe size requirements, as stipulated in the 2018 SDMP, and as revised to account for changes in land use and stormwater drainage assumptions based on imminent developments.

3.1 2018 SDMP Assumptions

The 2018 Storm Drainage Master Plan reflected 2017 land use conditions and identified improvements needed to mitigate existing deficiencies, as well as improvements to service future growth. At the time, the Half Road tributary area, which is intended to discharge to the Madrone Channel, was largely undeveloped, including the area east of Peet Road, as shown on **Figure 1**. This figure shows the Half Road tributary (highlighted in a light-green color) extending eastward to Coyote Road. The hydraulic analysis, at the time, identified the corresponding outfall pipe size requirement at 54 inches, and continuing eastward with 48 inches.

3.2 2022 Land Use Conditions and Imminent Developments

The 2022 land use conditions for the Half Road tributary area has changed since the 2018 SDMP, as developments have been either occurring or currently being planned for imminent construction. The revised tributary area for Half Road is shown on **Figure 2**, and the mostly imminent developments within this area are discussed in this section.

3.2.1 San Sebastian (Tributary to Half Road)

The area previously tributary to Half Road, and east of Peet Road (North and South San Sebastian on **Figure 2**), is in different stages of development. This North San Sebastian area has been designed to retain 100-year 24-hour storms, while the South San Sebastian area was designed to detain 25-year 24-hour storms, and thus is still tributary to Half Road.

During the 100-year 24-hour storm events, stormwater runoff from the South San Sebastian area will exceed the south basin capacity and overtop Peet Road and flow southwesterly into Madrone Channel, and via the future Half Road storm drainage pipeline. It should be noted that the post-development release runoff from the South Sebastian area is less than the pre-development runoff.

3.2.1 Crosswinds

The area adjacent and to the east of the Redwood Tech development is known as the Crosswinds development (highlighted in a light-green color on **Figure 2**). This development consists of residential units, and its hydrology report includes calculations and quantifying storm runoff from up to 25-year 24-hour events. No 100-year 24-hour events were found.

3.2.2 County Area (Tributary to Half Road)

Though this area is currently under the County jurisdiction, there have been discussions of potential developments. This study assumes that this area will be draining to the future Half Road pipeline. Furthermore, the study assumes that either the County, or the City if this area is incorporated, will condition the development to construct 25-year 24-hour detention facilities.

3.2.3 Redwood Tech / Undeveloped Area to the north / De Paul Health Center (Not Tributary to Half Road)

The Redwood Tech development (highlighted in a light-blue color on **Figure 2**) was assumed tributary to the future Half Road outfall in the 2018 SDMP. This development is currently proposed to be draining northward to an existing, and private, detention facility, and then draining to the Madrone Channel via an existing 30-inches outfall. The hydrology report for Redwood Tech also included the undeveloped area to the north and which is labeled as "Future Dev. Area" on **Figure 2**, as well as the De Paul Health Center. These areas are also not tributary to Half Road, though they are included in the calculations to determine the additional runoff flows anticipated in the Madrone Channel.

3.2.4 Future Developed Area north of Redwood Tech plus Lands of Lee (Not Tributary to Half Road)

This study accounts for a reserved capacity from the future developments of the lands north of Redwood Tech.

3.3 2022 Half Road Outfall Pipeline Size Requirement

Based on the changes from the imminent developments discussed in this section, the analysis recommends reducing the outfall pipe size at Half Road from the master plan recommend 54-inches to 42-inches, as shown on **Figure 2**.

The revised outfall pipe size at Half Road is **42-inches.**

4.0 MANAGING THE REMAINING ALLOTMENTS

Developments within the Madrone Channel watershed tributary drainage area, and located north of Half Road, are currently going through various phases of approvals and are thus considered Imminent Growth. For that reason, City staff will be allocating the 120 cfs remaining capacity, as identified in the Kasraie report, to these imminent developments. Developments within the Madrone Channel watershed tributary area, and located south of Half Road, are considered Long-Term Growth.

4.1 Imminent Growth (North of Half Road)

This study includes a more detailed inventory of the remaining undeveloped lands within the Madrone Channel watershed, and north of Half Road. This inventory includes lands within the Madrone Channel watershed tributary area, even if they currently do not drain towards the Madrone Channel.

Developments north of Half Road are considered imminent and will be allotted the 120 cfs remaining capacity at a rate of 0.42 cfs/acre.

This inventory is documented on **Table 1**, and shown on **Figure 2**, and includes: the South San Sebastian development, the County Area, the Crosswinds, the Redwood Tech development, the future development area north of Redwood Tech, and the De Paul Health Center. **Table 1** and **Figure 2** further distinguish between developments tributary to the future Half Road drainage outfall, and those tributary to the De Paul drainage outfall.

This analysis estimated the 120 cfs available capacity can be distributed on existing undeveloped lands north of Half Road and which are considered imminent growth. Based on the land use inventory summarized on **Table 1**, and during the 100-year 24-hour storm event, an approximate

runoff flow rate of up to 0.42 cfs per acre can be allotted to these imminent developments, without exceeding the 120 cfs currently available capacity in the Madrone Channel. The following table provides a clarification to the modified allowable rate

Study	Allocation Rate for the 120 cfs Available Capacity	Assumptions
2022 Kasraie Study	**0.50** cfs per acre	This recommendation is based on the 2D floodplain study and applies only to lands currently draining towards Madone Channel.
This study	**0.42** cfs per acre	This recommendation is based on a detailed land use inventory (Table 1), for lands north of Half Road and tributary to the Madone Channel watershed, even if they do not currently drain towards the channel.

The developments north of Half Road are listed below, including a reference to their hydrology reports if applicable.

- **South San Sebastian.** South San Sebastian hydrology report indicates the 100-year storm runoff, overtopping the designed 25-year detention facilities, is estimated at 23 cfs. This amount is well below the allotment of 34 cfs.

- **County Area north of Half Road.** This area has not been developed and should be conditioned to construct a detention facility to accommodate a 25-year storm event. The maximum allowable runoff flows from this area during the 100-year 24-hour storm event should not exceed the current allotment of 33 cfs.

- **Crosswinds.** The Crosswinds hydrology report indicates that the 25-year runoff flow is estimated at 4.3 cfs. This development must provide the calculations for the 100-year runoff flow, and which should not exceed the allotment of 13.4 cfs.

- **Redwood Tech.** The hydrology report from this development indicates a 100-year storm runoff of 21.6 cfs.

- **Future Development north of Redwood Tech.** This study accounts for the development from the lands north of Redwood Tech, with an estimated additional runoff amount during the 100-year storm event of 17.9 cfs.

4.2 Long-Term Growth (South of Half Road)

Runoff flows tributary to the Madrone Channel and exceeding the 120 cfs during the 100-year 24-hour storm event, will require a parallel undercrossing improvement along the Madrone Channel as it crosses under Tennant Avenue. Morgan Hill should consider requiring long-term developments south of Half Road and north of Tennant Avenue, to contribute towards constructing a parallel pipeline crossing under Tennant Avenue. Until this proposed crossing has been constructed, these long-term developments should be required to construct retention facilities for 100-year 24-hour storm events.

Runoff flows tributary to the Madrone Channel and exceeding 120 cfs during the 100-year 24-hour storm event, will require a parallel culvert improvement along the Madrone Channel as it crosses under Tennant Avenue.

Also, as previously mentioned, and prior to constructing this culvert improvement, Valley Water will be requiring a study be completed to determine the impact of this improvement on the downstream segments of the Madrone Channel.

5.0 CONCLUSIONS AND RECOMMENDATIONS

This letter memorandum reviewed and updated the pipe size requirements for the future Half Road storm drain outfall, and reviewed the Madone Channel constraints as evaluated by the August 2022 Kasraie hydrology report, and includes the following conclusions and recommendations:

- **Morgan Hill is Actively Managing Runoff Impact to Downstream Waters.** Since the 2018 Storm Drain Master Plan (2018 SDMP), the City of Morgan Hill has been pro-active in requiring developers to construct detention facilities (usually designed for 25-year 24-hour) to mitigate the 100-year storm runoff impacts from the downstream receiving waters. In some cases, like Sebastian North, the developer was required to retain for 100-year 24-hour storm events.
- **Madrone Channel Remaining Capacity.** The Kasraie hydrology report concluded that there is approximately 120 cfs of remaining capacity in the Madrone Channel, at the bottleneck located at Tennant Avenue, to accommodate runoff flows from future or imminent developments, while maintaining freeboard requirements. Based on the available land use inventory shown on **Table 1**, this equates to 0.42 cfs per acre.
- **Imminent Growth North of Half Road can use the 120 cfs Remaining Capacity.** The analysis estimated this 120 cfs excess capacity can be distributed on existing undeveloped lands north of Half Road and which are considered imminent growth, including the Redwood Tech and Crosswinds Projects. During the 100-year 24-hour storm event, a runoff flow rate of up to 0.42 cfs per acre, can be allotted to these imminent developments, without exceeding the 120 cfs excess capacity in the Madrone Channel.

Imminent Growth North of Half Road can develop and use the 120 cfs Available Capacity in the Madrone Channel.

- **Long-Term Growth South of Half Road Require Channel Improvement at Tennant Avenue.** Runoff flows tributary to the Madrone Channel and exceeding 120 cfs during the 100-year 24-hour storm event, will require a parallel culvert improvement along the Madrone Channel as it crosses under Tennant Avenue. Morgan Hill should consider requiring long-term developments south of Half Road and north of Tennant Avenue, to contribute towards constructing a parallel pipeline crossing under Tennant Avenue.

  Long Term Growth South of Half Road requires culvert improvement at Tennant Avenue.

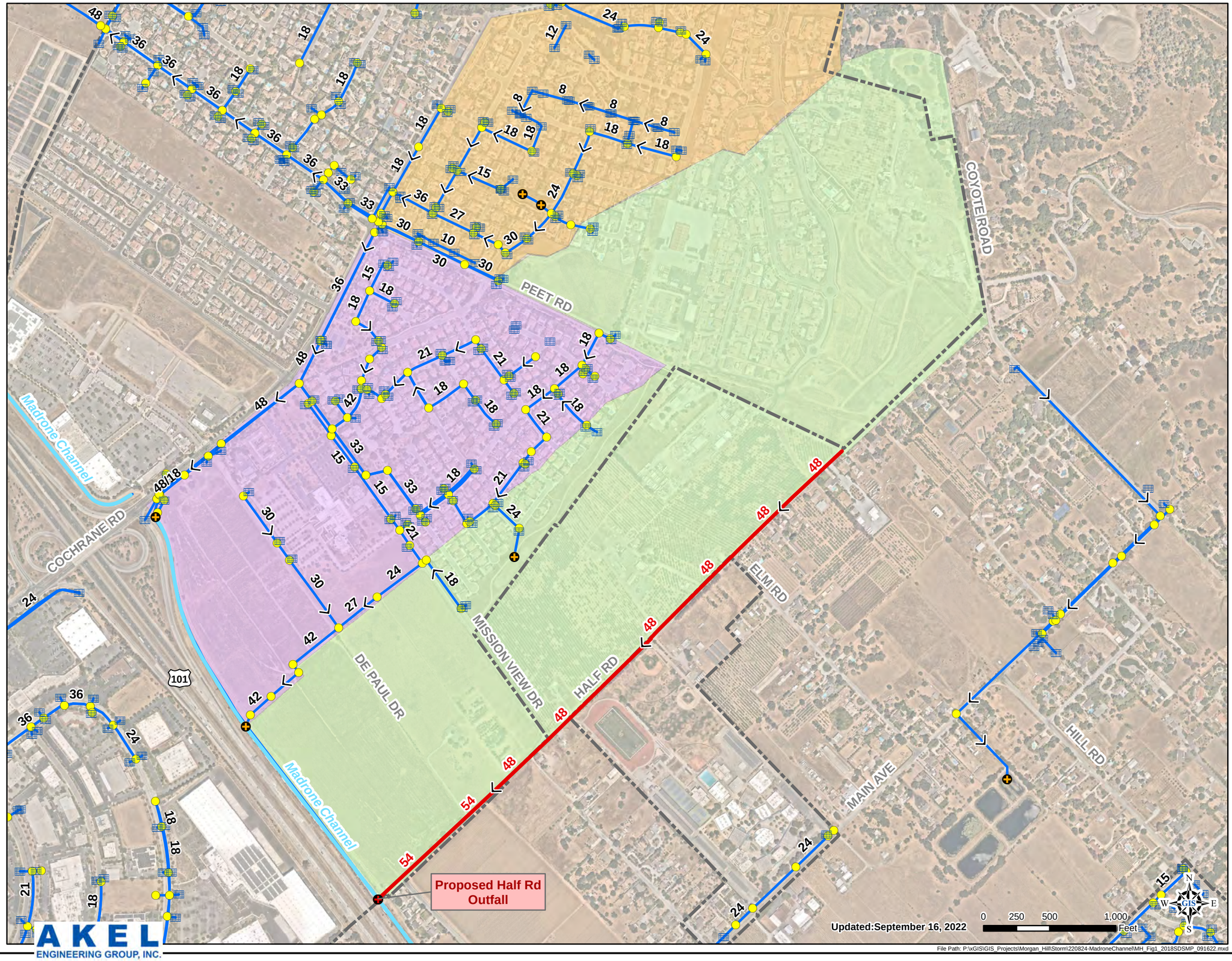
  It should be noted that, prior to any such culvert improvements, Valley Water will require a study to determine if this culvert improvement results in increased flooding, during 100-year storm events, in downstream channel reaches. Until this proposed crossing has been constructed, these long-term developments should be required to construct retention facilities for 100-year 24-hour storm events.

- **Revised Outfall Pipe Size Requirement at Half Road.** Based on the revised Half Road tributary area, and based on the City effectively managing runoff by requiring 25-year detention facilities from developers, the recommended revised Half Road outfall size is at 42 inches. This size continues east to the point of connection from the Crosswinds development, it then continues eastward on Half Road as 36 inches, then as 24 inches.

Sincerely,

AKEL ENGINEERING GROUP, INC.

Tony Akel, P.E., D. WRE
Senior Principal



Legend

Half Road Proposed Improvements

- Outfall
- Pipes

Tributary Area

- Cochrane
- Coyote
- Half Rd

Existing System

- Inlet
- Manhole
- Pipes
- City Limits

PRELIMINARY

Figure 1
2018 SDSMP Assumptions
Half Road Tributary
Area Review
City of Morgan Hill

AKEL ENGINEERING GROUP, INC.

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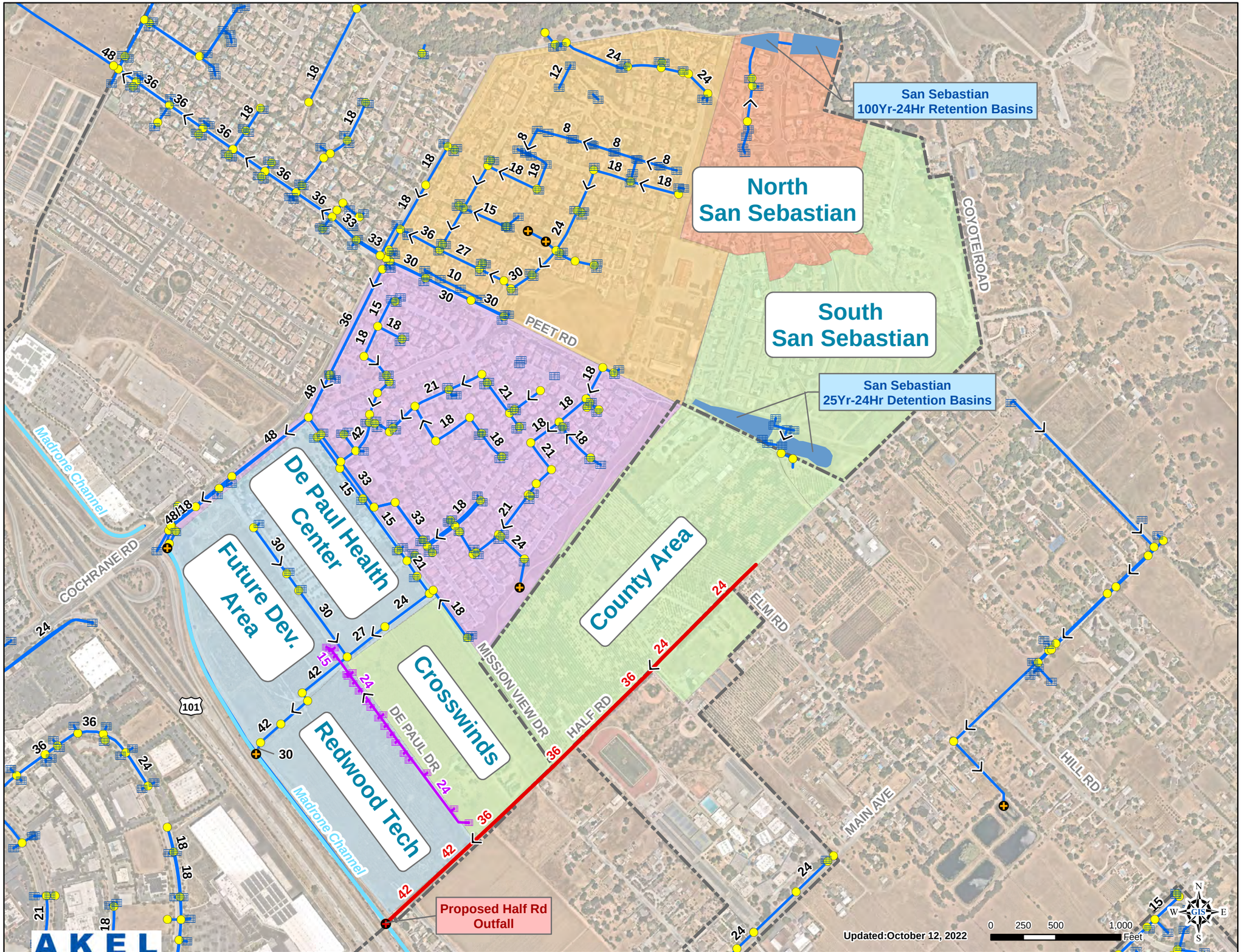

Legend

Master Plan Amendment

Proposed Improvements

- Outfall
- Pipes

Redwood Tech Proposed Improvements

- Inlet
- Pipes

Tributary Area

- North San Sebastian
- Cochrane
- Coyote
- De Paul
- Half Rd

Existing System

- Inlet
- Outfall
- Manhole
- Pipes
- San Sebastian Retention/Detention Basins
- City Limits

PRELIMINARY

Figure 2
2022 Amended Assumptions
Half Road Tributary Area Review
Floodplain Study
City of Morgan Hill

AKEL ENGINEERING GROUP, INC.

Table 1 Anticipated Runoff From Imminent Developments n/o Half Road

Half Road Tributary Area Review
City of Morgan Hill

PRELIMINARY

Development Name	Land Use Inventory					Runoff Flows			Comments
	Phased Residential Development (acres)	Light Industrial (acres)	Agriculture (acres)	Vacant (acres)	Total (acres)	Peak Flows Based on 0.42 cfs/acre[1] Allotment (cfs)	Post-Development Flows 25-Year Event (cfs)	Post-Development Flows 100-Year Event (cfs)	
Half Road - Tributary Area									
South San Sebastian[2]	81				81	34.2	3.0	22.9	100-year proposed flow is below Allotment.
County Area		13	59	7	79	33.3	n/a	Limited to 33.3 cfs	100-year runoff flow from this area should not exceed the allotment of 33.3 cfs.
Crosswinds[3]				32	32	13.4	4.3	*not in report. Limited to 13.4 cfs*	The 100-year flows not included in hydrology report. Stormwater runoff during 100-year events must not exceed 13.4 cfs.
Subtotal - Half Road - Tributary Area					193	**80.9**		**69.6**	This subtotal is tributary to the Half Road Drainage Outfall, and assumes Crosswinds runoff will be less than 13.4 cfs.
De Paul - Tributary Area									
Redwood Tech + Undeveloped Area to north + De Paul Health Center[4]					47.5	20.0	12.1	21.6	
Future Dev. Area n/o Redwood Tech + Lands of Lee[5]					42.5	17.9		Limited to 17.9 cfs	
Subtotal - De Paul - Tributary Area					90	**37.8**	12.1	**39.4**	This subtotal is tributary to an existing 30" outfall
Total Undeveloped Lands N/O Half Road						Allotment based on 4.2 cfs/acre		Actual	
Total					283	**118.7**		**109.0**	The current total runoff flow during the 100-year event is at 91.2 cfs.
Madrone Channel Remaining Capacity (w/ Freeboard) per 2022 Kasraie Study						Maximum			
Kasraie Study						**120.0**			The maximum available capacity at Tennant Avenue is at **120 cfs**, with freeboard in the Madrone Channel, per the 2022 Kasraie hydrology study

AKEL ENGINEERING GROUP, INC.

10/18/2022

Notes:

1. Source: 2022 Madrone Channel 2D Floodplain Study by Kasraie limits at 120 cfs. Allotments are based on undeveloped lands n/o Half Road not exceed 120 cfs.
2. Post-Development proposed flows extracted from Post-Construction Stormwater Control Plan for San Sebastian dated March 2021.
3. Post-Development proposed flows extracted from Post-Construction Stormwater Runoff Management Plan for The Crosswinds dated August 2020.
4. Post-Development proposed flows extracted from Stormwater and Hydrology Report for Redwood Technology Center at 101 dated June 2020.
5. Accounts for developments n/o Redwood Tech and to the Land of Lee.

TODD GROUNDWATER

February 23~~April 13~~, 2023~~1~~

UPDATED REVISED MEMORANDUM

To: Maria Kisyova and Amber Sharpe, David J. Powers & Associates, Inc.

From: Kate White, PE, Todd Groundwater

Re: The Crosswinds at Morgan Hill
Water Supply and Demand Evaluation, City of Morgan Hill

The City of Morgan Hill has requested David J. Powers to prepare a project-level analysis for a proposed residential development called the Crosswinds at Morgan Hill Project (Project). The Project is located at the intersection of Half Road and Mission View Drive in Morgan Hill and will consist of 269 residential units. David J. Powers has asked Todd Groundwater to provide a water supply and demand evaluation memorandum for the Project.

The California Water Code Section 10910 (also termed Senate Bill 610 or SB610) requires that a Water Supply Assessment (WSA) be prepared for a project that is subject to CEQA and is considered a project subject to SB610 as defined in Water Code Section 10912. The Crosswinds at Morgan Hill is subject to CEQA but is not subject to SB610 according to Water Code Section 10912. Therefore, a WSA is not needed for the Project but WSA-related information is provided in this memorandum to comprehensively document supply and demand conditions.

THE CROSSWINDS AT MORGAN HILL PROJECT DESCRIPTION

The Project is on an approximately 33-acre site in Morgan Hill (**Figure 1**). Its proposed 269 residential units will have the following breakdown:

- 56 single family
- 64 duet units
- 149 condominium units.

The site is bounded by Half Road to the southeast, Mission View Drive to the northeast, and DePaul Drive to the southwest (**Figure 2**). There will be a total of 40 below-market-rate units. The single-family detached residences would be constructed on the eastern and southern perimeters of the Project site, along Mission View Drive and Half Road. The attached duets would be constructed in the center of the Project site and three-story condominiums would be constructed along the western and northwestern perimeters of the site, along DePaul Drive and adjacent to a vacant parcel. A recreation center with a pool will

be located near the center of the site. Site improvements will include parking, small neighborhood parks, and landscape areas. Approximately 5.3 acres will be open space.

The development is proposed to be built in three phases with the northern portion built first followed by the southern half of the site. The third phase will be infill of two undeveloped portions on the northwest side of the site.

CURRENT SITE WATER USE

A residence, containerized tree nursery, and a reportedly unirrigated agricultural field occupy the site. One or two private wells supply water to the residence and tree nursery. According to the property seller, private well water use on the site has remained steady over the last ten years (as of 2019) (Decker, 2019).

The area immediately west of the Project site consists of additional containerized tree nursery land and an agricultural field. South of the Project site, across Half Road, is a vacant field with grasses and buildings used for industrial purposes. East of the Project site, across Mission View Drive, is a field with orchards and associated structures, and single-family residences. North of the Project site is an adjacent vacant parcel of land, health center and associated parking.

An estimate of the current groundwater use on the site is provided in **Table 1**.

Table 1. Current Water Use

Water Use Category on Project Site	Current Water Use (AFY)
	Private Well Use[1]
One Rural Residence (currently vacant)	0.64
~~Agriculture (containerized tree nursery)~~	~~17.90~~
Total Current Water Use	**0.64~~18.54~~**

AFY=acre-feet/year

1. Private well water use provided by property seller (Decker, 2019) and based on Santa Clara Valley Water District water billing records for July 2016-July 2018 for Well 09503E16J005 (non-agricultural) and Well 09503E16Q001 (agricultural). Water use has reportedly been steady for the past 10 years (as of 2019). The agricultural well is abandoned and is located on the adjacent property to the west. It previously~~also~~ supplie~~d~~s water to a tree nursery area to the west. It was estimated that about one-third of the agricultural well water use ~~occur~~occurred~~s~~ on the Project site (53.7 AFY/3=17.9 AFY).

PROJECT WATER DEMAND

Table 2 shows the projected water demands for the Project at buildout. Two different water demand estimates are presented for each development type listed in **Table 2**. The first set of demands was estimated using recommended water demand unit factors presented in the City's Water System Master Plan (WSMP) (Akel, 2017); these demands are shown in the second column from the right on **Table 2**. These are based on the recommended factors that are consistent with the 2015 UWMP, account for continued water conservation efforts implemented by the City and are based on net development area. They are assumed to represent development that uses advanced water conservation fixtures and practices and has drought tolerant vegetation. The second set of demand estimates use typical factors based on the number of units or building areas (last column on the right on **Table 2**); the estimates for residential use are higher than those using the WSMP recommended factors. An average of the two (42.31 AFY) was selected as the proposed buildout water demand of the Project. It is assumed that unaccounted water, such as water losses and fire protection, is included in these water demand factors.

Once completed, the Project will involve a net increase in groundwater demands of about 41.67~~23.77~~ AFY, which is the buildout Project demand of 42.31 AF minus estimated current water demand of 0.64~~18.54~~ AF.

Table 2. Buildout Water Demands

Development Type	Area (acres)	Land Use	Water Use Demand Factor[1,2]	Water Demand based on WSMP net area[3] (AFY)	Water Demand based on units or building area[4] (AFY)
Single Family Detached	3.88	56 Residential units	1,700 gpd/net acre or 0.2 AFY/unit	7.39	11.20
Duet Units	4.55	64 Duet units	1,900 gpd/net acre or 0.2 AFY/unit	9.68	12.80
Condominiums	6.49	149 Condos	2,300 gpd/net acre or 0.18 AF/unit	16.72	26.82
Recreation Center	1.16	Rec Center with kitchenette, restrooms and pool	3 AFY[3]	3.00	3.00
Irrigation	Included in other categories	Total of 8.16 acres of irrigated area[4]	Estimated Total Water Use[4]	16.21	16.21
Public and Private Right of Ways	11.80	Streets and rights of ways	Included in Irrigation category		
Open Space	5.30	Medians, parks, other landscaping	Included in Irrigation category		
Total	**33.18**	**269 units**		**33.79**	**50.82**
			Average	**42.31**	

1. Gallons per day (gpd) per net acre values are from Water System Master Plan Table 3.4 column entitled: Recommended Factor (Consistent with 2015 UWMP) (Akel, 2017). Used Residential Detached Medium, Residential Attached Low, and Residential Attached Medium factors.
2. 0.20 AFY/unit for single family homes and 0.18 AFY/unit values from Paso Robles 2015 UWMP.

3. Estimated water use for clubhouse with kitchenette, restrooms and pool extrapolated from other similar recreational/spa centers.
4. Irrigated area and demand is Estimated Total Water Use (ETWU) from City's Water Efficiency Checklist (Dividend Homes, 2020) and from sheet L-12 of The Crosswinds at Morgan Hill Full Submittal Drawings and Tentative Tract Map (June 8, 2020).

CITY OF MORGAN HILL WATER DEMAND

This section summarizes water demands for the City of Morgan Hill. It includes discussion of factors that affect total water demand including climate, population, and mix of customer types such as residential, commercial, industrial, and irrigation. A comparison of Project water demand projections to 2015 UWMP demand projections occurs at the end of this section.

Climate and Population

Climate has a notable influence on water availability and demand on a seasonal and annual basis. During drought, influences include greater water demand for outdoor uses, specifically landscape irrigation, and less supply availability because of reduced precipitation and greater evaporation. The City has a temperate climate, characterized by dry summers and wet winters with average annual maximum and minimum temperatures of 74- and 46-degrees Fahrenheit, respectively. Reflecting this pattern, water demand in the City is greater in the summer than in the winter. Average annual rainfall is about 20 inches. The average annual ET deficit of 51 inches generally represents the amount of irrigation water needed to supplement the rainfall and maintain turf areas.

Climate change may affect future water supply availability for the City of Morgan Hill by increasing temperatures, changing local precipitation patterns with less rain in the winter months and more rain in the spring months, longer summers, and increasing water demands.

The City relies solely on groundwater for its water supply. The groundwater is managed by the Santa Clara Valley Water District (Valley Water). Valley Water is actively managing County supplies through programs such as recharge, conjunctive use, and conservation. Valley Water is developing a Climate Change Action Plan (CCAP) that will identify potential future climate change vulnerabilities and risks to all core service areas (including water supply and groundwater management) and will provide goals and strategies to reduce risks (SCVWD, 2020).

City population, a key factor in water demand, was evaluated in the 2015 UWMP. Between 2015 and 2040, the City's population is anticipated to increase by about 19,218 persons, a 45 percent increase. In response to past rapid growth, the City initiated a Residential Development Control System to regulate growth by limiting the number of new homes approved per year. As a result, the 2040 population estimate of 61,600 is a function of the maximum number of housing allotments and is a ceiling and not a target (Akel, 2016).

City's Current and Projected Water Demands

The City's current and projected water demands are shown in **Table 3,** as documented in the 2015 UWMP. In 2015, total water use, including unaccounted-for water was 5,846 AFY. Note that in 2015, City and State mandatory water use restrictions were in place in response to drought conditions but have since been lifted. Consequently, 2015 demands are lower than what would be expected under normal conditions. Total water use is anticipated to increase to 10,972 AFY by 2040. These projections are generally based on the population projections and the City's 2020 urban water use target of 159 gpcd (61,600 (2040 population) x 159 gpcd = 10,972 AFY).

Approximately 59 percent of the City's total water use is projected to be consumed by single-family residential customers. Multi-family residential customers will use about 10.8 percent and commercial/industrial/institutional customers will use about 9.8 percent. Landscape irrigation is estimated to consume about 19.8 percent of the potable demand between 2020 and 2040.

Table 3. City of Morgan Hill Current and Projected Water Use (AFY)

Customer Type	Current	Projected				
	2015	2020	2025	2030	2035	2040
Single-Family Residential	3,206	5,096	5,457	5,818	6,179	6,540
Multi-Family Residential	581	924	990	1,055	1,120	1,186
Commercial, Industrial and Institutional	527	838	898	957	1,016	1,076
Landscape	1,064	1,691	1,811	1,931	2,051	2,170
Losses	467	assumed incorporated into above demands				
Total Additional Water Uses and Losses	**5,846**	**8,549**	**9,155**	**9,760**	**10,366**	**10,972**

From City's UWMP Table 4-2 and 4-4 (Akel, 2016)

Project Demands Compared to City UWMP Projected Demands

As mentioned previously, water use projections in the 2015 UWMP were based on population projections set forth in the City's 2016 General Plan Update[1] and on the City's 2020 urban water use target of 159 gpcd. This section compares 2015 UWMP population and water demand projections to those of the Project to determine if Project demands are included in the UWMP planning projections.

The population increase associated with the Project can be estimated assuming that each of the 269 units will have an average of 3 occupants[2] resulting in 807 new residents associated with the Project. This increase is well within the UWMP population increase of 3,400 anticipated to occur between 2020 and 2025.

1. The 2035 General Plan Update (adopted July 27, 2016) has a 2035 population of 58,200. It appears that the 2015 UWMP linearly projected population growth to 2040.
2. People per dwelling unit derived from information in Table 4-3A of 2015 UWMP (Akel, 2016).

A similar comparison can be made between estimated Project demands at buildout and UWMP demand increases. Project water demand is projected to be about 42.31 AFY at buildout (**Table 2**). **Table 3** shows that the UWMP-projected increase in single family demands would be 1,444 AFY between 2020 and 2040 and that multi-family demands would increase 262 AFY between 2020 and 2040. The Project would use about 2.5 percent (42.31/(1,444 + 262) of the 2015 UWMP-allotted single family plus multi-family growth in terms of demand.

The Project demands are within the UWMP water demand projection increases for residential water use sectors (2020 to 2040) (**Table 3**). Therefore, it is assumed that The Crosswinds at Morgan Hill Project water demands have been included in the 2015 UWMP projections. Note that this WSA does not address the ability of the City's water system to actually deliver water to the Project.

The City performs water supply and demand analysis on a five-year cycle as required by the State of California Department of Water Resources and as described in the City's UWMPs. The next UWMP is to be completed by July 1, 2021. UWMPs support the City's long-term resource planning to ensure that adequate water supplies are available to meet existing and future water needs.

CITY OF MORGAN HILL WATER SUPPLY

Water supply for the City of Morgan Hill is solely from groundwater. There are currently 15 active municipal groundwater wells located throughout the central and northern portions of the City that have a firm total capacity[3] of about 19,000 AFY (Akel, 2017 and City of Morgan Hill, 2019). The City has two other inactive wells that are permanently out of service.

The City pumps groundwater from two groundwater basins: the Santa Clara Valley Basin and the Gilroy-Hollister Valley Basin, with Cochrane Road coinciding approximately with the boundary between these two basins. The northern portion of the City overlies the Santa Clara Subbasin (DWR #2-009.02) in the Santa Clara Valley Basin while the southern portion of the City overlies the Llagas Subbasin (DWR basin 3-003.01) in the Gilroy-Hollister Valley Basin (**Figure 1**). The Santa Clara Subbasin has been divided into two areas for management purposes: the Coyote Valley Subarea and the Santa Clara Plain Subarea. The City overlies the Coyote Valley Subarea and has 3 active municipal wells in the Coyote Valley Subarea and 12 active wells in the Llagas Subbasin. The Santa Clara and Llagas subbasins are not adjudicated.

Santa Clara Subbasin

The Santa Clara Subbasin is a northwest trending valley that extends from the northern border of Santa Clara County to a groundwater divide near the City of Morgan Hill. It has a surface area of about 297 square miles and is bounded by the Santa Cruz Mountains to the west and the Diablo Range to the east (SCVWD, 2016). Groundwater north of the

3. Firm total capacity assumes the largest well is out of service.

groundwater divide near Cochrane Road flows north and northwest to San Francisco Bay while groundwater to the south flows southeast in the Llagas Subbasin toward the Pajaro River, at the boundary of San Benito County, and ultimately to Monterey Bay. The groundwater divide location moves north or south as much as one mile depending upon local groundwater conditions (SVCWD, 2016). The Coyote Valley Subarea is in the southern portion of the Santa Clara Subbasin and is about 7 miles long and 2 miles wide.

The Santa Clara Subbasin consists of Quaternary alluvium deposits of unconsolidated gravel, sand, silt and clay that eroded from adjacent mountain ranges. It contains interfingering alluvial fans, stream deposits and terrace deposits. The slightly or semi-consolidated alluvial deposits of the Santa Clara Formation underlie the unconsolidated young alluvial sediments in some areas of the Santa Clara Subbasin.

The Santa Clara Plain extends from Santa Clara County's northern boundary to approximately Metcalf Road in Coyote Valley. Its thickness ranges from 150 feet near Coyote Narrows/Metcalf Road to over 1,500 feet in the interior of the Subarea and thins towards the western and eastern edges. A shallow aquifer zone occurs within 150 feet of ground surface and a 20 to 100-foot-thick aquitard separates the shallow aquifer from a lower, principal aquifer zones forming a confined area in the central portion of the Subarea. Most of the wells tap the lower zone which exists at depths between 200 and 1,000 feet (SCVWD, 2016).

The Coyote Valley Subarea consists of thick alluvial sand and gravel deposits with interbedded thin, discontinuous clays and has no laterally extensive aquitard. The aquifer sediments overlying the Santa Clara Formation vary in thickness from a few feet along the west side of the valley to more than 400 feet along the east side (SCVWD, 2016).

Recharge occurs along the edges and southern portion of the Santa Clara Subbasin. This recharge contributes to the recharge of principal aquifers in the confined area through subsurface flow (SCVWD, 2016). Groundwater generally flows toward the north or northwest, following surface topography and on a local scale, flows toward areas of high pumping.

The Santa Clara Subbasin groundwater is generally of good quality and does not need treatment beyond disinfection (SCVWD, 2016). Santa Clara Plain groundwater quality is typically very good with only infrequent detections above health-based levels. Coyote Valley groundwater is typically good quality with the exception of elevated nitrate concentrations in some areas. Nitrate concentrations in the Coyote Valley are from fertilizers and septic systems in this more rural and agricultural-based Subarea (SCVWD, 2016).

Llagas Subbasin

The Llagas Subbasin is a northwest-trending, elongated valley in the southern part of Santa Clara County. It is the northern part of the Gilroy-Hollister Groundwater Basin and is bounded by the Santa Cruz Mountains to the west and the Diablo Range to the east. The Llagas Subbasin is about 15 miles long and 3 to 6 miles wide with a surface area of 88 square miles (SCVWD, 2016).

Like the Santa Clara Subbasin, it consists of Quaternary alluvium deposits of unconsolidated gravel, sand, silt and clay that eroded from adjacent mountain ranges and has interfingering alluvial fans, stream deposits and terrace deposits. The Llagas Subbasin thickness ranges from about 500 feet in the north to over 1,000 feet beneath the Pajaro River (SCVWD, 2016). Confined conditions exist in the central and southern portions of the Subbasin.

Recharge occurs along the northern, western, and eastern edges of the Subbasin. Groundwater generally flows south, toward the Pajaro River, following surface topography and on a local scale, flows toward areas of high pumping.

Llagas Subbasin groundwater is generally of good quality with the exception of localized elevated nitrate and perchlorate detections (SCVWD, 2016). The most significant single environmental release in the Llagas Subbasin was the perchlorate contamination associated with the Olin site[4]. The site has been undergoing remediation since 2004 and the plume has diminished significantly to an area mostly south of Tennant Avenue.

Groundwater Management

The Santa Clara Valley Water District (SCVWD or Valley Water) is the Groundwater Sustainability Agency for the Santa Clara and Llagas subbasins in accordance with the Sustainable Groundwater Management Act (SGMA).

SGMA became effective on January 1, 2015 and provides a framework for sustainable management of groundwater resources by local agencies. The Santa Clara and the Llagas subbasins are on the following timeline because they were designated as high priority basins but are not overdrafted:

- Local agencies must form local groundwater sustainability agencies (GSAs) by 2017
- GSAs must prepare and adopt groundwater sustainability plans (GSPs) by 2022; and
- Once GSPs are adopted, GSAs must implement them and achieve sustainability within 20 years.

Based on its long history of sustainable management, Valley Water submitted an Alternative Groundwater Sustainability Plan to California's Department of Water Resources (DWR) to fulfill its SGMA requirements. This alternative, entitled 2016 Groundwater Management Plan (GWMP) was submitted in 2016 (SCVWD, 2016). In accordance with SGMA, 2017 and 2018 Water Year[5] Reports also have been prepared that provide information on groundwater conditions and management activities to maintain the long-term viability of groundwater resources in the Santa Clara and Llagas subbasins. Valley Water also produces calendar-year based information on groundwater levels, storage, land subsidence and groundwater quality conditions.

4. Todd Engineers and Kennedy/Jenks Consultants, Groundwater Vulnerability Study, prepared for SCVWD, September 2009.

5. A water year extends from October 1 of the previous year to September 30. For example, water year 2018 is from October 1, 2017 to September 30, 2018.

The 2019 Water Year Report (SCVWD, 2020) concluded the following:

- Having previously fully recovered to pre-drought conditions, groundwater elevation and storage remained in healthy condition through Water Year (WY) 2019.
- WY 2019 was a wet year and adequate surface water supplies were available to support a full managed recharge program with 81,400 AF of local and imported surface water used for groundwater replenishment.
- Treated water delivered by Valley Water (103,000 AF) and recycled water use (17,100 AF) also provided in-lieu recharge, and countywide water conservation programs reduced water demands by more than 70,000 AF.
- This comprehensive recharge continues to support a balanced long-term water budget.
- In WY 2019, inflows exceeded outflows in the Santa Clara and Llagas subbasins, resulting in a net increase in storage of 11,400 and 6,600 AF, respectively.
- Valley Water continues to implement the comprehensive activities described in the GWMP (SCVWD, 2016). These include:
    - Maintain existing conjunctive water management programs and evaluate opportunities for enhancement or increased efficiency.
    - Continue to aggressively protect groundwater quality through Valley Water programs and collaboration with land use agencies, regulatory agencies, and basin stakeholders.
    - Continue to incorporate groundwater sustainability planning in Valley Water planning efforts.
    - Maintain adequate monitoring programs and modeling tools.
    - Continue and enhance groundwater management partnerships with water retailers and land use agencies.
    - Evaluate the potential new authorities provided by SGMA.

Tables 4 and **5** on the next page are from the 2019 Water Year Report (SCVWD, 2020) and summarize WY 2019 groundwater pumping and total water use. Most water use in the Santa Clara Subbasin is for municipal and industrial use while most water use in the Llagas Subbasin is for agricultural purposes. Imported water is a large component of supply in the Santa Clara Subbasin.

Table 4. Groundwater Pumping by Water Use in Water Year 2019

Water Use Sector	Measurement Method	Santa Clara Subbasin (AFY)	Llagas Subbasin (AFY)	Total Pumping (AFY)
M&I	Metered	61,600	16,400	78,000
	Estimated	1,500	600	2,100
Domestic	Metered	100	200	300
	Estimated	400	1,700	2,100
Agricultural	Metered	2,700	16,900	19,600
	Estimated	900	6,600	7,500
Total		**67,200**	**42,400**	**109,600**

From Table 1 in 2019 WY Report (SCVWD, 2020)

Table 5. Santa Clara County Total Water Use in Water Year 2019

Water Use (AFY)	Santa Clara Subbasin	Llagas Subbasin	Total	Measurement Method	Source	Sector
Groundwater Pumped	67,200	42,400	109,600	Metered (89%) and estimated	Natural recharge, managed recharge of local runoff and imported (SWP/CVP) water	M&I, domestic and agricultural
Valley Water Treated Water	103,000	0	103,000	Metered	Local runoff and imported (SWP/CVP) water	M&I
Valley Water Raw Surface Water Deliveries	700	1,300	2,000	Metered (95%) and estimated	Local runoff and imported (SWP/CVP) water	M&I, domestic and agricultural
SFPUC Supplies to Local Retailers	43,300	0	43,300	Metered	Surface water reservoirs	M&I
Recycled Water	15,200	1,900	17,100	Metered	Treated wastewater	M&I and agricultural
Total	**229,400**	**45,600**	**275,000**			

From Table 2 in 2019 WY Report (SCVWD, 2020)

Groundwater Use and Supply

Table 6 lists Morgan Hill's annual groundwater use between 2011 and 2018. About 80 percent of the City's supplies are from the Llagas Subbasin. Groundwater use declined in 2015, reflecting State-wide water use restrictions in response to the drought but rebounded in recent years.

Table 6. City of Morgan Hill 2011 to 2018 Groundwater Use (AFY)

Groundwater Source	2011	2012	2013	2014	2015	2016	2017	2018
Llagas Subbasin of the Gilroy-Hollister Groundwater Basin	6,076	6,203	7,454	6,195	4,741	4,480	5,155	5,832
Santa Clara Subbasin, Coyote Valley Subarea of the Santa Clara Valley Groundwater Basin	1,381	1,374	1,484	1,300	1,105	1,800	1,942	1,449
Total	**7,457**	**7,577**	**8,938**	**7,495**	**5,846**	**6,280**	**7,097**	**7,281**

From 2015 UWMP Table 6-1 (Akel, 2016) and Morgan Hill (2019)

Table 7 lists projected supplies to 2040 as documented in the UWMP. It includes natural recharge to the Llagas and Santa Clara subbasins (22,500 AFY and 2,400 AFY, respectively) as well as recharged imported water and recycled water (39,000 AFY to 48,500 AFY). These other water supplies were included in the 2015 UWMP (Akel, 2016) for completeness of the Llagas and Coyote Valley groundwater budgets. While the City of Morgan Hill does not directly contract with Valley Water for water supplies, it is dependent upon the additional water that Valley Water provides for recharge or to offset pumping in the Llagas and Santa Clara subbasins.

Table 7. City of Morgan Hill Projected Supply (AFY)

Water Supply Source	Projected				
	2020	2025	2030	2035	2040
Llagas Subbasin (Natural Recharge)	22,500	22,500	22,500	22,500	22,500
Santa Clara Valley Subbasin (Natural Recharge)	2,400	2,400	2,400	2,400	2,400
Other[1]	39,000	42,900	46,600	48,400	48,500
TOTAL	**63,900**	**67,800**	**71,500**	**73,300**	**73,400**

From 2015 UWMP Table 6-9 (Akel, 2016)

1. Other includes raw water and local surface water deliveries that are managed and negotiated by Valley Water for recharge in the Llagas Subbasin and Coyote Valley Subarea. It also includes City of Gilroy recycled water demand, which offsets pumping from the Llagas Subbasin.

COMPARISON OF SUPPLY AND DEMAND

To determine water supply sufficiency, a comparison of supply and demand during normal, single dry and multiple dry years during a 20-year projection was conducted. Based on the City's 2015 UWMP, **Table 8** summarizes water supply and demand for the City in a normal year, while **Tables 9** and **10** show supply and demand in single-year and multi-year dry conditions. On an annual basis, the City has been able to provide sufficient supplies to meet demand during normal, single-dry, and multiple-dry year periods.

Review of **Tables 8**, **9**, and **10** shows that water supply will decrease in times of drought, reflecting less natural recharge but demands were assumed to remain the same. If a severe drought occurs, the City could impose water use restrictions that could temporarily reduce water use to per capita levels similar to those in 2015 (123 gpcd). For comparison, the UWMP assumed projections based on a 159 gpcd use.

The Project site buildout water demands of 42.31 AFY (**Table 2**) are within the UWMP projections and thus considered to be included in the demand components of the 2015 UWMP summary tables listed below.

Table 8. Normal Year Supply and Demand Comparison (AFY)

	2020	2025	2030	2035	2040
Supply Totals	63,900	67,800	71,500	73,300	73,400
Demand Totals	8,549	9,155	9,760	10,366	10,972
Difference	55,351	58,645	61,740	62,934	62,428

From 2015 UWMP, Table 7-2 (Akel, 2016) and errata sheet (revised data available on DWR website)

Table 9. Single Dry Year Supply and Demand Comparison (AFY)

	2020	2025	2030	2035	2040
Supply Totals	60,705	60,705	60,705	60,705	60,705
Demand Totals	8,549	9,155	9,760	10,366	10,972
Difference	52,156	51,550	50,945	50,339	49,733

From 2015 UWMP, Table 7-3 (Akel, 2016) and errata sheet (revised data available on DWR website)

Table 10. Multiple Dry Year Supply and Demand Comparison (AFY)

	2020	2025	2030	2035	2040
First Year					
Supply Totals	60,705	60,705	60,705	60,705	60,705
Demand Totals	8,549	9,155	9,760	10,366	10,972
Difference	52,156	51,550	50,945	50,339	49,733
Second Year					
Supply Totals	54,315	54,315	54,315	54,315	54,315
Demand Totals	8,549	9,155	9,760	10,366	10,972
Difference	45,766	45,160	44,555	43,949	43,343
Third Year					
Supply Totals	41,535	41,535	41,535	41,535	41,535
Demand Totals	8,549	9,155	9,760	10,366	10,972
Difference	32,986	32,380	31,775	31,169	30,563

From 2015 UWMP, Table 7-4 (Akel, 2016) and errata sheet (revised data available on DWR website)

Note that the groundwater supply amounts listed in **Tables 8**, **9**, and **10** are a shared resource managed by Valley Water through the SGMA process. The 2015 UWMP also included tables listing projected supplies and demands for the entire Llagas Subbasin and for the entire Coyote Valley Subarea using data that Valley Water provided to the City in mid-2016. These tables are shown in **Appendix A**. DWR requested that only City demands be included in these tables and the modified tables are the ones shown above.

Those subbasin or subarea-wide supply and demand comparisons in the 2015 UWMP indicated potential deficits, especially in multi-year droughts (see **Appendix A**). These deficits could be as high as 32,533 AF in the third year of a severe drought (see **Appendix A** Table 7-4). However, more recently, the 2019 Water Year Report (SCVWD, 2020) concluded that Valley Water's comprehensive recharge continues to support balanced long-term water budgets for these two subbasins.

As discussed above, Valley District continues to implement its groundwater sustainability program to maintain the long-term viability of groundwater resources.

CONCLUSIONS

The findings of this water supply and demand evaluation are summarized below.

- The Crosswinds at Morgan Hill Project will be built on a 33-acre site. Currently, one residence and a containerized tree nursery occupy the site.
- The Project will consist of 269 residential units (56 single family, 64 duet, and 149 condominium units) and a recreational center.
- The City of Morgan Hill will supply the Project with potable water. Groundwater is the only source of supply to the City.
- Current site water usage averages about 18.54 AFY.
- Once completed, the Project will use an estimated 42.31 AFY of water resulting in a net increase of groundwater use of about 41.67~~23.77~~ AFY.
- Water supply needed to serve the Project's water demand can be considered as included in the 2015 UWMP projections.
- The City's sole source of supply, groundwater from the Llagas and Santa Clara subbasins, is a shared resource managed by Valley Water through the SGMA process. The 2019 Water Year Report (SCVWD, 2020) for SGMA reporting concluded that Valley Water's comprehensive recharge continues to support a balanced long-term water budgets for these two subbasins.

In conclusion:

The City's water supply is from groundwater, which is a shared resource. The ongoing, active management of the Llagas and Santa Clara subbasins by Valley Water through the SGMA process and its strong partnership with large groundwater pumpers, including the City of Morgan Hill, is expected to result in continued sustainable groundwater management in the future resulting in a reliable long-term water supply for the Project.

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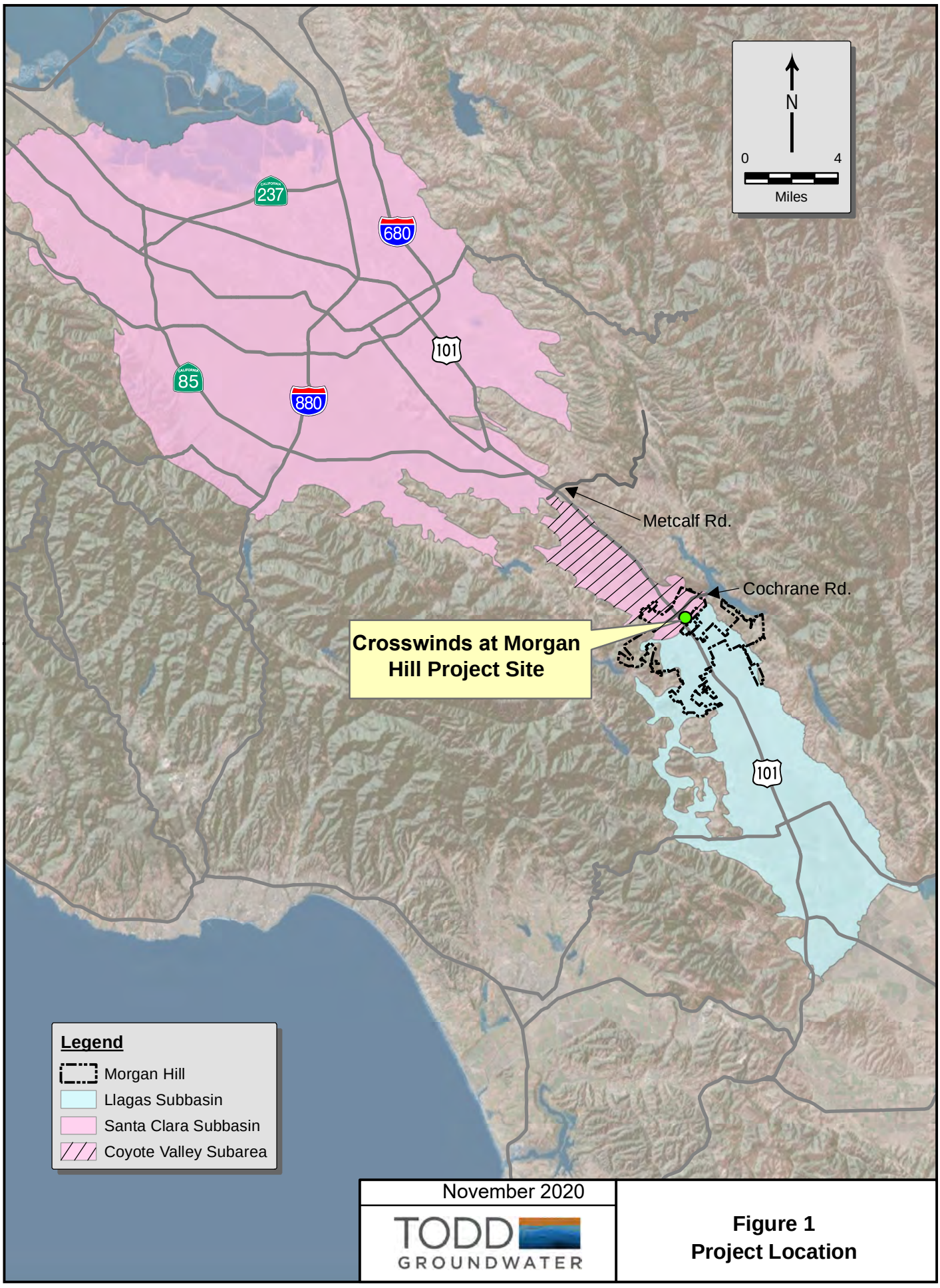

November 2020

TODD GROUNDWATER

Figure 1
Project Location

0 60 120 180

NORTH

From Plate T1.2 of The Crosswinds Full Submittal Drawings (June 8, 2020)

November 2020

TODD GROUNDWATER

Figure 2
The Crosswinds at Morgan Hill Project Schematic

Appendix A

Select Tables from City of Morgan Hill Urban Water Management Plan (Akel, 2016)

Table 7-2 Normal Year Supply and Demand Comparison

	2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)
Supply	63,900	67,800	71,500	73,300	73,400
Demand	61,765	65,542	69,468	72,811	74,068
Difference	2,135	2,258	2,032	489	-668

Table 7-2A Projected Supply vs Demand Comparison (Llagas)

Demand Condition	2020 (afy)	2025 (afy)	2030 (afy)	2035 (afy)	2040 (afy)
Projected Water Supply of the Llagas Subbasin[1]					
Natural Groundwater Recharge	22,500	22,500	22,500	22,500	22,500
Local Surface Water	16,000	18,300	20,300	21,500	21,600
SCVWD CVP Deliveries	10,600	10,700	10,700	10,400	10,200
Recycled Water Supply	2,600	3,200	3,700	3,700	3,700
Total without Recycled Water	49,100	51,500	53,500	54,400	54,300
Total with Recycled Water	51,700	54,700	57,200	58,100	58,000
Projected Average Daily Water Demand					
City of Gilroy[2]	9,186	10,306	11,650	12,882	14,114
City of Morgan Hill[3]	7,019	7,516	8,013	8,510	9,008
Other Users[4]	32,044	33,105	33,937	34,350	33,593
Total	48,249	50,927	53,600	55,742	56,715
Supply vs Demand Comparison - Excluding Recycled Water					
Difference (Supply - Demand)	851	573	-100	-1,342	-2,415
Percent of Total Supply	98%	99%	100%	102%	104%

Supply vs Demand Comparison - Including Recycled Water					
Difference (Supply - Demand)	3,451	3,773	3,600	2,358	1,285
Percent of Total Supply	93%	93%	94%	96%	98%

Notes:

1. Projected supply per South County Supply document received from SCVWD staff May 27, 2016.
2. Demand consistent with City of Gilroy draft 2015 UWMP.
3. City of Morgan Hill demand excludes Boys Ranch wells, which are located in the Coyote Valley subarea.
4. Demand for other users calculated from document received from SCVWD staff May 27, 2016.

Table 7-2B Projected Supply vs Demand Comparison (Coyote Valley)

Demand Condition	2020 (afy)	2025 (afy)	2030 (afy)	2035 (afy)	2040 (afy)
Projected Water Supply of the Coyote Valley Subarea[1]					
Natural Groundwater recharge	2,400	2,400	2,400	2,400	2,400
Local Surface Water	6,200	6,400	6,300	6,200	6,200
SCVWD CVP Deliveries	3,500	4,400	5,600	6,600	6,800
Total	12,100	13,200	14,300	15,200	15,400
Projected Average Daily Water Demand					
City of Morgan Hill[2]	1,530	1,639	1,747	1,856	1,964
Other Users[3]	11,986	13,063	14,295	15,474	15,736
Total	13,516	14,702	16,042	17,330	17,700
Supply vs Demand Comparison					
Difference (Supply - Demand)	-1,416	-1,502	-1,742	-2,130	-2,300
Percent of Total Supply	112%	111%	112%	114%	115%

Notes:

1. Projected supply per South County Supply document received from SCVWD staff May 27, 2016.
2. City of Morgan Hill demand includes pumping from the Boys Ranch wells, which are located in the Coyote Valley subarea.
3. Demand for other users calculated from document received from SCVWD staff May 27, 2016.

Table 7-3 Single Dry Year Supply and Demand Comparison

	2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)
Supply	60,705	60,705	60,705	60,705	60,705
Demand	61,765	65,542	69,468	72,811	74,068
Difference	-1,060	-4,837	-8,763	-12,106	-13,363

Table 7-4 Multiple Dry Years Supply and Demand Comparison

		2020 (AF)	2025 (AF)	2030 (AF)	2035 (AF)	2040 (AF)
First year (2013)	Supply	60,705	60,705	60,705	60,705	60,705
	Demand	61,765	65,542	69,468	72,811	74,068
	Difference	-1,060	-4,837	-8,763	-12,106	-13,363
Second year (2014)	Supply	54,315	54,315	54,315	54,315	54,315
	Demand	61,765	65,542	69,468	72,811	74,068
	Difference	-7,450	-11,227	-15,153	-18,496	-19,753
Third year (2015)	Supply	41,535	41,535	41,535	41,535	41,535
	Demand	61,765	65,542	69,468	72,811	74,068
	Difference	-20,230	-24,007	-27,933	-31,276	-32,533

HEXAGON TRANSPORTATION CONSULTANTS, INC.

The Crosswinds Residential Development

Traffic Impact Analysis

Prepared for:

City of Morgan Hill

October 7, 2021 (Revised May 5, 2023)

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Executive Summary

This report presents the results of the transportation analysis (TA) conducted for the proposed Crosswinds residential development in Morgan Hill, California. The 30.5-acre project site is currently vacant and is generally bounded by Half Road to the south, Mission View Drive to the east, future extension of DePaul Drive to the west, and Avenida De Los Padres to the north. The project as proposed will consist of a total of 269 residential units comprised of 149 condos, 56 detached single-family, and 64 duet units. The project would include the extension of DePaul Drive to the south with termination as a cul-de-sac just north of Half Road. Access to the project site would be provided via a full access driveway along Mission View Drive and two full access driveways along the future DePaul Drive extension.

Transportation Analysis Scope

The TA consists of a California Environmental Quality Act (CEQA) required vehicle-miles-traveled (VMT) analysis and a supplemental traffic operations analysis that demonstrates the project's consistency with the *Morgan Hill 2035 General Plan* goals and policies.

CEQA Transportation Analysis Scope

The CEQA VMT impact analysis was completed using the Valley Transportation Authority's (VTA) VMT tool. The City of Morgan Hill is currently developing the framework for new transportation policies based on VMT as the primary measure of transportation impacts. The new policies will replace the City's current transportation policies that are based on levels of service per the Morgan Hill 2035 General Plan. However, since the City has not formally adopted its own city-specific VMT policies, this study utilizes VMT analysis methodology and impact thresholds recommended in the Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018.

Traffic Operations Analysis Scope

The current General Plan, *Morgan Hill 2035 General Plan,* adopted in July 2016 uses Level of Service (LOS) as its primary metric for the evaluation of the projected operation of the City's roadway system. Therefore, a traffic operations analysis based upon peak hour intersection level of service analysis is included for consistency with the General Plan goals and policies. The traffic operations analysis supplements the CEQA required VMT analysis. However, the determination of project impacts per CEQA requirements is based solely on the VMT analysis.

CEQA VMT Analysis

The results of the VMT analysis using the VTA's VMT Evaluation Tool indicate that the existing VMT for residential uses in the project vicinity is 30.46 VMT per capita.

The results also indicate that the project is projected to generate VMT per capita (27.41), which would exceed the OPR's recommended impact threshold of 20.94 VMT per capita. Therefore, the project would result in an impact on the transportation system based on OPR's VMT impact criteria.

VMT Impacts and Mitigation

Using OPR's impact thresholds, the project would need to implement VMT reduction measures to achieve a 24% reduction (27.41 to 20.94) in its VMT per capita for the proposed residential uses to reduce its impact to less than significant levels. However, a maximum 11% reduction in project VMT is possible regardless of the extent of VMT reduction measures implemented.

OPR's recommended 15% below existing VMT impact threshold encourages developments in transit-rich, highly mixed-use areas to implement design features and trip reduction measures to take advantage of existing multi-model infrastructure and land use mixes in reducing trip making and/or trip lengths. However, many communities such as Morgan Hill have very limited multi-modal transportation infrastructure and lack a mix of complementary land uses. The lack of employment in these communities along with minimal transit options results in a greater number and longer commute trips. Therefore, it is highly unlikely that developments like the proposed project in these cities can achieve OPR's recommended 15% reduction in VMT. Therefore, absent of the City adopting its own City-specific VMT policies and impact thresholds, the proposed project's VMT impact must be deemed significant and unavoidable.

Per its condition of approval and prior to project occupancy, ~~the City will however require that the project~~the project applicant shall develop and implement a Transportation Demand Management (TDM) plan which targets a reduction in residential vehicle trips to and from the site. The TDM plan shall be prepared by a qualified traffic consultant and in coordination with the City of Morgan Hill Development Services Director or Designee. The TDM plan shall quantify the reduction in VMT. The TDM shall require the following measures: ~~implement and/or incorporate in its design the following VMT reduction measures to encourage the use of multi-modal travel and reduce the number and length of vehicular trips:~~

1. Prior to project occupancy, the project applicant will be required to make a financial contribution to the City's on-site demand rideshare service (MoGo), as a one-time or annual financial contribution based on City approval, **or**
2. During project operation, t~~T~~he management entity/HOA shall provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director prior to issuance of occupancy.
3. The project must improve the surrounding pedestrian network by including sidewalks which terminate at the common property line, allowing for connections to the adjacent property in the event there is development in the future. Continuous sidewalks are proposed along the project frontages. The proposed frontage improvements along Mission View Drive, Half Road, and De Paul Drive include sidewalk improvements; each of the street sections will be wide enough to accommodate future bicycle lanes.
4. The proposed development will include 64 bicycle parking spaces.

Traffic Operations Analysis

Project Trip Generation

Based on the recommended rates for single-family detached housing (Land Use #210) and the size of the proposed project, it is estimated that the proposed project would generate 2,539 daily trips, with 199 trips (50 inbound and 149 outbound) occurring during the AM peak hour and 266 trips (168 inbound and 98 outbound) occurring during the PM peak hour.

Intersection Operations Analyses

The results of the traffic operations analysis indicate that based on the City's operating standards, the proposed project would have an adverse effect on intersection operations at the following four study intersections under Year 2030 Cumulative with project conditions.

6. Mission View Drive and Cochrane Road (AM & PM Peak Hours)
8. Mission View Drive and Half Road (unsignalized) (AM & PM Peak Hours)
9. Condit Road and Main Avenue (PM Peak Hour)
10. Condit Road and Diana Avenue (unsignalized) (AM Peak Hour)

Adverse Intersection Operations Effects and Potential Improvements

The adverse intersection operation effects identified under Year 2030 Cumulative with project conditions are discussed below. Included are descriptions of the adverse effects on intersection operations and potential improvement measures that may be included as part of the project's Conditions of Approval. However, the identified roadway operations and improvements are not required or considered project impacts per CEQA guidelines.

6. Cochrane Road and Mission View Drive

This intersection is projected to operate at an unacceptable LOS F and E during the AM and PM peak hours, respectively, under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project would cause the critical delay to increase by more than four seconds and the volume-to-capacity ratio (V/C) to increase by more than 0.01 during both the AM and PM peak hours. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The addition of a second northbound left-turn lane on Mission View Drive and a cycle length adjustment would be necessary to improve intersection operations. The addition of the second northbound left-turn lane will require lane striping and signal modification but will fit within the existing curb-to-curb pavement width on Mission View Drive. Implementation of this improvement would improve the intersection's level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project conditions.

8. Mission View Drive and Half Road

This intersection is projected to operate at an unacceptable LOS F during the PM peak hour under Year 2030 Cumulative without and with project conditions. Furthermore, this intersection is projected to operate at an acceptable LOS D during the AM peak hour under Year 2030 Cumulative without conditions and degrade to LOS E with the addition of project traffic. Additionally, the peak-hour traffic signal warrant checks indicate that the intersection would have traffic volumes that meet thresholds that warrant signalization during both the AM and PM peak hours under Year 2030

Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The signalization of the intersection would be necessary to improve intersection operations. Implementation of a traffic signal at this location would improve the level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project. This intersection is under the jurisdiction of both the City of Morgan Hill and Santa Clara County. Therefore, implementation of the recommended improvements will require City and County approval.

9. Main Avenue and Condit Road

This intersection is projected to operate at an unacceptable LOS F during the PM peak hour under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project would cause the critical delay to increase by more than four seconds and the volume-to-capacity ratio (V/C) to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The addition of an exclusive southbound right-turn lane on Condit Road would be necessary to improve intersection operations. The addition of the right-turn lane will require signal modifications and lane striping on the southbound approach. Implementation of this improvement would improve the intersection's level of service to LOS D during the PM peak hour under Year 2030 Cumulative with project conditions. This intersection is under the jurisdiction of both the City of Morgan Hill and Santa Clara County. Therefore, implementation of the recommended improvements will require City and County approval.

10. Condit Road and Diana Avenue

This intersection is projected to operate at an unacceptable LOS E during the AM peak hour under Year 2030 Cumulative without and with project conditions. Additionally, the peak-hour traffic signal warrant checks indicate that the intersection would have traffic volumes that meet thresholds that warrant signalization during the AM peak hour under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The signalization of the intersection would be necessary to improve intersection operations. Implementation of this improvement would improve the intersection's level of service to LOS B during the AM peak hour under Year 2030 Cumulative with project conditions.

Freeway Segment Level of Service Analysis

The results of the freeway segment level of service analysis indicate that ten directional mixed-flow lanes and one directional HOV lane on the freeway segments analyzed are projected to operate at an unacceptable LOS F during at least one peak hour under existing conditions and would continue to operate at LOS F conditions with the addition of traffic due to proposed project.

Improvement of freeway segment operations would require freeway widening to construct additional through lanes, thereby increasing freeway capacity. VTA's Valley Transportation Plan (VTP) 2040 identifies freeway express lane projects along US 101 between Cochrane Road and Whipple Avenue. The planned improvements consist of the conversion of the existing HOV lane to an express lane and the construction of a second express lane in each direction on US 101. These improvements would increase the capacity of the freeway and help to address the deficiency in freeway operations. However, it is not feasible for an individual development project to bear responsibility for implementing

such extensive transportation system improvements due to constraints in the acquisition and cost of right-of-way.

Other Transportation Issues

Site Access

The project would include the extension of DePaul Drive to the south with termination as a cul-de-sac just north of Half Road. Access to the project site would be provided via a full access driveway along Mission View Drive and two full access driveways along the DePaul Drive extension.

On-Site Circulation

An internal private street network would provide access to each of the residential units from the proposed entrances along Mission View Drive and DePaul Drive. Most of the streets that front homes include on-street parallel parking. The internal streets would provide continuous access to each area of residential units.

Travel way on street is typically a minimum of 26 feet. The travel way on the internal streets is shown to be at least 20 feet wide. The narrower travel width will provide adequate width for two-way travel on each of the streets and will promote reduced travel speeds within the site. However, the straight nature of the internal roadways could result in drivers traveling at greater speeds than recommended. Therefore, it may be desirable to implement speed-reducing measures along the internal roadways. These measures could include the installation of speed bumps/humps along the internal roadways and/or bulb-outs at intersections and mid-block.

The project site plan shows sidewalks along the project's frontages along Mission View Drive and DePaul Drive and the internal street network on-site. However, there are no sidewalks provided along the west side of Mission View Drive between the project site and Cochrane Road. In conjunction with the existing sidewalks along the east side of Mission View Drive, the proposed sidewalks on Mission View Drive along the project frontage would provide a connection between the project site and bus stops along Mission View Drive and pedestrian destinations along Cochrane Road. There also are no sidewalks along either side of DePaul Drive between the project site and Cochrane Road. Therefore, there will be no sidewalk connection between the project site and Cochrane Road.

The project site should be designed following City of Morgan Hill design standards and provide adequate width and turn-radii at and along all drive/parking aisles to allow for two-way circulation and adequate circulation of larger vehicles (such as emergency trucks, garbage truck, and delivery trucks) throughout the project site. Adhering to the City of Morgan Hill standards and requirements, and implementing the above recommendations, the proposed site access points and layout of the surface parking areas would be adequate to accommodate the circulation of both passenger and emergency vehicles.

Emergency Vehicle Access and Circulation

The 20-foot-wide internal roadway would provide emergency vehicles (fire trucks) sufficient space to access each of the residential units on-site. There are several dead-end drive aisles that would not provide sufficient space for emergency vehicles to turn around. However, the dead-ends will be located along short segments of roadways. Thus, vehicles would be able to back out of the roadways.

Intersection Operations Analysis

The queuing analysis also indicates that the maximum vehicle queue for northbound left-turn movement at the Cochrane Road and Mission View Drive intersection currently exceeds the provided turn pocket storage space during the AM and PM peak hours under existing conditions.

The addition of project traffic is not projected to lengthen the projected queue during the AM peak hour. However, the addition of project traffic is projected to lengthen the projected queue by one vehicle or 25 feet during the PM peak hour under existing plus project conditions, which would exceed the existing storage capacity by 75 feet.

Recommendation: The northbound left-turn pocket can be lengthened by 250 feet to accommodate the projected queue during the AM peak hour. However, a second northbound left-turn lane is recommended to improve intersection operations.

Project Driveway Operations

The results of the project driveway operations analysis indicate that all three project driveways are projected to operate at acceptable levels of service (LOS D or better) during each of the peak hours analyzed and to have traffic conditions that fall below the thresholds that warrant signalization. Additionally, the 95th percentile queues at the project driveways are projected to be at most 25 feet.

Recommendation: A center-striped median is currently provided along Mission View Drive north of the project site. The current width of Mission View Drive along the project frontage is not adequate to provide a left-turn pocket into the project driveway. Mission View Drive would need to be widened along its east side, opposite the project frontage, to provide a striped left-turn pocket into the project site. Similarly, left-turn lanes should be striped at the project driveways along DePaul Drive if a center-striped median is planned.

Sight Distance

Based on Caltrans requirements, the available sight distance at the project site driveways on DePaul Drive and Mission View Drive would be adequate.

Recommendation: The site design should ensure design features, in particular, the landscaping and signage along the project site frontage and at the project site driveways, would not interfere with the sight distance at the proposed site driveway.

Parking

Based on Tables 18.72-2 and 18.72-3 of Section 18.72.030 of the Morgan Hill City Code, the project would be required to provide 2 covered parking spaces per residential unit and one guest parking space is required for every four residential units. The project would be required to provide 538 resident and 68 guest parking spaces for the proposed 269 residential units. The project is proposing to provide two covered parking spaces for each residential unit for a total of 538 parking spaces and 271 on-street parking spaces within the internal street network. Therefore, the provided number of parking spaces would satisfy the City's parking requirement.

Transit, Pedestrian, and Bicycle Analysis

The project site is served by Local Route 87 with bus stops along Mission View Drive and Half Road. In addition, Express Route 168 also provides service along Cochrane Road west of US 101. These two bus routes provide a connection to the Morgan Hill Caltrain Station. A conservative mode split in

Morgan Hill would be a three percent transit share. Assuming up to three percent transit mode share for the project equates to no more than six and eight transit riders during the AM and PM peak hours, respectively.

VTA has recommended that a new bus stop for Route 87 be installed along Mission View Drive on the project frontage just south of the project entrance. VTA also has suggested a new bus stop be installed on the northbound side of Mission View Drive if a controlled crosswalk were to be installed at the project entrance along Mission view Drive. However, this analysis showed no need for signal control at the project entrance. It is recommended that the project coordinate with VTA to identify the specific placement of a new bus stop along Mission View Drive and allow for adequate space along its frontage on Mission View to accommodate the installation of a bus stop including wider sidewalks, lighting, landscaping, and passenger pad.

Sidewalks are provided along the east side of Mission View Drive and the north side of Cochrane Road in the immediate project area. However, sidewalks along the south side of Cochrane Road are intermittent, with no sidewalk currently provided between the US 101 northbound ramps and De Paul Drive, and a short segment west of Mission View Drive. The project would provide sidewalks along its entire frontages along Mission View Drive, Half Road, and DePaul Drive and result in a continuous connection to the existing sidewalks on the east side of Mission View Drive to provide a safe connection between the project site and other surrounding land uses in the area. Controlled crossings at the intersections of Cochrane Road with Mission View Drive and DePaul Drive would provide a connection between the project area and retail uses on the north side of Cochrane Road.

Bike lanes are currently provided along the entire lengths of Cochrane Road and Main Avenue. An unpaved bike path, the Madrone Channel Trail, runs along the east side of US 101, between Tennant Avenue and Cochrane Road. It is expected that bicycle trips would comprise no more than one percent of the total project-generated trips. Thus, the project could potentially generate no more than three new bicycle trips during each of the peak hours. The demand generated by the proposed project could be accommodated by the existing bicycle facilities in the vicinity of the project site.

Freeway Ramp Analysis

Freeway On-Ramp Queuing Analysis

The analysis indicates that project traffic would not lengthen the projected 15-minute interval queue lengths at either of the subject Cochrane Road on-ramps under existing plus project conditions. Short vehicle queues, less than 10 vehicles, currently occur at the ramps, however, the queues dissipate during the 15-minute intervals because the demand volume is less than the service rate of the freeway ramp meters.

The volumes on the northbound diagonal on-ramp from westbound Cochrane Road are projected to be greater than the service rate of the ramp meter during the AM peak hour under Year 2030 Cumulative with project conditions. Therefore, queues are projected to develop on the northbound diagonal on-ramp. Trips from the proposed project will result in an increase in the projected queue by two vehicles. However, the projected queues on the metered northbound diagonal on-ramp can be accommodated entirely on the ramp.

Freeway Off-Ramp Queuing Analysis

The results of the analysis show that the 95th percentile queue lengths at each of the US 101 off-ramps to Cochrane Road are projected to be accommodated entirely on the ramps and would not extend back and disrupt the freeway mainline.

1. Introduction

This report presents the results of the Transportation Analysis (TA) conducted for the proposed Crosswinds residential development in Morgan Hill, California. The 30.5-acre project site is currently vacant and is generally bounded by Half Road to the south, Mission View Drive to the east, future extension of DePaul Drive to the west, and Avenida De Los Padres to the north. The project as proposed will consist of a total of 269 residential units comprised of 149 condos, 56 detached single-family, and 64 duet units. The project would include the extension of DePaul Drive to the south with termination as a cul-de-sac just north of Half Road. Access to the project site would be provided via a full access driveway along Mission View Drive and two full access driveways along the future DePaul Drive extension. The project site location and the surrounding study area are shown in Figure 1. The project site plan is shown in Figure 2.

Scope of Study

The TA consists of a California Environmental Quality Act (CEQA) required vehicle-miles-traveled (VMT) analysis and a supplemental traffic operations analysis that demonstrates the project's consistency with the *Morgan Hill 2035 General Plan* goals and policies.

CEQA Transportation Analysis Scope

Historically, traffic impact analysis has focused on the identification of traffic impacts and potential roadway improvements based on delay to relieve traffic congestion that may result due to proposed/planned growth. However, with the adoption of Senate Bill (SB) 743 legislation, public agencies are required (effective July 2020) to base transportation impacts on Vehicle-Miles-Traveled (VMT) rather than level of service that typically uses delay as its metric. The change in measurement is intended to better evaluate the effects on the state's goals for climate change and multi-modal transportation. Therefore, to adhere to the state's legislation, all new development projects are required to analyze transportation impacts using the VMT metric.

The CEQA VMT impact analysis was completed using the Valley Transportation Authority's (VTA) VMT tool. The City of Morgan Hill is currently developing the framework for new transportation policies based on VMT as the primary measure of transportation impacts. The new policies will replace the City's current transportation policies that are based on levels of service per the Morgan Hill 2035 General Plan. However, since the City has not formally adopted its own city-specific VMT policies, this study utilizes VMT analysis methodology and impact thresholds recommended in the Governor's Office of

Figure 1
Site Location and Study Intersections

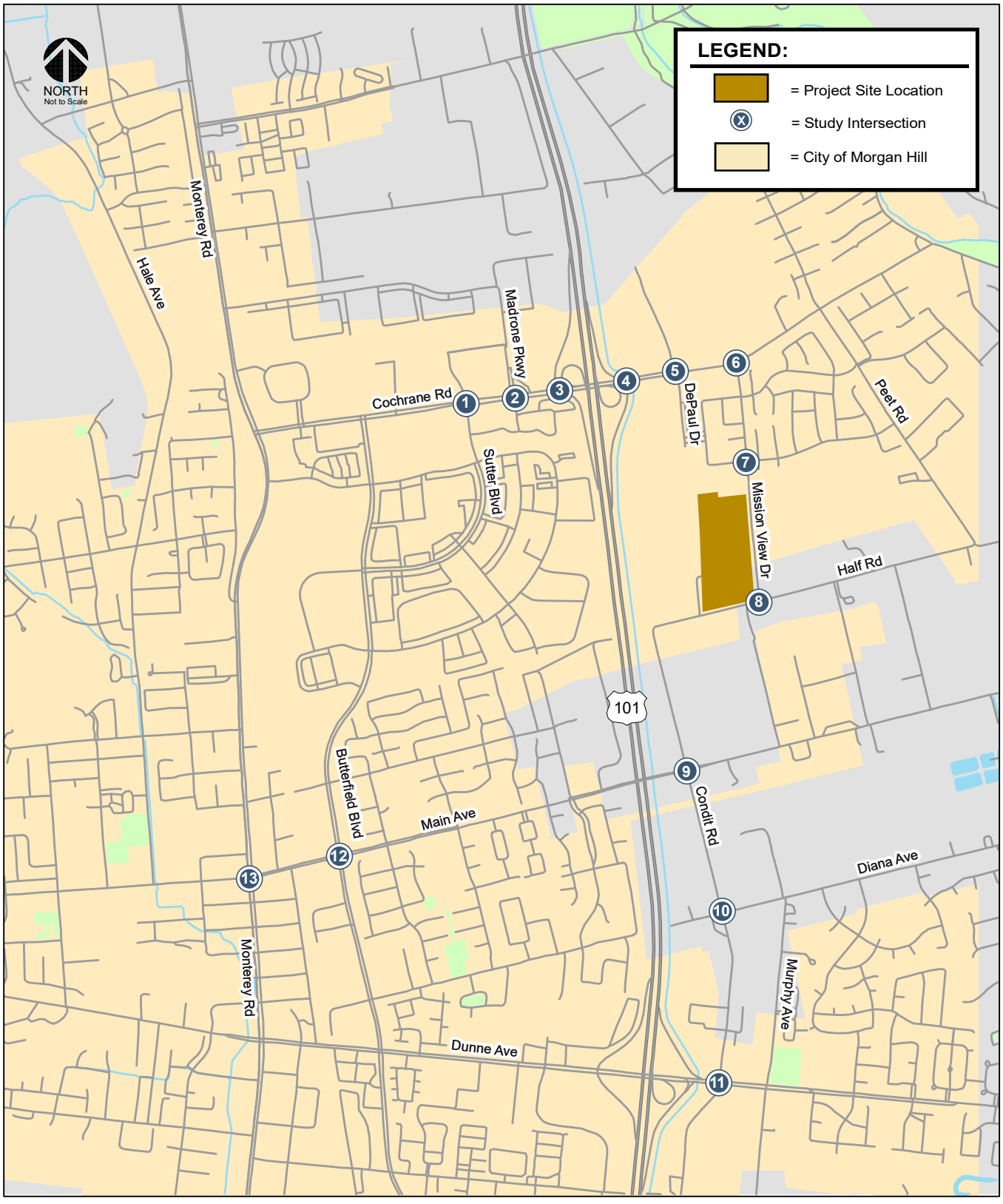
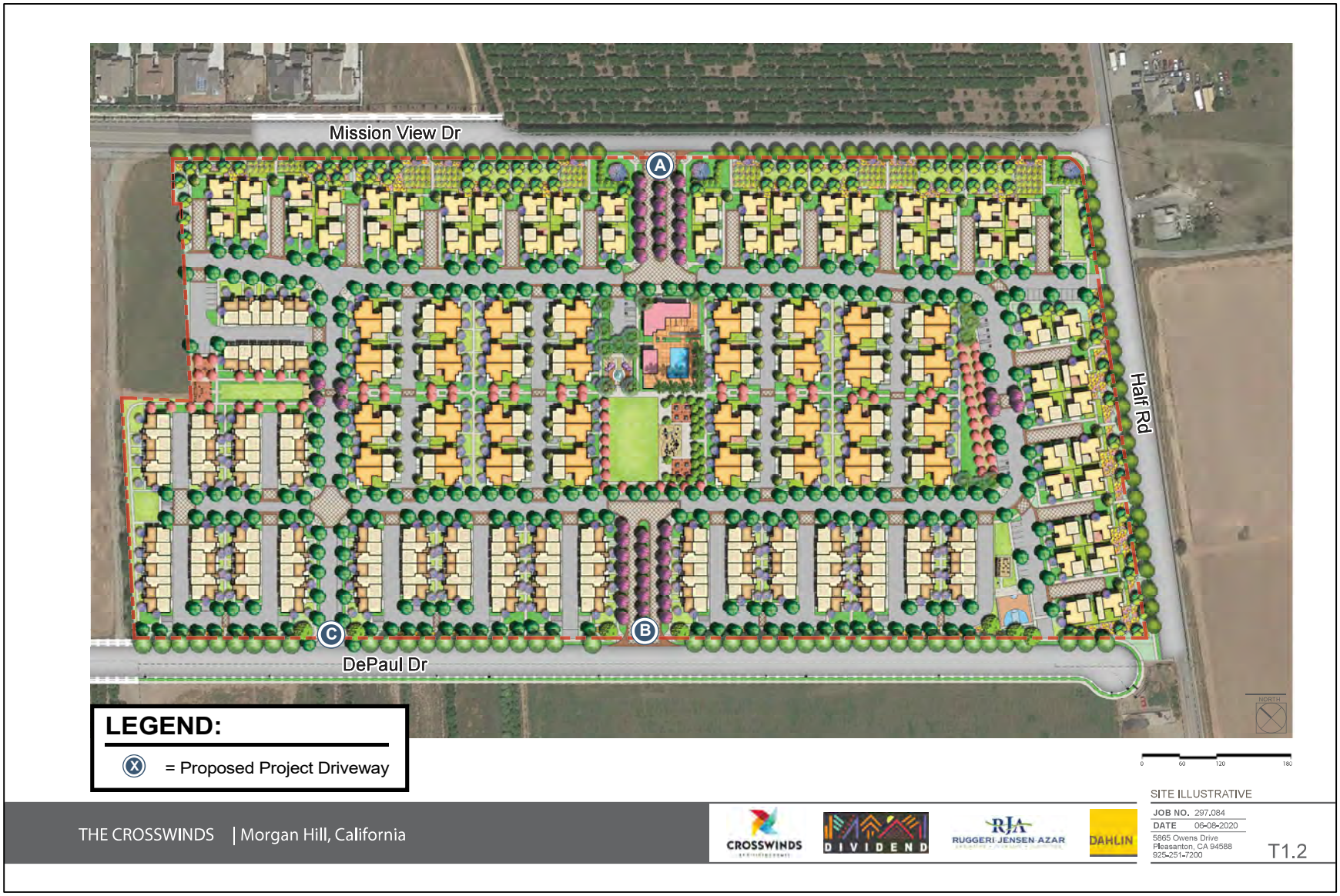


Figure 2
Project Site Plan



Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018.

Traffic Operations Analysis Scope

The current General Plan, *Morgan Hill 2035 General Plan,* adopted in July 2016 uses Level of Service (LOS) as its primary metric for the evaluation of the projected operation of the City's roadway system. Therefore, a traffic operations analysis based upon peak hour intersection level of service analysis is included for consistency with the General Plan goals and policies. The traffic operations analysis supplements the CEQA required VMT analysis. However, the determination of project impacts per CEQA requirements is based solely on the VMT analysis.

The traffic operations analysis includes the evaluation of weekday AM and PM peak hour operations at selected intersections for the purpose of identifying operational issues (queuing, signal operations, and potential multi-modal issues) at intersections in the general vicinity of the project site. The traffic operations analysis also includes an evaluation of the effects of the project's on-site access, on-site circulation, and related safety elements in the immediate area of the project.

The effects of the proposed development on traffic operations on the surrounding roadway system were evaluated following the standards and methodologies set forth by the City of Morgan Hill in its *Guidelines for Preparation of Transportation Impact Reports*, February 2010, Morgan Hill 2035 General Plan, and the Santa Clara Valley Transportation Authority (VTA). The VTA administers the County Congestion Management Program (CMP).

Report Organization

The remainder of this report is divided into five chapters. Chapter 2 describes existing conditions in terms of the existing roadway network, transit service, and existing bicycle and pedestrian facilities. Chapter 3 presents the CEQA VMT analysis. Chapter 4 presents the traffic operations analysis and the project's effects on the transportation system and describes the recommended roadway improvements. Chapter 5 presents the analysis of other transportation-related issues, including site access. Chapter 6 presents the conclusions of the transportation analysis.

2. Existing Transportation System

This chapter describes the existing transportation system within the project area. It describes transportation facilities for all of the major transportation facilities in the vicinity of the site, including the roadway network, transit service, and bicycle and pedestrian facilities.

Existing Roadway Network

Regional access to the project site is provided via US 101. Local access to the site is provided by Cochrane Road, Dunne Avenue, DePaul Drive, Half Road, Mission View Drive, Main Avenue, and Condit Road. These facilities are described below.

US 101 is a north-south freeway extending northward to San Francisco and southward through Gilroy. US 101 is an eight-lane freeway (three mixed-flow lanes and one high-occupancy vehicle (HOV) lane in each direction) north of Cochrane Road. South of Cochrane Road, it is a six-lane freeway with no HOV lanes. Access to and from the project site is provided via its interchanges at Cochrane Road and Dunne Avenue.

Cochrane Road is an east-west divided roadway that runs from Monterey Road to Malaguerra Avenue, east of US 101. Currently, Cochrane Road is a four-lane road between Monterey Road and Sutter Boulevard. Between Sutter Boulevard and US 101, Cochrane Road widens to three lanes eastbound and two lanes westbound, then narrows back to four lanes east of US 101, and to two lanes east of Mission View Drive. Cochrane Road has posted speed limits of 40 and 45 miles per hour (mph). Access to the project site is provided via its intersections with DePaul Drive and Mission View Drive.

Dunne Avenue transverses the City extending from the east part of town to the west with a posted speed limit of 35 to 40 mph and sidewalks along both sides of the street. Bike lanes are found along both sides of Dunne Avenue between Peak Avenue and Gallop Drive (east of US 101). Access to the project site is provided via its intersection with Condit Road.

DePaul Drive is a north-south undivided roadway that intersects Cochrane Road approximately 700 feet east of the US-101 northbound ramps intersection and runs approximately 1,500 feet north and 1,000 feet south of Cochrane Road. DePaul Drive has a posted speed limit of 35 miles per hour (mph). The project proposes to extend DePaul Drive by approximately 2,280 feet south to provide direct

access to the project site via two full access driveways. As proposed, DePaul Drive would terminate as a cul-de-sac just north of Half Road.

Half Road is an east-west undivided roadway that runs from Condit Road to Cochrane Road. Half Road runs along the project's southern frontage and has a posted speed limit of 35 miles per hour (mph). However, Half Road would not provide direct access to the project site and would not intersect the proposed extension of DePaul Drive. Access to the project site is provided via its intersection with Mission View Drive.

Mission View Drive is a north-south two-lane undivided roadway that runs south from Eagle View Drive to Half Road. In the vicinity of the project site, Mission View Drive has a posted speed limit of 40 miles per hour (mph). Mission View Drive runs along the project's eastern frontage. Access to the project site would be provided via a full access driveway along Mission View Drive.

Main Avenue is a two-lane roadway that runs eastward from its intersection with DeWitt Avenue to Coyote Road at the base of the eastern foothills. The roadway has an overcrossing of US 101, however, no access to US 101 is provided. Access to the project site is provided via its intersection with Condit Road.

Condit Road is a two-lane north-south roadway that extends from Half Road southward to Tennant Avenue. The posted speed limit on Condit Road is 45 mph. Access to the project site is provided via its transition to Half Road.

Existing Bicycle and Pedestrian Facilities

As defined by the Valley Transportation Authority (VTA), bicycle facilities include Class I bikeways (defined as off-street bike paths, which are shared with pedestrians and excludes general motor vehicle traffic), Class II bikeways (defined as striped bike lanes on street), and rated streets. The latter refers to streets frequently used by bicyclists, sharing the roadway with motor vehicles, and includes city designated Class III bike routes. Rated streets include extreme caution (heavy traffic volumes with high traffic speeds), alert (moderate traffic volumes and speeds), and moderate (low traffic volumes and moderate to low traffic speeds). Class III bikeways only have signs to help guide bicyclists on recommended routes to certain locations.

In the project vicinity, bike lanes are currently provided along the extent of Cochrane Road and Main Avenue beginning at Live Oak High School and continuing west across US-101 to Peak Avenue. An unpaved bike path, the Madrone Channel Trail, runs along the east side of US 101, between Tennant Avenue and Cochrane Road.

The remaining bicycle facilities in the area are located west of US-101. Bike lanes are currently provided along the following roadways:

- Butterfield Boulevard, along its entire length;
- Sutter Boulevard, from Cochrane Road to Butterfield Boulevard;
- Monterey Road, nearly its entire length within City of Morgan Hill limits, with the exception of the segment that runs through downtown between Dunne Avenue and Main Avenue;
- Burnett Avenue, from Monterey Road to Bauman Court (west of US 101);
- Central Avenue, from Butterfield Boulevard to its termination point west of US 101;
- Dunne Avenue, from Peak Avenue to east of Hill Road;
- Depot Street, along its entire length;
- Peak Avenue, between Dunne Avenue and Wright Avenue;
- Murphy Avenue, between Dunne Avenue and Kelly Park Circle;

- Hale Avenue, between Main Avenue and north of the City of Morgan Hill.

Other bicycle facilities in the project vicinity include the following:

- A bike route on Monterey Road, between Dunne Avenue and Main Avenue;
- A paved bike path on the east side of Butterfield Boulevard, between San Pedro Avenue and Central Avenue.

The existing bicycle facilities in the study area are presented graphically in Figure 3.

Pedestrian facilities in the study areas consist primarily of sidewalks, pedestrian push buttons, marked crosswalks, and signal heads at signalized intersections. However, the project site is located within a primarily undeveloped area where continuous sidewalks along the surrounding streets are not available. Sidewalks are provided along at least one of the sides of the following roadways in the vicinity of the project site:

Cochrane Road – sidewalks are provided along the north side of the street between Butterfield Boulevard and White Moon Drive. Along the south side of the street, sidewalks are provided from Monterey Road to the east of Mission View Drive with the exception of the segments between Woodview Avenue and Sutter Boulevard, US 101 northbound ramps and DePaul Drive, and a short segment west of Mission View Drive.

Mission View Drive – sidewalks are provided along the east side of the street between the northern end of Mission View Drive (at Eagle View Drive) until approximately 950 feet north of its intersection with Half Road. There are no sidewalks along the west side of Mission View Drive, with the exception of curb ramps located at the northwest and southwest corners of the Mission View Drive and Cochrane Road intersection.

Sidewalks are not provided on either side of DePaul Drive south of Cochrane Road. All other streets in the immediate vicinity of the project site fronting undeveloped areas have no sidewalks.

Existing Transit Service

Existing transit service to the study area is provided by the VTA and Caltrain. The transit services are described below and shown in Figure 4.

VTA Bus Services

The study area is served directly by one local bus (Local Bus Route 87). In addition, Express Route 168 operates along Cochrane Road west of US 101.

Local Bus Route 87 operates on Cochrane Road, Mission View Drive, and Half Road in the study area. It runs from Burnett Avenue to the Civic Center (Main and Dewitt) in Morgan Hill with approximately 60-minute headways in the AM and PM commute periods. Route 87 operates between 6:30 AM and 5:45 PM. The nearest Route 87 bus stops to the project site are located near the Half Road/Elm Road and Mission View Drive/Avenida De Los Padres intersections.

Express Route 168 operates on Butterfield Boulevard and Cochrane Road on its route between the Gilroy Transit Center and the San Jose Diridon Transit Center. It operates northbound with 30- to 45-minute headways during the AM commute period only and southbound with 45-minute headways during the PM commute period only. The nearest Route 168 bus stops to the project site are located near the intersection of Cochrane Road and Sutter Boulevard, approximately ¾ miles west of the project site.

Figure 3
Existing Bicycle Facilities

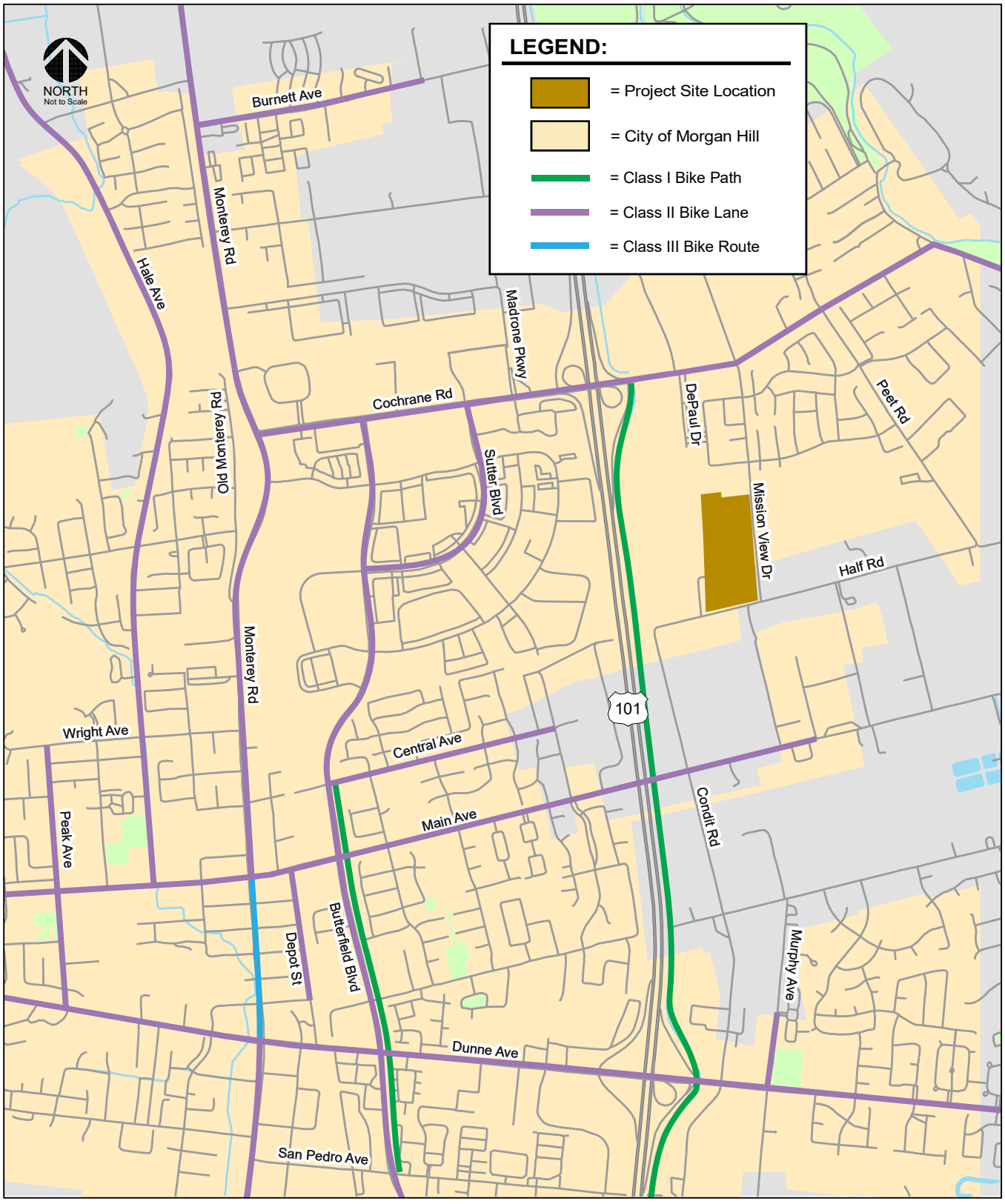
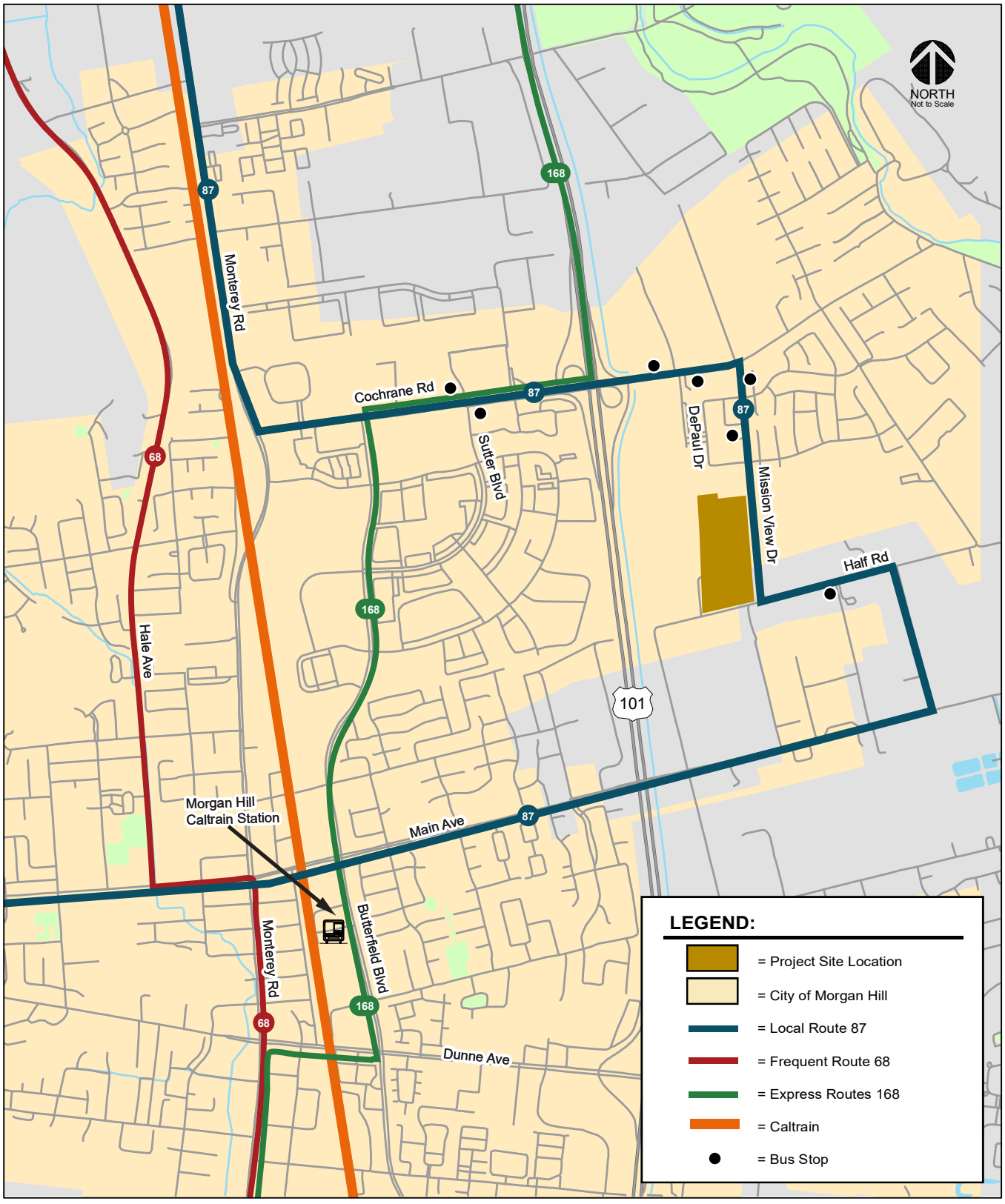


Figure 4
Existing Transit Services



Caltrain

Commuter rail service between San Francisco and Gilroy is provided by Caltrain. The Morgan Hill Caltrain Station is located along Depot Street, with main access and parking off of Butterfield Boulevard, approximately two miles from the project site. At the Morgan Hill Station, Caltrain provides service in only the northbound direction during the AM commute period with 30-minute headways and only in the southbound direction during the PM commute period with 90-minute headways.

3. CEQA VMT Evaluation

This chapter provides an evaluation of the proposed project's effect on Vehicle Miles Traveled (VMT). Pursuant to Senate Bill (SB) 743, the California Environmental Quality Act (CEQA) 2019 Update Guidelines Section 15064.3, subdivision (b) states that VMT will be the metric in analyzing transportation impacts for land use projects for CEQA purposes.

VMT Evaluation Methodology

VMT is the total miles of travel by personal motorized vehicles a project is expected to generate in a day. VMT measures the full distance of personal motorized vehicle trips with one end within the project. Typically, development projects that are farther from other, complementary land uses (such as a business park far from housing) and in areas without transit or active transportation infrastructure (bike lanes, sidewalks, etc.) generate more driving than development near complementary land uses with more robust transportation options. Therefore, developments located in a central business district with high density and diversity of complementary land uses and frequent transit services are expected to internalize trips and generate shorter and fewer vehicle trips than developments located in a suburban area with low density of residential developments and no transit serve in the project vicinity.

The evaluation of the project's effects on VMT was completed using *VTA's VMT Evaluation Tool.* The VMT tool identifies the existing average VMT per capita and VMT per employee for the project area based on the assessor's parcel number (APN) of a project. Based on the project location, type of development, project description, and proposed trip reduction measures, the evaluation tool calculates the project VMT. Projects located in areas where the existing VMT is above the established threshold are referred to as being in "high-VMT areas". Projects in high-VMT areas are required to include a set of VMT reduction measures that would reduce the project VMT to the greatest extent possible.

VMT Policies and Impact Criteria

To adhere to the state's legislation, the City of Morgan Hill is currently developing the framework for new transportation policies based on the implementation of VMT as the primary measure of transportation impacts for CEQA purposes. The new policies will replace the City's current transportation policies that are based on levels of service. However, since the City has not formally adopted its own City-specific VMT policies, this study utilizes VMT analysis methodology and impact thresholds recommended in the Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018.

Per OPR's technical advisory, VMT per resident (capita) is the recommended metric to evaluate CEQA-related transportation impacts for residential land uses. As stated in the technical advisory, OPR recommends an impact threshold of 15% below the existing VMT levels for residential land uses. OPR allows the existing VMT to be measured as regional or citywide VMT per capita. Therefore, 15% below the city-wide residential VMT per capita is established as the impact threshold for the residential uses of the project.

The VTA's VMT Evaluation Tool indicates that the citywide average VMT per capita is currently 24.64. Therefore, the OPR recommends an impact threshold of 15% below the citywide average VMT per capita equates to 20.94 VMT per capita.

VMT Evaluation

The results of the VMT analysis using the VTA's VMT Evaluation Tool indicate that the existing VMT for residential uses in the project vicinity is 30.46 VMT per capita.

The results also indicate that the project is projected to generate VMT per capita (27.41), which would exceed the OPR's recommended impact threshold of 20.94 VMT per capita. Therefore, the project would result in an impact on the transportation system based on OPR's VMT impact criteria.

The VTA VMT Evaluation Tool output sheets are shown in Figure 5 and also included in Appendix A.

VMT Impacts and Mitigation

Using OPR's impact thresholds, the project would need to implement VMT reduction measures to achieve a 24% reduction (27.41 to 20.94) in its VMT per capita for the proposed residential uses to reduce its impact to less than significant levels. However, a maximum 11% reduction in project VMT is possible regardless of the extent of VMT reduction measures implemented.

OPR's recommended 15% below existing VMT impact threshold encourages developments in transit-rich, highly mixed-use areas to implement design features and trip reduction measures to take advantage of existing multi-model infrastructure and land use mixes in reducing trip making and/or trip lengths. However, many communities such as Morgan Hill have very limited multi-modal transportation infrastructure and lack a mix of complementary land uses. The lack of employment in these communities along with minimal transit options results in a greater number and longer commute trips. Therefore, it is highly unlikely that developments like the proposed project in these cities can achieve OPR's recommended 15% reduction in VMT. Therefore, absent of the City adopting its own City-specific VMT policies and impact thresholds, the proposed project's VMT impact must be deemed significant and unavoidable.

Per its condition of approval and prior to project occupancy, the project applicant shall develop and implement a Transportation Demand Management (TDM) plan which targets a reduction in residential vehicle trips to and from the site. The TDM plan shall be prepared by a qualified traffic consultant and in coordination with the City of Morgan Hill Development Services Director or Designee. The TDM plan shall quantify the reduction in VMT. The TDM shall require the following measures:

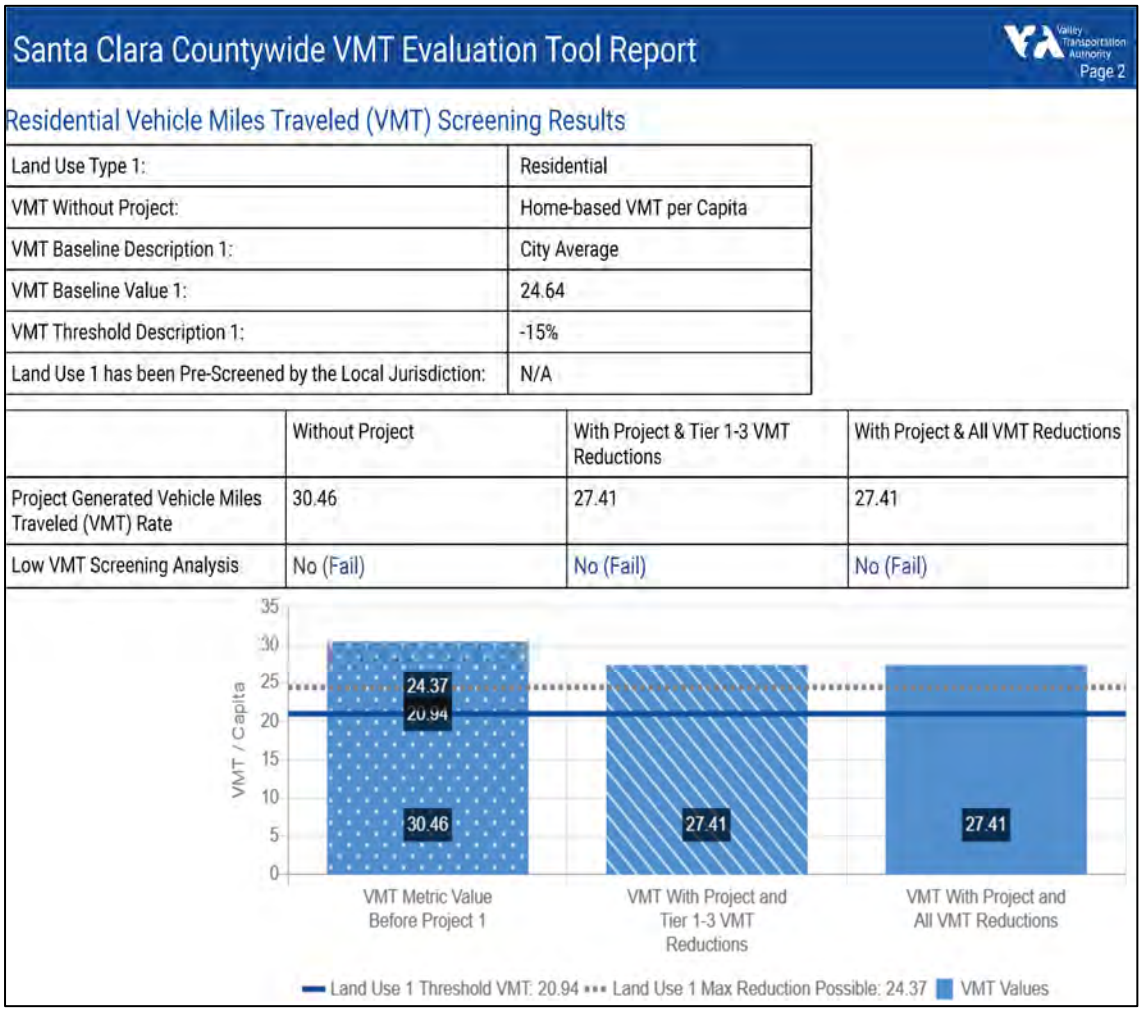
1. Prior to project occupancy, the project applicant will be required to make a financial contribution to the City's on-site demand rideshare service (MoGo), as a one-time or annual financial contribution based on City approval, **or**

~~Per its condition of approval, the City will however require that the project implement and/or incorporate in its design the following VMT reduction measures to encourage the use of multi-modal travel and reduce the number and length of vehicular trips:~~

~~*1.* The management entity/HOA shall provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director prior to issuance of occupancy.~~

~~2. The project must improve the surrounding pedestrian network by including sidewalks which terminate at the common property line, allowing for connections to the adjacent property in the~~

Figure 5
VMT Analysis



Santa Clara Countywide VMT Evaluation Tool Report

Valley Transportation Authority Page 2

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Without Project:	Home-based VMT per Capita
VMT Baseline Description 1:	City Average
VMT Baseline Value 1:	24.64
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	30.46	27.41	27.41
Low VMT Screening Analysis	No (Fail)	No (Fail)	No (Fail)

2. During project operations, the management entity/HOA shall provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director prior to issuance of occupancy.
3. The project must improve the surrounding pedestrian network by including sidewalks which terminate at the common property line, allowing for connections to the adjacent property in the event there is development in the future. Continuous sidewalks are proposed along the project frontages. The proposed frontage improvements along Mission View Drive, Half Road, and De Paul Drive include sidewalk improvements; each of the street sections will be wide enough to accommodate future bicycle lanes.
4. The proposed development will include 64 bicycle parking spaces.

~~event there is development in the future. Continuous sidewalks are proposed along the project frontages. The proposed frontage improvements along Mission View Drive, Half Road, and De Paul Drive include sidewalk improvements; each of the street sections will be wide enough to accommodate future bicycle lanes.~~

~~3. The proposed development will include 64 bicycle parking spaces.~~

4. Traffic Operations Analysis

This chapter describes the traffic operations analysis. The traffic operations analysis provides supplemental analysis for use by the City of Morgan Hill in identifying potential improvement of the transportation system that may be included as part of the project's Conditions of Approval. However, the identified roadway operations and improvements are not required or considered project impacts per CEQA guidelines.

The chapter presents the method by which project traffic is estimated, intersection operations analysis for existing, existing plus project, Year 2030 cumulative conditions, the identification of any adverse effects on study intersections caused by project generated trips, and recommended improvements to alleviate the identified operational issues. In addition, the chapter includes an intersection vehicle queuing analysis, freeway segment capacity evaluation, site access and on-site circulation review, review of the project's effects on bicycle, pedestrian, and transit facilities, and a review of required parking.

Project Description

The 30.5-acre project site is currently vacant and is generally bounded by Half Road to the south, Mission View Drive to the east, future extension of DePaul Drive to the west, and Avenida De Los Padres to the north. The project as proposed will consist of a total of 269 residential units comprised of 149 condos, 56 detached single-family, and 64 duet units. The project would include the extension of DePaul Drive to the south with termination as a cul-de-sac just north of Half Road. Access to the project site would be provided via a full access driveway along Mission View Drive and two full access driveways along the future DePaul Drive extension.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the AM and PM peak hours. As part of the project trip distribution step, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment

step, the project trips are assigned to specific streets and intersections in the study area. These procedures are described further in the following sections.

Trip Generation

Through empirical research, data have been collected that correlate to common land uses their propensity for producing traffic. Thus, for the most common land uses there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from a new development. Hexagon prepared trip estimates for the proposed project based on trip generation rates obtained from the Institute of Transportation Engineers' (ITE's) *Trip Generation Manual*, Tenth Edition, 2017. Single-Family Detached Housing (Land Use 210) trip generation rates were used to estimate the number of trips that would be generated by all proposed residential units because the trip-making characteristics of varying types of residential units would be similar due to the limited transit services and employment opportunities within Morgan Hill.

Based on the recommended rates for single-family detached housing (Land Use #210) and the size of the proposed project, it is estimated that the proposed project would generate 2,539 daily trips, with 199 trips (50 inbound and 149 outbound) occurring during the AM peak hour and 266 trips (168 inbound and 98 outbound) occurring during the PM peak hour. The trip generation estimates for the proposed project are shown in Table 1.

Trip Distribution and Assignment

The trip distribution patterns for project-generated traffic for the proposed land use were estimated based on existing travel patterns on the surrounding roadway system, locations of complementary land uses, and use of the City of Morgan Hill Traffic Demand Forecasting (TDF) Model. The peak-hour trips associated with the proposed project were added to the transportation network in accordance with the distribution patterns discussed above. The project trip distribution patterns are shown graphically in Figure 6. Figure 7 shows the assignment of project traffic on the local transportation network. A tabular summary of project traffic at each study intersection is contained in Appendix C.

Intersection Operations Methodology

This section presents the methods used to evaluate traffic operations at each of the study intersections for each study scenario. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards, and the criteria defining adverse effects at the study intersections. The intersection operations analysis is intended to quantify the operations of intersections and to identify potential negative effects due to the addition of project traffic. However, a potential adverse effect on a study intersection is not considered a CEQA impact metric.

Study Intersections

The traffic operations analysis includes an analysis of AM and PM peak-hour traffic conditions for ten signalized intersections and three unsignalized intersections. The study intersections are identified below.

1. Cochrane Road and Sutter Boulevard
2. Cochrane Road and Madrone Parkway/Cochrane Plaza
3. Cochrane Road and US 101 Southbound Ramps
4. Cochrane Road and US 101 Northbound Ramps
5. Cochrane Road and De Paul Drive

Table 1
Project Trip Generation Estimates

Proposed Land Use	Size	Daily		AM Peak Hour						PM Peak Hour					
					Split		Trip				Split		Trip		
		Rate	Trip	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
Single-Family Detached Housing (ITE LU # 210)[1]	269 Dwelling Units	9.44	2,539	0.74	25%	75%	50	149	199	0.99	63%	37%	168	98	266

Notes:
[1]ITE Trip Generation Manual, 10th Edition 2017

Figure 6
Project Trip Distribution

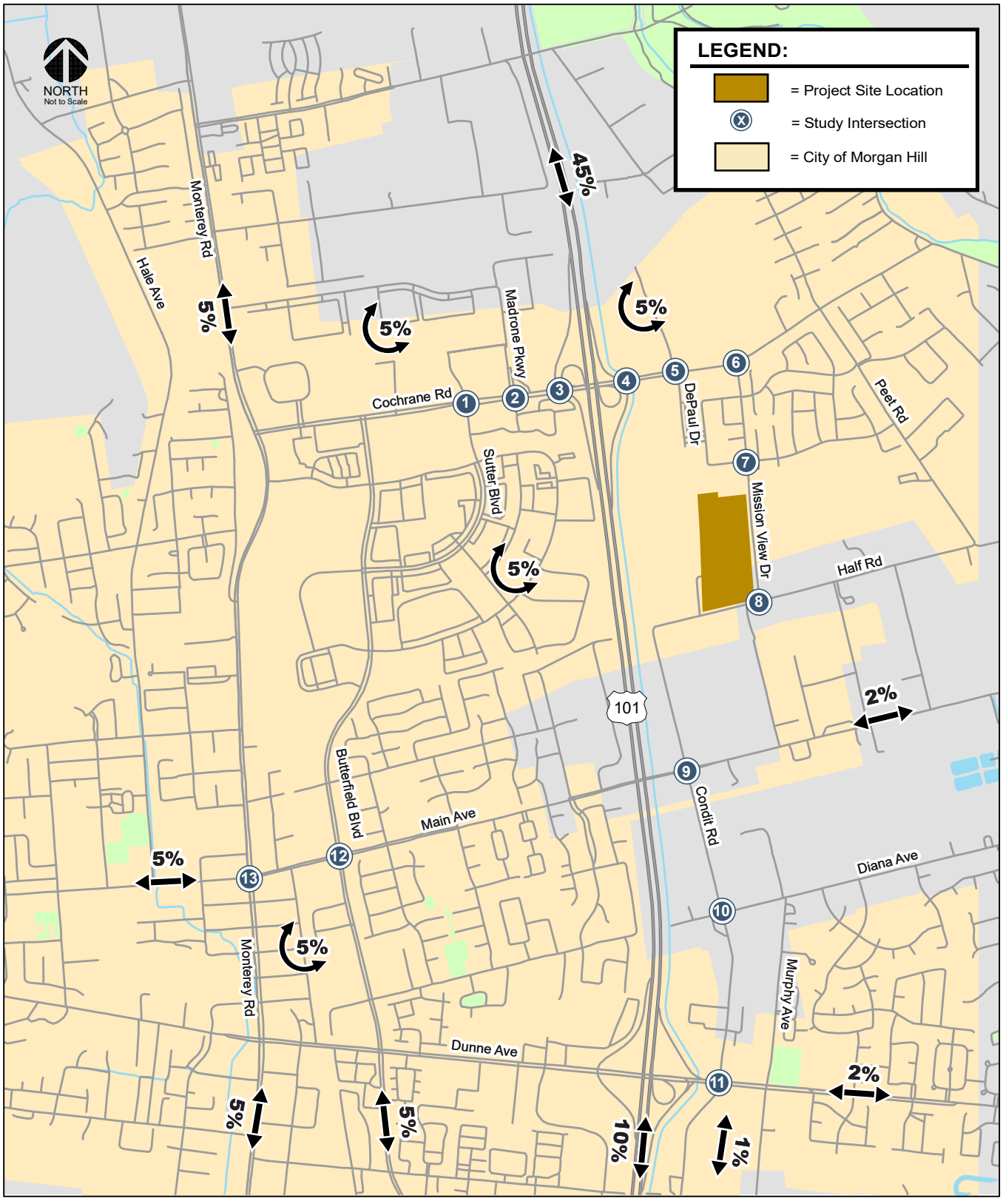
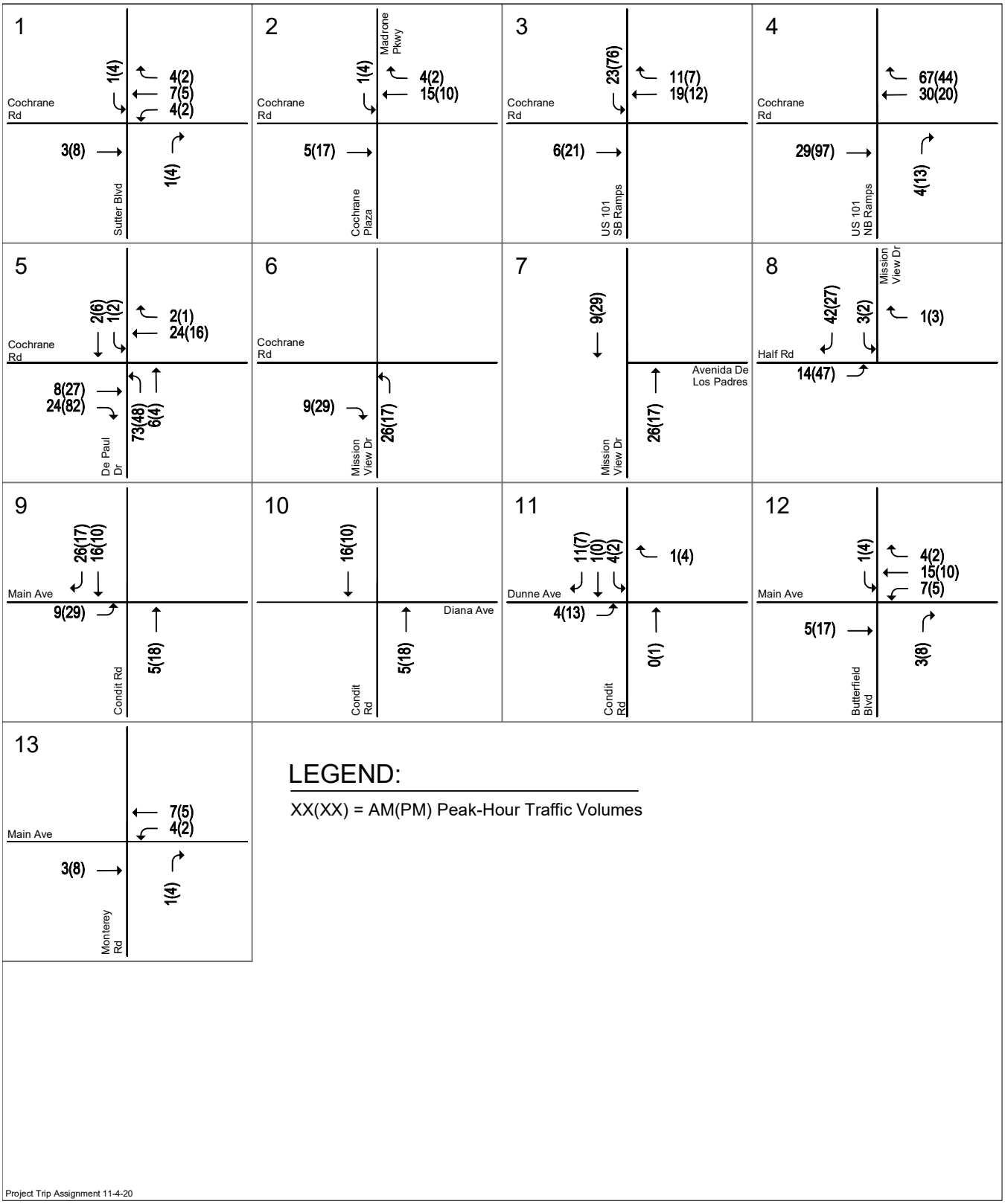


Figure 7
Project Trip Assignment



6. Cochrane Road and Mission View Drive
7. Mission View Drive and Avenida De Los Padres (*unsignalized*)
8. Mission View Drive and Half Road (*unsignalized*)
9. Main Avenue and Condit Road
10. Condit Road and Diana Avenue (*unsignalized*)
11. East Dunne Avenue and Condit Road
12. Butterfield Boulevard and Main Avenue
13. Monterey Road and Main Avenue

Traffic conditions at all of the study intersections were analyzed for the weekday AM and PM peak hours. The weekday AM peak hour of traffic is generally between 7:00 AM and 9:00 AM and the weekday PM peak hour is typically between 4:00 PM and 6:00 PM. It is during these periods that the most congested traffic conditions occur on a typical weekday. Traffic conditions were evaluated for the conditions described below:

Scenario 1: *Existing Conditions.* Existing conditions represent existing peak-hour traffic volumes on the existing roadway network. New traffic counts could not be collected due to the current COVID-19 pandemic affecting normal travel traffic patterns. Therefore, traffic counts collected prior to the COVID-19 pandemic in 2018-2019 as part of the Morgan Hill Technology Center development project were used in this analysis.

Scenario 2: *Existing Plus Project Conditions*. Project-generated traffic volumes were added to existing traffic volumes to estimate existing plus project conditions. Existing plus project conditions were evaluated relative to existing conditions in order to determine potential project impacts.

Scenario 3: *Year 2030 Cumulative without Project Conditions.* Year 2030 Cumulative without project conditions represent traffic growth projected to occur in the Year 2030 without the proposed project on the existing transportation network. Projected 2030 traffic growth was developed by interpolating the projected Year 2035 traffic growth.

Scenario 4: *Year 2030 Cumulative with Project Conditions.* Project-generated traffic volumes were added to Year 2030 Cumulative without project to estimate Year 2030 Cumulative with project conditions. Year 2030 Cumulative with project conditions were evaluated relative to Year 2030 Cumulative without project conditions in order to determine potential project impacts.

Data Requirements

The data required for the analysis were obtained from recently completed traffic studies, the City of Morgan Hill, the 2018 CMP Monitoring and Conformance Report, and field observations. The following data were collected from these sources:

- lane configurations
- existing traffic volumes
- signal timing and phasing
- average speeds on freeway segments
- Year 2035 traffic forecasts

Lane Configurations

The existing lane configurations at the study intersections were determined by observations in the field and are shown in Figure 8. It is assumed in this analysis that the roadway network and intersection configurations under existing plus project and Year 2030 cumulative conditions would be the same as described under existing conditions with the exception of the following improvements.

Extension of DePaul Drive. As part of the project, DePaul Drive is proposed to be extended by approximately 2,280 feet south to provide direct access to the project site via two full access driveways. As proposed, DePaul Drive will terminate as a cul-de-sac just north of Half Road.

Mission View Drive and Half Road. All-way stop signs installation at this intersection is planned by the County and should be completed in the near future. Therefore, this intersection is assumed to be one-way stop-controlled under existing conditions and all-way stop-controlled under Year 2030 cumulative conditions.

Traffic Volumes

Existing Traffic Volumes

Existing conditions represent existing peak-hour traffic volumes on the existing roadway network. New traffic counts could not be collected due to the current COVID-19 pandemic affecting normal travel traffic patterns. Therefore, traffic counts collected prior to the COVID-19 pandemic in 2018-2019 as part of the Morgan Hill Technology Center development project were used in this analysis. The existing peak-hour intersection volumes are shown in Figure 9. Intersection turning-movement counts conducted for this analysis are presented in Appendix B.

Year 2030 Cumulative Land Use and Traffic Forecasts

Year 2030 Cumulative traffic volumes were developed based on traffic forecasts produced for the City of Morgan Hill 2035 General Plan using the City's Traffic Demand Forecasting (TDF) model. Year 2035 General Plan traffic forecasts include land use growth and transportation improvements associated with the buildout of the City's General Plan.

The 2035 General Plan forecasts also include trips associated with 345 residential units per the adopted General Plan land use for the project site. Therefore, the trips associated with the adopted General Plan land use for the project site were removed from the projected Year 2035 traffic volumes. To develop Year 2030 Cumulative without project condition traffic volumes, Hexagon prepared trip estimates for the adopted GP land uses for comparison with the proposed project. When compared with the land use included in the City's General Plan, the proposed project would result in reductions of 56 AM and 76 PM peak hour trips for the project site. The trip generation estimates for the proposed and adopted General Plan land uses for the site are presented in Table 2.

The Year 2030 Cumulative without project traffic volumes were then estimated using a growth method that involved adding a proportion (15 Years or 75%) of the 2035 projected growth, with the removal of the trips associated with the adopted General Plan land uses for the project, to existing traffic counts at each of the study intersections. Figure 10 shows the Year 2030 Cumulative without project traffic volumes. Appendix C lists each of the components used to tabulate cumulative traffic volumes at each study intersection.

Table 2
General Plan 2035 Trip Generation Estimates

			Daily		AM Peak Hour						PM Peak Hour					
						Split		Trip				Split		Trip		
Proposed Land Use	Size		Rate	Trip	Rate	In	Out	In	Out	Total	Rate	In	Out	In	Out	Total
Proposed Land Use																
Single-Family Detached Housing (ITE LU # 210)[1]	269	Dwelling Units	9.44	2,539	0.74	25%	75%	50	149	199	0.99	63%	37%	168	98	266
GP Land Use																
Single-Family Detached Housing (ITE LU # 210)[1]	345	Dwelling Units	9.44	3,257	0.74	25%	75%	64	191	255	0.99	63%	37%	215	127	342
Difference (Proposed - GP Land Uses)				**-718**				**-14**	**-42**	**-56**				**-47**	**-29**	**-76**

Notes:
[1]ITE Trip Generation Manual, 10th Edition 2017

Figure 8
Existing Lane Configurations

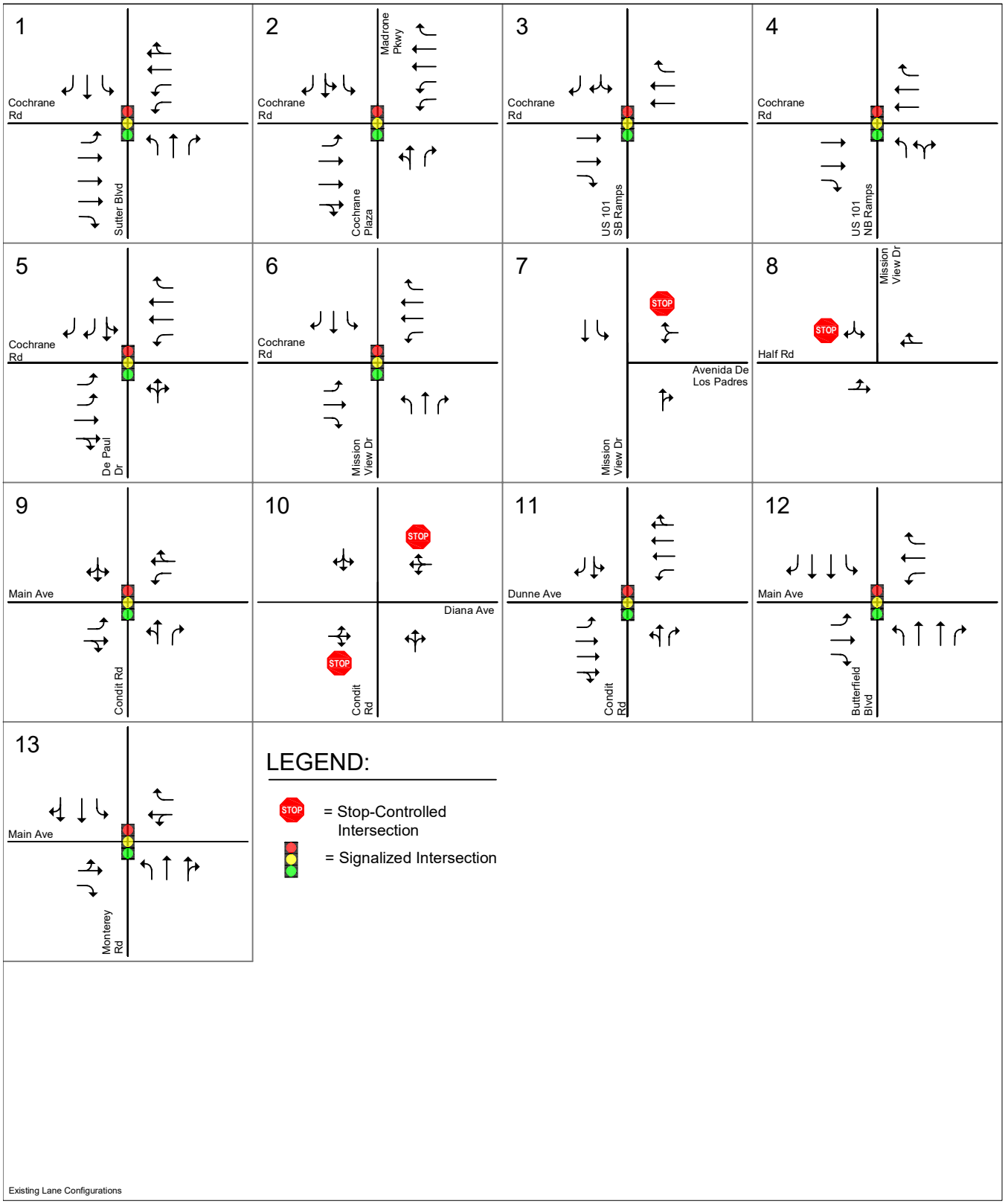


Figure 9
Existing Traffic Volumes

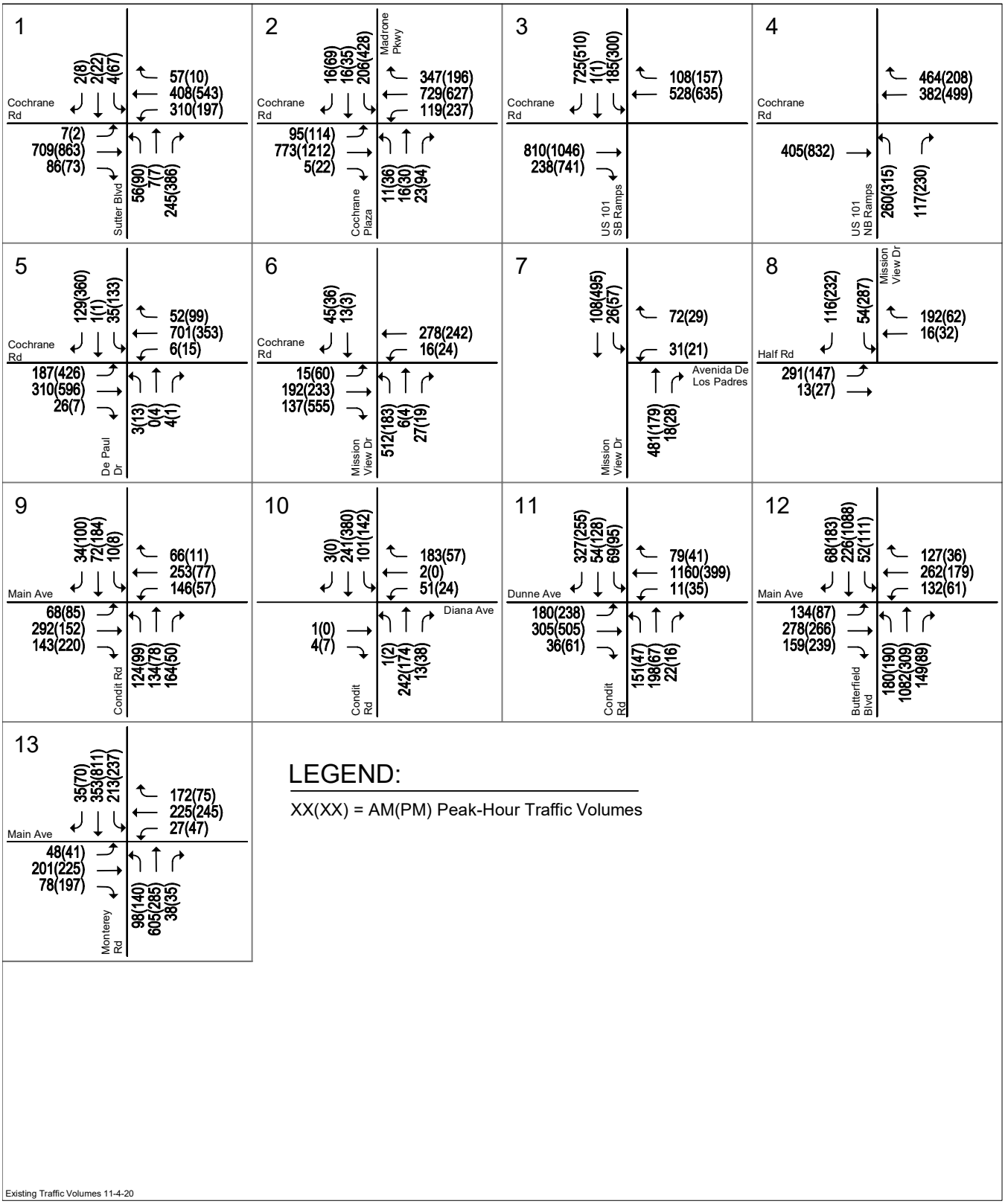
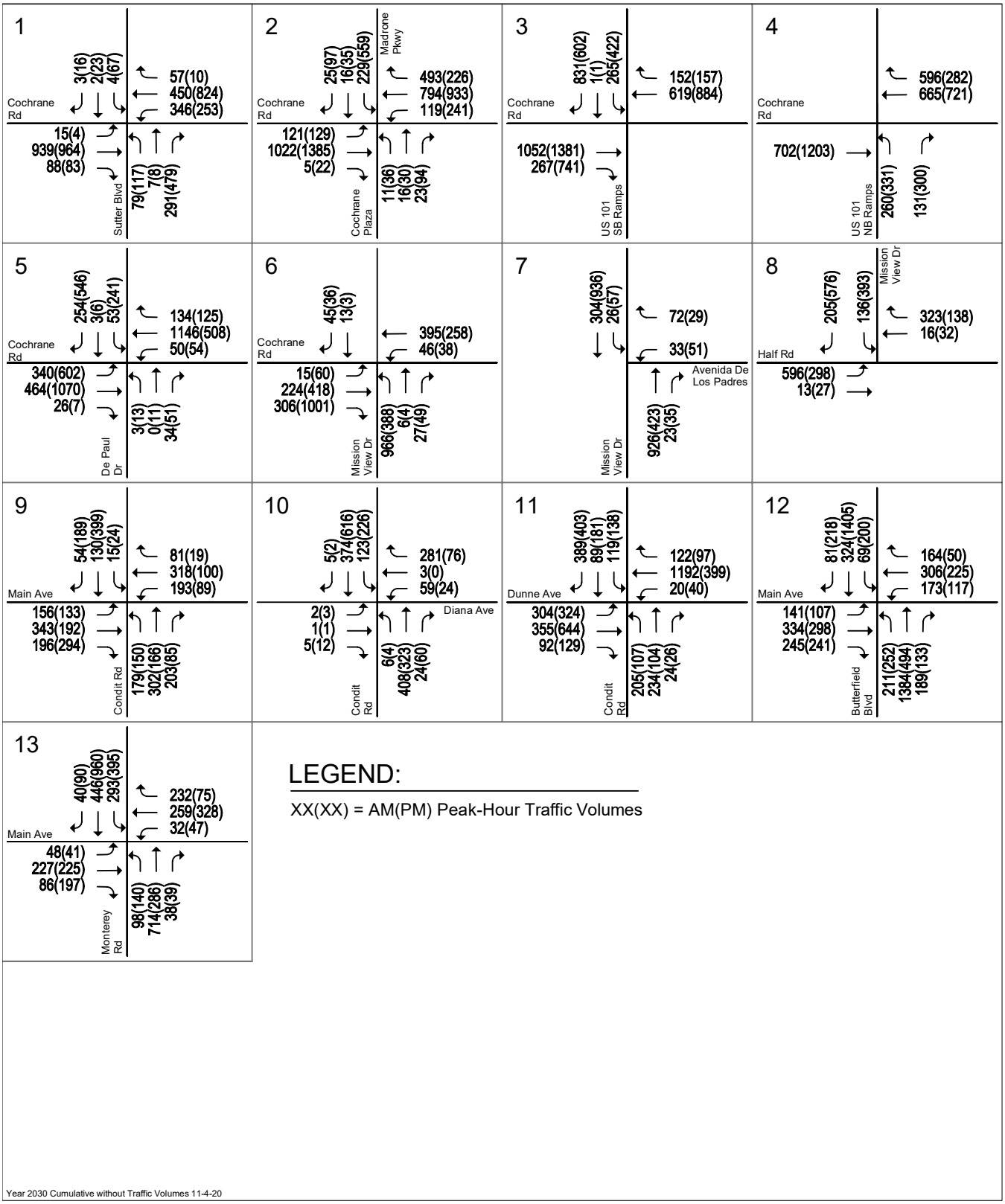


Figure 10
Year 2030 Cumulative without Project Traffic Volumes



Existing and Year 2030 Cumulative Plus Project Traffic Volumes

Project trips as represented in the project trip assignment were added to the existing traffic and Year 2030 Cumulative without project traffic volumes to obtain existing and Year 2030 Cumulative with project traffic volumes. The existing plus project and Year 2030 Cumulative with project traffic volumes are shown in Figures 11 and 12, respectively.

Intersection Level of Service Standards and Analysis Methodologies

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The analysis methods are described below.

Signalized Intersections

Signalized study intersections are subject to the City of Morgan Hill's level of service standards. The City of Morgan Hill's level of service methodology is TRAFFIX, which is based on the 2000 *Highway Capacity Manual* (HCM) method for signalized intersections. TRAFFIX evaluates signalized intersections operations based on average delay time for all vehicles at the intersection. Since TRAFFIX is also the CMP-designated intersection level of service methodology, the City of Morgan Hill methodology employs the CMP defaults values for the analysis parameters, which include adjusted saturation flow rates to reflect conditions in Santa Clara County. All intersections within the City of Morgan Hill are required to meet the City's LOS standard of LOS D, with the exception of the following:

- **LOS F** for Downtown intersections and segments including at Main/Monterey, along Monterey Road between Main and Fifth Street, and along Depot Street at First through Fifth Street;

  LOS E for the following intersections and freeway zones:

  - Main Avenue and Del Monte Avenue
  - Main Avenue and Depot Street
  - Dunne Avenue and Del Monte Avenue
  - Dunne Avenue and Monterey Avenue
  - Dunne Avenue and Church Street
  - Dunne Avenue and Depot Street
  - Cochrane Road and Monterey Road
  - Tennant Avenue and Monterey Road
  - Tennant Avenue and Butterfield Boulevard
  - Cochrane Road Freeway Zone: from Madrone Parkway/Cochrane Plaza to Cochrane Road/DePaul Drive
  - Dunne Avenue Freeway Zone: from Walnut Grove Drive/East Dunne Avenue to Condit Road/East Dunne Avenue
  - Tennant Avenue Freeway Zone: from Butterfield Boulevard/Tennant Avenue to Condit Road/Tennant Avenue

The correlation between average delay and level of service for signalized intersections is shown in Table 3.

Figure 11
Existing Plus Project Traffic Volumes

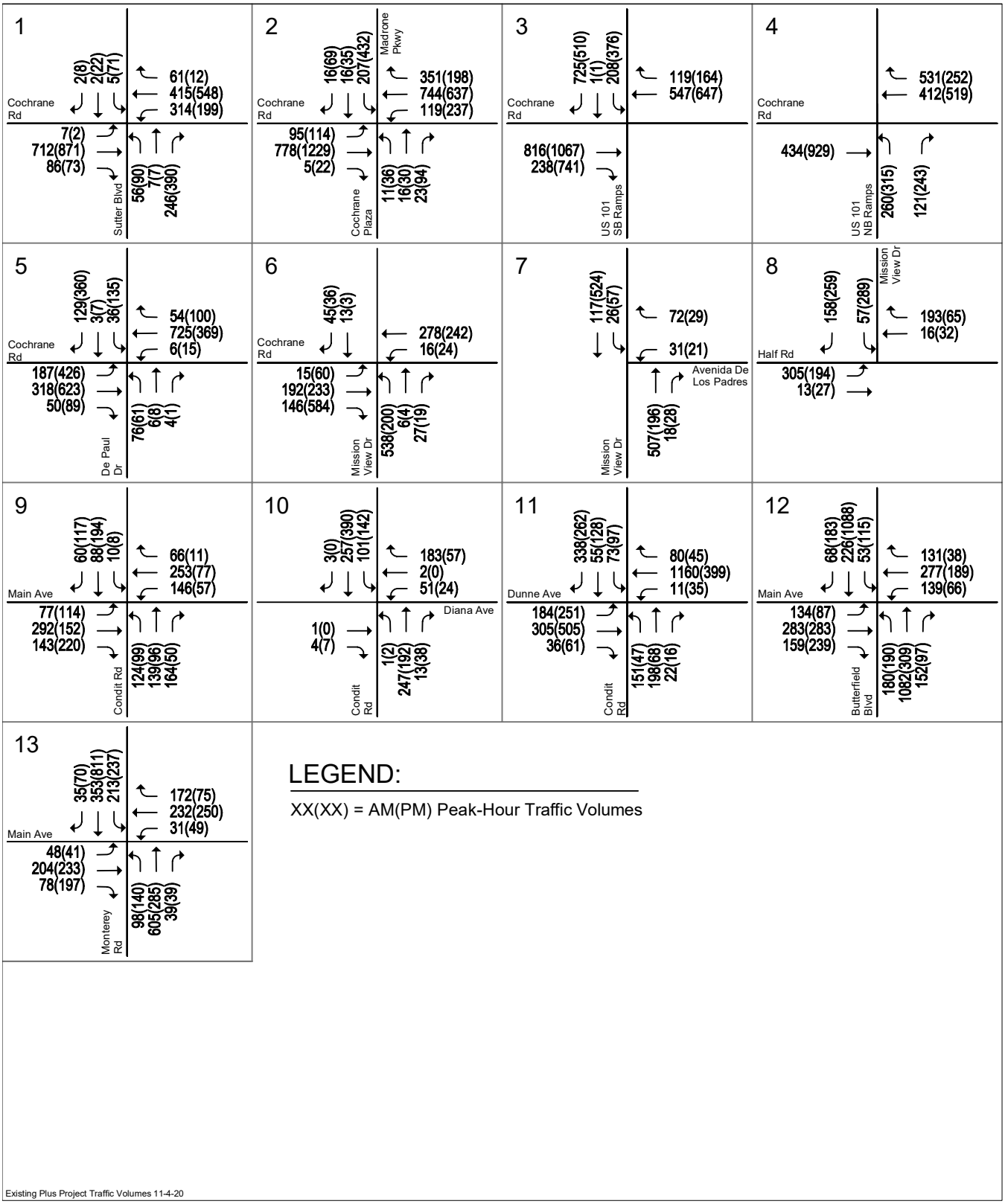


Figure 12
Year 2030 Cumulative with Project Traffic Volumes

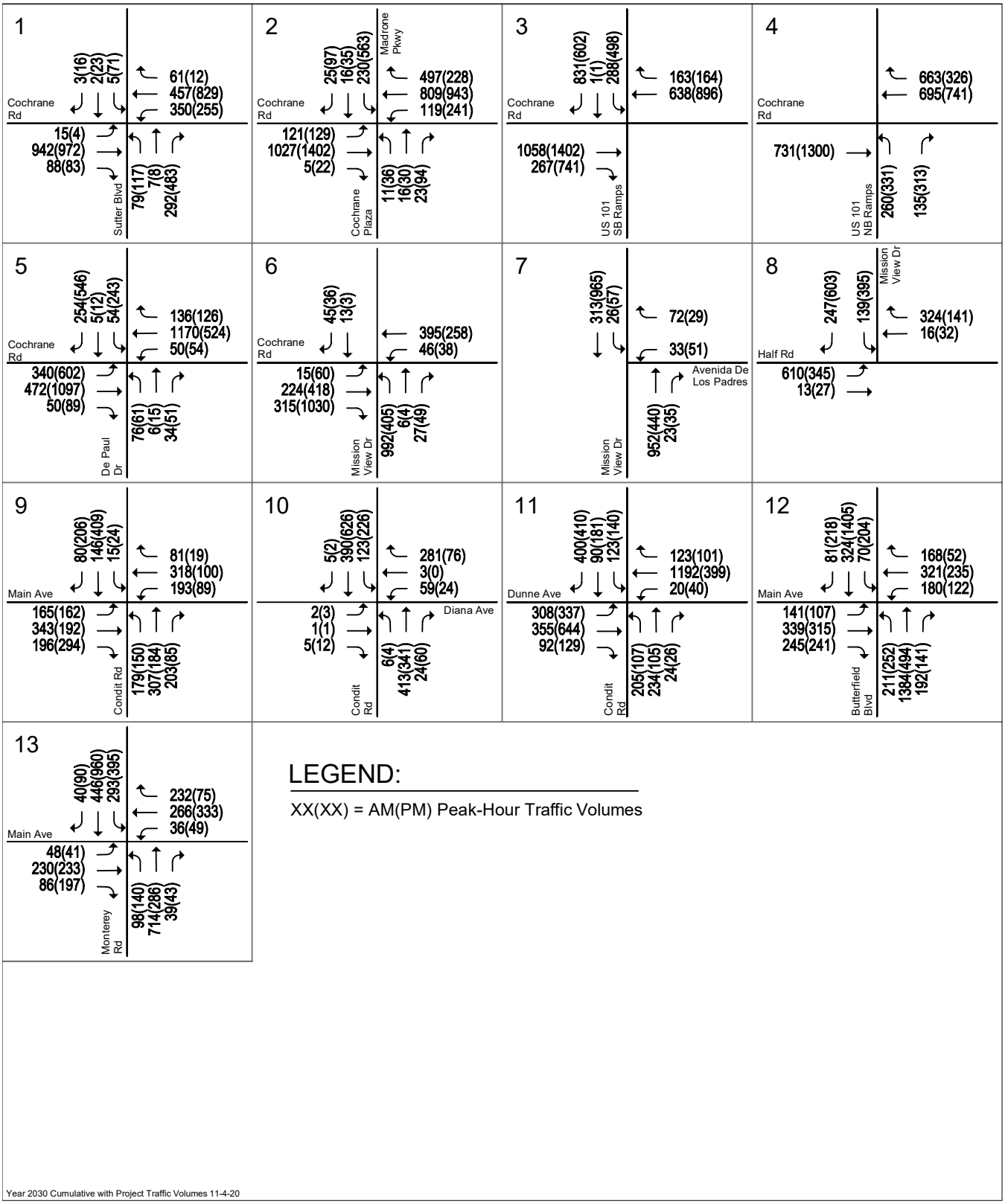


Table 3
Signalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay per Vehicle (sec.)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	up to 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable	55.1 to 80.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	Greater than 80.0

Sources: Transportation Research Board, *2000 Highway Capacity Manual* (Santa Clara County and City of Gilroy adopted level of service methodology). *Traffic Level of Service Analysis Guidelines*, Santa Clara County Transportation Authority Congestion Management Program, June 2003.

Unsignalized Intersections

The methodology used to determine the level of service for unsignalized intersections is also TRAFFIX and the *2000 HCM* methodology for unsignalized intersection analysis. This method is applicable for both two-way and all-way stop-controlled intersections. For the analysis of stop-controlled intersections, the *2000 HCM* methodology evaluates intersection operations on the basis of average control delay time for all vehicles on the stop-controlled approaches. For the purpose of reporting the level of service for one- and two-way stop-controlled intersections, the delay and corresponding level of service for the stop-controlled minor street approach with the highest delay is reported. For all-way stop-controlled intersections, the reported average delay and the corresponding level of service is the average for all approaches at the intersection. The City uses a minimum acceptable level of service standard of LOS D for unsignalized intersections, in accordance with its adopted threshold of significance in its Guidelines for Preparation of Transportation Impact Reports. The correlation between average delay and level of service for unsignalized intersections is shown in Table 4.

Signal Warrants

The level of service analysis at unsignalized intersections is supplemented with an assessment of the need for signalization of the intersection. The need for signalization of unsignalized intersections is assessed based on the Peak Hour Volume Warrant (Warrant 3) described in the *California Manual on Uniform Traffic Control Devices for Streets and Highways (CA MUTCD)*, Part 4, Highway Traffic Signals, 2014. This method makes no evaluation of the intersection level of service but simply provides an indication of whether vehicular peak hour traffic volumes are, or would be, sufficient to justify the installation of a traffic signal. The decision to install a traffic signal should not be based purely on the warrants alone. Instead, the installation of a signal should be considered, and further analysis

Table 4
Unsignalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay per Vehicle (sec.)
A	Operations with very low delays occurring with favorable progression.	up to 10.0
B	Operations with low delays occurring with good progression.	10.1 to 15.0
C	Operations with average delays resulting from fair progression.	15.1 to 25.0
D	Operation with longer delays due to a combination of unfavorable progression of high V/C ratios.	25.1 to 35.0
E	Operation with high delay values indicating poor progression and high V/C ratios. This is considered to be the limited of acceptable delay.	35.1 to 50.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation and poor progression.	Greater than 50.0

Source: Transportation Research Board, 2000 Highway Capacity Manual, (Washington, D.C., 2000).

performed when one or more of the warrants are met. Additionally, engineering judgment is exercised on a case-by-case basis to evaluate the effect a traffic signal will have on certain types of accidents and traffic conditions at the subject intersection as well as at adjacent intersections. Intersections that meet the peak hour warrant are subject to further analysis before determining that a traffic signal is necessary. Other options such as traffic control devices, signage, or geometric changes may be preferable based on existing field conditions.

Definition of Adverse Intersection Operations Effects

According to the City of Morgan Hill level of service guidelines, a development is said to create a significant adverse effect on traffic conditions at a signalized intersection if for either peak hour:

1. The level of service at the intersection degrades from an acceptable level (LOS D or LOS E as identified above) under no project conditions to an unacceptable level (LOS E or F) under project conditions, or
2. The level of service at the intersection is an unacceptable level (LOS E or F as identified above) under no project conditions and the addition of project trips causes the average critical delay to increase by four (4) or more seconds *and* the volume-to-capacity ratio (V/C) to increase by 0.01.

An exception to this rule applies when the addition of project traffic reduces the amount of average delay for critical movements (i.e., the change in average delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical V/C value by 0.01 or more.

Definition of Adverse Unsignalized Intersection Operations Effects

Unsignalized intersections within the City of Morgan Hill have a minimum operating level of LOS D. According to the City of Morgan Hill level of service guidelines, a development is said to have a significant adverse effect on traffic conditions at an unsignalized intersection if for either peak hour the addition of project traffic causes the worst approach delay to degrade to LOS E or F ***and*** the traffic volumes at the intersection are sufficiently high to satisfy the peak hour volume warrant.

Intersection Operations Analysis

Existing Plus Project Intersection Operations Analysis

The results of the intersection level of service and signal warrant analyses under existing and existing plus project conditions are summarized in Table 5. The level of service calculation sheets are included in Appendix D. The peak-hour signal warrant sheets are contained in Appendix E.

Existing Conditions

The results of the level of service analysis indicate that, measured against the City of Morgan Hill level of service standards, all the study intersections currently operate at an acceptable level of service, LOS D or better, under existing conditions during each of the peak hours analyzed.

The results of the signal warrant analysis indicate that the existing traffic volumes at the intersection of Mission View Drive and Cochrane Road were sufficient to warrant the installation of a traffic signal during the AM and PM peak hours under existing conditions, based on counts conducted in May 2018. However, a traffic signal has since been installed at the intersection and is currently operational. Additionally, the intersection of Condit Road and Diana Avenue currently also has volumes that warrant signalization. All other unsignalized study intersections currently have traffic conditions that fall below the thresholds that warrant signalization.

Existing Plus Project Conditions

The results of the level of service analysis indicate that, when measured against the City of Morgan Hill level of service standards, all of the study intersections are projected to operate at acceptable levels of service, LOS D or better, under existing plus project conditions during each of the peak hours analyzed.

The results of signal warrant analysis indicate that the intersection of Condit Road and Diana Avenue is projected to have volumes that would warrant signalization. However, the intersection is projected to operate within the applicable level of service standards. Therefore, the project would not have an adverse effect on operations at the intersection based on the City of Morgan Hill's standards. All other unsignalized study intersections are projected to have traffic conditions that fall below the thresholds that warrant signalization.

Year 2030 Cumulative with Project Intersection Operations Analysis

The results of the intersection level of service and signal warrant analyses under Year 2030 Cumulative without and with project are summarized in Table 6.

The results of the level of service analysis indicate that the following five intersections would operate at unacceptable levels of service (LOS E or F) during Year 2030 Cumulative without and with project during at least one peak hour when measured against the City of Morgan Hill's level of service standards of LOS D:

Table 5
Existing Plus Project Intersection Levels of Service and Signal Warrant Checks

Int. #	Intersection	Intersection Control[1]	LOS Standard	Peak Hour	Count Date	Existing			Existing Plus Project				
						Warrant Met?	Delay[2]	LOS	Warrant Met?	Delay[2]	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C
1	Cochrane Road and Sutter Boulevard	Signal	D	AM	05/08/18	--	17.2	B	--	17.2	B	0.0	0.002
				PM	05/08/18	--	17.9	B	--	18.0	B	0.0	0.003
2	Cochrane Road and Madrone Parkway/Cochrane Plaza	Signal	E	AM	05/08/18	--	19.1	B	--	19.2	B	-3.0	-0.003
				PM	05/08/18	--	31.4	C	--	31.4	C	0.0	0.005
3	Cochrane Road and US 101 Southbound Ramps	Signal	E	AM	05/08/18	--	12.8	B	--	13.0	B	0.2	0.016
				PM	05/08/18	--	16.5	B	--	17.6	B	1.2	0.053
4	Cochrane Road and US 101 Northbound Ramps	Signal	E	AM	05/08/18	--	8.6	A	--	8.3	A	0.0	0.043
				PM	05/08/18	--	11.3	B	--	11.2	B	0.2	0.037
5	Cochrane Road and De Paul Drive	Signal	E	AM	05/08/18	--	17.7	B	--	18.1	B	0.4	0.066
				PM	05/08/18	--	18.7	B	--	19.1	B	0.2	0.048
6	Cochrane Road and Mission View Drive	Signal	D	AM	05/08/18	--	23.0	C	--	24.8	C	3.1	0.019
				PM	05/08/18	--	15.7	B	--	16.3	B	0.9	0.021
7	Mission View Drive and Avenida De Los Padres	TWSC	D	AM	03/28/19	No	13.5	B	No	13.9	B	N/A	N/A
				PM	03/28/19	No	12.5	B	No	13.0	B	N/A	N/A
8	Mission View Drive and Half Road	OWSC	D	AM	03/28/19	No	13.6	B	No	14.0	B	N/A	N/A
				PM	03/28/19	No	22.6	C	No	34.0	D	N/A	N/A
9	Main Avenue and Condit Road	Signal	D	AM	05/08/18	--	27.6	C	--	28.9	C	1.6	0.032
				PM	05/08/18	--	26.1	C	--	27.3	C	1.4	0.031
10	Condit Road and Diana Avenue	TWSC	D	AM	06/04/19	**Yes**	14.7	B	**Yes**	14.9	B	N/A	N/A
				PM	06/04/19	No	13.6	B	No	14.0	B	N/A	N/A
11	East Dunne Avenue and Condit Road	Signal	E	AM	03/28/19	--	42.4	D	--	43.0	D	0.7	0.010
				PM	03/28/19	--	28.2	C	--	28.3	C	0.2	0.015
12	Butterfield Boulevard and Main Avenue	Signal	D	AM	05/08/18	--	27.6	C	--	27.9	C	0.1	0.001
				PM	05/08/18	--	29.8	C	--	30.3	C	0.8	0.013
13	Monterey Road and Main Avenue	Signal	F	AM	05/08/18	--	44.2	D	--	44.5	D	0.4	0.009
				PM	05/08/18	--	45.1	D	--	45.5	D	0.6	0.009

Notes:
[1]OWSC = One-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled
[2]The reported delay and corresponding level of service for signalized intersections represent the average delay for all approaches at the intersection.
The reported delay and corresponding level of service for one- and two-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.
Bold indicates unacceptable level of service.

Table 6
Year 2030 Cumulative Intersection Levels of Service and Signal Warrant Checks

Int. #	Intersection	Intersection Control[1]	LOS Standard	Peak Hour	Count Date	Year 2030 Cumulative without Project: Warrant Met?	Delay[2]	LOS	Year 2030 Cumulative with Project: Warrant Met?	Delay[2]	LOS	Incr. In Crit. Delay	Incr. In Crit. V/C
1	Cochrane Road and Sutter Boulevard	Signal	D	AM	05/08/18	--	17.8	B	--	17.8	B	0.1	0.002
				PM	05/08/18	--	17.9	B	--	18.0	B	0.0	0.002
2	Cochrane Road and Madrone Parkway/Cochrane Plaza	Signal	E	AM	05/08/18	--	19.1	B	--	19.1	B	0.0	0.003
				PM	05/08/18	--	32.3	C	--	32.3	C	0.0	0.005
3	Cochrane Road and US 101 Southbound Ramps	Signal	E	AM	05/08/18	--	14.4	B	--	14.7	B	0.4	0.016
				PM	05/08/18	--	20.3	C	--	22.9	C	3.9	0.053
4	Cochrane Road and US 101 Northbound Ramps	Signal	E	AM	05/08/18	--	7.8	A	--	7.7	A	0.1	0.043
				PM	05/08/18	--	11.7	B	--	11.9	B	0.5	0.037
5	Cochrane Road and De Paul Drive	Signal	E	AM	05/08/18	--	25.1	C	--	25.8	C	0.8	0.066
				PM	05/08/18	--	22.8	C	--	25.4	C	5.0	0.080
6	Cochrane Road and Mission View Drive	Signal	D	AM	05/08/18	--	**146.5**	**F**	--	**156.7**	**F**	**15.8**	**0.019**
				PM	05/08/18	--	**60.1**	**E**	--	**68.2**	**E**	**11.7**	**0.021**
7	Mission View Drive and Avenida De Los Padres	TWSC	D	AM	03/28/19	No	28.5	D	No	30.1	D	N/A	N/A
				PM	03/28/19	No	**38.5**	**E**	No	**42.1**	**E**	**N/A**	**N/A**
8	Mission View Drive and Half Road	AWSC	D	AM	03/28/19	**Yes**	30.0	D	**Yes**	**36.7**	**E**	**N/A**	**N/A**
				PM	03/28/19	**Yes**	**126.9**	**F**	**Yes**	**147.1**	**F**	**N/A**	**N/A**
9	Main Avenue and Condit Road	Signal	D	AM	05/08/18	--	47.8	D	--	53.7	D	7.7	0.032
				PM	05/08/18	--	**80.2**	**F**	--	**89.6**	**F**	**11.7**	**0.031**
10	Condit Road and Diana Avenue	TWSC	D	AM	06/04/19	**Yes**	**36.3**	**E**	**Yes**	**38.2**	**E**	**N/A**	**N/A**
				PM	06/04/19	**Yes**	26.4	D	**Yes**	27.8	D	N/A	N/A
11	East Dunne Avenue and Condit Road	Signal	E	AM	03/28/19	--	63.6	E	--	65.7	E	2.7	0.010
				PM	03/28/19	--	32.7	C	--	33.0	C	0.7	0.015
12	Butterfield Boulevard and Main Avenue	Signal	D	AM	05/08/18	--	30.9	C	--	31.3	C	0.7	0.008
				PM	05/08/18	--	36.0	D	--	36.8	D	1.5	0.013
13	Monterey Road and Main Avenue	Signal	F	AM	05/08/18	--	47.6	D	--	48.0	D	0.6	0.009
				PM	05/08/18	--	49.1	D	--	49.8	D	0.8	0.009

Notes:
[1]AWSC = All-Way Stop-Controlled; TWSC = Two-Way Stop-Controlled
[2]The reported delay and corresponding level of service for signalized intersections represent the average delay for all approaches at the intersection.
The reported delay and corresponding level of service for one- and two-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.
Bold indicates unacceptable level of service or signal warrant met.
Bold and boxed indicate adverse effect on operations.

6. Cochrane Road and Mission View Drive (AM and PM Peak Hours)
7. Mission View Drive and Avenida De Los Padres (unsignalized) (PM Peak Hour)
8. Mission View Drive and Half Road (unsignalized) (PM Peak Hour)
9. Main Avenue and Condit Road (PM Peak Hour)
10. Condit Road and Diana Avenue (unsignalized) (AM Peak Hour)

Additionally, the intersection of Mission View Drive and Half Road is projected to operate at LOS D during the AM peak-hour under Year 2030 cumulative conditions and degrade to LOS E with the addition of project traffic.

All of the remaining study intersections are projected to operate at acceptable levels of service under Year 2030 Cumulative without and with project, during each of the peak hours analyzed.

The results of the signal warrant analyses indicate the following two intersections are projected to have traffic volumes under Year 2030 Cumulative without and with project that would meet thresholds that warrant signalization during at least one peak hour.

8. Mission View Drive and Half Road (unsignalized) (AM & PM Peak Hours)
10. Condit Road and Diana Avenue (unsignalized) (AM & PM Peak Hour)

All other unsignalized study intersections are projected to have traffic conditions that fall below the thresholds that warrant signalization.

Based on the City's operating standards, the proposed project would have an adverse effect on intersection operations at the following four study intersections.

6. Mission View Drive and Cochrane Road (AM & PM Peak Hours)
8. Mission View Drive and Half Road (unsignalized) (AM & PM Peak Hours)
9. Condit Road and Main Avenue (PM Peak Hour)
10. Condit Road and Diana Avenue (unsignalized) (AM Peak Hour)

Adverse Intersection Operations Effects and Potential Improvements

This section discusses the adverse intersection operation effects identified under Year 2030 Cumulative with project conditions. Included are descriptions of the adverse effects on intersection operations and potential improvement measures that may be included as part of the project's Conditions of Approval. However, the identified roadway operations and improvements are not required or considered project impacts per CEQA guidelines.

6. Cochrane Road and Mission View Drive

This intersection is projected to operate at an unacceptable LOS F and E during the AM and PM peak hours, respectively, under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project would cause the critical delay to increase by more than four seconds and the volume-to-capacity ratio (V/C) to increase by more than 0.01 during both the AM and PM peak hours. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The addition of a second northbound left-turn lane on Mission View Drive and a cycle length adjustment would be necessary to improve intersection operations. The addition of the second northbound left-turn lane will require lane striping and signal modification but will fit within the existing curb-to-curb pavement width on Mission View Drive. Implementation of this improvement would improve the intersection's level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project conditions.

8. Mission View Drive and Half Road

This intersection is projected to operate at an unacceptable LOS F during the PM peak hour under Year 2030 Cumulative without and with project conditions. Furthermore, this intersection is projected to operate at an acceptable LOS D during the AM peak hour under Year 2030 Cumulative without conditions and degrade to LOS E with the addition of project traffic. Additionally, the peak-hour traffic signal warrant checks indicate that the intersection would have traffic volumes that meet thresholds that warrant signalization during both the AM and PM peak hours under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The signalization of the intersection would be necessary to improve intersection operations. Implementation of a traffic signal at this location would improve the level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project. This intersection is under the jurisdiction of both the City of Morgan Hill and Santa Clara County. Therefore, implementation of the recommended improvements will require City and County approval.

9. Main Avenue and Condit Road

This intersection is projected to operate at an unacceptable LOS F during the PM peak hour under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project would cause the critical delay to increase by more than four seconds and the volume-to-capacity ratio (V/C) to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The addition of an exclusive southbound right-turn lane on Condit Road would be necessary to improve intersection operations. The addition of the right-turn lane will require signal modifications and lane striping on the southbound approach. Implementation of this improvement would improve the intersection's level of service to LOS D during the PM peak hour under Year 2030 Cumulative with project conditions. This intersection is under the jurisdiction of both the City of Morgan Hill and Santa Clara County. Therefore, implementation of the recommended improvements will require City and County approval.

10. Condit Road and Diana Avenue

This intersection is projected to operate at an unacceptable LOS E during the AM peak hour under Year 2030 Cumulative without and with project conditions. Additionally, the peak-hour traffic signal warrant checks indicate that the intersection would have traffic volumes that meet thresholds that warrant signalization during the AM peak hour under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The signalization of the intersection would be necessary to improve intersection operations. Implementation of this improvement would improve the intersection's level of service to LOS B during the AM peak hour under Year 2030 Cumulative with project conditions.

Freeway Segment Evaluation

The City is still required to conform to the requirements of the Valley Transit Authority (VTA) which establishes a uniform program for evaluating the transportation impacts of land use decisions on the designated CMP Roadway System. The VTA's Congestion Management Program (CMP) has yet to

adopt and implement guidelines and standards for the evaluation of the CMP roadway system using VMT. Therefore, the effects of the proposed project on freeway segments in the vicinity of the project area following the current methodologies, as outlined in the *VTA Transportation Impact Analysis Guidelines*, were completed. However, this analysis is presented for informational purposes only. The following seven freeway segments were evaluated:

Study Freeway Segments

1. US 101 between SR-85 and Bailey Avenue
2. US 101 between Bailey Avenue and Coyote Creek Golf Drive
3. US 101 between Coyote Creek Golf Drive and Cochrane Road
4. US 101 between Cochrane Road and Dunne Avenue
5. US 101 between Dunne Avenue and Tennant Avenue
6. US 101 between Tennant Avenue and San Martin Avenue
7. US 101 between San Martin Avenue and Masten Avenue

Freeway Segment Level of Service Methodology

As prescribed in the CMP technical guidelines, the level of service for freeway segments is estimated based on vehicle density. Density is calculated by the following formula:

D = V / S
Where:
D= density, in vehicles per mile per lane (vpmpl)
V= peak hour volume, in vehicles per hour per lane (vphpl)
S= average travel speed, in miles per hour (mph)

The vehicle density on a segment is correlated to the level of service as shown in Table 7. The CMP specifies that a capacity of 2,300 vehicles per hour per lane (vphpl) be used for mixed-flow lane segments that are three lanes or wider in one direction, and a capacity of 2,200 vphpl be used for mixed-flow lane segments that are two lanes wide in one direction. A capacity of 1,650 vphpl was used for high occupancy vehicle (HOV) lanes. The CMP defines an acceptable level of service for freeway segments as LOS E or better.

Conformance to CMP Freeway Segment Standards

Based on CMP criteria, a project would fail to meet the CMP freeway segment standard if the additional project traffic caused one of the following during either peak hour:

1. The level of service on the freeway segment is an unacceptable LOS F under existing conditions, and the number of project trips on that segment constitutes at least one percent of capacity on that segment.
2. The level of service on the freeway segment degrades from an acceptable LOS E or better under existing conditions to an unacceptable LOS F under existing plus project conditions.

A significant adverse effect by CMP standards is said to be satisfactorily addressed when measures are implemented that would restore freeway conditions to existing conditions or better.

Table 7
Freeway Level of Service Definitions Based on Density

Level of Service	Description	Density (vehicles/mile/lane)
A	Average operating speeds at the free-flow speed generally prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.	0-11
B	Speeds at the free-flow speed are generally maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high.	>11-18
C	Speeds at or near the free-flow speed of the freeway prevail. Freedom to maneuver within the traffic stream is noticeably restricted, and lane changes require more vigilance on the part of the driver.	>18-26
D	Speeds begin to decline slightly with increased flows at this level. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels.	>26-46
E	At this level, the freeway operates at or near capacity. Operations in this level are volatile, because there are virtually no usable gaps in the traffic stream, leaving little room to maneuver within the traffic stream.	>46-58
F	Vehicular flow breakdowns occur. Large queues form behind breakdown points.	>58

Sources: Transportation Research Board, *2000 Highway Capacity Manual. Traffic Level of Service Analysis Guidelines*, Santa Clara County Transportation Authority Congestion Management Program, June 2003.

Freeway Segment Analysis

The results of the CMP freeway level of service analysis under existing plus project conditions are summarized in Table 8. Traffic volumes on the study freeway segments under existing plus project conditions were estimated by adding project trips to the existing volumes obtained from the 2018 CMP Monitoring and Conformance Report.

The results show that ten directional mixed-flow lanes and one directional HOV lane on the freeway segments analyzed are projected to operate at an unacceptable LOS F during at least one peak hour under existing conditions and would continue to operate at LOS F conditions with the addition of traffic due to proposed project. All other freeway segments analyzed operate at LOS E or better conditions during the AM and PM peak hours.

Improvement of freeway segment operations would require freeway widening to construct additional through lanes, thereby increasing freeway capacity. VTA's Valley Transportation Plan (VTP) 2040 identifies freeway express lane projects along US 101 between Cochrane Road and Whipple Avenue. The planned improvements consist of the conversion of the existing HOV lane to an express lane and the construction of a second express lane in each direction on US 101. These improvements would increase the capacity of the freeway and help to address the deficiency in freeway operations. However, it is not feasible for an individual development project to bear responsibility for implementing such extensive transportation system improvements due to constraints in the acquisition and cost of right-of-way.

Table 8
Freeway Segment Levels of Service

#	Freeway	Segment	Dir.	Peak Hour	Existing Plus Project												Project Trips			
					Mixed-Flow Lane						HOV Lane						Mixed-Flow Lane		HOV Lane	
					Speed[1] (mi/h)	# of Lanes	Capacity (pc/hr/ln)	Volume (pc/hr/ln)	Density (pc/hr/ln)	LOS	Speed[1] (mi/h)	Capacity (vph)	Volume (pc/hr/ln)	Density (pc/hr/ln)	LOS	Volume (pc/hr/ln)	% of Capacity	Volume (pc/hr/ln)	% of Capacity
1	US 101	from Masten Avenue to	NB	AM	34.20	3	2,300	1,809	53	E	--	--	--	--	--	2	0.1	--	--
		San Martin Avenue	NB	PM	51.80	3	2,300	2,003	39	D	--	--	--	--	--	6	0.2	--	--
2	US 101	from San Martin Avenue to	NB	AM	10.40	3	2,300	866	**83**	**F**	--	--	--	--	--	2	0.1	--	--
		Tennant Avenue	NB	PM	60.00	3	2,300	1,799	30	D	--	--	--	--	--	6	0.2	--	--
3	US 101	from Tennant Avenue to	NB	AM	9.40	3	2,300	801	**85**	**F**	--	--	--	--	--	2	0.1	--	--
		East Dunne Avenue	NB	PM	59.80	3	2,300	1,810	30	D	--	--	--	--	--	6	0.2	--	--
4	US 101	from East Dunne Avenue to	NB	AM	21.00	3	2,300	1,403	**67**	**F**	--	--	--	--	--	1	0.1	--	--
		Cochrane Road	NB	PM	61.60	3	2,300	1,687	27	D	--	--	--	--	--	4	0.2	--	--
5	US 101	from Cochrane Road to	NB	AM	22.20	3	2,300	1,502	**68**	**F**	71.41	1,650	824	12.0	B	19	0.8	11	0.7
		Coyote Creek Golf Drive	NB	PM	64.20	3	2,300	1,408	22	C	72.66	1,650	628	9.0	A	13	0.6	6	0.4
6	US 101	from Coyote Creek Golf Drive to	NB	AM	32.20	3	2,300	1,824	57	E	75.29	1,650	--[2]	--[2]	A	22	1.0	0	0.0
		Bailey Avenue	NB	PM	64.00	3	2,300	1,446	23	C	76.15	1,650	--[2]	--[2]	A	15	0.6	0	0.0
7	US 101	from Bailey Avenue to	NB	AM	37.60	3	2,300	1,926	51	E	65.21	1,650	1,342	21.0	C	18	0.8	13	0.8
		SR 85	NB	PM	63.40	3	2,300	1,526	24	C	72.91	1,650	581	8.0	A	13	0.6	5	0.3
8	US 101	from SR 85 to	SB	AM	62.40	3	2,300	1,622	26	D	73.82	1,650	391	5.0	A	7	0.3	2	0.1
		Bailey Avenue	SB	PM	16.00	3	2,300	1,227	**77**	**F**	39.99	1,650	1,777	44.0	E	17	0.7	25	1.5
9	US 101	from Bailey Avenue to	SB	AM	64.00	3	2,300	1,423	22	C	73.79	1,650	397	5.0	A	7	0.3	2	0.1
		Coyote Creek Golf Drive	SB	PM	14.80	3	2,300	1,165	**79**	**F**	41.99	1,650	1,774	42.0	E	17	0.7	26	1.6
10	US 101	from Coyote Creek Golf Drive to	SB	AM	62.80	3	2,300	1,577	25	C	63.14	1,650	1,426	23.0	C	6	0.3	5	0.3
		Cochrane Road	SB	PM	12.60	3	2,300	1,043	**83**	**F**	21.57	1,650	1,681	**78.0**	**F**	16	0.7	27	1.6
11	US 101	from Cochrane Road to	SB	AM	62.00	3	2,300	1,650	27	D	--	--	--	--	--	4	0.2	--	--
		East Dunne Avenue	SB	PM	25.00	3	2,300	1,554	**62**	**F**	--	--	--	--	--	2	0.1	--	--
12	US 101	from East Dunne Avenue to	SB	AM	63.00	3	2,300	1,552	25	C	--	--	--	--	--	5	0.2	--	--
		Tennant Avenue	SB	PM	27.00	3	2,300	1,622	**60**	**F**	--	--	--	--	--	3	0.1	--	--
13	US 101	from Tennant Avenue to	SB	AM	63.00	3	2,300	1,552	25	C	--	--	--	--	--	5	0.2	--	--
		San Martin Avenue	SB	PM	25.40	3	2,300	1,571	**62**	**F**	--	--	--	--	--	3	0.1	--	--
14	US 101	from San Martin Avenue to	SB	AM	60.00	3	2,300	1,797	30	D	--	--	--	--	--	5	0.2	--	--
		Masten Avenue	SB	PM	37.80	3	2,300	1,886	50	E	--	--	--	--	--	3	0.1	--	--

Notes:
[1]Santa Clara Valley Transportation Authority CMP Monitoring & Conformance Report, 2018.
[2]Speed exceeds the bound of the equation used to derive volume and density.
Bold indicates unacceptable LOS.

5. Other Transportation Issues

This chapter presents an analysis of other transportation issues associated with the project site, including:

- Vehicular site access
- On-site circulation
- Intersection operations analysis – vehicle queuing and left-turn pocket storage at intersections
- Potential impacts to bike, pedestrian and transit facilities

Unlike the level of service impact methodology, which is adopted by the City Council, the analyses in this chapter are based on professional judgment in accordance with the standards and methods employed by the traffic engineering community.

Site Access and Circulation

The site plan for the proposed project was reviewed performed to determine if adequate site access is provided and to identify any access and circulation issues that should be improved. This review was completed in accordance with generally accepted traffic engineering standards.

Site Access

Project trips at each of the site access points are presented in Figure 13. The project would include the extension of DePaul Drive to the south with termination as a cul-de-sac just north of Half Road. Access to the project site would be provided via a full access driveway along Mission View Drive and two full access driveways along the DePaul Drive extension.

On-Site Circulation

An internal private street network would provide access to each of the residential units from the proposed entrances along Mission View Drive and DePaul Drive. Most of the streets that front homes include on-street parallel parking. The internal streets would provide continuous access to each area of residential units.

Figure 13
Project Trips at Site Access Points

Travel way on street is typically a minimum of 26 feet. The travel way on the internal streets is shown to be at least 20 feet wide. The narrower travel width will provide adequate width for two-way travel on each of the streets and will promote reduced travel speeds within the site. However, the straight nature of the internal roadways could result in drivers traveling at greater speeds than recommended. Therefore, it may be desirable to implement speed-reducing measures along the internal roadways. These measures could include the installation of speed bumps/humps along the internal roadways and/or bulb-outs at intersections and mid-block.

The project site plan shows sidewalks along the project's frontages along Mission View Drive and DePaul Drive and the internal street network on-site. However, there are no sidewalks provided along the west side of Mission View Drive between the project site and Cochrane Road. In conjunction with the existing sidewalks along the east side of Mission View Drive, the proposed sidewalks on Mission View Drive along the project frontage would provide a connection between the project site and bus stops along Mission View Drive and pedestrian destinations along Cochrane Road. There also are no sidewalks along either side of DePaul Drive between the project site and Cochrane Road. Therefore, there will be no sidewalk connection between the project site and Cochrane Road.

The project site should be designed following City of Morgan Hill design standards and provide adequate width and turn-radii at and along all drive/parking aisles to allow for two-way circulation and adequate circulation of larger vehicles (such as emergency trucks, garbage truck, and delivery trucks) throughout the project site. Adhering to the City of Morgan Hill standards and requirements, and implementing the above recommendations, the proposed site access points and layout of the surface parking areas would be adequate to accommodate the circulation of both passenger and emergency vehicles.

Emergency Vehicle Access and Circulation

The 20-foot-wide internal roadway would provide emergency vehicles (fire trucks) sufficient space to access each of the residential units on-site. There are several dead-end drive aisles that would not provide sufficient space for emergency vehicles to turn around. However, the dead-ends will be located along short segments of roadways. Thus, vehicles would be able to back out of the roadways.

Project Driveway Operations

Based on the project trip generation and trip assignment, it is estimated that a maximum of 79 and 88 inbound trips (during the PM peak hour) and 71 and 78 outbound trips (during the AM peak hour) would enter and exit the site at the Mission View Drive driveway and the two driveways on DePaul Drive combined, respectively. As proposed, each of the three project driveways would be provided with one outbound lane and one inbound lane to serve the shared through/right-turn lane and through/left-turn lane into the site on Mission View Drive and DePaul Drive. The estimated project trips at the project site driveways are shown in Figure 13. The results of the driveway operations analyses are summarized in Table 9. The calculations for the project driveway operations analyses are included in Appendix G.

The results of the level of service analysis indicate that all three project driveways are projected to operate at acceptable levels of service (LOS D or better) during each of the peak hours analyzed.

The results of the signal warrant analysis indicate all three project driveways are projected to have traffic conditions that fall below the thresholds that warrant signalization.

The results of the queuing analysis indicate the 95th percentile queues at the project driveways are projected to be at most 25 feet.

Table 9
Project Driveway Operations

Intersection	Int. Control	LOS Std	Peak Hour	Existing Plus Project								Year 2030 Cumulative with Project							
				Warrant Met?	Delay[1]	LOS	Queue Length (ft.) NBL	EB	SBL	WB		Warrant Met?	Delay[1]	LOS	Queue Length (ft.) NBL	EB	SBL	WB	
Mission View Drive and Project Driveway A	OWSC	D	AM	No	11.6	B	0	25	--	--		No	19.7	C	0	25	--	--	
			PM	No	14.2	B	25	25	--	--		No	31.1	D	25	25	--	--	
DePaul Drive and Project Driveway B	OWSC	D	AM	No	8.4	A	--	--	0	25		No	8.4	A	--	--	0	25	
			PM	No	8.4	A	--	--	25	25		No	8.4	A	--	--	25	25	
DePaul Drive and Project Driveway C	OWSC	D	AM	No	8.6	A	--	--	0	25		No	8.6	A	--	--	0	25	
			PM	No	8.5	A	--	--	25	0		No	8.5	A	--	--	25	0	

Notes:
[1]The reported delay and corresponding level of service for one-way stop-controlled intersections are based on the stop-controlled approach with the highest delay.
OWSC = one-way stop-controlled; NBL = northbound left; EB = eastbound; SBL = southbound left; WB = westbound

Recommendation: A center-striped median is currently provided along Mission View Drive north of the project site. The current width of Mission View Drive along the project frontage is not adequate to provide a left-turn pocket into the project driveway. Mission View Drive would need to be widened along its east side, opposite the project frontage, to provide a striped left-turn pocket into the project site. Similarly, left-turn lanes should be striped at the project driveways along DePaul Drive if a center-striped median is planned.

Intersection Operations Analysis

The analysis of the intersection level of service was supplemented with an analysis of intersection operations for selected intersections where the project would add a significant number of left-turning vehicles. The operations analysis is based on vehicle queuing for high demand left-turn movements at intersections. Vehicle queues were estimated using a Poisson probability distribution, which estimates the probability of "n" vehicles for a vehicle movement using the following formula:

$$P(x=n) = \frac{\lambda^n e^{-(\lambda)}}{n!}$$

Where:
P (x=n) = probability of "n" vehicles in queue per lane
n = number of vehicles in the queue per lane
λ = average number of vehicles in the queue per lane (vehicles per hour per lane/signal cycles per hour)

The basis of the analysis is as follows: (1) the Poisson probability distribution is used to estimate the 95th percentile number of queued vehicles per cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 25 feet per vehicle; and (3) the estimated 95th percentile queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future left-turn storage requirements at intersections. The 95th percentile queue length value indicates that during the peak hour, a queue of this length or less would occur on 95 percent of the signal cycles. Likewise, a queue length larger than the 95th percentile queue would only occur on 5 percent of the signal cycles (about 3 cycles during the peak hour for a signal with a 60-second cycle length). Therefore, left-turn storage pocket designs based on the 95th percentile queue length would ensure that storage space would be exceeded only 5 percent of the time. The 95th percentile queue length is also known as the "design queue length".

The vehicle queue estimates and a tabulated summary of the findings are provided in Table 10. The vehicular queuing analysis (Poisson probability calculations) is included in Appendix F.

Cochrane Road and Mission View Drive

The queuing analysis indicates that the estimated 95th vehicle queue for northbound left-turn movement at the Cochrane Road and Mission View Drive intersection currently exceeds the provided turn pocket storage space during the AM and PM peak hours under existing conditions.

The northbound left-turn pocket currently provides approximately 100 feet of vehicle storage, which can accommodate approximately 4 vehicles. The estimated 95th percentile vehicle queues for the northbound left-turn movement currently are approximately 14 and 6 vehicles during the AM and PM peak hours under existing conditions, respectively.

Table 10
Vehicle Queuing Analysis

Measurement	Cochrane Road and DePaul Drive		Mission View Drive and Cochrane Road		Mission View Drive and Half Road			
	Northbound		Northbound Left		Eastbound Left		Soutbound	
	AM	PM	AM	PM	AM	PM	AM	PM
Existing Conditions								
Cycle Length/Control Delay (sec)[1]	60	60	60	60	8.3	7.6	13.6	22.6
Lanes	1	1	1	1	1	1	1	1
Volume (vph)	7	18	512	183	304	174	170	519
Volume (vphpl)	7	18	512	183	304	174	170	519
95th %. Queue (veh/ln.)	1	1	14	6	2	2	2	7
95th %. Queue (ft./ln)[2]	25	25	350	150	50	50	50	175
Storage (ft./ ln.)	950+	950+	100	100	3500	3500	1900	1900
Adequate (Y/N)	YES	YES	**NO**	**NO**	YES	YES	YES	YES
Existing Plus Project Conditions								
Cycle Length/Control Delay (sec)[1]	60	60	60	60	8.4	7.7	14.0	34.0
Lanes	1	1	1	1	1	1	1	1
Volume (vph)	86	70	538	200	318	221	215	548
Volume (vphpl)	86	70	538	200	318	221	215	548
95th %. Queue (veh/ln.)	4	3	14	7	2	2	2	9
95th %. Queue (ft./ln)[2]	100	75	350	175	50	50	50	225
Storage (ft./ ln.)	950+	950+	100	100	3500	3500	1900	1900
Adequate (Y/N)	YES	YES	**NO**	**NO**	YES	YES	YES	YES

Notes:
[1] Cycle length for signalized intersections and control delay for stop-controlled intersections.
[2] Assumes 25 feet per vehicle queued

The addition of project traffic is not projected to lengthen the projected queue during the AM peak hour. However, the addition of project traffic is projected to lengthen the projected queue by one vehicle or 25 feet during the PM peak hour under existing plus project conditions, which would exceed the existing storage capacity by 75 feet.

Recommendation: The northbound left-turn pocket can be lengthened by 250 feet to accommodate the projected queue during the AM peak hour. However, a second northbound left-turn lane is recommended to improve intersection operations.

Project-generated traffic at other locations would be too low to have a measurable effect on queue lengths.

Sight Distance

Adequate sight distance (sight distance triangles) should be provided at the project site driveways in accordance with the *Caltrans Highway Design Manual*. Sight distance triangles should be measured at the driveway approximately 10 feet back from the traveled way. Providing the appropriate sight distance reduces the likelihood of a collision at a driveway or intersection and provides drivers with the ability to exit a driveway and locate sufficient gaps in traffic. The minimum acceptable sight distance is often considered the Caltrans stopping sight distance. Sight distance requirements vary depending on the roadway speeds. DePaul Drive and Mission View Drive have posted speed limits of 35 and 40 mph, respectively. The Caltrans stopping sight distance for facilities with posted speed limits of 35 and 40 mph are 250 and 300 feet, respectively. Thus, a driver exiting the project driveways on DePaul Drive and Mission View Drive must be able to see approaching traffic on DePaul Drive and Mission View Drive at minimum distances of 250 and 300 feet, respectively, to be able to stop and avoid a collision.

Based on field observations, aerial images, and the location of the project driveways, there are no existing trees or visual obstructions along DePaul Drive and Mission View Drive that would obscure sight distance to drivers exiting the project site, providing a clear view of approaching traffic on both sides of DePaul Drive and Mission View Drive beyond the minimum required distances of 250 and 300 feet, respectively. Therefore, it can be concluded that the project access driveways would meet the Caltrans minimum stopping sight distance standards.

Recommendation: The site design should ensure design features, in particular, the landscaping and signage along the project site frontage and at the project site driveways, would not interfere with the sight distance at the proposed site driveway.

Parking

Based on Tables 18.72-2 and 18.72-3 of Section 18.72.030 of the Morgan Hill City Code, the project would be required to provide 2 covered parking spaces per residential unit and one guest parking space is required for every four residential units. The project would be required to provide 538 resident and 68 guest parking spaces for the proposed 269 residential units. The project is proposing to provide two covered parking spaces for each residential unit for a total of 538 parking spaces and 271 on-street parking spaces within the internal street network. Therefore, the provided number of parking spaces would satisfy the City's parking requirement.

Transit, Pedestrian, and Bicycle Analysis

The project site is served by Local Route 87 with bus stops along Mission View Drive and Half Road. In addition, Express Route 168 also provides service along Cochrane Road west of US 101. These two bus routes provide a connection to the Morgan Hill Caltrain Station. A conservative mode split in Morgan Hill would be a three percent transit share. Assuming up to three percent transit mode share for the project equates to no more than six and eight transit riders during the AM and PM peak hours, respectively.

VTA has recommended that a new bus stop for Route 87 be installed along Mission View Drive on the project frontage just south of the project entrance. VTA also has suggested a new bus stop be installed on the northbound side of Mission View Drive if a controlled crosswalk were to be installed at the project entrance along Mission view Drive. However, this analysis showed no need for signal control at the project entrance. It is recommended that the project coordinate with VTA to identify the specific placement of a new bus stop along Mission View Drive and allow for adequate space along its frontage on Mission View to accommodate the installation of a bus stop including wider sidewalks, lighting, landscaping, and passenger pad.

Sidewalks are provided along the east side of Mission View Drive and the north side of Cochrane Road in the immediate project area. However, sidewalks along the south side of Cochrane Road are intermittent, with no sidewalk currently provided between the US 101 northbound ramps and De Paul Drive, and a short segment west of Mission View Drive. The project would provide sidewalks along its entire frontages along Mission View Drive, Half Road, and DePaul Drive and result in a continuous connection to the existing sidewalks on the east side of Mission View Drive to provide a safe connection between the project site and other surrounding land uses in the area. Controlled crossings at the intersections of Cochrane Road with Mission View Drive and DePaul Drive would provide a connection between the project area and retail uses on the north side of Cochrane Road.

Bike lanes are currently provided along the entire lengths of Cochrane Road and Main Avenue. An unpaved bike path, the Madrone Channel Trail, runs along the east side of US 101, between Tennant Avenue and Cochrane Road. It is expected that bicycle trips would comprise no more than one percent of the total project-generated trips. Thus, the project could potentially generate no more than three new bicycle trips during each of the peak hours. The demand generated by the proposed project could be accommodated by the existing bicycle facilities in the vicinity of the project site.

Freeway Ramp Analysis

Freeway On-Ramp Queuing Analysis

An analysis of metered freeway ramps providing access to the project site was performed to identify the effect of the addition of project traffic on the queues at metered study freeway on-ramps. It should be noted that the evaluation of freeway ramps is not required based on the City's transportation analysis guidelines. Nor are there adopted methodologies and impact criteria for the analysis of freeway ramps. The project is expected to add peak hour trips to only the following metered freeway on-ramps in the project vicinity:

- US 101 northbound on-ramp from westbound Cochrane Road (Active Meter – AM Peak Hour)
- US 101 southbound on-ramp from westbound Cochrane Road (Active Meter – PM Peak Hour)
- US 101 southbound on-ramp from Dunne Avenue

The project is projected to add at most four trips to the US 101 southbound on-ramp from Dunne Avenue during the AM or PM peak hour and would not lengthen the projected queues at this location. Therefore, this ramp was not included in the queuing analysis.

The analysis indicates that project traffic would not lengthen the projected 15-minute interval queue lengths at either of the subject Cochrane Road on-ramps under existing plus project conditions. Short vehicle queues, less than 10 vehicles, currently occur at the ramps, however, the queues dissipate during the 15-minute intervals because the demand volume is less than the service rate of the freeway ramp meters.

The volumes on the northbound diagonal on-ramp from westbound Cochrane Road are projected to be greater than the service rate of the ramp meter during the AM peak hour under Year 2030 Cumulative with project conditions. Therefore, queues are projected to develop on the northbound diagonal on-ramp. Trips from the proposed project will result in an increase in the projected queue by two vehicles. However, the projected queues on the metered northbound diagonal on-ramp can be accommodated entirely on the ramp. The freeway on-ramp queuing calculations are included in Appendix H.

Freeway Off-Ramp Queuing Analysis

A queuing analysis was completed for freeway off-ramps, where the project will result in the addition of peak hour trips. These freeway off-ramps are controlled by a traffic signal at their intersection with the local arterial. The project is expected to add peak hour trips to only the following freeway off-ramps in the project vicinity:

- US 101 northbound off-ramp to Cochrane Road
- US 101 southbound off-ramp to Cochrane Road
- US 101 northbound off-ramp to Dunne Avenue

The project is projected to add at most four trips to the US 101 northbound off-ramp at Dunne Avenue during the AM or PM peak hour and would not lengthen the projected queues at this location. Therefore, this ramp was not included in the queuing analysis.

The results of the analysis (see Table 11) show that the 95th percentile queue lengths at each of the US 101 off-ramps to Cochrane Road are projected to be accommodated entirely on the ramps and would not extend back and disrupt the freeway mainline. The freeway off-ramp queuing calculations are included in Appendix H.

Table 11
Freeway Off-Ramp Vehicle Queuing Analysis

Scenario		Queue Length[1] (feet)			
		US 101 SB Off-Ramps and Cochrane Road		US 101 NB Off-Ramps and Cochrane Road	
		SBL/R[2]	SBR[2]	NBL[2]	NBL/R[2]
Storage		**2,100**	**650**	**950**	**1,750**
Existing	AM	375	275	150	225
	PM	525	300	150	275
Existing Plus Project	AM	400	275	150	225
	PM	600	300	150	300
Year 2030 Cumulative without Project	AM	550	350	150	250
	PM	825	375	175	400
Year 2030 Cumulative with Project	AM	575	350	150	275
	PM	975	375	175	425
Maximum		**975**	**375**	**175**	**425**
Storage - Maximum		**1,125**	**275**	**775**	**1,325**

Notes:
[1]Queue lengths were obtained from Traffix assuming 25 feet per vehicle.
[2]SBL/R = southbound left/right; SBR = southbound right; NBL = northbound left; NBL/R = northbound left/right

6. Conclusions

The potential impacts of the project were evaluated in accordance with the California Environmental Quality Act (CEQA) guidelines and the Governor's Office of Planning and Research (OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*, December 2018.

A supplemental traffic operations analysis also was completed to demonstrate the project's consistency with the *Morgan Hill 2035 General Plan* goals and policies. The traffic operations analysis supplements the CEQA required VMT analysis. However, the determination of project impacts per CEQA requirements is based solely on the VMT analysis.

CEQA VMT Analysis

The results of the VMT analysis using the VTA's VMT Evaluation Tool indicate that the existing VMT for residential uses in the project vicinity is 30.46 VMT per capita.

The results also indicate that the project is projected to generate VMT per capita (27.41), which would exceed the OPR's recommended impact threshold of 20.94 VMT per capita. Therefore, the project would result in an impact on the transportation system based on OPR's VMT impact criteria.

VMT Impacts and Mitigation

Using OPR's impact thresholds, the project would need to implement VMT reduction measures to achieve a 24% reduction (27.41 to 20.94) in its VMT per capita for the proposed residential uses to reduce its impact to less than significant levels. However, a maximum 11% reduction in project VMT is possible regardless of the extent of VMT reduction measures implemented.

OPR's recommended 15% below existing VMT impact threshold encourages developments in transit-rich, highly mixed-use areas to implement design features and trip reduction measures to take advantage of existing multi-model infrastructure and land use mixes in reducing trip making and/or trip lengths. However, many communities such as Morgan Hill have very limited multi-modal transportation infrastructure and lack a mix of complementary land uses. The lack of employment in these communities along with minimal transit options results in a greater number and longer commute trips. Therefore, it is highly unlikely that developments like the proposed project in these cities can achieve OPR's recommended 15% reduction in VMT. Therefore, absent of the City adopting its own City-specific VMT policies and impact thresholds, the proposed project's VMT impact must be deemed significant and unavoidable.

Per its condition of approval and prior to project occupancy, the project applicant shall develop and implement a Transportation Demand Management (TDM) plan which targets a reduction in residential vehicle trips to and from the site. The TDM plan shall be prepared by a qualified traffic consultant and in coordination with the City of Morgan Hill Development Services Director or Designee. The TDM plan shall quantify the reduction in VMT. The TDM shall require the following measures:

1. Prior to project occupancy, the project applicant will be required to make a financial contribution to the City's on-site demand rideshare service (MoGo), as a one-time or annual financial contribution based on City approval, **or**
~~Per its condition of approval, the City will however require that the project implement and/or incorporate in its design the following VMT reduction measures to encourage the use of multi-modal travel and reduce the number and length of vehicular trips:~~

2. During project operations, t~~T~~he management entity/HOA shall provide fully (100 percent) subsidized annual VTA transit passes for all project homeowners (a maximum of one transit subsidy per residential unit, which would result in up to 269 transit passes per year). This subsidized transit program shall be approved by the City of Morgan Hill's Public Services Director prior to issuance of occupancy.

3. The project must improve the surrounding pedestrian network by including sidewalks which terminate at the common property line, allowing for connections to the adjacent property in the event there is development in the future. Continuous sidewalks are proposed along the project frontages. The proposed frontage improvements along Mission View Drive, Half Road, and De Paul Drive include sidewalk improvements; each of the street sections will be wide enough to accommodate future bicycle lanes.

4. The proposed development will include 64 bicycle parking spaces.

Traffic Operations Analysis

Project Trip Generation

Based on the recommended rates for single-family detached housing (Land Use #210) and the size of the proposed project, it is estimated that the proposed project would generate 2,539 daily trips, with 199 trips (50 inbound and 149 outbound) occurring during the AM peak hour and 266 trips (168 inbound and 98 outbound) occurring during the PM peak hour.

Intersection Operations Analyses

The results of the traffic operations analysis indicate that based on the City's operating standards, the proposed project would have an adverse effect on intersection operations at the following four study intersections under Year 2030 Cumulative with project conditions.

6. Mission View Drive and Cochrane Road (AM & PM Peak Hours)
8. Mission View Drive and Half Road (unsignalized) (AM & PM Peak Hours)
9. Condit Road and Main Avenue (PM Peak Hour)
10. Condit Road and Diana Avenue (unsignalized) (AM Peak Hour)

Adverse Intersection Operations Effects and Potential Improvements

The adverse intersection operation effects identified under Year 2030 Cumulative with project conditions are discussed below. Included are descriptions of the adverse effects on intersection operations and potential improvement measures that may be included as part of the project's Conditions of Approval. However, the identified roadway operations and improvements are not required or considered project impacts per CEQA guidelines.

6. Cochrane Road and Mission View Drive

This intersection is projected to operate at an unacceptable LOS F and E during the AM and PM peak hours, respectively, under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project would cause the critical delay to increase by more than four seconds and the volume-to-capacity ratio (V/C) to increase by more than 0.01 during both the AM and PM peak hours. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The addition of a second northbound left-turn lane on Mission View Drive and a cycle length adjustment would be necessary to improve intersection operations. The addition of the second northbound left-turn lane will require lane striping and signal modification but will fit within the existing curb-to-curb pavement width on Mission View Drive. Implementation of this improvement would improve the intersection's level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project conditions.

8. Mission View Drive and Half Road

This intersection is projected to operate at an unacceptable LOS F during the PM peak hour under Year 2030 Cumulative without and with project conditions. Furthermore, this intersection is projected to operate at an acceptable LOS D during the AM peak hour under Year 2030 Cumulative without conditions and degrade to LOS E with the addition of project traffic. Additionally, the peak-hour traffic signal warrant checks indicate that the intersection would have traffic volumes that meet thresholds that warrant signalization during both the AM and PM peak hours under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The signalization of the intersection would be necessary to improve intersection operations. Implementation of a traffic signal at this location would improve the level of service to LOS C during both the AM and PM peak hours under Year 2030 Cumulative with project. This intersection is under the jurisdiction of both the City of Morgan Hill and Santa Clara County. Therefore, implementation of the recommended improvements will require City and County approval.

9. Main Avenue and Condit Road

This intersection is projected to operate at an unacceptable LOS F during the PM peak hour under Year 2030 Cumulative without project conditions. Traffic associated with the proposed project would cause the critical delay to increase by more than four seconds and the volume-to-capacity ratio (V/C) to increase by more than 0.01 during the PM peak hour. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The addition of an exclusive southbound right-turn lane on Condit Road would be necessary to improve intersection operations. The addition of the right-turn lane will require signal modifications and lane striping on the southbound approach. Implementation of this improvement would improve the intersection's level of service to LOS D during the PM peak hour under Year 2030 Cumulative with project conditions. This intersection is under the jurisdiction of both the City of Morgan Hill and Santa Clara County. Therefore, implementation of the recommended improvements will require City and County approval.

10. Condit Road and Diana Avenue

This intersection is projected to operate at an unacceptable LOS E during the AM peak hour under Year 2030 Cumulative without and with project conditions. Additionally, the peak-hour traffic signal

warrant checks indicate that the intersection would have traffic volumes that meet thresholds that warrant signalization during the AM peak hour under Year 2030 Cumulative without and with project conditions. This constitutes an adverse effect on intersection operations based on the City of Morgan Hill's level of service standards.

The signalization of the intersection would be necessary to improve intersection operations. Implementation of this improvement would improve the intersection's level of service to LOS B during the AM peak hour under Year 2030 Cumulative with project conditions.

Freeway Segment Level of Service Analysis

The results of the freeway segment level of service analysis indicate that ten directional mixed-flow lanes and one directional HOV lane on the freeway segments analyzed are projected to operate at an unacceptable LOS F during at least one peak hour under existing conditions and would continue to operate at LOS F conditions with the addition of traffic due to proposed project.

Improvement of freeway segment operations would require freeway widening to construct additional through lanes, thereby increasing freeway capacity. VTA's Valley Transportation Plan (VTP) 2040 identifies freeway express lane projects along US 101 between Cochrane Road and Whipple Avenue. The planned improvements consist of the conversion of the existing HOV lane to an express lane and the construction of a second express lane in each direction on US 101. These improvements would increase the capacity of the freeway and help to address the deficiency in freeway operations. However, it is not feasible for an individual development project to bear responsibility for implementing such extensive transportation system improvements due to constraints in the acquisition and cost of right-of-way.

Other Transportation Issues

Site Access

The project would include the extension of DePaul Drive to the south with termination as a cul-de-sac just north of Half Road. Access to the project site would be provided via a full access driveway along Mission View Drive and two full access driveways along the DePaul Drive extension.

On-Site Circulation

An internal private street network would provide access to each of the residential units from the proposed entrances along Mission View Drive and DePaul Drive. Most of the streets that front homes include on-street parallel parking. The internal streets would provide continuous access to each area of residential units.

Travel way on street is typically a minimum of 26 feet. The travel way on the internal streets is shown to be at least 20 feet wide. The narrower travel width will provide adequate width for two-way travel on each of the streets and will promote reduced travel speeds within the site. However, the straight nature of the internal roadways could result in drivers traveling at greater speeds than recommended. Therefore, it may be desirable to implement speed-reducing measures along the internal roadways. These measures could include the installation of speed bumps/humps along the internal roadways and/or bulb-outs at intersections and mid-block.

The project site plan shows sidewalks along the project's frontages along Mission View Drive and DePaul Drive and the internal street network on-site. However, there are no sidewalks provided along

the west side of Mission View Drive between the project site and Cochrane Road. In conjunction with the existing sidewalks along the east side of Mission View Drive, the proposed sidewalks on Mission View Drive along the project frontage would provide a connection between the project site and bus stops along Mission View Drive and pedestrian destinations along Cochrane Road. There also are no sidewalks along either side of DePaul Drive between the project site and Cochrane Road. Therefore, there will be no sidewalk connection between the project site and Cochrane Road.

The project site should be designed following City of Morgan Hill design standards and provide adequate width and turn-radii at and along all drive/parking aisles to allow for two-way circulation and adequate circulation of larger vehicles (such as emergency trucks, garbage truck, and delivery trucks) throughout the project site. Adhering to the City of Morgan Hill standards and requirements, and implementing the above recommendations, the proposed site access points and layout of the surface parking areas would be adequate to accommodate the circulation of both passenger and emergency vehicles.

Emergency Vehicle Access and Circulation

The 20-foot-wide internal roadway would provide emergency vehicles (fire trucks) sufficient space to access each of the residential units on-site. There are several dead-end drive aisles that would not provide sufficient space for emergency vehicles to turn around. However, the dead-ends will be located along short segments of roadways. Thus, vehicles would be able to back out of the roadways.

Intersection Operations Analysis

The queuing analysis also indicates that the maximum vehicle queue for northbound left-turn movement at the Cochrane Road and Mission View Drive intersection currently exceeds the provided turn pocket storage space during the AM and PM peak hours under existing conditions.

The addition of project traffic is not projected to lengthen the projected queue during the AM peak hour. However, the addition of project traffic is projected to lengthen the projected queue by one vehicle or 25 feet during the PM peak hour under existing plus project conditions, which would exceed the existing storage capacity by 75 feet.

Recommendation: The northbound left-turn pocket can be lengthened by 250 feet to accommodate the projected queue during the AM peak hour. However, a second northbound left-turn lane is recommended to improve intersection operations.

Project Driveway Operations

The results of the project driveway operations analysis indicate that all three project driveways are projected to operate at acceptable levels of service (LOS D or better) during each of the peak hours analyzed and to have traffic conditions that fall below the thresholds that warrant signalization. Additionally, the 95th percentile queues at the project driveways are projected to be at most 25 feet.

Recommendation: A center-striped median is currently provided along Mission View Drive north of the project site. The current width of Mission View Drive along the project frontage is not adequate to provide a left-turn pocket into the project driveway. Mission View Drive would need to be widened along its east side, opposite the project frontage, to provide a striped left-turn pocket into the project site. Similarly, left-turn lanes should be striped at the project driveways along DePaul Drive if a center-striped median is planned.

Sight Distance

Based on Caltrans requirements, the available sight distance at the project site driveways on DePaul Drive and Mission View Drive would be adequate.

Recommendation: The site design should ensure design features, in particular, the landscaping and signage along the project site frontage and at the project site driveways, would not interfere with the sight distance at the proposed site driveway.

Parking

Based on Tables 18.72-2 and 18.72-3 of Section 18.72.030 of the Morgan Hill City Code, the project would be required to provide 2 covered parking spaces per residential unit and one guest parking space is required for every four residential units. The project would be required to provide 538 resident and 68 guest parking spaces for the proposed 269 residential units. The project is proposing to provide two covered parking spaces for each residential unit for a total of 538 parking spaces and 271 on-street parking spaces within the internal street network. Therefore, the provided number of parking spaces would satisfy the City's parking requirement.

Transit, Pedestrian, and Bicycle Analysis

The project site is served by Local Route 87 with bus stops along Mission View Drive and Half Road. In addition, Express Route 168 also provides service along Cochrane Road west of US 101. These two bus routes provide a connection to the Morgan Hill Caltrain Station. A conservative mode split in Morgan Hill would be a three percent transit share. Assuming up to three percent transit mode share for the project equates to no more than six and eight transit riders during the AM and PM peak hours, respectively.

VTA has recommended that a new bus stop for Route 87 be installed along Mission View Drive on the project frontage just south of the project entrance. VTA also has suggested a new bus stop be installed on the northbound side of Mission View Drive if a controlled crosswalk were to be installed at the project entrance along Mission view Drive. However, this analysis showed no need for signal control at the project entrance. It is recommended that the project coordinate with VTA to identify the specific placement of a new bus stop along Mission View Drive and allow for adequate space along its frontage on Mission View to accommodate the installation of a bus stop including wider sidewalks, lighting, landscaping, and passenger pad.

Sidewalks are provided along the east side of Mission View Drive and the north side of Cochrane Road in the immediate project area. However, sidewalks along the south side of Cochrane Road are intermittent, with no sidewalk currently provided between the US 101 northbound ramps and De Paul Drive, and a short segment west of Mission View Drive. The project would provide sidewalks along its entire frontages along Mission View Drive, Half Road, and DePaul Drive and result in a continuous connection to the existing sidewalks on the east side of Mission View Drive to provide a safe connection between the project site and other surrounding land uses in the area. Controlled crossings at the intersections of Cochrane Road with Mission View Drive and DePaul Drive would provide a connection between the project area and retail uses on the north side of Cochrane Road.

Bike lanes are currently provided along the entire lengths of Cochrane Road and Main Avenue. An unpaved bike path, the Madrone Channel Trail, runs along the east side of US 101, between Tennant Avenue and Cochrane Road. It is expected that bicycle trips would comprise no more than one percent of the total project-generated trips. Thus, the project could potentially generate no more than three new

bicycle trips during each of the peak hours. The demand generated by the proposed project could be accommodated by the existing bicycle facilities in the vicinity of the project site.

Freeway Ramp Analysis

Freeway On-Ramp Queuing Analysis

The analysis indicates that project traffic would not lengthen the projected 15-minute interval queue lengths at either of the subject Cochrane Road on-ramps under existing plus project conditions. Short vehicle queues, less than 10 vehicles, currently occur at the ramps, however, the queues dissipate during the 15-minute intervals because the demand volume is less than the service rate of the freeway ramp meters.

The volumes on the northbound diagonal on-ramp from westbound Cochrane Road are projected to be greater than the service rate of the ramp meter during the AM peak hour under Year 2030 Cumulative with project conditions. Therefore, queues are projected to develop on the northbound diagonal on-ramp. Trips from the proposed project will result in an increase in the projected queue by two vehicles. However, the projected queues on the metered northbound diagonal on-ramp can be accommodated entirely on the ramp.

Freeway Off-Ramp Queuing Analysis

The results of the analysis show that the 95th percentile queue lengths at each of the US 101 off-ramps to Cochrane Road are projected to be accommodated entirely on the ramps and would not extend back and disrupt the freeway mainline.

The Crosswinds Residential Development

Technical Appendices

October 7, 2021 (Revised May 5, 2023)

Appendix A

VTA VMT Evaluation Tool Output Sheets

Santa Clara Countywide VMT Evaluation Tool Report

Project Details

Timestamp of Analysis: November 17, 2020, 04:29:27 PM

Project Name: The Crosswinds Residential Development

Project Description: 269 residential units comprised of 149 condos, 56 single-family detached, and 64 duet units

Project Location

Jurisdiction:
Morgan Hill

Inside Transit Priority Area (TPA)?
No (Fail)

APN	TAZ
72830001	333
72830003	333
72830002	333
72830004	333

Analysis Details

Santa Clara Countywide VMT Evaluation Tool Version: 1

Data Version: VTA Countywide Model December 2019

Analysis Methodology: Parcel Buffer Method

Baseline Year: 2019

Project Land Use

Residential:

Single Family DU: 269

Multifamily DU:

Total DUs: 269

Non-Residential:

Office KSF:

Local Serving Retail KSF:

Industrial KSF:

Residential Affordability (percent of all units):

Extremely Low Income: 0 %

Very Low Income: 0 %

Low Income: 15 %

Parking:

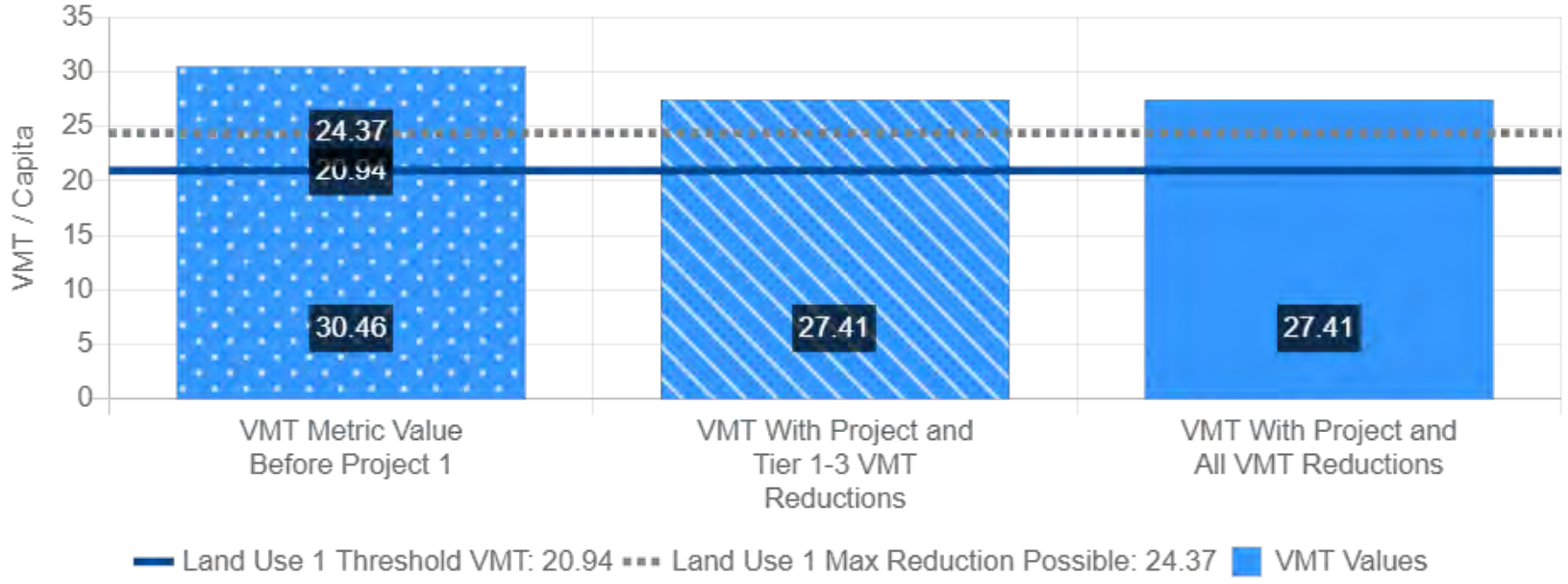
Motor Vehicle Parking:

Bicycle Parking:

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type 1:	Residential
VMT Without Project:	Home-based VMT per Capita
VMT Baseline Description 1:	City Average
VMT Baseline Value 1:	24.64
VMT Threshold Description 1:	-15%
Land Use 1 has been Pre-Screened by the Local Jurisdiction:	N/A

	Without Project	With Project & Tier 1-3 VMT Reductions	With Project & All VMT Reductions
Project Generated Vehicle Miles Traveled (VMT) Rate	30.46	27.41	27.41
Low VMT Screening Analysis	No (Fail)	No (Fail)	No (Fail)



Tier 1 Project Characteristics

PC01 Increase Residential Density

Existing Residential Density:	2.28
With Project Residential Density:	4.09

PC02 Increase Residential Diversity

Existing Residential Diversity Index:	0.71
With Project Residential Diversity Index:	0.55

PC03 Affordable Housing

Low Income:	15 %

PC04 Increase Employment Density

Existing Employment Density:	11.62
With Project Employment Density:	11.62

Santa Clara Countywide VMT Evaluation Tool Report

Project Details

Timestamp of Analysis: December 22, 2020, 11:01:57 PM

Project Name: The Crosswinds Residential Development

Project Description: 269 residential units comprised of 149condos, 56 single-family detached, and64 duet units

Project Location

Jurisdiction:
Morgan Hill

Inside Transit Priority Area (TPA)?
No (Fail)

APN	TAZ
72830001	333
72830003	333
72830002	333
72830004	333

Analysis Details

Santa Clara Countywide VMT Evaluation Tool Version: 1

Data Version: VTA Countywide Model December 2019

Analysis Methodology: Parcel Buffer Method

Baseline Year: 2019

Project Land Use

Residential:

Single Family DU: 269

Multifamily DU:

Total DUs: 269

Non-Residential:

Office KSF:

Local Serving Retail KSF:

Industrial KSF:

Residential Affordability (percent of all units):

Extremely Low Income: 0 %

Very Low Income: 0 %

Low Income: 15 %

Parking:

Motor Vehicle Parking:

Bicycle Parking:

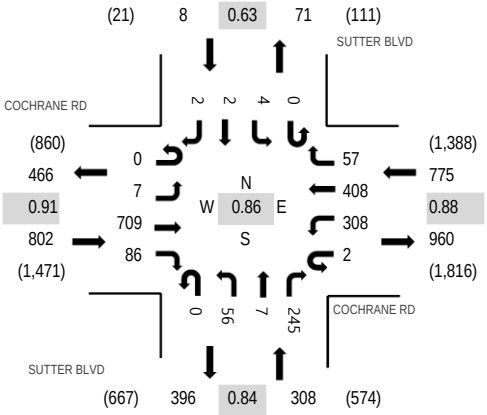
Appendix B

Traffic Counts

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

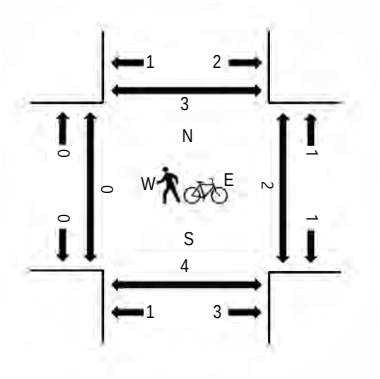
Location: 5 SUTTER BLVD & COCHRANE RD AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				SUTTER BLVD Northbound				SUTTER BLVD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	1	207	6	0	44	66	2	0	7	1	65	0	1	1	0	401	1,818	0	0	0	0
7:15 AM	0	0	178	9	1	57	84	5	0	22	0	74	0	1	0	0	431	1,885	1	0	0	1
7:30 AM	0	0	193	14	0	71	90	6	0	7	1	54	0	0	0	1	437	1,893	0	2	0	1
7:45 AM	0	3	184	43	1	83	112	17	0	15	0	89	0	0	1	1	549	1,819	0	0	1	0
8:00 AM	0	2	183	18	1	69	92	13	0	21	0	67	0	2	0	0	468	1,636	0	0	1	2
8:15 AM	0	2	149	11	0	85	114	21	0	13	6	35	0	2	1	0	439		0	0	1	0
8:30 AM	0	2	142	6	0	58	88	10	0	10	3	38	0	2	3	1	363		0	0	0	1
8:45 AM	0	0	111	7	0	80	104	14	0	10	2	34	0	2	0	2	366		0	0	0	0

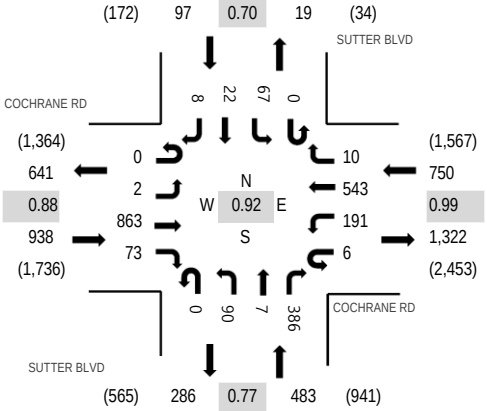
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	3	0	0	3	6	0	0	0	1	3	0	1	0	0	17
Lights	0	7	684	83	2	298	388	57	0	56	6	222	0	3	2	2	1,810
Mediums	0	0	22	3	0	7	14	0	0	0	0	20	0	0	0	0	66
Total	0	7	709	86	2	308	408	57	0	56	7	245	0	4	2	2	1,893

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

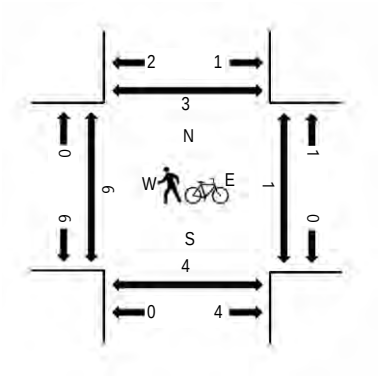
Location: 5 SUTTER BLVD & COCHRANE RD PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				SUTTER BLVD Northbound				SUTTER BLVD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	1	208	28	0	40	141	2	0	29	5	131	0	12	2	5	604	2,258	0	0	0	2
4:15 PM	0	1	196	27	4	54	127	4	0	21	1	88	0	5	4	2	534	2,268	0	0	0	0
4:30 PM	0	1	252	17	1	43	140	2	0	26	3	106	0	21	4	3	619	2,268	2	0	2	0
4:45 PM	0	0	201	15	0	46	117	2	0	21	2	76	0	16	3	2	501	2,178	1	0	0	1
5:00 PM	0	0	214	14	1	48	159	2	0	22	1	116	0	25	11	1	614	2,158	2	1	2	2
5:15 PM	0	0	188	16	1	49	159	1	0	18	0	84	0	15	2	1	534		0	0	1	1
5:30 PM	0	0	167	16	0	46	166	2	0	34	0	76	0	16	4	2	529		3	0	2	1
5:45 PM	0	0	154	20	0	53	154	3	0	14	1	66	0	13	3	0	481		2	2	3	0

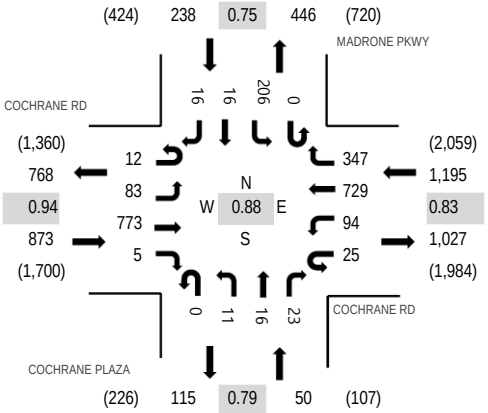
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	5	0	0	7	7	0	0	0	0	0	0	1	1	0	21
Lights	0	2	848	71	6	176	526	10	0	89	6	379	0	66	19	8	2,206
Mediums	0	0	10	2	0	8	10	0	0	1	1	7	0	0	2	0	41
Total	0	2	863	73	6	191	543	10	0	90	7	386	0	67	22	8	2,268

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

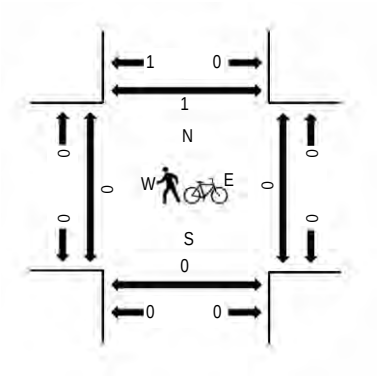
Location: 6 COCHRANE PLAZA & COCHRANE RD AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				COCHRANE PLAZA Northbound				MADRONE PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	1	23	233	4	4	23	101	43	0	2	3	9	0	32	4	3	485	2,223	0	0	0	1
7:15 AM	2	12	231	0	6	17	135	47	0	1	3	15	0	42	2	4	517	2,298	0	0	0	0
7:30 AM	2	18	210	2	5	18	159	71	0	3	3	4	0	48	5	7	555	2,356	0	0	0	0
7:45 AM	2	18	218	2	8	18	214	120	0	3	9	5	0	44	3	2	666	2,263	0	0	0	0
8:00 AM	3	24	185	1	8	27	148	72	0	3	1	9	0	75	3	1	560	2,067	0	0	0	0
8:15 AM	5	23	160	0	4	31	208	84	0	2	3	5	0	39	5	6	575		0	0	0	1
8:30 AM	5	19	155	2	8	22	136	54	0	2	2	6	0	36	4	11	462		0	0	0	0
8:45 AM	1	16	122	1	7	27	184	50	0	2	2	10	0	41	5	2	470		0	0	0	0

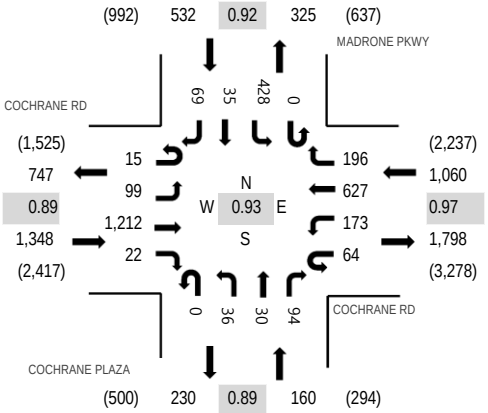
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	9	0	0	0	9	2	0	0	0	0	0	2	0	0	22
Lights	12	83	724	5	24	92	703	341	0	11	16	23	0	202	16	16	2,268
Mediums	0	0	40	0	1	2	17	4	0	0	0	0	0	2	0	0	66
Total	12	83	773	5	25	94	729	347	0	11	16	23	0	206	16	16	2,356

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

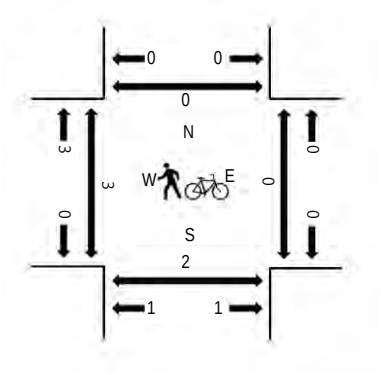
Location: 6 COCHRANE PLAZA & COCHRANE RD PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				COCHRANE PLAZA Northbound				MADRONE PKWY Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	4	15	305	3	24	43	135	58	0	9	7	15	1	91	11	15	736	3,044	0	0	0	0
4:15 PM	6	22	279	6	19	46	154	58	0	5	10	21	0	99	11	14	750	3,100	2	0	0	0
4:30 PM	2	24	345	6	20	43	162	40	0	12	9	25	0	117	10	18	833	3,081	0	0	0	0
4:45 PM	2	23	293	4	16	42	138	42	0	14	5	24	0	97	9	16	725	2,908	0	0	2	0
5:00 PM	5	30	295	6	9	42	173	56	0	5	6	24	0	115	5	21	792	2,896	1	0	0	0
5:15 PM	2	35	229	5	19	59	180	44	0	7	10	22	0	103	11	5	731		0	0	0	1
5:30 PM	2	18	217	5	17	49	189	54	0	4	5	17	0	61	9	13	660		1	0	0	0
5:45 PM	6	24	196	3	31	54	189	32	0	5	9	24	0	109	18	13	713		0	0	0	2

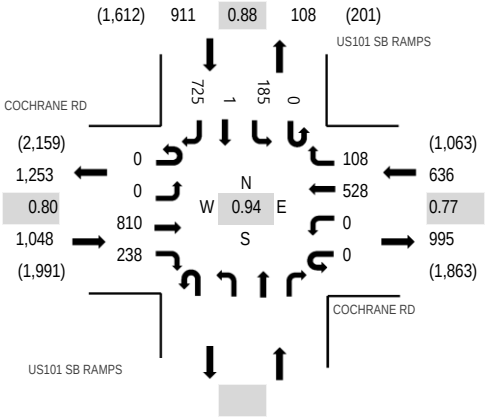
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	1	5	0	0	0	15	4	0	0	0	0	0	2	0	0	27
Lights	15	98	1,193	22	63	173	596	190	0	35	30	94	0	422	34	68	3,033
Mediums	0	0	14	0	1	0	16	2	0	1	0	0	0	4	1	1	40
Total	15	99	1,212	22	64	173	627	196	0	36	30	94	0	428	35	69	3,100

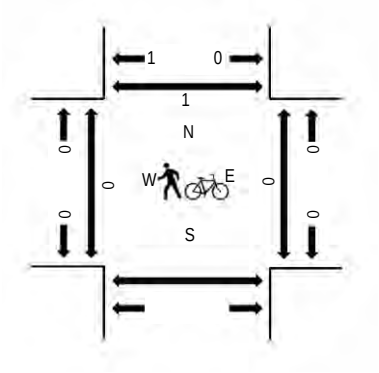
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 7 US101 SB RAMPS & COCHRANE RD AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				US101 SB RAMPS Northbound				US101 SB RAMPS Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	240	42	0	0	60	11					0	30	1	109	493	2,311	0	0		0
7:15 AM	0	0	201	40	0	0	63	28					0	26	0	159	517	2,480	0	0		0
7:30 AM	0	0	188	64	0	0	110	39					0	45	0	162	608	2,595	0	0		0
7:45 AM	0	0	178	50	0	0	179	27					0	61	0	198	693	2,495	0	0		0
8:00 AM	0	0	257	71	0	0	118	18					0	36	0	162	662	2,355	0	0		1
8:15 AM	0	0	187	53	0	0	121	24					0	43	1	203	632		0	0		0
8:30 AM	0	0	172	54	0	0	108	23					0	33	0	118	508		0	0		0
8:45 AM	0	0	127	67	0	0	103	31					0	39	0	186	553		0	0		0

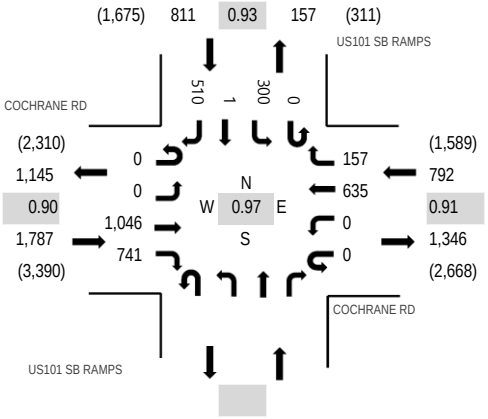
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	8	2	0	0	7	2					0	2	0	7	28
Lights	0	0	767	222	0	0	515	101					0	175	1	701	2,482
Mediums	0	0	35	14	0	0	6	5					0	8	0	17	85
Total	0	0	810	238	0	0	528	108					0	185	1	725	2,595

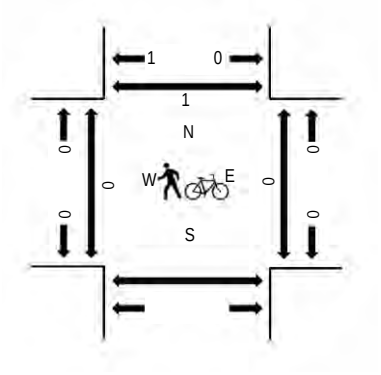
All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

Location: 7 US101 SB RAMPS & COCHRANE RD PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles in Crosswalk



Note: Total study counts contained in parentheses.

Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				US101 SB RAMPS Northbound				US101 SB RAMPS Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	279	188	0	0	159	37					0	55	0	113	831	3,289	0	0		0
4:15 PM	0	0	228	188	0	0	167	34					0	80	0	97	794	3,335	0	0		0
4:30 PM	0	0	307	193	0	0	157	35					0	56	0	122	870	3,390	0	0		0
4:45 PM	0	0	219	205	0	0	149	37					0	74	1	109	794	3,350	0	0		0
5:00 PM	0	0	273	177	0	0	158	38					0	87	0	144	877	3,365	0	0		0
5:15 PM	0	0	247	166	0	0	171	47					0	83	0	135	849		0	0		1
5:30 PM	0	0	221	122	0	0	185	44					0	113	0	145	830		0	0		0
5:45 PM	0	0	252	125	0	0	132	39					0	94	0	167	809		0	0		1

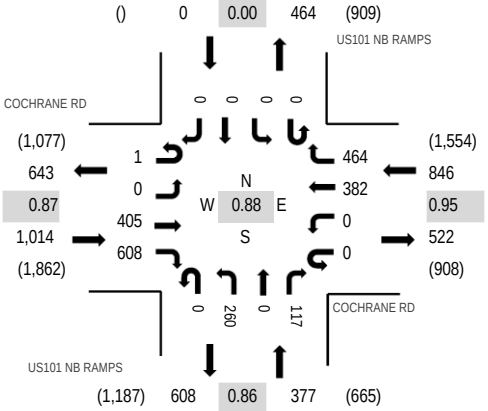
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	7	7	0	0	11	0					0	0	0	5	30
Lights	0	0	1,026	729	0	0	618	156					0	298	1	489	3,317
Mediums	0	0	13	5	0	0	6	1					0	2	0	16	43
Total	0	0	1,046	741	0	0	635	157					0	300	1	510	3,390

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

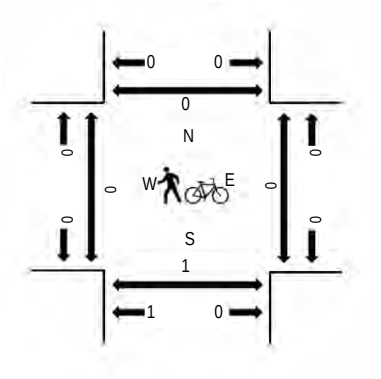
Location: 8 US101 NB RAMPS & COCHRANE RD AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				US101 NB RAMPS Northbound				US101 NB RAMPS Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	47	211	0	0	52	144	0	22	0	17	0	0	0	0	493	2,142	0	0	1	0
7:15 AM	0	0	56	172	0	0	69	144	0	21	0	20	0	0	0	0	482	2,208	0	0	0	0
7:30 AM	0	0	73	162	0	0	101	127	0	51	0	18	0	0	0	0	532	2,237	0	0	1	0
7:45 AM	0	0	132	163	0	0	121	99	0	90	0	30	0	0	0	0	635	2,171	0	0	0	0
8:00 AM	0	0	110	157	0	0	78	124	0	54	0	36	0	0	0	0	559	1,939	0	0	0	0
8:15 AM	1	0	90	126	0	0	82	114	0	65	0	33	0	0	0	0	511		0	0	0	0
8:30 AM	0	0	83	121	0	0	67	88	0	64	0	43	0	0	0	0	466		0	0	0	0
8:45 AM	0	0	83	75	0	0	75	69	0	64	0	37	0	0	0	0	403		0	0	0	0

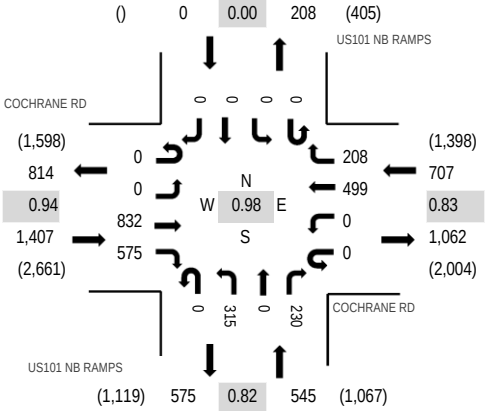
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	3	8	0	0	1	4	0	7	0	3	0	0	0	0	26
Lights	1	0	386	571	0	0	372	454	0	251	0	108	0	0	0	0	2,143
Mediums	0	0	16	29	0	0	9	6	0	2	0	6	0	0	0	0	68
Total	1	0	405	608	0	0	382	464	0	260	0	117	0	0	0	0	2,237

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

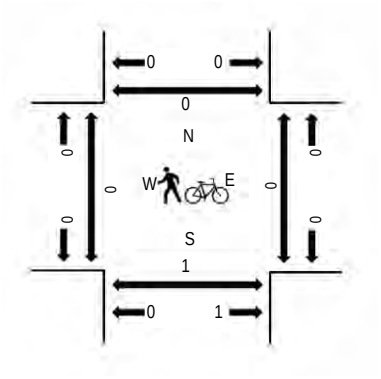
Location: 8 US101 NB RAMPS & COCHRANE RD PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				US101 NB RAMPS Northbound				US101 NB RAMPS Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	148	145	0	0	117	54	0	74	0	61	0	0	0	0	599	2,467	0	0	0	0
4:15 PM	0	0	193	135	0	0	122	41	0	81	0	56	0	0	0	0	628	2,529	0	0	0	0
4:30 PM	0	0	186	154	0	0	132	56	0	65	0	53	0	0	0	0	646	2,582	0	0	0	0
4:45 PM	0	0	183	110	0	0	123	46	0	70	0	62	0	0	0	0	594	2,613	0	0	2	0
5:00 PM	0	0	206	162	0	0	124	47	0	75	0	47	0	0	0	0	661	2,659	0	0	0	0
5:15 PM	0	0	200	143	0	0	126	43	0	100	0	69	0	0	0	0	681		0	0	0	0
5:30 PM	0	0	205	118	0	0	144	76	0	74	0	60	0	0	0	0	677		0	0	0	0
5:45 PM	0	0	221	152	0	0	105	42	0	66	0	54	0	0	0	0	640		0	0	1	0

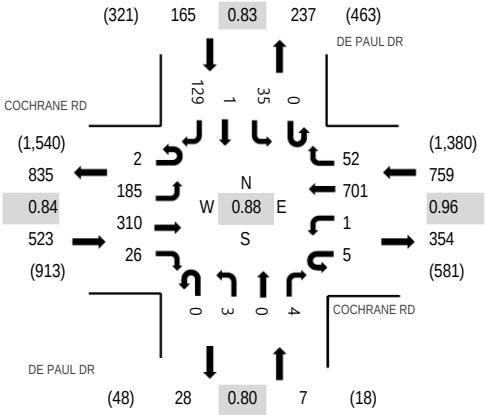
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	9	0	0	0	0	0	6	0	0	0	0	0	0	15
Lights	0	0	828	555	0	0	495	207	0	303	0	223	0	0	0	0	2,611
Mediums	0	0	4	11	0	0	4	1	0	6	0	7	0	0	0	0	33
Total	0	0	832	575	0	0	499	208	0	315	0	230	0	0	0	0	2,659

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

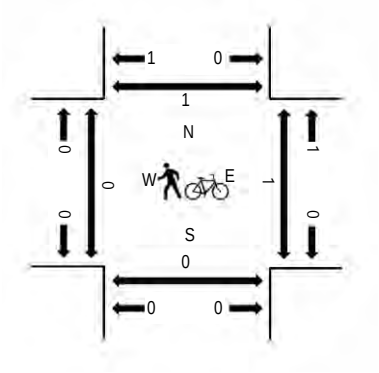
Location: 9 DE PAUL DR & COCHRANE RD AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				DE PAUL DR Northbound				DE PAUL DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	22	41	0	0	0	170	13	0	0	0	0	0	8	0	31	285	1,343	2	0	0	2
7:15 AM	0	32	46	3	1	0	175	20	0	0	0	1	0	5	0	34	317	1,442	0	0	0	0
7:30 AM	1	35	54	2	1	0	194	10	0	0	0	0	0	10	0	22	329	1,454	0	0	0	0
7:45 AM	0	47	109	11	2	0	191	15	0	0	0	1	0	12	0	24	412	1,419	0	0	0	0
8:00 AM	0	53	82	8	2	0	167	17	0	0	0	2	0	10	0	43	384	1,289	0	1	0	1
8:15 AM	1	50	65	5	0	1	149	10	0	3	0	1	0	3	1	40	329		0	0	0	0
8:30 AM	1	63	55	9	1	0	112	11	0	4	0	1	0	5	0	32	294		0	0	0	2
8:45 AM	0	53	57	8	2	0	106	10	0	3	2	0	0	4	0	37	282		0	0	0	2

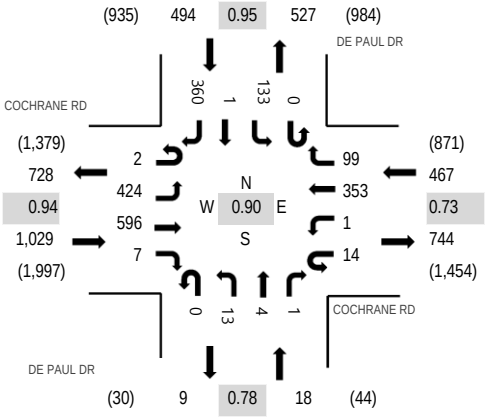
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	2	4	0	0	0	3	0	0	0	0	0	0	0	0	1	10
Lights	2	178	292	26	5	1	684	52	0	3	0	4	0	33	1	126	1,407
Mediums	0	5	14	0	0	0	14	0	0	0	0	0	0	2	0	2	37
Total	2	185	310	26	5	1	701	52	0	3	0	4	0	35	1	129	1,454

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

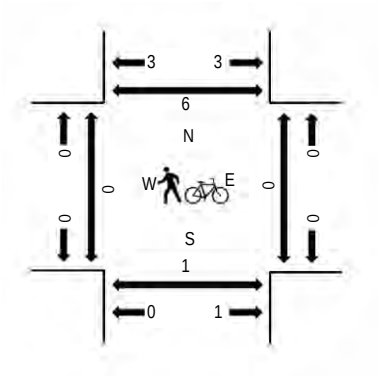
Location: 9 DE PAUL DR & COCHRANE RD PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				DE PAUL DR Northbound				DE PAUL DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	79	128	6	2	1	94	24	0	4	2	0	0	35	1	79	455	1,846	0	0	0	0
4:15 PM	0	88	149	3	5	0	68	18	0	4	3	2	0	27	1	87	455	1,880	0	0	0	0
4:30 PM	1	97	130	6	2	1	93	26	0	5	0	1	0	22	0	82	466	1,916	0	0	0	0
4:45 PM	1	101	150	2	5	1	68	16	0	4	3	0	0	25	0	94	470	2,008	0	0	1	5
5:00 PM	0	107	148	1	2	0	82	26	0	3	1	1	0	33	1	84	489	2,001	0	0	0	1
5:15 PM	0	105	145	2	5	0	78	24	0	5	0	0	0	41	0	86	491		0	0	0	0
5:30 PM	1	111	153	2	2	0	125	33	0	1	0	0	0	34	0	96	558		0	0	0	0
5:45 PM	0	107	172	2	2	0	56	12	0	4	0	1	1	32	0	74	463		0	1	0	2

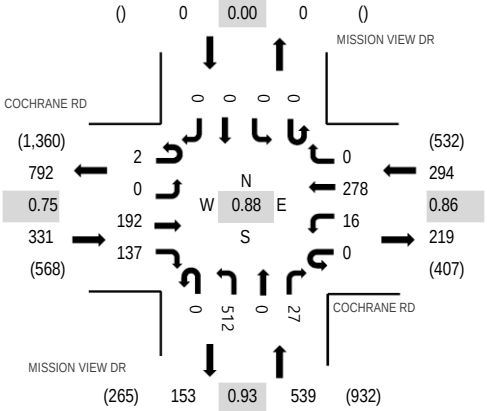
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lights	2	421	589	7	14	1	347	99	0	13	4	1	0	132	1	360	1,991
Mediums	0	3	6	0	0	0	6	0	0	0	0	0	0	1	0	0	16
Total	2	424	596	7	14	1	353	99	0	13	4	1	0	133	1	360	2,008

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

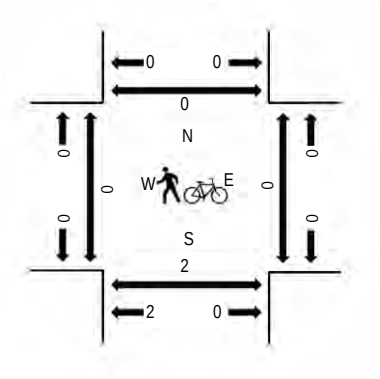
Location: 10 MISSION VIEW DR & COCHRANE RD AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				MISSION VIEW DR Northbound				MISSION VIEW DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	33	17	0	7	58	0	0	128	0	18	0	0	0	0	261	1,135	0	0	1	1
7:15 AM	1	0	31	17	0	5	70	0	0	123	0	10	0	0	0	0	257	1,164	0	0	0	0
7:30 AM	0	0	43	24	0	6	84	0	0	124	0	5	0	0	0	0	286	1,127	0	0	1	0
7:45 AM	1	0	61	55	0	4	77	0	0	125	0	8	0	0	0	0	331	1,054	0	0	0	0
8:00 AM	0	0	57	41	0	1	47	0	0	140	0	4	0	0	0	0	290	897	0	0	1	0
8:15 AM	1	0	51	16	0	3	47	0	0	94	0	8	0	0	0	0	220		0	0	0	0
8:30 AM	0	0	27	34	0	9	57	0	0	74	0	12	0	0	0	0	213		0	0	0	1
8:45 AM	2	0	32	24	0	2	55	0	0	52	0	7	0	0	0	0	174		0	0	0	1

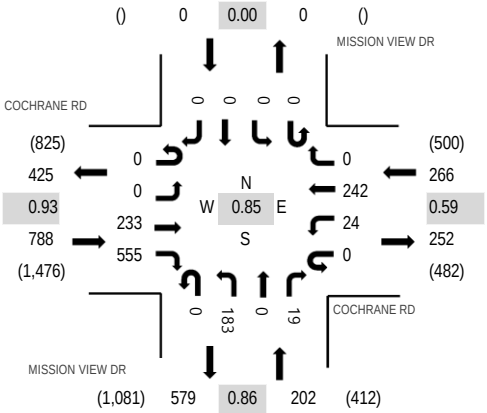
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	5	0	0	0	1	0	0	1	0	0	0	0	0	0	7
Lights	2	0	176	130	0	16	276	0	0	505	0	26	0	0	0	0	1,131
Mediums	0	0	11	7	0	0	1	0	0	6	0	1	0	0	0	0	26
Total	2	0	192	137	0	16	278	0	0	512	0	27	0	0	0	0	1,164

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

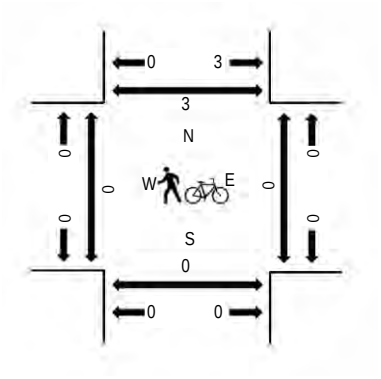
Location: 10 MISSION VIEW DR & COCHRANE RD PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	COCHRANE RD Eastbound				COCHRANE RD Westbound				MISSION VIEW DR Northbound				MISSION VIEW DR Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	5	0	48	114	0	14	49	0	0	70	0	3	0	0	0	0	303	1,132	0	1	0	0
4:15 PM	2	0	58	119	0	2	46	0	0	31	0	4	0	0	0	0	262	1,133	0	0	0	0
4:30 PM	2	0	53	108	0	8	59	0	0	57	0	5	0	0	0	0	292	1,174	0	1	0	2
4:45 PM	0	0	56	123	0	14	42	0	0	37	0	3	0	0	0	0	275	1,252	0	0	0	0
5:00 PM	0	0	44	140	0	9	57	0	0	49	0	5	0	0	0	0	304	1,256	0	0	0	3
5:15 PM	0	0	62	134	0	2	41	0	0	57	0	7	0	0	0	0	303		0	0	0	0
5:30 PM	0	0	59	137	0	10	113	0	0	47	0	4	0	0	0	0	370		0	0	0	0
5:45 PM	0	0	68	144	0	3	31	0	0	30	0	3	0	0	0	0	279		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Lights	0	0	230	550	0	24	241	0	0	180	0	18	0	0	0	0	1,243
Mediums	0	0	2	5	0	0	1	0	0	3	0	1	0	0	0	0	12
Total	0	0	233	555	0	24	242	0	0	183	0	19	0	0	0	0	1,256

Traffic Data Service

San Jose, CA
(408) 622-4787
tdsbay@cs.com

File Name : 8AM FINAL
Site Code : 00000008
Start Date : 3/28/2019
Page No : 1

Groups Printed- Vehicles

	MISSION VIEW DR Southbound					AVENIDA DE LOS PADRES Westbound					MISSION VIEW DR Northbound					AVENIDA DE LOS PADRES Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	15	0	0	15	12	0	5	0	17	3	88	0	0	91	0	0	0	0	0	123
07:15 AM	0	29	1	0	30	14	0	17	0	31	1	92	0	0	93	0	0	0	0	0	154
07:30 AM	0	40	1	0	41	20	0	18	0	38	3	129	0	0	132	0	0	0	0	0	211
07:45 AM	0	37	7	0	44	21	0	5	0	26	8	128	0	0	136	0	0	0	0	0	206
Total	0	121	9	0	130	67	0	45	0	112	15	437	0	0	452	0	0	0	0	0	694
08:00 AM	0	23	7	0	30	6	0	3	0	9	5	116	0	0	121	0	0	0	0	0	160
08:15 AM	0	8	11	0	19	25	0	5	0	30	2	108	0	0	110	0	0	0	0	0	159
08:30 AM	0	17	5	0	22	17	0	3	0	20	6	76	0	0	82	0	0	0	0	0	124
08:45 AM	0	10	2	0	12	11	0	5	0	16	3	72	0	0	75	0	0	0	0	0	103
Total	0	58	25	0	83	59	0	16	0	75	16	372	0	0	388	0	0	0	0	0	546
Grand Total	0	179	34	0	213	126	0	61	0	187	31	809	0	0	840	0	0	0	0	0	1240
Apprch %	0	84	16	0		67.4	0	32.6	0		3.7	96.3	0	0		0	0	0	0		
Total %	0	14.4	2.7	0	17.2	10.2	0	4.9	0	15.1	2.5	65.2	0	0	67.7	0	0	0	0	0	

	MISSION VIEW DR Southbound				AVENIDA DE LOS PADRES Westbound				MISSION VIEW DR Northbound				AVENIDA DE LOS PADRES Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**40**	1	41	20	0	**18**	**38**	3	**129**	0	132	0	0	0	0	**211**
07:45 AM	0	37	7	**44**	21	0	5	26	**8**	128	0	**136**	0	0	0	0	206
08:00 AM	0	23	7	30	6	0	3	9	5	116	0	121	0	0	0	0	160
08:15 AM	0	8	**11**	19	**25**	0	5	30	2	108	0	110	0	0	0	0	159
Total Volume	0	108	26	134	72	0	31	103	18	481	0	499	0	0	0	0	736
% App. Total	0	80.6	19.4		69.9	0	30.1		3.6	96.4	0		0	0	0		
PHF	.000	.675	.591	.761	.720	.000	.431	.678	.563	.932	.000	.917	.000	.000	.000	.000	.872

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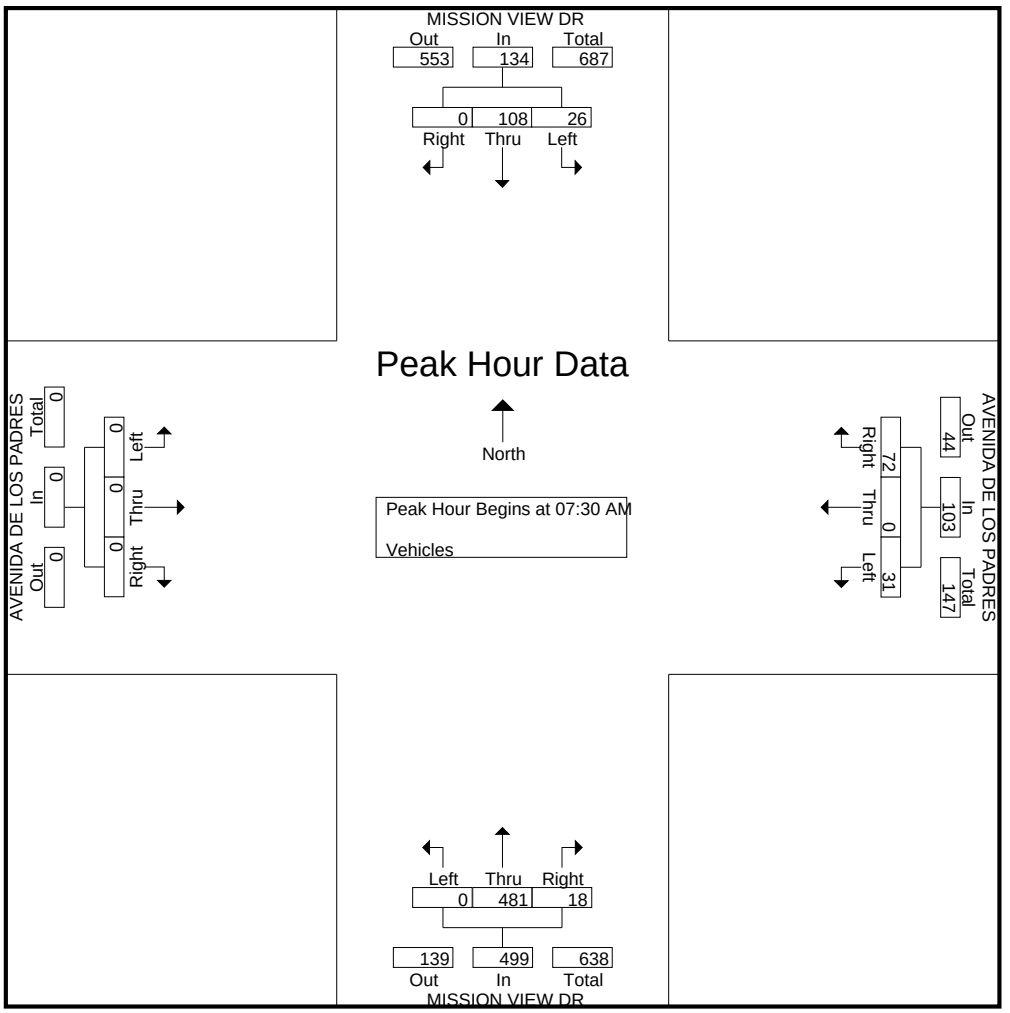

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Groups Printed- Vehicles

	MISSION VIEW DR Southbound					AVENIDA DE LOS PADRES Westbound					MISSION VIEW DR Northbound					AVENIDA DE LOS PADRES Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	80	14	0	94	6	0	6	0	12	5	40	0	0	45	0	0	0	0	0	151
04:15 PM	0	114	8	0	122	6	0	7	4	17	3	40	0	0	43	0	0	0	0	0	182
04:30 PM	0	109	19	0	128	7	0	8	1	16	3	42	0	0	45	0	0	0	0	0	189
04:45 PM	0	118	16	0	134	7	0	6	3	16	5	43	0	0	48	0	0	0	0	0	198
Total	0	421	57	0	478	26	0	27	8	61	16	165	0	0	181	0	0	0	0	0	720
05:00 PM	0	116	12	0	128	6	0	8	0	14	9	40	0	0	49	0	0	0	0	0	191
05:15 PM	0	142	13	0	155	6	0	3	1	10	9	43	0	0	52	0	0	0	0	0	217
05:30 PM	0	119	16	0	135	10	0	4	0	14	5	53	0	0	58	0	0	0	0	0	207
05:45 PM	0	93	10	0	103	10	0	8	0	18	7	34	0	0	41	0	0	0	0	0	162
Total	0	470	51	0	521	32	0	23	1	56	30	170	0	0	200	0	0	0	0	0	777
Grand Total	0	891	108	0	999	58	0	50	9	117	46	335	0	0	381	0	0	0	0	0	1497
Apprch %	0	89.2	10.8	0		49.6	0	42.7	7.7		12.1	87.9	0	0		0	0	0	0		
Total %	0	59.5	7.2	0	66.7	3.9	0	3.3	0.6	7.8	3.1	22.4	0	0	25.5	0	0	0	0	0	

	MISSION VIEW DR Southbound				AVENIDA DE LOS PADRES Westbound				MISSION VIEW DR Northbound				AVENIDA DE LOS PADRES Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	118	**16**	134	7	0	6	13	5	43	0	48	0	0	0	0	195
05:00 PM	0	116	12	128	6	0	**8**	**14**	**9**	40	0	49	0	0	0	0	191
05:15 PM	0	**142**	13	**155**	6	0	3	9	9	43	0	52	0	0	0	0	**216**
05:30 PM	0	119	16	135	**10**	0	4	14	5	**53**	0	**58**	0	0	0	0	207
Total Volume	0	495	57	552	29	0	21	50	28	179	0	207	0	0	0	0	809
% App. Total	0	89.7	10.3		58	0	42		13.5	86.5	0		0	0	0		
PHF	.000	.871	.891	.890	.725	.000	.656	.893	.778	.844	.000	.892	.000	.000	.000	.000	.936

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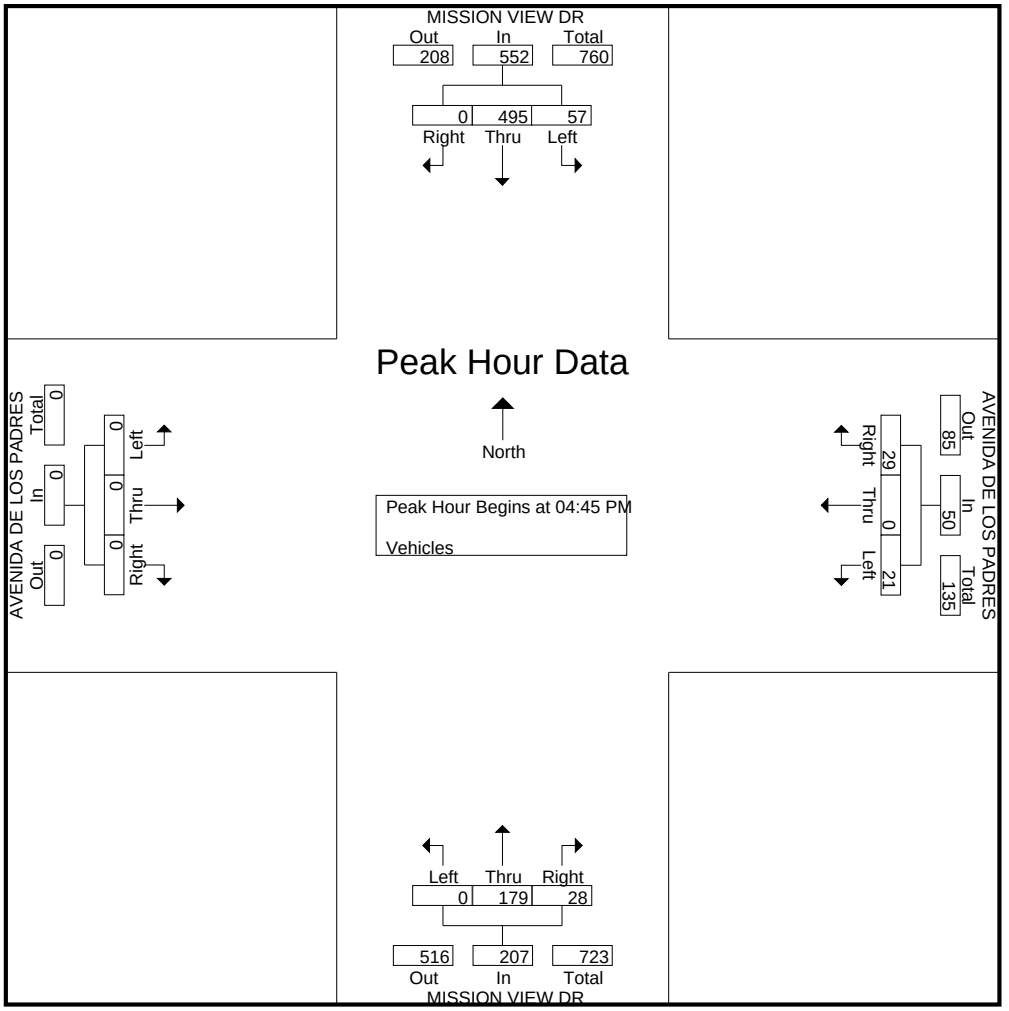

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Site Code : 00000009
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Groups Printed- Vehicles

	MISSION VIEW DR Southbound					HALF RD Westbound					Northbound					HALF RD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	16	0	4	1	21	34	2	0	1	37	0	0	0	0	0	0	2	57	1	60	118
07:15 AM	32	0	12	0	44	38	5	0	0	43	0	0	0	0	0	0	0	54	0	54	141
07:30 AM	49	0	14	0	63	63	4	0	0	67	0	0	0	0	0	0	7	72	0	79	209
07:45 AM	25	0	13	0	38	49	3	0	0	52	0	0	0	0	0	0	5	85	0	90	180
Total	122	0	43	1	166	184	14	0	1	199	0	0	0	0	0	0	14	268	1	283	648
08:00 AM	10	0	15	0	25	42	4	0	0	46	0	0	0	0	0	0	1	80	0	81	152
08:15 AM	11	0	4	0	15	28	1	0	0	29	0	0	0	0	0	0	5	83	0	88	132
08:30 AM	17	0	3	0	20	21	0	0	0	21	0	0	0	0	0	0	6	57	0	63	104
08:45 AM	10	0	5	0	15	13	4	0	0	17	0	0	0	0	0	0	7	66	0	73	105
Total	48	0	27	0	75	104	9	0	0	113	0	0	0	0	0	0	19	286	0	305	493
Grand Total	170	0	70	1	241	288	23	0	1	312	0	0	0	0	0	0	33	554	1	588	1141
Apprch %	70.5	0	29	0.4		92.3	7.4	0	0.3		0	0	0	0		0	5.6	94.2	0.2		
Total %	14.9	0	6.1	0.1	21.1	25.2	2	0	0.1	27.3	0	0	0	0	0	0	2.9	48.6	0.1	51.5	

	MISSION VIEW DR Southbound				HALF RD Westbound				Northbound				HALF RD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	32	0	12	44	38	**5**	0	43	0	0	0	0	0	0	54	54	141
07:30 AM	**49**	0	14	**63**	**63**	4	0	**67**	0	0	0	0	0	**7**	72	79	**209**
07:45 AM	25	0	13	38	49	3	0	52	0	0	0	0	0	5	**85**	**90**	180
08:00 AM	10	0	**15**	25	42	4	0	46	0	0	0	0	0	1	80	81	152
Total Volume	116	0	54	170	192	16	0	208	0	0	0	0	0	13	291	304	682
% App. Total	68.2	0	31.8		92.3	7.7	0		0	0	0		0	4.3	95.7		
PHF	.592	.000	.900	.675	.762	.800	.000	.776	.000	.000	.000	.000	.000	.464	.856	.844	.816

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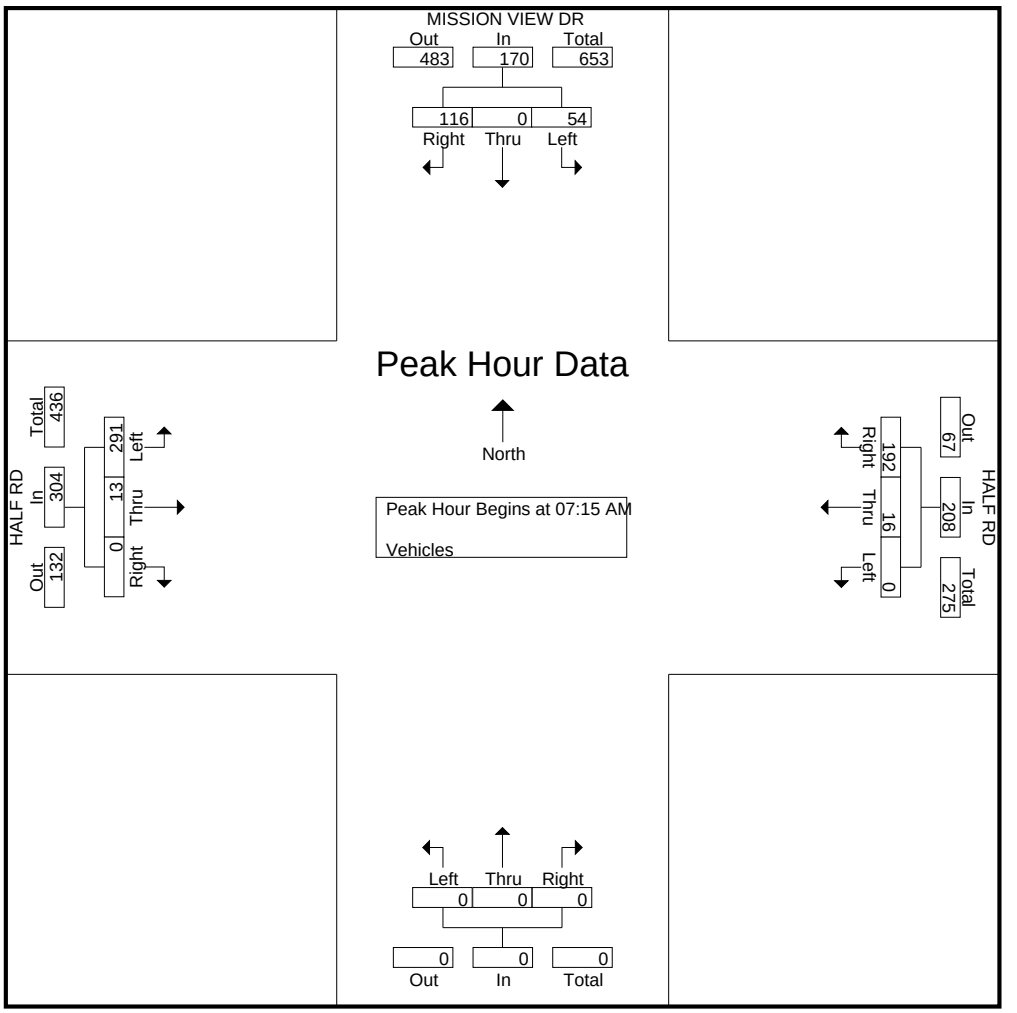

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File Name : 9PM FINAL
Site Code : 00000009
Start Date : 3/28/2019
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Groups Printed- Vehicles

	MISSION VIEW DR Southbound					HALF RD Westbound					Northbound					HALF RD Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	39	0	55	0	94	9	4	0	0	13	0	0	0	0	0	0	4	38	0	42	149
04:15 PM	67	0	48	0	115	17	8	0	0	25	0	0	0	0	0	0	5	26	0	31	171
04:30 PM	44	0	69	1	114	15	3	0	0	18	0	0	0	0	0	0	7	28	0	35	167
04:45 PM	58	0	66	0	124	15	6	0	0	21	0	0	0	0	0	0	4	32	0	36	181
Total	208	0	238	1	447	56	21	0	0	77	0	0	0	0	0	0	20	124	0	144	668
05:00 PM	59	0	62	0	121	13	14	0	0	27	0	0	0	0	0	0	4	37	0	41	189
05:15 PM	61	0	86	0	147	16	8	0	1	25	0	0	0	0	0	0	10	38	0	48	220
05:30 PM	54	0	73	0	127	18	4	0	0	22	0	0	0	0	0	0	9	40	0	49	198
05:45 PM	49	0	54	0	103	14	10	0	0	24	0	0	0	0	0	0	5	26	0	31	158
Total	223	0	275	0	498	61	36	0	1	98	0	0	0	0	0	0	28	141	0	169	765
Grand Total	431	0	513	1	945	117	57	0	1	175	0	0	0	0	0	0	48	265	0	313	1433
Apprch %	45.6	0	54.3	0.1		66.9	32.6	0	0.6		0	0	0	0		0	15.3	84.7	0		
Total %	30.1	0	35.8	0.1	65.9	8.2	4	0	0.1	12.2	0	0	0	0	0	0	3.3	18.5	0	21.8	

	MISSION VIEW DR Southbound				HALF RD Westbound				Northbound				HALF RD Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	58	0	66	124	15	6	0	21	0	0	0	0	0	4	32	36	181
05:00 PM	59	0	62	121	13	**14**	0	**27**	0	0	0	0	0	4	37	41	189
05:15 PM	**61**	0	**86**	**147**	16	8	0	24	0	0	0	0	0	**10**	38	48	**219**
05:30 PM	54	0	73	127	**18**	4	0	22	0	0	0	0	0	9	**40**	**49**	198
Total Volume	232	0	287	519	62	32	0	94	0	0	0	0	0	27	147	174	787
% App. Total	44.7	0	55.3		66	34	0		0	0	0		0	15.5	84.5		
PHF	.951	.000	.834	.883	.861	.571	.000	.870	.000	.000	.000	.000	.000	.675	.919	.888	.898

Traffic Data Service

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File Name : 9PM FINAL
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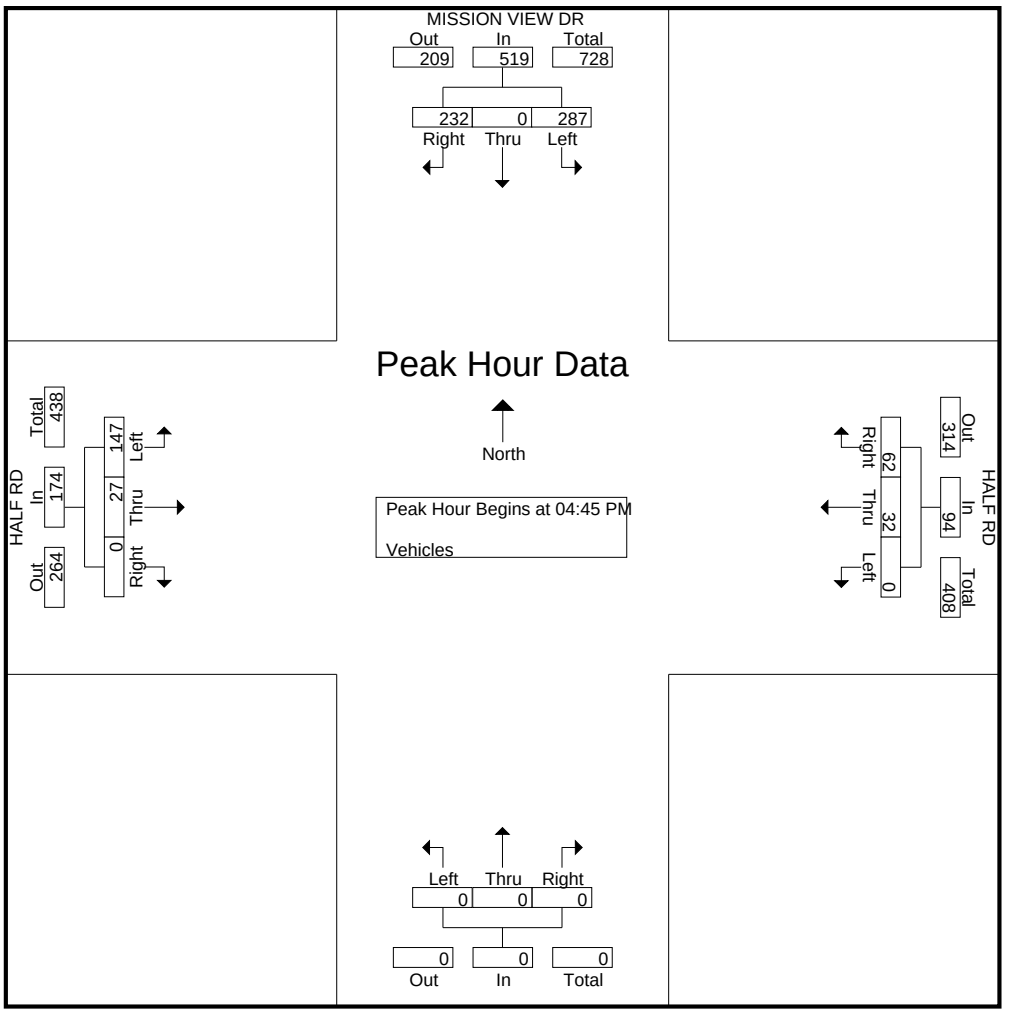
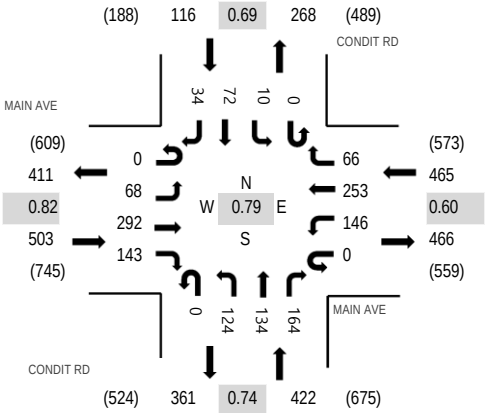


All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

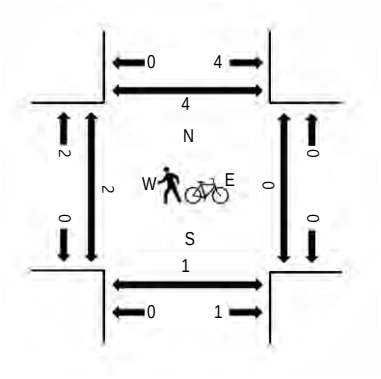
Location: 20 CONDIT RD & MAIN AVE AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:30 AM - 08:30 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MAIN AVE Eastbound				MAIN AVE Westbound				CONDIT RD Northbound				CONDIT RD Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	24	4	16	0	3	15	2	0	18	39	8	0	0	6	7	142	1,169	0	0	0	0
7:15 AM	0	24	14	33	0	7	14	8	0	26	35	13	0	0	15	7	196	1,504	0	0	1	0
7:30 AM	0	21	62	60	0	26	48	8	0	30	37	28	0	1	36	5	362	1,506	0	0	0	0
7:45 AM	0	8	120	29	0	41	88	19	0	38	43	63	0	4	5	11	469	1,325	2	0	0	3
8:00 AM	0	20	94	28	0	71	91	32	0	27	23	61	0	2	16	12	477	1,012	0	0	0	0
8:15 AM	0	19	16	26	0	8	26	7	0	29	31	12	0	3	15	6	198		0	0	0	0
8:30 AM	0	15	20	33	0	10	17	3	0	28	32	7	0	0	8	8	181		0	0	0	0
8:45 AM	0	15	21	23	0	6	22	1	0	20	23	4	0	2	3	16	156		0	1	0	0

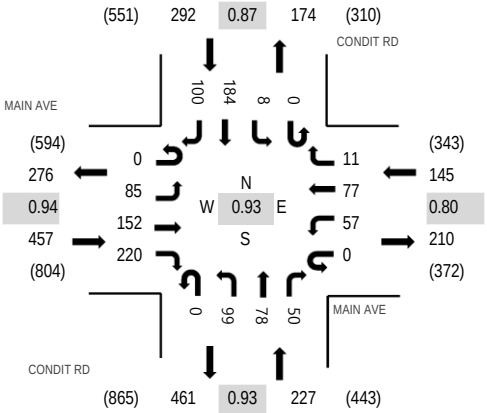
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	1	0	0	0	0	0	0	3	1	0	0	0	0	6
Lights	0	68	289	139	0	143	249	66	0	122	127	162	0	10	72	34	1,481
Mediums	0	0	2	3	0	3	4	0	0	2	4	1	0	0	0	0	19
Total	0	68	292	143	0	146	253	66	0	124	134	164	0	10	72	34	1,506

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

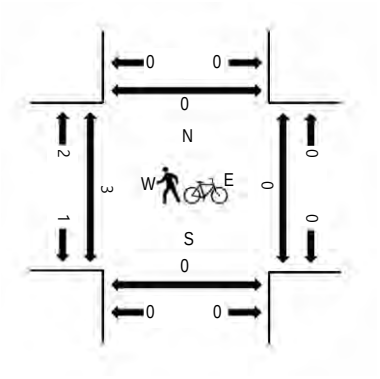
Location: 20 CONDIT RD & MAIN AVE PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:45 PM - 06:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MAIN AVE Eastbound				MAIN AVE Westbound				CONDIT RD Northbound				CONDIT RD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	16	26	35	0	23	30	5	0	25	22	12	0	1	41	23	259	1,020	0	0	0	2
4:15 PM	0	15	34	52	0	13	32	3	0	28	15	3	0	4	35	21	255	1,031	0	1	0	0
4:30 PM	0	14	31	49	0	20	37	5	0	35	18	14	0	3	33	20	279	1,049	0	0	0	0
4:45 PM	0	10	22	43	0	12	17	1	0	24	12	8	0	4	48	26	227	1,047	0	0	0	0
5:00 PM	0	22	31	57	0	6	14	0	0	25	23	7	0	1	59	25	270	1,121	0	0	0	0
5:15 PM	0	26	41	55	0	13	9	5	0	21	24	10	0	4	39	26	273		1	0	0	0
5:30 PM	0	18	39	55	0	14	27	3	0	27	17	12	0	1	41	23	277		2	0	0	0
5:45 PM	0	19	41	53	0	24	27	3	0	26	14	21	0	2	45	26	301		0	0	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lights	0	85	151	218	0	56	76	11	0	99	74	50	0	8	183	100	1,111
Mediums	0	0	1	2	0	1	1	0	0	0	4	0	0	0	1	0	10
Total	0	85	152	220	0	57	77	11	0	99	78	50	0	8	184	100	1,121

Traffic Data Service

San Jose, CA
(408) 622-4787
tdsbay@cs.com

File Name : 3AM FINAL
Site Code : 00000003
Start Date : 6/4/2019
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Groups Printed- Vehicles

	CONDIT RD Southbound					DIANA AVE Westbound					CONDIT RD Northbound					DIANA AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	18	1	0	20	9	0	13	0	22	0	28	0	0	28	1	0	0	0	1	71
07:15 AM	0	30	18	0	48	19	1	9	0	29	4	39	1	1	45	1	0	0	0	1	123
07:30 AM	1	56	61	0	118	51	0	13	0	64	1	58	0	1	60	0	0	0	0	0	242
07:45 AM	1	74	16	0	91	69	0	15	0	84	5	77	0	0	82	0	0	0	1	1	258
Total	3	178	96	0	277	148	1	50	0	199	10	202	1	2	215	2	0	0	1	3	694
08:00 AM	0	68	8	0	76	35	2	12	0	49	4	62	0	0	66	1	0	0	0	1	192
08:15 AM	1	43	16	0	60	28	0	11	0	39	3	45	1	0	49	3	1	0	0	4	152
08:30 AM	0	36	7	0	43	21	0	14	0	35	2	58	0	0	60	0	0	0	0	0	138
08:45 AM	0	34	9	0	43	30	0	9	0	39	5	46	0	1	52	1	0	0	0	1	135
Total	1	181	40	0	222	114	2	46	0	162	14	211	1	1	227	5	1	0	0	6	617
Grand Total	4	359	136	0	499	262	3	96	0	361	24	413	2	3	442	7	1	0	1	9	1311
Apprch %	0.8	71.9	27.3	0		72.6	0.8	26.6	0		5.4	93.4	0.5	0.7		77.8	11.1	0	11.1		
Total %	0.3	27.4	10.4	0	38.1	20	0.2	7.3	0	27.5	1.8	31.5	0.2	0.2	33.7	0.5	0.1	0	0.1	0.7	

	CONDIT RD Southbound				DIANA AVE Westbound				CONDIT RD Northbound				DIANA AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**1**	56	**61**	**118**	51	0	13	64	1	58	0	59	0	0	0	0	241
07:45 AM	1	**74**	16	91	**69**	0	**15**	**84**	**5**	**77**	0	**82**	0	0	0	0	**257**
08:00 AM	0	68	8	76	35	**2**	12	49	4	62	0	66	1	0	0	1	192
08:15 AM	1	43	16	60	28	0	11	39	3	45	**1**	49	**3**	**1**	0	**4**	152
Total Volume	3	241	101	345	183	2	51	236	13	242	1	256	4	1	0	5	842
% App. Total	0.9	69.9	29.3		77.5	0.8	21.6		5.1	94.5	0.4		80	20	0		
PHF	.750	.814	.414	.731	.663	.250	.850	.702	.650	.786	.250	.780	.333	.250	.000	.313	.819

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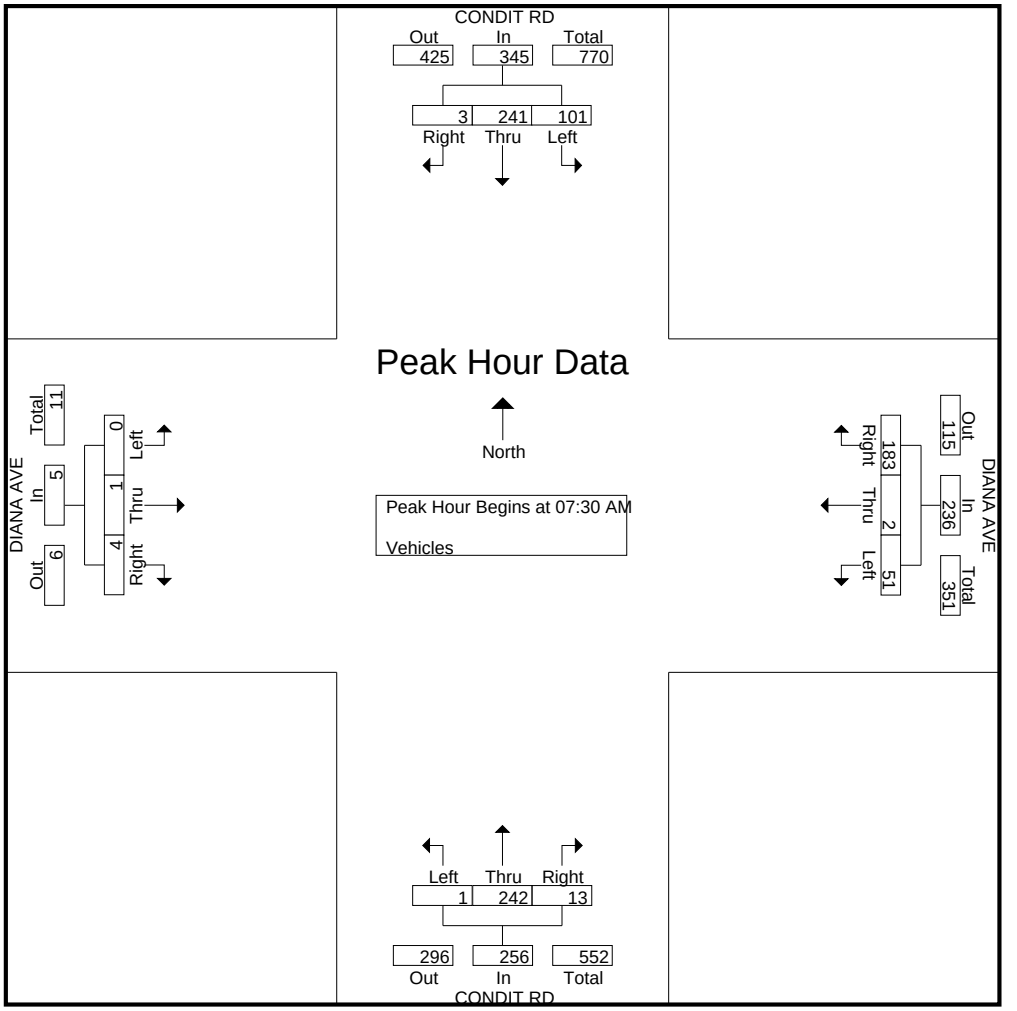

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File Name : 3PM FINAL
Site Code : 00000003
Start Date : 6/4/2019
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Groups Printed- Vehicles

	CONDIT RD Southbound					DIANA AVE Westbound					CONDIT RD Northbound					DIANA AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	1	87	27	0	115	10	0	10	0	20	3	33	0	0	36	0	0	0	0	0	171
04:15 PM	2	78	37	0	117	11	0	5	0	16	6	25	1	0	32	1	1	1	0	3	168
04:30 PM	0	86	31	0	117	14	0	6	0	20	5	32	0	0	37	0	0	0	0	0	174
04:45 PM	0	114	33	0	147	16	0	9	0	25	11	27	1	0	39	2	0	0	0	2	213
Total	3	365	128	0	496	51	0	30	0	81	25	117	2	0	144	3	1	1	0	5	726
05:00 PM	0	89	33	0	122	9	0	4	0	13	10	43	1	0	54	2	0	0	0	2	191
05:15 PM	0	83	40	0	123	16	0	7	0	23	8	49	0	0	57	3	0	0	0	3	206
05:30 PM	0	94	36	0	130	16	0	4	0	20	9	55	0	0	64	0	0	0	0	0	214
05:45 PM	0	77	32	0	109	14	0	5	0	19	6	47	2	0	55	0	0	0	0	0	183
Total	0	343	141	0	484	55	0	20	0	75	33	194	3	0	230	5	0	0	0	5	794
Grand Total	3	708	269	0	980	106	0	50	0	156	58	311	5	0	374	8	1	1	0	10	1520
Apprch %	0.3	72.2	27.4	0		67.9	0	32.1	0		15.5	83.2	1.3	0		80	10	10	0		
Total %	0.2	46.6	17.7	0	64.5	7	0	3.3	0	10.3	3.8	20.5	0.3	0	24.6	0.5	0.1	0.1	0	0.7	

	CONDIT RD Southbound				DIANA AVE Westbound				CONDIT RD Northbound				DIANA AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	**114**	33	**147**	**16**	0	**9**	**25**	**11**	27	**1**	39	2	0	0	2	213
05:00 PM	0	89	33	122	9	0	4	13	10	43	1	54	2	0	0	2	191
05:15 PM	0	83	**40**	123	16	0	7	23	8	49	0	57	**3**	0	0	**3**	206
05:30 PM	0	94	36	130	16	0	4	20	9	**55**	0	**64**	0	0	0	0	**214**
Total Volume	0	380	142	522	57	0	24	81	38	174	2	214	7	0	0	7	824
% App. Total	0	72.8	27.2		70.4	0	29.6		17.8	81.3	0.9		100	0	0		
PHF	.000	.833	.888	.888	.891	.000	.667	.810	.864	.791	.500	.836	.583	.000	.000	.583	.963

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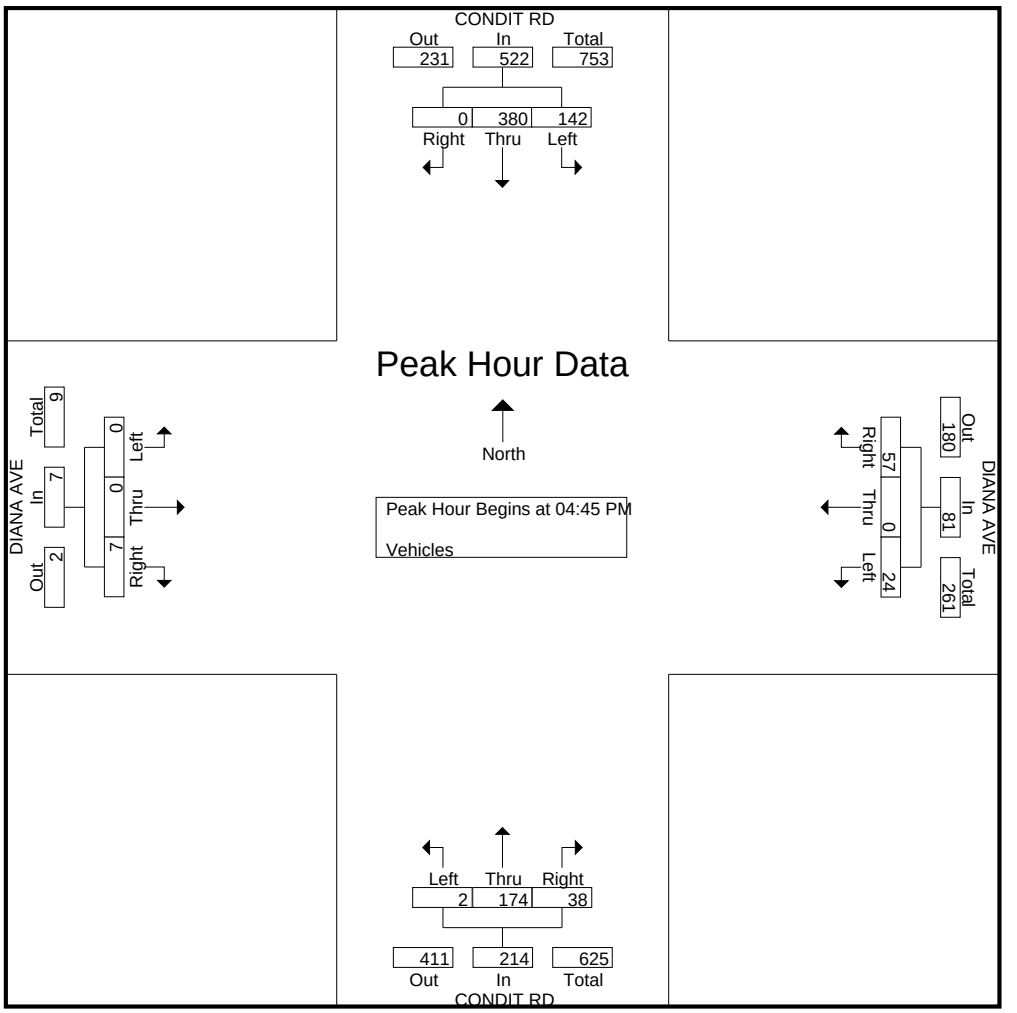

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File Name : 6AM FINAL
Site Code : 00000006
Start Date : 3/28/2019
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Groups Printed- Vehicles

	CONDIT RD Southbound					E DUNNE AVE Westbound					CONDIT RD Northbound					E DUNNE AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	38	8	4	1	51	10	269	0	0	279	6	35	41	0	82	3	37	26	0	66	478
07:15 AM	60	11	14	2	87	12	270	2	0	284	7	26	46	0	79	7	81	16	2	106	556
07:30 AM	62	6	33	1	102	23	292	5	0	320	5	45	43	0	93	7	112	39	1	159	674
07:45 AM	73	17	12	0	102	20	350	1	0	371	4	60	34	0	98	8	50	54	2	114	685
Total	233	42	63	4	342	65	1181	8	0	1254	22	166	164	0	352	25	280	135	5	445	2393
08:00 AM	105	19	15	1	140	25	272	3	0	300	8	56	38	0	102	7	71	41	0	119	661
08:15 AM	87	12	9	0	108	11	246	2	0	259	5	37	36	0	78	14	72	46	0	132	577
08:30 AM	76	9	8	0	93	32	225	2	0	259	2	35	33	0	70	9	50	41	0	100	522
08:45 AM	66	6	8	0	80	15	193	3	0	211	1	36	37	0	74	9	50	50	0	109	474
Total	334	46	40	1	421	83	936	10	0	1029	16	164	144	0	324	39	243	178	0	460	2234
Grand Total	567	88	103	5	763	148	2117	18	0	2283	38	330	308	0	676	64	523	313	5	905	4627
Apprch %	74.3	11.5	13.5	0.7		6.5	92.7	0.8	0		5.6	48.8	45.6	0		7.1	57.8	34.6	0.6		
Total %	12.3	1.9	2.2	0.1	16.5	3.2	45.8	0.4	0	49.3	0.8	7.1	6.7	0	14.6	1.4	11.3	6.8	0.1	19.6	

	CONDIT RD Southbound				E DUNNE AVE Westbound				CONDIT RD Northbound				E DUNNE AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	62	6	**33**	101	23	292	**5**	320	5	45	**43**	93	7	**112**	39	**158**	672
07:45 AM	73	17	12	102	20	**350**	1	**371**	4	**60**	34	98	8	50	**54**	112	**683**
08:00 AM	**105**	**19**	15	**139**	**25**	272	3	300	**8**	56	38	**102**	7	71	41	119	660
08:15 AM	87	12	9	108	11	246	2	259	5	37	36	78	**14**	72	46	132	577
Total Volume	327	54	69	450	79	1160	11	1250	22	198	151	371	36	305	180	521	2592
% App. Total	72.7	12	15.3		6.3	92.8	0.9		5.9	53.4	40.7		6.9	58.5	34.5		
PHF	.779	.711	.523	.809	.790	.829	.550	.842	.688	.825	.878	.909	.643	.681	.833	.824	.949

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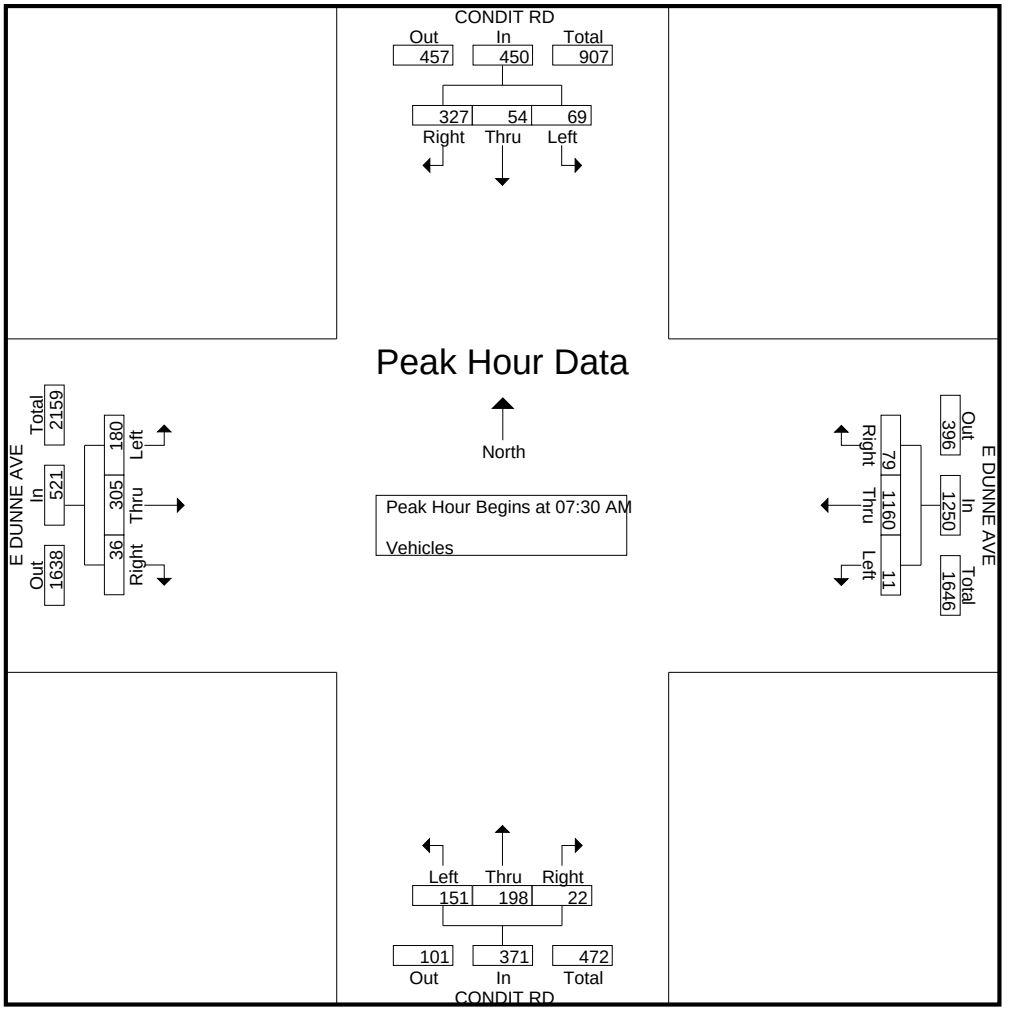

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File Name : 6PM FINAL
Site Code : 00000006
Start Date : 3/28/2019
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Groups Printed- Vehicles

	CONDIT RD Southbound					E DUNNE AVE Westbound					CONDIT RD Northbound					E DUNNE AVE Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	66	36	21	0	123	8	109	3	0	120	2	11	9	0	22	15	132	70	1	218	483
04:15 PM	68	31	30	0	129	11	99	6	0	116	5	20	11	0	36	17	124	52	0	193	474
04:30 PM	66	22	18	0	106	11	98	6	0	115	5	18	11	0	34	13	129	62	0	204	459
04:45 PM	55	39	26	0	120	11	93	20	0	124	4	18	16	0	38	16	120	54	1	191	473
Total	255	128	95	0	478	41	399	35	0	475	16	67	47	0	130	61	505	238	2	806	1889
05:00 PM	58	32	18	2	110	14	89	6	0	109	6	18	21	0	45	13	133	45	0	191	455
05:15 PM	52	25	31	0	108	9	89	9	0	107	2	12	15	0	29	17	158	67	0	242	486
05:30 PM	48	25	24	0	97	16	95	3	0	114	7	23	15	0	45	12	146	51	0	209	465
05:45 PM	54	23	20	2	99	25	80	7	0	112	4	17	15	0	36	20	151	55	0	226	473
Total	212	105	93	4	414	64	353	25	0	442	19	70	66	0	155	62	588	218	0	868	1879
Grand Total	467	233	188	4	892	105	752	60	0	917	35	137	113	0	285	123	1093	456	2	1674	3768
Apprch %	52.4	26.1	21.1	0.4		11.5	82	6.5	0		12.3	48.1	39.6	0		7.3	65.3	27.2	0.1		
Total %	12.4	6.2	5	0.1	23.7	2.8	20	1.6	0	24.3	0.9	3.6	3	0	7.6	3.3	29	12.1	0.1	44.4	

	CONDIT RD Southbound				E DUNNE AVE Westbound				CONDIT RD Northbound				E DUNNE AVE Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	66	36	21	123	8	**109**	3	120	2	11	9	22	15	**132**	**70**	**217**	**482**
04:15 PM	**68**	31	**30**	**129**	**11**	99	6	116	**5**	**20**	11	36	**17**	124	52	193	474
04:30 PM	66	22	18	106	11	98	6	115	5	18	11	34	13	129	62	204	459
04:45 PM	55	**39**	26	120	11	93	**20**	**124**	4	18	**16**	**38**	16	120	54	190	472
Total Volume	255	128	95	478	41	399	35	475	16	67	47	130	61	505	238	804	1887
% App. Total	53.3	26.8	19.9		8.6	84	7.4		12.3	51.5	36.2		7.6	62.8	29.6		
PHF	.938	.821	.792	.926	.932	.915	.438	.958	.800	.838	.734	.855	.897	.956	.850	.926	.979

Traffic Data Service

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File Name : 6PM FINAL
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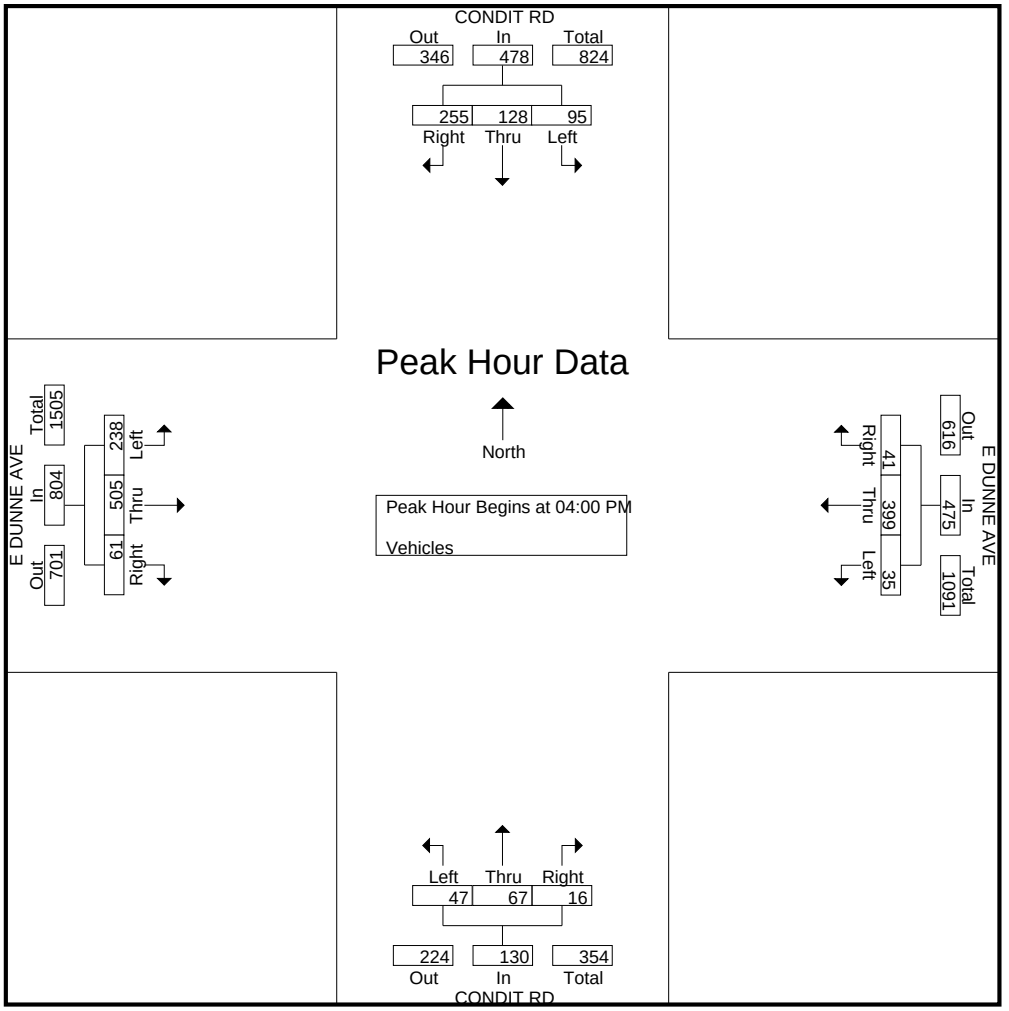
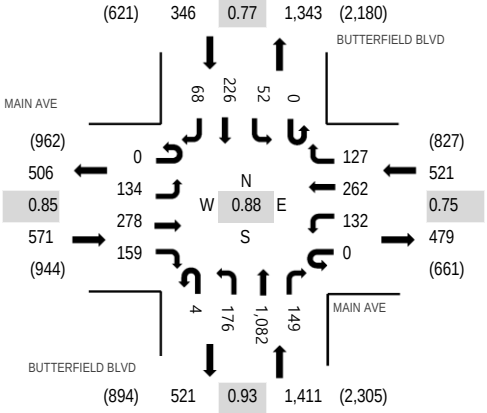


All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

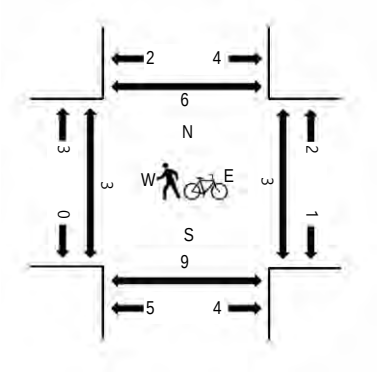
Location: 19 BUTTERFIELD BLVD & MAIN AVE AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MAIN AVE Eastbound				MAIN AVE Westbound				BUTTERFIELD BLVD Northbound				BUTTERFIELD BLVD Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	18	15	23	0	18	29	25	0	16	253	10	0	3	25	7	442	2,524	1	0	3	2
7:15 AM	0	20	42	28	0	20	27	23	0	37	235	31	0	15	32	6	516	2,849	0	0	0	0
7:30 AM	0	34	73	45	0	28	64	43	1	34	296	50	0	10	60	15	753	2,825	2	3	4	3
7:45 AM	0	40	92	39	0	46	96	37	1	39	286	51	0	11	51	24	813	2,557	0	0	2	0
8:00 AM	0	40	71	47	0	38	75	24	2	66	265	17	0	16	83	23	767	2,173	1	0	3	1
8:15 AM	0	33	30	35	0	21	49	14	2	60	163	0	0	6	58	21	492		0	1	1	0
8:30 AM	0	28	46	40	0	10	53	21	0	73	140	9	0	2	39	24	485		0	3	3	0
8:45 AM	0	27	43	35	0	17	42	7	0	53	108	7	0	11	50	29	429		0	2	1	0

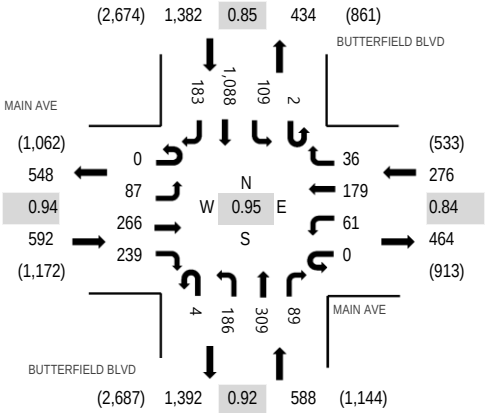
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	2	0	0	0	0	0	0	2	0	0	1	1	0	6
Lights	0	129	275	153	0	132	259	125	4	176	1,059	147	0	48	219	67	2,793
Mediums	0	5	3	4	0	0	3	2	0	0	21	2	0	3	6	1	50
Total	0	134	278	159	0	132	262	127	4	176	1,082	149	0	52	226	68	2,849

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

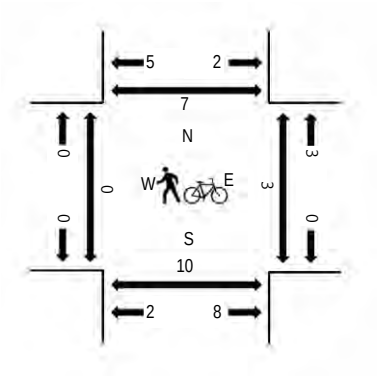
Location: 19 BUTTERFIELD BLVD & MAIN AVE PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MAIN AVE Eastbound				MAIN AVE Westbound				BUTTERFIELD BLVD Northbound				BUTTERFIELD BLVD Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	31	56	57	0	16	41	10	0	45	72	23	0	14	282	48	695	2,785	0	0	2	0
4:15 PM	0	25	79	45	0	17	50	7	1	50	82	24	1	29	271	44	725	2,838	0	0	2	2
4:30 PM	0	18	77	65	0	21	53	10	1	36	70	19	0	24	253	27	674	2,825	0	0	4	2
4:45 PM	0	25	50	66	0	9	42	7	2	61	84	20	1	23	263	38	691	2,808	0	3	0	0
5:00 PM	0	19	60	63	0	14	34	12	0	39	73	26	0	33	301	74	748	2,738	0	0	1	2
5:15 PM	0	34	63	60	0	14	39	10	1	51	81	35	0	28	257	39	712		0	0	1	0
5:30 PM	0	39	59	50	0	19	37	4	2	52	67	25	0	34	234	35	657		1	0	0	1
5:45 PM	0	23	65	43	0	15	44	8	1	38	47	16	1	31	244	45	621		0	2	4	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	1	0	0	0	0	1	0	0	1	0	0	0	4	0	7
Lights	0	85	261	237	0	61	177	34	4	186	301	89	2	109	1,066	182	2,794
Mediums	0	2	4	2	0	0	2	1	0	0	7	0	0	0	18	1	37
Total	0	87	266	239	0	61	179	36	4	186	309	89	2	109	1,088	183	2,838

All Traffic Data Services Inc.
(303) 216-2439
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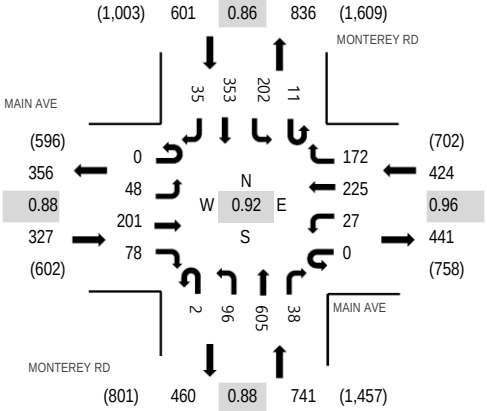
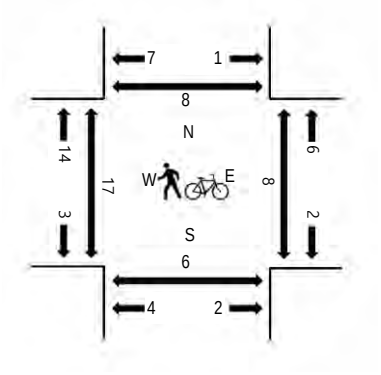
Location: 18 MONTEREY RD & MAIN AVE AM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 07:45 AM - 08:45 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MAIN AVE Eastbound				MAIN AVE Westbound				MONTEREY RD Northbound				MONTEREY RD Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	8	22	18	0	4	28	25	1	19	153	7	1	15	34	3	338	1,760	1	0	1	0
7:15 AM	0	17	26	24	0	4	24	25	2	24	148	9	1	31	37	2	374	1,989	2	0	3	1
7:30 AM	0	13	42	22	0	6	49	33	2	20	207	14	0	44	44	5	501	2,067	0	1	0	1
7:45 AM	0	14	60	19	0	9	63	32	0	19	175	9	3	60	78	6	547	2,093	0	0	2	0
8:00 AM	0	12	59	19	0	7	57	38	1	28	181	13	2	51	90	9	567	2,004	2	3	0	1
8:15 AM	0	7	45	17	0	7	53	48	1	26	119	9	3	38	70	9	452		5	2	3	3
8:30 AM	0	15	37	23	0	4	52	54	0	23	130	7	3	53	115	11	527		8	3	1	2
8:45 AM	0	12	49	22	0	9	28	43	4	16	81	9	6	49	108	22	458		8	1	1	1

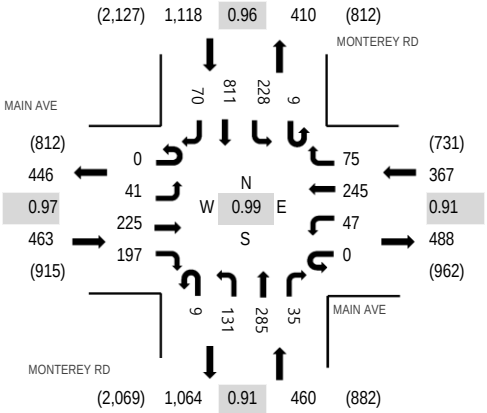
Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	1	2	0	0	1	1	0	5
Lights	0	48	198	74	0	27	222	168	2	91	595	38	11	200	346	35	2,055
Mediums	0	0	3	4	0	0	3	4	0	4	8	0	0	1	6	0	33
Total	0	48	201	78	0	27	225	172	2	96	605	38	11	202	353	35	2,093

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

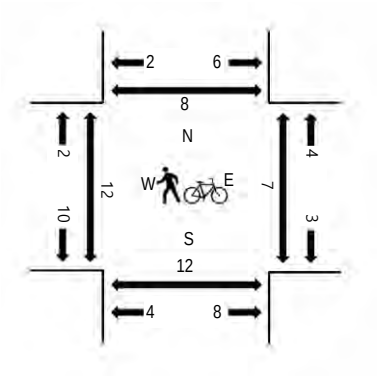
Location: 18 MONTEREY RD & MAIN AVE PM
Date and Start Time: Tuesday, May 8, 2018
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles in Crosswalk



Traffic Counts

Interval Start Time	MAIN AVE Eastbound				MAIN AVE Westbound				MONTEREY RD Northbound				MONTEREY RD Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	10	54	42	0	12	57	24	6	27	76	8	2	54	204	23	599	2,408	3	0	3	0
4:15 PM	0	11	56	49	0	10	63	15	0	40	78	7	4	59	200	17	609	2,369	5	1	2	1
4:30 PM	0	9	59	51	0	10	59	16	2	45	70	9	2	61	185	16	594	2,336	4	3	4	2
4:45 PM	0	11	56	55	0	15	66	20	1	19	61	11	1	54	222	14	606	2,303	0	3	2	2
5:00 PM	0	7	63	45	0	12	59	24	1	13	71	13	2	49	185	16	560	2,247	2	3	1	2
5:15 PM	0	10	50	39	0	14	49	21	1	26	63	8	1	58	221	15	576		4	1	0	3
5:30 PM	0	11	65	45	0	12	54	19	4	27	82	12	0	44	176	10	561		3	0	2	0
5:45 PM	0	4	56	57	0	15	65	20	5	20	66	10	1	46	173	12	550		1	2	0	0

Peak Rolling Hour Flow Rates

Vehicle Type	Eastbound				Westbound				Northbound				Southbound				Total
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Lights	0	41	222	191	0	46	243	75	9	127	283	35	9	223	801	70	2,375
Mediums	0	0	3	6	0	1	2	0	0	4	2	0	0	4	10	0	32
Total	0	41	225	197	0	47	245	75	9	131	285	35	9	228	811	70	2,408

Appendix C

Volume Summary

Intersection Number: 1
Traffix Node Number: 105
Intersection Name: Cochrane Road and Sutter Boulevard
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**2**	**2**	**4**	**57**	**408**	**310**	**245**	**7**	**56**	**86**	**709**	**7**	**1,893**
Project Trips	0	0	1	4	7	4	1	0	0	0	3	0	20
Existing Plus Project	**2**	**2**	**5**	**61**	**415**	**314**	**246**	**7**	**56**	**86**	**712**	**7**	**1,913**
2015 Model	5	1	10	32	735	278	144	1	64	102	817	22	2,211
2030 without Project Model	6	1	8	27	777	314	190	1	87	104	1047	30	2,592
2030 Cumulative without Project	**3**	**2**	**4**	**57**	**450**	**346**	**291**	**7**	**79**	**88**	**939**	**15**	**2,281**
2030 Cumulative with Project	**3**	**2**	**5**	**61**	**457**	**350**	**292**	**7**	**79**	**88**	**942**	**15**	**2,301**

Intersection Number: 2
Traffix Node Number: 106
Intersection Name: Cochrane Road and Madrone Parkway/Cochrane Plaza
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**16**	**16**	**206**	**347**	**729**	**119**	**23**	**16**	**11**	**5**	**773**	**95**	**2,356**
Project Trips	0	0	1	4	15	0	0	0	0	0	5	0	25
Existing Plus Project	**16**	**16**	**207**	**351**	**744**	**119**	**23**	**16**	**11**	**5**	**778**	**95**	**2,381**
2015 Model	19	2	84	214	1025	174	82	2	0	0	894	78	2,574
2030 without Project Model	28	2	107	360	1090	160	80	1	0	0	1143	104	3,075
2030 Cumulative without Project	**25**	**16**	**229**	**493**	**794**	**119**	**23**	**16**	**11**	**5**	**1022**	**121**	**2,874**
2030 Cumulative with Project	**25**	**16**	**230**	**497**	**809**	**119**	**23**	**16**	**11**	**5**	**1027**	**121**	**2,899**

Intersection Number: 3
Traffix Node Number: 107
Intersection Name: Cochrane Road and US 101 Southbound Ramps
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**725**	**1**	**185**	**108**	**528**	**0**	**0**	**0**	**0**	**238**	**810**	**0**	**2,595**
Project Trips	0	0	23	11	19	0	0	0	0	0	6	0	59
Existing Plus Project	**725**	**1**	**208**	**119**	**547**	**0**	**0**	**0**	**0**	**238**	**816**	**0**	**2,654**
2015 Model	438	0	182	157	976	0	0	0	0	234	825	0	2,812
2030 without Project Model	544	0	262	201	1067	0	0	0	0	263	1067	0	3,404
2030 Cumulative without Project	**831**	**1**	**265**	**152**	**619**	**0**	**0**	**0**	**0**	**267**	**1052**	**0**	**3,187**
2030 Cumulative with Project	**831**	**1**	**288**	**163**	**638**	**0**	**0**	**0**	**0**	**267**	**1058**	**0**	**3,246**

Intersection Number: 4
Traffix Node Number: 108
Intersection Name: Cochrane Road and US 101 Northbound Ramps
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**0**	**0**	**0**	**464**	**382**	**0**	**117**	**0**	**260**	**0**	**405**	**0**	**1,628**
Project Trips	0	0	0	67	30	0	4	0	0	0	29	0	130
Existing Plus Project	**0**	**0**	**0**	**531**	**412**	**0**	**121**	**0**	**260**	**0**	**434**	**0**	**1,758**
2015 Model	0	0	0	427	593	0	192	0	540	0	440	0	2,192
2030 without Project Model	0	0	0	559	876	0	206	0	391	0	737	0	2,769
2030 Cumulative without Project	**0**	**0**	**0**	**596**	**665**	**0**	**131**	**0**	**260**	**0**	**702**	**0**	**2,354**
2030 Cumulative with Project	**0**	**0**	**0**	**663**	**695**	**0**	**135**	**0**	**260**	**0**	**731**	**0**	**2,484**

Intersection Number: 5
Traffix Node Number: 109
Intersection Name: Cochrane Road and De Paul Drive
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**129**	**1**	**35**	**52**	**701**	**6**	**4**	**0**	**3**	**26**	**310**	**187**	**1,454**
Project Trips	0	2	1	2	24	0	0	6	73	24	8	0	140
Existing Plus Project	**129**	**3**	**36**	**54**	**725**	**6**	**4**	**6**	**76**	**50**	**318**	**187**	**1,594**
2015 Model	138	1	24	82	858	0	0	1	23	31	296	305	1,759
2030 without Project Model	263	3	42	164	1303	44	30	0	0	20	450	458	2,777
2030 Cumulative without Project	**254**	**3**	**53**	**134**	**1146**	**50**	**34**	**0**	**3**	**26**	**464**	**340**	**2,507**
2030 Cumulative with Project	**254**	**5**	**54**	**136**	**1170**	**50**	**34**	**6**	**76**	**50**	**472**	**340**	**2,647**

Intersection Number: 6
Traffix Node Number: 110
Intersection Name: Cochrane Road and Mission View Drive
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**45**	**13**	**0**	**0**	**278**	**16**	**27**	**6**	**512**	**137**	**192**	**15**	**1,241**
Project Trips	0	0	0	0	0	0	0	0	26	9	0	0	35
Existing Plus Project	**45**	**13**	**0**	**0**	**278**	**16**	**27**	**6**	**538**	**146**	**192**	**15**	**1,276**
2015 Model	0	0	0	0	487	35	24	0	452	151	169	0	1,318
2030 without Project Model	0	0	0	0	604	65	20	0	906	320	201	0	2,116
2030 Cumulative without Project	**45**	**13**	**0**	**0**	**395**	**46**	**27**	**6**	**966**	**306**	**224**	**15**	**2,043**
2030 Cumulative with Project	**45**	**13**	**0**	**0**	**395**	**46**	**27**	**6**	**992**	**315**	**224**	**15**	**2,078**

Intersection Number: 7
Traffix Node Number: 5664
Intersection Name: Mission View Drive and Avenida De Los Padres
Peak Hour: AM
Count Date: 3/28/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**0**	**108**	**26**	**72**	**0**	**31**	**18**	**481**	**0**	**0**	**0**	**0**	**736**
Project Trips	0	9	0	0	0	0	0	26	0	0	0	0	35
Existing Plus Project	**0**	**117**	**26**	**72**	**0**	**31**	**18**	**507**	**0**	**0**	**0**	**0**	**771**
2015 Model	0	84	0	0	0	77	48	182	0	0	0	0	391
2030 without Project Model	0	280	0	0	0	79	53	627	0	0	0	0	1,039
2030 Cumulative without Project	**0**	**304**	**26**	**72**	**0**	**33**	**23**	**926**	**0**	**0**	**0**	**0**	**1,384**
2030 Cumulative with Project	**0**	**313**	**26**	**72**	**0**	**33**	**23**	**952**	**0**	**0**	**0**	**0**	**1,419**

Intersection Number: 8
Traffix Node Number: 3117
Intersection Name: Mission View Drive and Half Road
Peak Hour: AM
Count Date: 3/28/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**116**	**0**	**54**	**192**	**16**	**0**	**0**	**0**	**0**	**0**	**13**	**291**	**682**
Project Trips	42	0	3	1	0	0	0	0	0	0	0	14	60
Existing Plus Project	**158**	**0**	**57**	**193**	**16**	**0**	**0**	**0**	**0**	**0**	**13**	**305**	**742**
2015 Model	73	0	88	114	2	0	0	0	0	0	2	116	395
2030 without Project Model	162	0	170	245	0	0	0	0	0	0	0	421	998
2030 Cumulative without Project	**205**	**0**	**136**	**323**	**16**	**0**	**0**	**0**	**0**	**0**	**13**	**596**	**1,289**
2030 Cumulative with Project	**247**	**0**	**139**	**324**	**16**	**0**	**0**	**0**	**0**	**0**	**13**	**610**	**1,349**

Intersection Number: 9
Traffix Node Number: 120
Intersection Name: Main Avenue and Condit Road
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**34**	**72**	**10**	**66**	**253**	**146**	**164**	**134**	**124**	**143**	**292**	**68**	**1,506**
Project Trips	26	16	0	0	0	0	0	5	0	0	0	9	56
Existing Plus Project	**60**	**88**	**10**	**66**	**253**	**146**	**164**	**139**	**124**	**143**	**292**	**77**	**1,562**
2015 Model	38	36	2	6	127	68	72	32	91	75	130	78	755
2030 without Project Model	58	94	7	21	192	115	111	200	146	128	181	166	1,419
2030 Cumulative without Project	**54**	**130**	**15**	**81**	**318**	**193**	**203**	**302**	**179**	**196**	**343**	**156**	**2,170**
2030 Cumulative with Project	**80**	**146**	**15**	**81**	**318**	**193**	**203**	**307**	**179**	**196**	**343**	**165**	**2,226**

Intersection Number: 10
Traffix Node Number: 1120
Intersection Name: Condit Road and Diana Avenue
Peak Hour: AM
Count Date: 6/4/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**3**	**241**	**101**	**183**	**2**	**51**	**13**	**242**	**1**	**4**	**1**	**0**	**842**
Project Trips	0	16	0	0	0	0	0	5	0	0	0	0	21
Existing Plus Project	**3**	**257**	**101**	**183**	**2**	**51**	**13**	**247**	**1**	**4**	**1**	**0**	**863**
2015 Model	0	147	31	66	0	68	27	128	0	1	0	1	469
2030 without Project Model	2	280	53	164	1	76	38	294	5	2	0	3	918
2030 Cumulative without Project	**5**	**374**	**123**	**281**	**3**	**59**	**24**	**408**	**6**	**5**	**1**	**2**	**1,291**
2030 Cumulative with Project	**5**	**390**	**123**	**281**	**3**	**59**	**24**	**413**	**6**	**5**	**1**	**2**	**1,312**

Intersection Number: 11
Traffix Node Number: 3115
Intersection Name: East Dunne Avenue and Condit Road
Peak Hour: AM
Count Date: 3/28/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**327**	**54**	**69**	**79**	**1160**	**11**	**22**	**198**	**151**	**36**	**305**	**180**	**2,592**
Project Trips	11	1	4	1	0	0	0	0	0	0	0	4	21
Existing Plus Project	**338**	**55**	**73**	**80**	**1160**	**11**	**22**	**198**	**151**	**36**	**305**	**184**	**2,613**
2015 Model	172	26	62	69	1197	18	4	18	66	65	471	133	2,301
2030 without Project Model	234	61	112	112	1229	27	6	54	120	121	521	257	2,854
2030 Cumulative without Project	**389**	**89**	**119**	**122**	**1192**	**20**	**24**	**234**	**205**	**92**	**355**	**304**	**3,145**
2030 Cumulative with Project	**400**	**90**	**123**	**123**	**1192**	**20**	**24**	**234**	**205**	**92**	**355**	**308**	**3,166**

Intersection Number: 12
Traffix Node Number: 119
Intersection Name: Butterfield Boulevard and Main Avenue
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**68**	**226**	**52**	**127**	**262**	**132**	**149**	**1082**	**180**	**159**	**278**	**134**	**2,849**
Project Trips	0	0	1	4	15	7	3	0	0	0	5	0	35
Existing Plus Project	**68**	**226**	**53**	**131**	**277**	**139**	**152**	**1082**	**180**	**159**	**283**	**134**	**2,884**
2015 Model	132	190	76	226	176	172	122	846	191	225	127	219	2,702
2030 without Project Model	145	288	93	263	220	213	162	1148	222	311	183	226	3,474
2030 Cumulative without Project	**81**	**324**	**69**	**164**	**306**	**173**	**189**	**1384**	**211**	**245**	**334**	**141**	**3,621**
2030 Cumulative with Project	**81**	**324**	**70**	**168**	**321**	**180**	**192**	**1384**	**211**	**245**	**339**	**141**	**3,656**

Intersection Number: 13
Traffix Node Number: 118
Intersection Name: Monterey Road and Main Avenue
Peak Hour: AM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**35**	**353**	**213**	**172**	**225**	**27**	**38**	**605**	**98**	**78**	**201**	**48**	**2,093**
Project Trips	0	0	0	0	7	4	1	0	0	0	3	0	15
Existing Plus Project	**35**	**353**	**213**	**172**	**232**	**31**	**39**	**605**	**98**	**78**	**204**	**48**	**2,108**
2015 Model	27	273	176	32	370	43	38	19	346	92	300	8	1,724
2030 without Project Model	32	366	256	92	404	48	37	128	340	100	326	8	2,137
2030 Cumulative without Project	**40**	**446**	**293**	**232**	**259**	**32**	**38**	**714**	**98**	**86**	**227**	**48**	**2,513**
2030 Cumulative with Project	**40**	**446**	**293**	**232**	**266**	**36**	**39**	**714**	**98**	**86**	**230**	**48**	**2,528**

Intersection Number: 1
Traffix Node Number: 105
Intersection Name: Cochrane Road and Sutter Boulevard
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**8**	**22**	**67**	**10**	**543**	**197**	**386**	**7**	**90**	**73**	**863**	**2**	**2,268**
Project Trips	0	0	4	2	5	2	4	0	0	0	8	0	25
Existing Plus Project	**8**	**22**	**71**	**12**	**548**	**199**	**390**	**7**	**90**	**73**	**871**	**2**	**2,293**
2015 Model	26	2	33	10	652	149	273	2	165	104	698	11	2,125
2030 without Project Model	34	3	28	8	933	205	366	3	192	114	799	13	2,698
2030 Cumulative without Project	**16**	**23**	**67**	**10**	**824**	**253**	**479**	**8**	**117**	**83**	**964**	**4**	**2,848**
2030 Cumulative with Project	**16**	**23**	**71**	**12**	**829**	**255**	**483**	**8**	**117**	**83**	**972**	**4**	**2,873**

Intersection Number: 2
Traffix Node Number: 106
Intersection Name: Cochrane Road and Madrone Parkway/Cochrane Plaza
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**69**	**35**	**428**	**196**	**627**	**237**	**94**	**30**	**36**	**22**	**1212**	**114**	**3,100**
Project Trips	0	0	4	2	10	0	0	0	0	0	17	0	33
Existing Plus Project	**69**	**35**	**432**	**198**	**637**	**237**	**94**	**30**	**36**	**22**	**1229**	**114**	**3,133**
2015 Model	97	7	270	110	714	117	229	7	0	0	946	59	2,556
2030 without Project Model	125	6	401	140	1020	121	216	6	0	0	1119	74	3,228
2030 Cumulative without Project	**97**	**35**	**559**	**226**	**933**	**241**	**94**	**30**	**36**	**22**	**1385**	**129**	**3,787**
2030 Cumulative with Project	**97**	**35**	**563**	**228**	**943**	**241**	**94**	**30**	**36**	**22**	**1402**	**129**	**3,820**

Intersection Number: 3
Traffix Node Number: 107
Intersection Name: Cochrane Road and US 101 Southbound Ramps
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**510**	**1**	**300**	**157**	**635**	**0**	**0**	**0**	**0**	**741**	**1046**	**0**	**3,390**
Project Trips	0	0	76	7	12	0	0	0	0	0	21	0	116
Existing Plus Project	**510**	**1**	**376**	**164**	**647**	**0**	**0**	**0**	**0**	**741**	**1067**	**0**	**3,506**
2015 Model	403	0	369	271	537	0	0	0	0	492	953	0	3,025
2030 without Project Model	495	0	491	259	786	0	0	0	0	449	1288	0	3,768
2030 Cumulative without Project	**602**	**1**	**422**	**157**	**884**	**0**	**0**	**0**	**0**	**741**	**1381**	**0**	**4,188**
2030 Cumulative with Project	**602**	**1**	**498**	**164**	**896**	**0**	**0**	**0**	**0**	**741**	**1402**	**0**	**4,304**

Intersection Number: 4
Traffix Node Number: 108
Intersection Name: Cochrane Road and US 101 Northbound Ramps
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**0**	**0**	**0**	**208**	**499**	**0**	**230**	**0**	**315**	**0**	**832**	**0**	**2,084**
Project Trips	0	0	0	44	20	0	13	0	0	0	97	0	174
Existing Plus Project	**0**	**0**	**0**	**252**	**519**	**0**	**243**	**0**	**315**	**0**	**929**	**0**	**2,258**
2015 Model	0	0	0	208	563	0	219	0	245	0	877	0	2,112
2030 without Project Model	0	0	0	282	785	0	289	0	261	0	1248	0	2,865
2030 Cumulative without Project	**0**	**0**	**0**	**282**	**721**	**0**	**300**	**0**	**331**	**0**	**1203**	**0**	**2,837**
2030 Cumulative with Project	**0**	**0**	**0**	**326**	**741**	**0**	**313**	**0**	**331**	**0**	**1300**	**0**	**3,011**

Intersection Number: 5
Traffix Node Number: 109
Intersection Name: Cochrane Road and De Paul Drive
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**360**	**1**	**133**	**99**	**353**	**15**	**1**	**4**	**13**	**7**	**596**	**426**	**2,008**
Project Trips	0	6	2	1	16	0	0	4	48	82	27	0	186
Existing Plus Project	**360**	**7**	**135**	**100**	**369**	**15**	**1**	**8**	**61**	**89**	**623**	**426**	**2,194**
2015 Model	383	4	156	47	341	0	0	4	46	40	790	265	2,076
2030 without Project Model	569	9	264	73	496	39	50	11	0	0	1264	441	3,216
2030 Cumulative without Project	**546**	**6**	**241**	**125**	**508**	**54**	**51**	**11**	**13**	**7**	**1070**	**602**	**3,234**
2030 Cumulative with Project	**546**	**12**	**243**	**126**	**524**	**54**	**51**	**15**	**61**	**89**	**1097**	**602**	**3,420**

Intersection Number: 6
Traffix Node Number: 110
Intersection Name: Cochrane Road and Mission View Drive
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**36**	**3**	**0**	**0**	**242**	**24**	**19**	**4**	**183**	**555**	**233**	**60**	**1,359**
Project Trips	0	0	0	0	0	0	0	0	17	29	0	0	46
Existing Plus Project	**36**	**3**	**0**	**0**	**242**	**24**	**19**	**4**	**200**	**584**	**233**	**60**	**1,405**
2015 Model	0	0	0	0	202	14	14	0	187	497	450	0	1,364
2030 without Project Model	0	0	0	0	218	28	44	0	392	943	635	0	2,260
2030 Cumulative without Project	**36**	**3**	**0**	**0**	**258**	**38**	**49**	**4**	**388**	**1001**	**418**	**60**	**2,255**
2030 Cumulative with Project	**36**	**3**	**0**	**0**	**258**	**38**	**49**	**4**	**405**	**1030**	**418**	**60**	**2,301**

Intersection Number: 7
Traffix Node Number: 5664
Intersection Name: Mission View Drive and Avenida De Los Padres
Peak Hour: PM
Count Date: 3/28/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**0**	**495**	**57**	**29**	**0**	**21**	**28**	**179**	**0**	**0**	**0**	**0**	**809**
Project Trips	0	29	0	0	0	0	0	17	0	0	0	0	46
Existing Plus Project	**0**	**524**	**57**	**29**	**0**	**21**	**28**	**196**	**0**	**0**	**0**	**0**	**855**
2015 Model	0	253	0	0	0	28	47	82	0	0	0	0	410
2030 without Project Model	0	694	0	0	0	58	54	326	0	0	0	0	1,132
2030 Cumulative without Project	**0**	**936**	**57**	**29**	**0**	**51**	**35**	**423**	**0**	**0**	**0**	**0**	**1,531**
2030 Cumulative with Project	**0**	**965**	**57**	**29**	**0**	**51**	**35**	**440**	**0**	**0**	**0**	**0**	**1,577**

Intersection Number: 8
Traffix Node Number: 3117
Intersection Name: Mission View Drive and Half Road
Peak Hour: PM
Count Date: 3/28/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**232**	**0**	**287**	**62**	**32**	**0**	**0**	**0**	**0**	**0**	**27**	**147**	**787**
Project Trips	27	0	2	3	0	0	0	0	0	0	0	47	79
Existing Plus Project	**259**	**0**	**289**	**65**	**32**	**0**	**0**	**0**	**0**	**0**	**27**	**194**	**866**
2015 Model	190	0	92	50	2	0	0	0	0	0	2	79	415
2030 without Project Model	534	0	198	126	0	0	0	0	0	0	0	230	1,088
2030 Cumulative without Project	**576**	**0**	**393**	**138**	**32**	**0**	**0**	**0**	**0**	**0**	**27**	**298**	**1,464**
2030 Cumulative with Project	**603**	**0**	**395**	**141**	**32**	**0**	**0**	**0**	**0**	**0**	**27**	**345**	**1,543**

Intersection Number: 9
Traffix Node Number: 120
Intersection Name: Main Avenue and Condit Road
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**100**	**184**	**8**	**11**	**77**	**57**	**50**	**78**	**99**	**220**	**152**	**85**	**1,121**
Project Trips	17	10	0	0	0	0	0	18	0	0	0	29	74
Existing Plus Project	**117**	**194**	**8**	**11**	**77**	**57**	**50**	**96**	**99**	**220**	**152**	**114**	**1,195**
2015 Model	63	123	6	2	59	62	51	30	95	82	71	49	693
2030 without Project Model	152	338	22	10	82	94	86	118	146	156	111	97	1,412
2030 Cumulative without Project	**189**	**399**	**24**	**19**	**100**	**89**	**85**	**166**	**150**	**294**	**192**	**133**	**1,840**
2030 Cumulative with Project	**206**	**409**	**24**	**19**	**100**	**89**	**85**	**184**	**150**	**294**	**192**	**162**	**1,914**

Intersection Number: 10
Traffix Node Number: 1120
Intersection Name: Condit Road and Diana Avenue
Peak Hour: PM
Count Date: 6/4/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**0**	**380**	**142**	**57**	**0**	**24**	**38**	**174**	**2**	**7**	**0**	**0**	**824**
Project Trips	0	10	0	0	0	0	0	18	0	0	0	0	28
Existing Plus Project	**0**	**390**	**142**	**57**	**0**	**24**	**38**	**192**	**2**	**7**	**0**	**0**	**852**
2015 Model	1	198	68	16	0	46	53	160	1	1	0	0	544
2030 without Project Model	3	434	152	35	0	30	75	309	3	6	1	3	1,051
2030 Cumulative without Project	**2**	**616**	**226**	**76**	**0**	**24**	**60**	**323**	**4**	**12**	**1**	**3**	**1,347**
2030 Cumulative with Project	**2**	**626**	**226**	**76**	**0**	**24**	**60**	**341**	**4**	**12**	**1**	**3**	**1,375**

Intersection Number: 11
Traffix Node Number: 3115
Intersection Name: East Dunne Avenue and Condit Road
Peak Hour: PM
Count Date: 3/28/19

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**255**	**128**	**95**	**41**	**399**	**35**	**16**	**67**	**47**	**61**	**505**	**238**	**1,887**
Project Trips	7	0	2	4	0	0	0	1	0	0	0	13	27
Existing Plus Project	**262**	**128**	**97**	**45**	**399**	**35**	**16**	**68**	**47**	**61**	**505**	**251**	**1,914**
2015 Model	197	42	96	31	572	11	23	34	104	99	1090	209	2,508
2030 without Project Model	345	95	139	87	566	16	33	71	164	167	1229	295	3,207
2030 Cumulative without Project	**403**	**181**	**138**	**97**	**399**	**40**	**26**	**104**	**107**	**129**	**644**	**324**	**2,592**
2030 Cumulative with Project	**410**	**181**	**140**	**101**	**399**	**40**	**26**	**105**	**107**	**129**	**644**	**337**	**2,619**

Intersection Number: 12
Traffix Node Number: 119
Intersection Name: Butterfield Boulevard and Main Avenue
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**183**	**1088**	**111**	**36**	**179**	**61**	**89**	**309**	**190**	**239**	**266**	**87**	**2,838**
Project Trips	0	0	4	2	10	5	8	0	0	0	17	0	46
Existing Plus Project	**183**	**1088**	**115**	**38**	**189**	**66**	**97**	**309**	**190**	**239**	**283**	**87**	**2,884**
2015 Model	239	935	239	70	80	111	121	447	204	304	125	183	3,058
2030 without Project Model	274	1252	328	84	126	167	165	632	266	306	157	203	3,960
2030 Cumulative without Project	**218**	**1405**	**200**	**50**	**225**	**117**	**133**	**494**	**252**	**241**	**298**	**107**	**3,740**
2030 Cumulative with Project	**218**	**1405**	**204**	**52**	**235**	**122**	**141**	**494**	**252**	**241**	**315**	**107**	**3,786**

Intersection Number: 13
Traffix Node Number: 118
Intersection Name: Monterey Road and Main Avenue
Peak Hour: PM
Count Date: 5/8/18

	Movements												
	North Approach			East Approach			South Approach			West Approach			Int.
Scenario:	RT	TH	LT	RT	TH	LT	RT	TH	LT	RT	TH	LT	Total
Existing	**70**	**811**	**237**	**75**	**245**	**47**	**35**	**285**	**140**	**197**	**225**	**41**	**2,408**
Project Trips	0	0	0	0	5	2	4	0	0	0	8	0	19
Existing Plus Project	**70**	**811**	**237**	**75**	**250**	**49**	**39**	**285**	**140**	**197**	**233**	**41**	**2,427**
2015 Model	35	525	192	26	387	47	65	13	253	36	295	6	1,880
2030 without Project Model	55	674	350	24	470	38	69	14	239	17	239	4	2,193
2030 Cumulative without Project	**90**	**960**	**395**	**75**	**328**	**47**	**39**	**286**	**140**	**197**	**225**	**41**	**2,823**
2030 Cumulative with Project	**90**	**960**	**395**	**75**	**333**	**49**	**43**	**286**	**140**	**197**	**233**	**41**	**2,842**

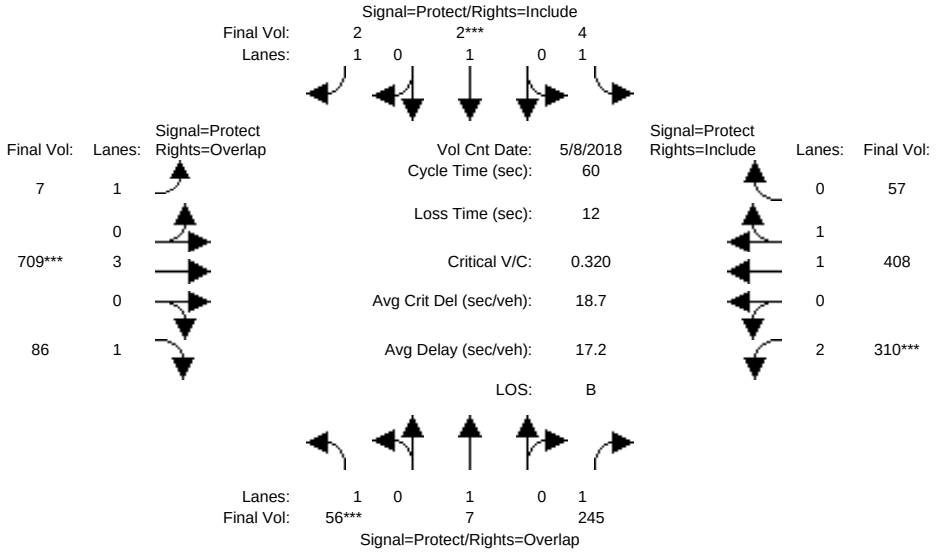
Appendix D

Level of Service Calculations

City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	56	7	245	4	2	2	7	709	86	310	408	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	7	245	4	2	2	7	709	86	310	408	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	7	245	4	2	2	7	709	86	310	408	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	7	245	4	2	2	7	709	86	310	408	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	7	245	4	2	2	7	709	86	310	408	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	7	245	4	2	2	7	709	86	310	408	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.75	0.25
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3246	454
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.14	0.00	0.00	0.00	0.00	0.12	0.05	0.10	0.13	0.13
Crit Moves:	****				****			****		****		
Green Time:	7.0	10.0	23.7	7.0	10.0	10.0	12.8	17.3	24.3	13.7	18.2	18.2
Volume/Cap:	0.27	0.02	0.35	0.02	0.01	0.01	0.02	0.43	0.12	0.43	0.41	0.41
Delay/Veh:	24.9	20.9	13.1	23.5	20.9	20.9	18.7	17.5	11.2	20.2	16.9	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.9	20.9	13.1	23.5	20.9	20.9	18.7	17.5	11.2	20.2	16.9	16.9
LOS by Move:	C	C	B	C	C	C	B	B	B	C	B	B
HCM2k95thQ:	3	0	7	0	0	0	0	7	2	6	7	7

Note: Queue reported is the number of cars per lane.

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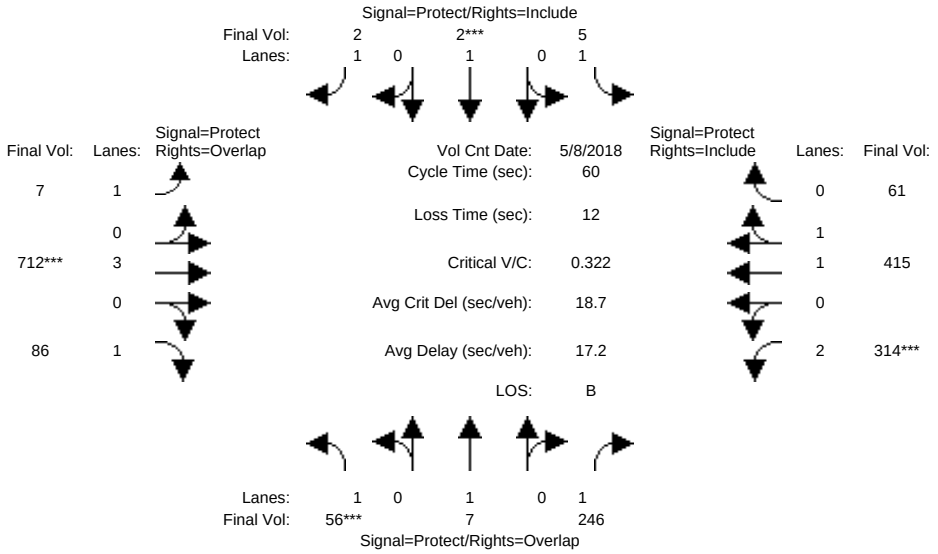
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	56	7	245	4	2	2	7	709	86	310	408	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	56	7	245	4	2	2	7	709	86	310	408	57
Added Vol:	0	0	1	1	0	0	0	3	0	4	7	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	56	7	246	5	2	2	7	712	86	314	415	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	56	7	246	5	2	2	7	712	86	314	415	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	56	7	246	5	2	2	7	712	86	314	415	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	56	7	246	5	2	2	7	712	86	314	415	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.74	0.26
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3225	474
Capacity Analysis Module:												
Vol/Sat:	0.03	0.00	0.14	0.00	0.00	0.00	0.00	0.12	0.05	0.10	0.13	0.13
Crit Moves:	****				****			****		****		
Green Time:	7.0	10.0	23.8	7.0	10.0	10.0	12.8	17.2	24.2	13.8	18.2	18.2
Volume/Cap:	0.27	0.02	0.35	0.02	0.01	0.01	0.02	0.43	0.12	0.43	0.42	0.42
Delay/Veh:	24.9	20.9	13.0	23.5	20.9	20.9	18.7	17.6	11.3	20.2	16.9	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.9	20.9	13.0	23.5	20.9	20.9	18.7	17.6	11.3	20.2	16.9	16.9
LOS by Move:	C	C	B	C	C	C	B	B	B	C	B	B
HCM2k95thQ:	3	0	7	0	0	0	0	7	2	6	7	7

Note: Queue reported is the number of cars per lane.

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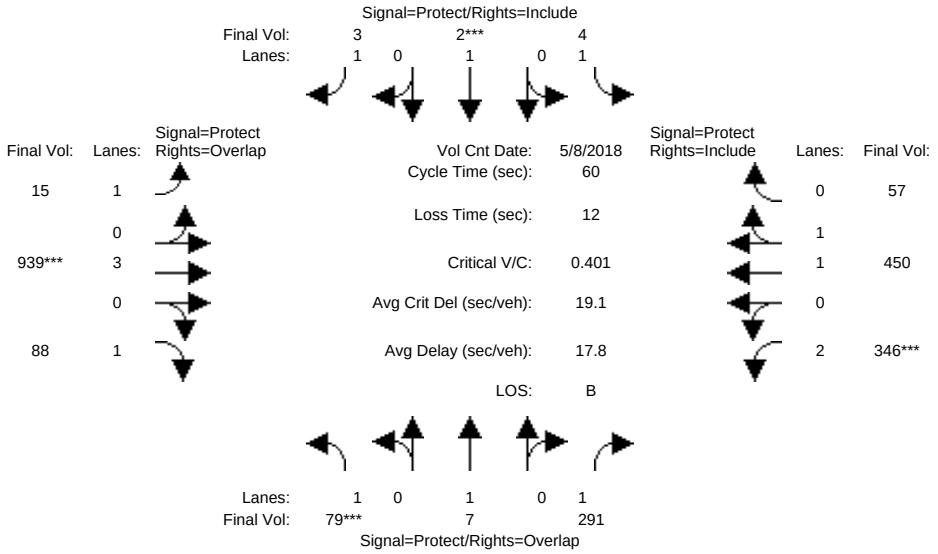
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	79	7	291	4	2	3	15	939	88	346	450	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	79	7	291	4	2	3	15	939	88	346	450	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	79	7	291	4	2	3	15	939	88	346	450	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	79	7	291	4	2	3	15	939	88	346	450	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	7	291	4	2	3	15	939	88	346	450	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	7	291	4	2	3	15	939	88	346	450	57
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.77	0.23
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3284	416
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.17	0.00	0.00	0.00	0.01	0.16	0.05	0.11	0.14	0.14
Crit Moves:	****				****			****			****	
Green Time:	7.0	10.0	22.4	7.0	10.0	10.0	12.8	18.6	25.6	12.4	18.2	18.2
Volume/Cap:	0.39	0.02	0.45	0.02	0.01	0.01	0.04	0.53	0.12	0.53	0.45	0.45
Delay/Veh:	25.7	20.9	14.6	23.5	20.9	20.9	18.8	17.4	10.5	22.1	17.1	17.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.7	20.9	14.6	23.5	20.9	20.9	18.8	17.4	10.5	22.1	17.1	17.1
LOS by Move:	C	C	B	C	C	C	B	B	B	C	B	B
HCM2k95thQ:	4	0	9	0	0	0	0	9	2	7	8	8

Note: Queue reported is the number of cars per lane.

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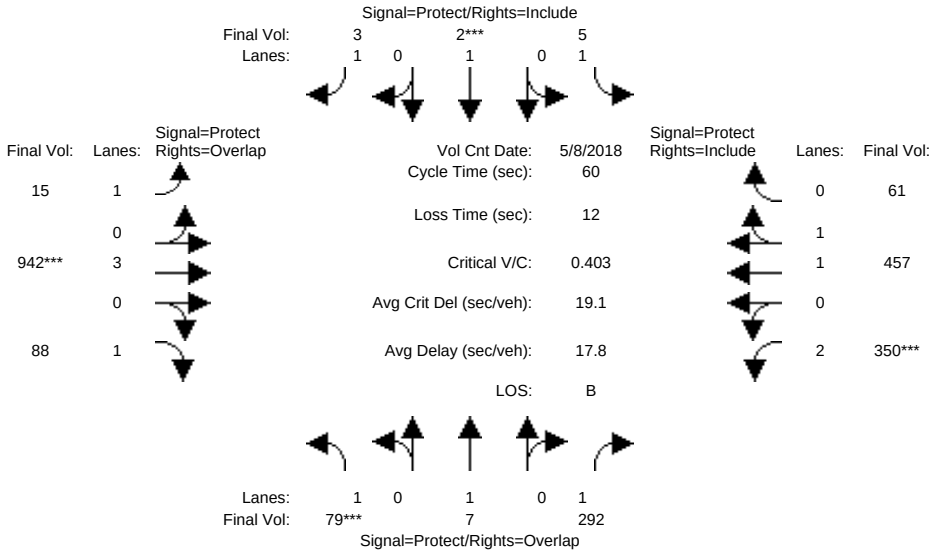
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	79	7	291	4	2	3	15	939	88	346	450	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	79	7	291	4	2	3	15	939	88	346	450	57
Added Vol:	0	0	1	1	0	0	0	3	0	4	7	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	79	7	292	5	2	3	15	942	88	350	457	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	79	7	292	5	2	3	15	942	88	350	457	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	7	292	5	2	3	15	942	88	350	457	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	7	292	5	2	3	15	942	88	350	457	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.98	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.76	0.24
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3264	436
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.17	0.00	0.00	0.00	0.01	0.17	0.05	0.11	0.14	0.14
Crit Moves:	****				****			****			****	
Green Time:	7.0	10.0	22.5	7.0	10.0	10.0	12.8	18.5	25.5	12.5	18.2	18.2
Volume/Cap:	0.39	0.02	0.45	0.02	0.01	0.01	0.04	0.53	0.12	0.53	0.46	0.46
Delay/Veh:	25.7	20.9	14.6	23.5	20.9	20.9	18.8	17.5	10.5	22.1	17.2	17.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.7	20.9	14.6	23.5	20.9	20.9	18.8	17.5	10.5	22.1	17.2	17.2
LOS by Move:	C	C	B	C	C	C	B	B	B	C	B	B
HCM2k95thQ:	4	0	9	0	0	0	0	9	2	7	8	8

Note: Queue reported is the number of cars per lane.

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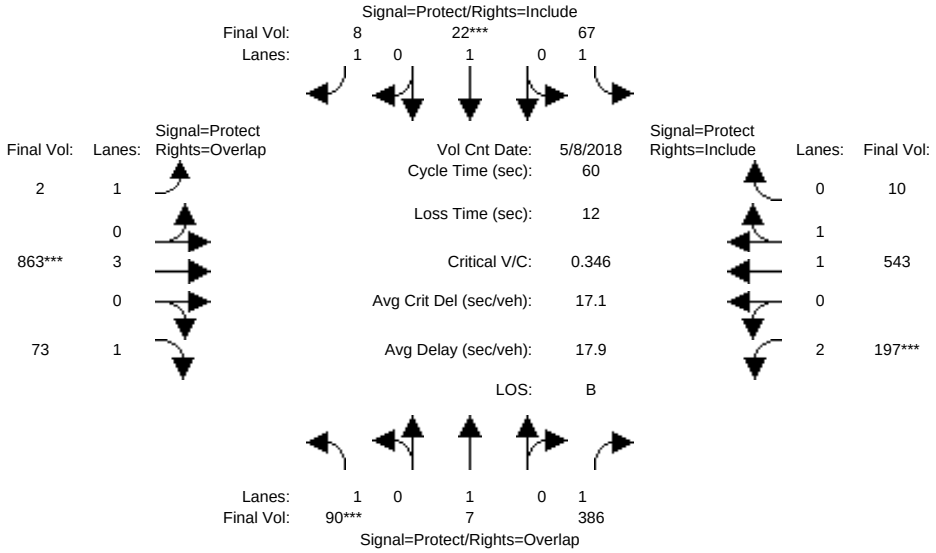
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	90	7	386	67	22	8	2	863	73	197	543	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	7	386	67	22	8	2	863	73	197	543	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	7	386	67	22	8	2	863	73	197	543	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	90	7	386	67	22	8	2	863	73	197	543	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	7	386	67	22	8	2	863	73	197	543	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	90	7	386	67	22	8	2	863	73	197	543	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.96	0.04
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3633	67
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.22	0.04	0.01	0.00	0.00	0.15	0.04	0.06	0.15	0.15
Crit Moves:	****				****			****			****	
Green Time:	7.4	10.2	19.2	7.2	10.0	10.0	12.6	21.7	29.0	9.0	18.0	18.0
Volume/Cap:	0.42	0.02	0.69	0.32	0.07	0.03	0.01	0.42	0.09	0.42	0.50	0.50
Delay/Veh:	25.7	20.8	21.5	25.1	21.2	21.0	18.7	14.6	8.4	23.8	17.6	17.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.7	20.8	21.5	25.1	21.2	21.0	18.7	14.6	8.4	23.8	17.6	17.6
LOS by Move:	C	C	C	C	C	C	B	B	A	C	B	B
HCM2k95thQ:	4	0	15	3	1	0	0	8	2	4	8	8

Note: Queue reported is the number of cars per lane.

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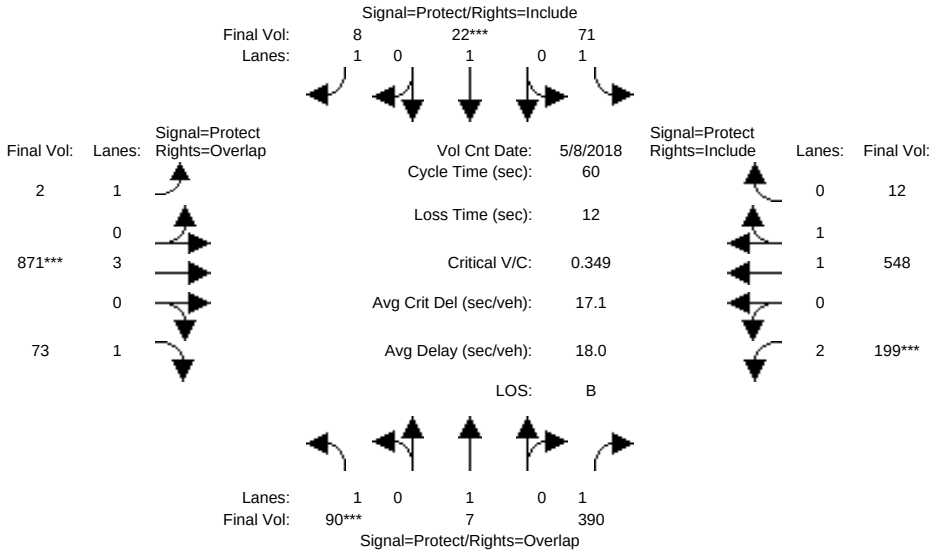
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	90	7	386	67	22	8	2	863	73	197	543	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	7	386	67	22	8	2	863	73	197	543	10
Added Vol:	0	0	4	4	0	0	0	8	0	2	5	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	90	7	390	71	22	8	2	871	73	199	548	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	90	7	390	71	22	8	2	871	73	199	548	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	7	390	71	22	8	2	871	73	199	548	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	90	7	390	71	22	8	2	871	73	199	548	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.96	0.04
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3621	79
Capacity Analysis Module:												
Vol/Sat:	0.05	0.00	0.22	0.04	0.01	0.00	0.00	0.15	0.04	0.06	0.15	0.15
Crit Moves:	****				****			****		****		
Green Time:	7.3	10.2	19.2	7.1	10.0	10.0	12.6	21.7	29.0	9.0	18.1	18.1
Volume/Cap:	0.42	0.02	0.70	0.34	0.07	0.03	0.01	0.42	0.09	0.42	0.50	0.50
Delay/Veh:	25.7	20.8	21.8	25.3	21.2	21.0	18.7	14.6	8.4	23.8	17.6	17.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.7	20.8	21.8	25.3	21.2	21.0	18.7	14.6	8.4	23.8	17.6	17.6
LOS by Move:	C	C	C	C	C	C	B	B	A	C	B	B
HCM2k95thQ:	4	0	16	3	1	0	0	8	2	4	8	8

Note: Queue reported is the number of cars per lane.

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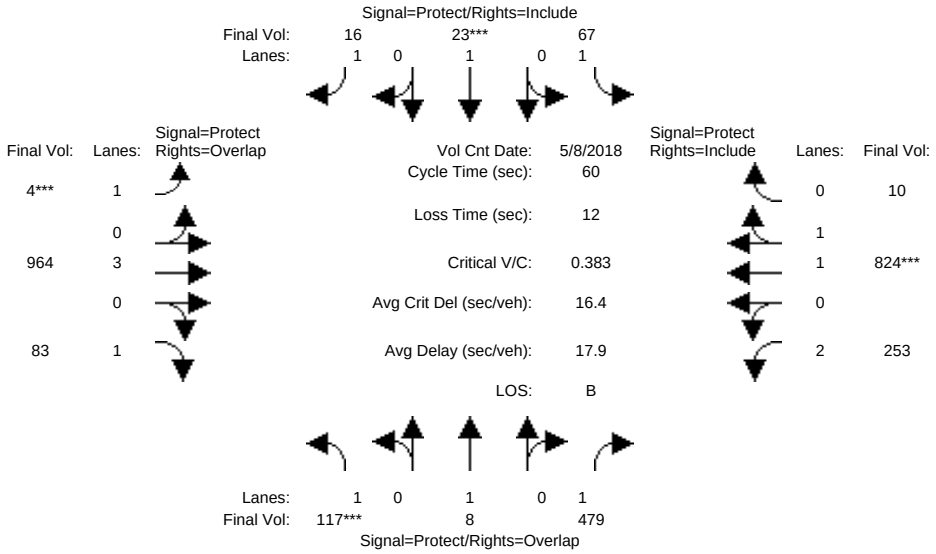
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	117	8	479	67	23	16	4	964	83	253	824	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	8	479	67	23	16	4	964	83	253	824	10
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	8	479	67	23	16	4	964	83	253	824	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	117	8	479	67	23	16	4	964	83	253	824	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	117	8	479	67	23	16	4	964	83	253	824	10
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	117	8	479	67	23	16	4	964	83	253	824	10
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.98	0.02
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3656	44
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.27	0.04	0.01	0.01	0.00	0.17	0.05	0.08	0.23	0.23
Crit Moves:	****				****		****				****	
Green Time:	7.1	10.1	22.7	7.0	10.0	10.0	7.0	18.3	25.4	12.6	23.9	23.9
Volume/Cap:	0.57	0.03	0.72	0.33	0.07	0.05	0.02	0.55	0.11	0.38	0.57	0.57
Delay/Veh:	28.6	20.9	19.9	25.3	21.2	21.1	23.5	17.8	10.6	20.7	14.5	14.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.6	20.9	19.9	25.3	21.2	21.1	23.5	17.8	10.6	20.7	14.5	14.5
LOS by Move:	C	C	B	C	C	C	C	B	B	C	B	B
HCM2k95thQ:	6	0	18	3	1	1	0	10	2	5	12	12

Note: Queue reported is the number of cars per lane.

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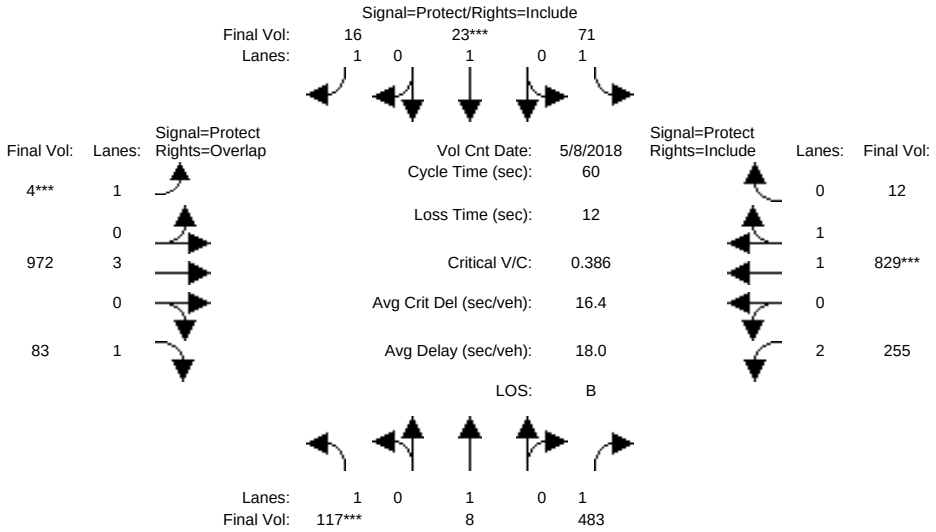
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #105: Sutter Boulevard and Cochrane Road



Street Name:	Sutter Boulevard						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	117	8	479	67	23	16	4	964	83	253	824	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	8	479	67	23	16	4	964	83	253	824	10
Added Vol:	0	0	4	4	0	0	0	8	0	2	5	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	8	483	71	23	16	4	972	83	255	829	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	117	8	483	71	23	16	4	972	83	255	829	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	117	8	483	71	23	16	4	972	83	255	829	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	117	8	483	71	23	16	4	972	83	255	829	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.83	0.97	0.95
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	3.00	1.00	2.00	1.97	0.03
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	5700	1750	3150	3647	53
Capacity Analysis Module:												
Vol/Sat:	0.07	0.00	0.28	0.04	0.01	0.01	0.00	0.17	0.05	0.08	0.23	0.23
Crit Moves:	****				****		****				****	
Green Time:	7.0	10.0	22.6	7.0	10.0	10.0	7.0	18.4	25.4	12.6	24.0	24.0
Volume/Cap:	0.57	0.03	0.73	0.35	0.07	0.05	0.02	0.56	0.11	0.39	0.57	0.57
Delay/Veh:	28.8	20.9	20.3	25.4	21.2	21.1	23.5	17.8	10.5	20.8	14.5	14.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.8	20.9	20.3	25.4	21.2	21.1	23.5	17.8	10.5	20.8	14.5	14.5
LOS by Move:	C	C	C	C	C	C	C	B	B	C	B	B
HCM2k95thQ:	6	0	18	3	1	1	0	10	2	5	12	12

Note: Queue reported is the number of cars per lane.

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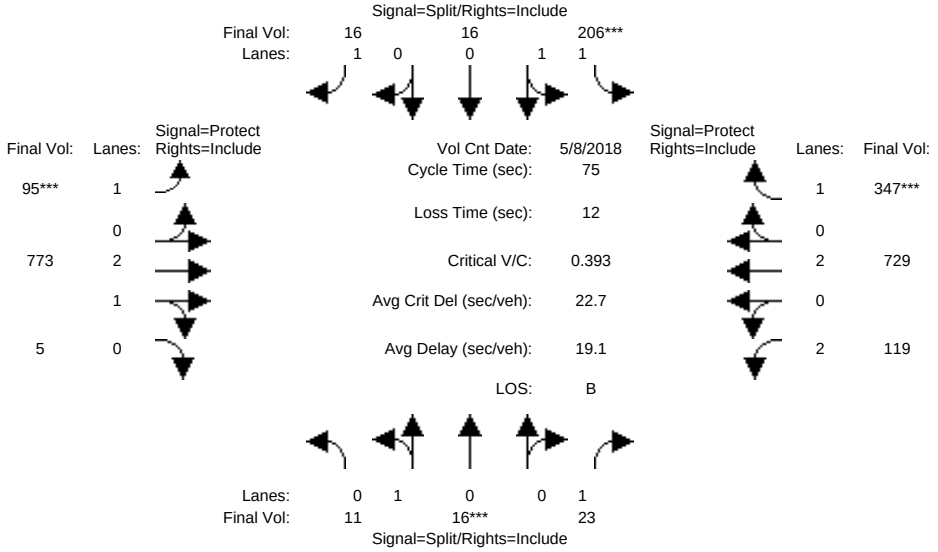
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	11	16	23	206	16	16	95	773	5	119	729	347
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	16	23	206	16	16	95	773	5	119	729	347
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	16	23	206	16	16	95	773	5	119	729	347
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	16	23	206	16	16	95	773	5	119	729	347
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	16	23	206	16	16	95	773	5	119	729	347
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	16	23	206	16	16	95	773	5	119	729	347
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.41	0.59	1.00	1.86	0.14	1.00	1.00	2.98	0.02	2.00	2.00	1.00
Final Sat.:	733	1067	1750	3294	256	1750	1750	5564	36	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.01	0.06	0.06	0.01	0.05	0.14	0.14	0.04	0.19	0.20
Crit Moves:		****		****			****					****
Green Time:	10.0	10.0	10.0	10.5	10.5	10.5	9.1	25.4	25.4	17.1	33.4	33.4
Volume/Cap:	0.11	0.11	0.10	0.45	0.45	0.07	0.45	0.41	0.41	0.17	0.43	0.45
Delay/Veh:	28.8	28.8	28.7	30.2	30.2	28.1	32.1	19.2	19.2	23.4	14.5	14.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.8	28.8	28.7	30.2	30.2	28.1	32.1	19.2	19.2	23.4	14.5	14.8
LOS by Move:	C	C	C	C	C	C	C	B	B	C	B	B
HCM2k95thQ:	1	1	1	6	6	1	4	9	9	3	11	11

Note: Queue reported is the number of cars per lane.

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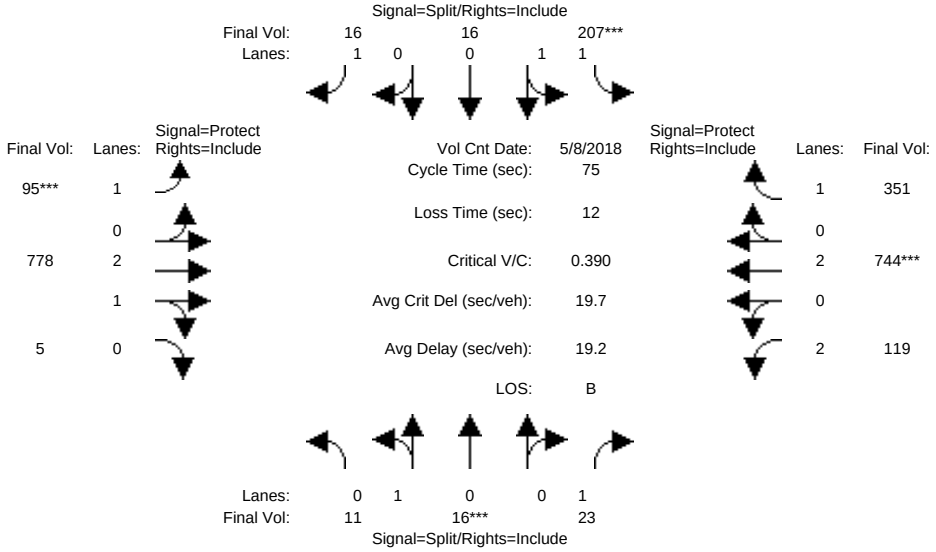
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	11	16	23	206	16	16	95	773	5	119	729	347
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	16	23	206	16	16	95	773	5	119	729	347
Added Vol:	0	0	0	1	0	0	0	5	0	0	15	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	16	23	207	16	16	95	778	5	119	744	351
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	16	23	207	16	16	95	778	5	119	744	351
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	16	23	207	16	16	95	778	5	119	744	351
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	16	23	207	16	16	95	778	5	119	744	351
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.41	0.59	1.00	1.86	0.14	1.00	1.00	2.98	0.02	2.00	2.00	1.00
Final Sat.:	733	1067	1750	3295	255	1750	1750	5564	36	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.01	0.06	0.06	0.01	0.05	0.14	0.14	0.04	0.20	0.20
Crit Moves:		****		****			****				****	
Green Time:	10.0	10.0	10.0	10.6	10.6	10.6	9.2	25.4	25.4	17.0	33.2	33.2
Volume/Cap:	0.11	0.11	0.10	0.44	0.44	0.06	0.44	0.41	0.41	0.17	0.44	0.45
Delay/Veh:	28.8	28.8	28.7	30.1	30.1	28.0	32.0	19.2	19.2	23.5	14.7	15.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.8	28.8	28.7	30.1	30.1	28.0	32.0	19.2	19.2	23.5	14.7	15.0
LOS by Move:	C	C	C	C	C	C	C	B	B	C	B	B
HCM2k95thQ:	1	1	1	6	6	1	4	9	9	3	11	12

Note: Queue reported is the number of cars per lane.

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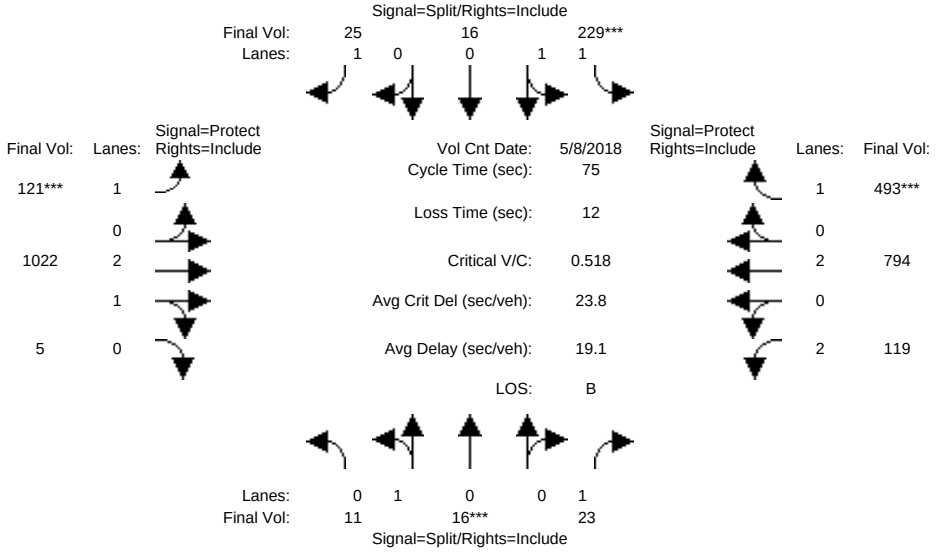
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	11	16	23	229	16	25	121	1022	5	119	794	493
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	16	23	229	16	25	121	1022	5	119	794	493
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	16	23	229	16	25	121	1022	5	119	794	493
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	16	23	229	16	25	121	1022	5	119	794	493
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	16	23	229	16	25	121	1022	5	119	794	493
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	16	23	229	16	25	121	1022	5	119	794	493
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.41	0.59	1.00	1.87	0.13	1.00	1.00	2.98	0.02	2.00	2.00	1.00
Final Sat.:	733	1067	1750	3318	232	1750	1750	5573	27	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.01	0.07	0.07	0.01	0.07	0.18	0.18	0.04	0.21	0.28
Crit Moves:		****		****			****					****
Green Time:	10.0	10.0	10.0	10.0	10.0	10.0	8.5	28.5	28.5	14.5	34.5	34.5
Volume/Cap:	0.11	0.11	0.10	0.52	0.52	0.11	0.61	0.48	0.48	0.20	0.45	0.61
Delay/Veh:	28.8	28.8	28.7	31.3	31.3	28.8	37.3	17.8	17.8	25.5	14.0	16.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.8	28.8	28.7	31.3	31.3	28.8	37.3	17.8	17.8	25.5	14.0	16.6
LOS by Move:	C	C	C	C	C	C	D	B	B	C	B	B
HCM2k95thQ:	1	1	1	7	7	1	6	11	11	3	12	17

Note: Queue reported is the number of cars per lane.

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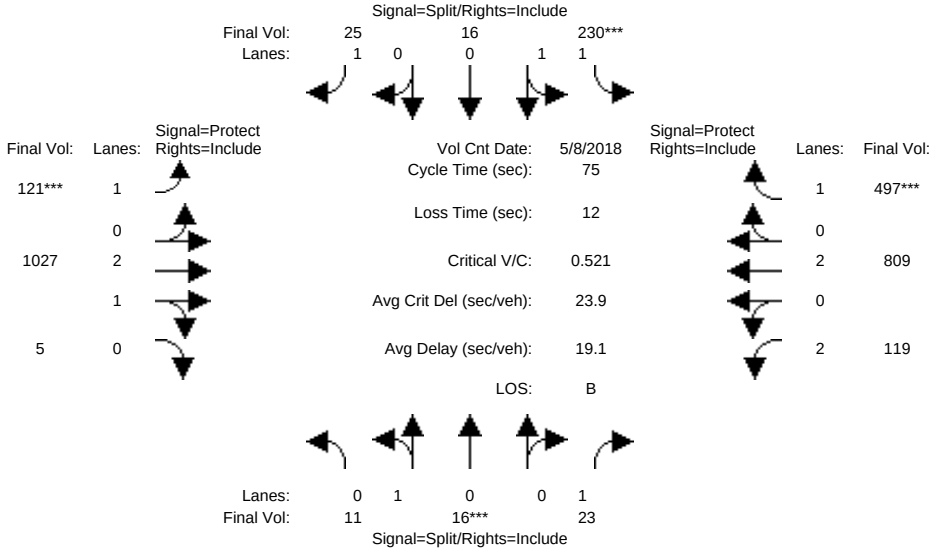
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	11	16	23	229	16	25	121	1022	5	119	794	493
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	16	23	229	16	25	121	1022	5	119	794	493
Added Vol:	0	0	0	1	0	0	0	5	0	0	15	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	16	23	230	16	25	121	1027	5	119	809	497
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	16	23	230	16	25	121	1027	5	119	809	497
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	16	23	230	16	25	121	1027	5	119	809	497
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	16	23	230	16	25	121	1027	5	119	809	497
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.41	0.59	1.00	1.87	0.13	1.00	1.00	2.98	0.02	2.00	2.00	1.00
Final Sat.:	733	1067	1750	3319	231	1750	1750	5573	27	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.01	0.07	0.07	0.01	0.07	0.18	0.18	0.04	0.21	0.28
Crit Moves:		****		****			****					****
Green Time:	10.0	10.0	10.0	10.0	10.0	10.0	8.4	28.5	28.5	14.5	34.6	34.6
Volume/Cap:	0.11	0.11	0.10	0.52	0.52	0.11	0.62	0.48	0.48	0.20	0.46	0.62
Delay/Veh:	28.8	28.8	28.7	31.3	31.3	28.8	37.5	17.8	17.8	25.6	14.0	16.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.8	28.8	28.7	31.3	31.3	28.8	37.5	17.8	17.8	25.6	14.0	16.7
LOS by Move:	C	C	C	C	C	C	D	B	B	C	B	B
HCM2k95thQ:	1	1	1	7	7	1	6	11	11	3	12	17

Note: Queue reported is the number of cars per lane.

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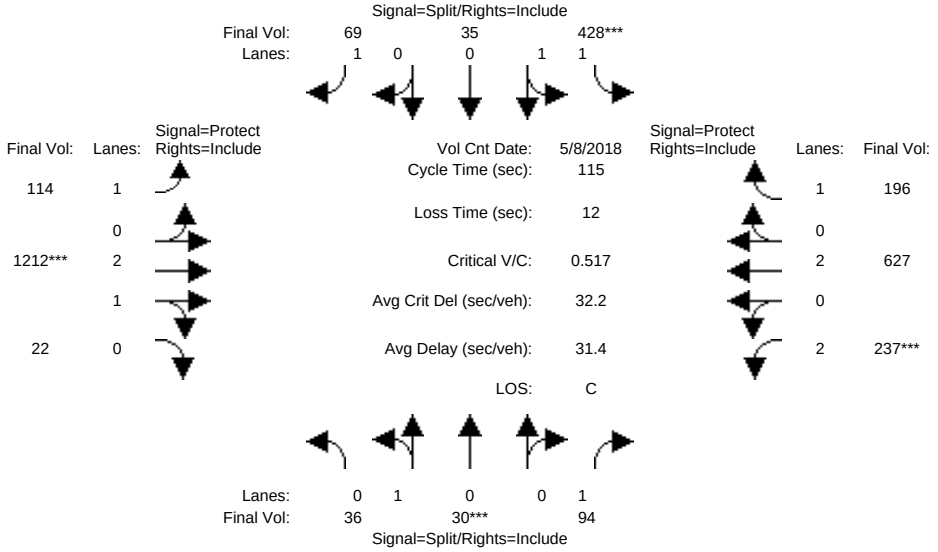
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	36	30	94	428	35	69	114	1212	22	237	627	196
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	30	94	428	35	69	114	1212	22	237	627	196
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	30	94	428	35	69	114	1212	22	237	627	196
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	30	94	428	35	69	114	1212	22	237	627	196
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	30	94	428	35	69	114	1212	22	237	627	196
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	30	94	428	35	69	114	1212	22	237	627	196
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.55	0.45	1.00	1.85	0.15	1.00	1.00	2.94	0.06	2.00	2.00	1.00
Final Sat.:	982	818	1750	3282	268	1750	1750	5500	100	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.05	0.13	0.13	0.04	0.07	0.22	0.22	0.08	0.17	0.11
Crit Moves:		****		****				****		****		
Green Time:	12.0	12.0	12.0	27.9	27.9	27.9	17.9	47.1	47.1	16.1	45.3	45.3
Volume/Cap:	0.35	0.35	0.52	0.54	0.54	0.16	0.42	0.54	0.54	0.54	0.42	0.28
Delay/Veh:	49.1	49.1	51.4	38.6	38.6	34.5	44.9	26.0	26.0	47.3	25.5	24.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.1	49.1	51.4	38.6	38.6	34.5	44.9	26.0	26.0	47.3	25.5	24.0
LOS by Move:	D	D	D	D	D	C	D	C	C	D	C	C
HCM2k95thQ:	5	5	8	15	15	4	8	20	20	9	15	10

Note: Queue reported is the number of cars per lane.

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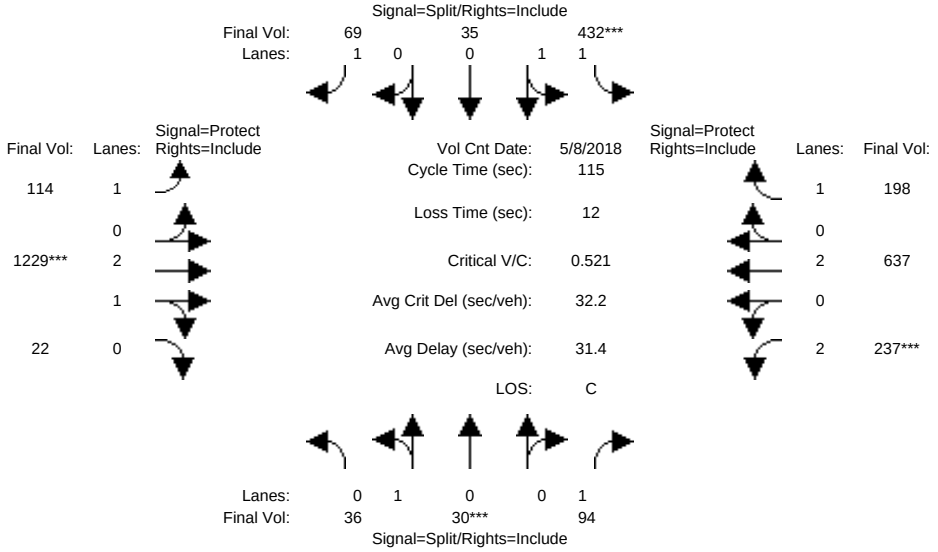
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	36	30	94	428	35	69	114	1212	22	237	627	196
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	30	94	428	35	69	114	1212	22	237	627	196
Added Vol:	0	0	0	4	0	0	0	17	0	0	10	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	30	94	432	35	69	114	1229	22	237	637	198
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	30	94	432	35	69	114	1229	22	237	637	198
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	30	94	432	35	69	114	1229	22	237	637	198
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	30	94	432	35	69	114	1229	22	237	637	198
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.55	0.45	1.00	1.85	0.15	1.00	1.00	2.95	0.05	2.00	2.00	1.00
Final Sat.:	982	818	1750	3284	266	1750	1750	5501	98	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.05	0.13	0.13	0.04	0.07	0.22	0.22	0.08	0.17	0.11
Crit Moves:		****		****				****		****		
Green Time:	11.9	11.9	11.9	27.9	27.9	27.9	17.7	47.3	47.3	15.9	45.6	45.6
Volume/Cap:	0.36	0.36	0.52	0.54	0.54	0.16	0.42	0.54	0.54	0.54	0.42	0.29
Delay/Veh:	49.2	49.2	51.6	38.7	38.7	34.5	45.1	25.9	25.9	47.5	25.4	23.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.2	49.2	51.6	38.7	38.7	34.5	45.1	25.9	25.9	47.5	25.4	23.9
LOS by Move:	D	D	D	D	D	C	D	C	C	D	C	C
HCM2k95thQ:	5	5	8	15	15	4	8	20	20	9	15	10

Note: Queue reported is the number of cars per lane.

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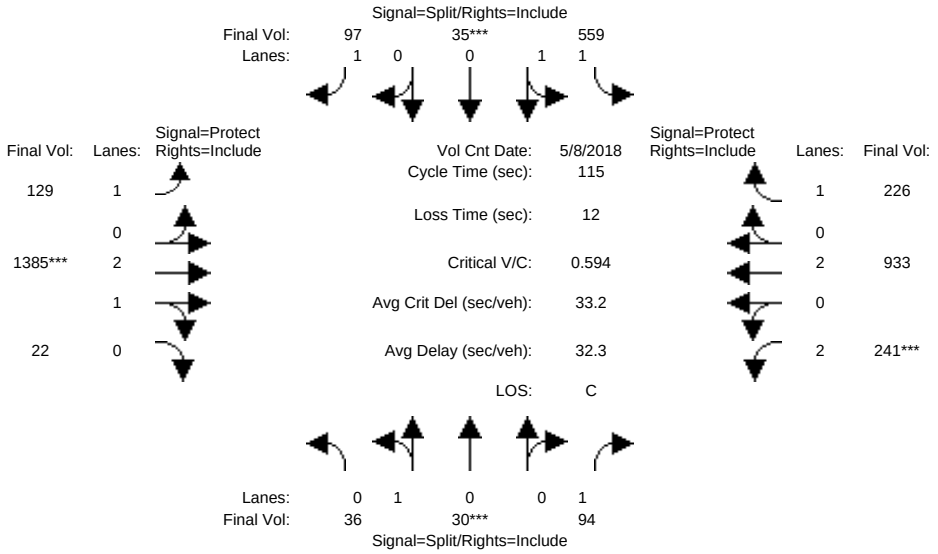
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	36	30	94	559	35	97	129	1385	22	241	933	226
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	30	94	559	35	97	129	1385	22	241	933	226
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	30	94	559	35	97	129	1385	22	241	933	226
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	30	94	559	35	97	129	1385	22	241	933	226
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	30	94	559	35	97	129	1385	22	241	933	226
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	30	94	559	35	97	129	1385	22	241	933	226
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.55	0.45	1.00	1.88	0.12	1.00	1.00	2.95	0.05	2.00	2.00	1.00
Final Sat.:	982	818	1750	3341	209	1750	1750	5512	88	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.05	0.17	0.17	0.06	0.07	0.25	0.25	0.08	0.25	0.13
Crit Moves:		****			****			****			****	
Green Time:	10.4	10.4	10.4	31.3	31.3	31.3	14.2	47.0	47.0	14.3	47.1	47.1
Volume/Cap:	0.41	0.41	0.59	0.61	0.61	0.20	0.60	0.61	0.61	0.61	0.60	0.32
Delay/Veh:	51.0	51.0	56.2	37.8	37.8	32.5	52.3	27.4	27.4	50.6	27.2	23.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.0	51.0	56.2	37.8	37.8	32.5	52.3	27.4	27.4	50.6	27.2	23.2
LOS by Move:	D	D	E	D	D	C	D	C	C	D	C	C
HCM2k95thQ:	6	6	9	19	19	6	9	23	23	9	22	11

Note: Queue reported is the number of cars per lane.

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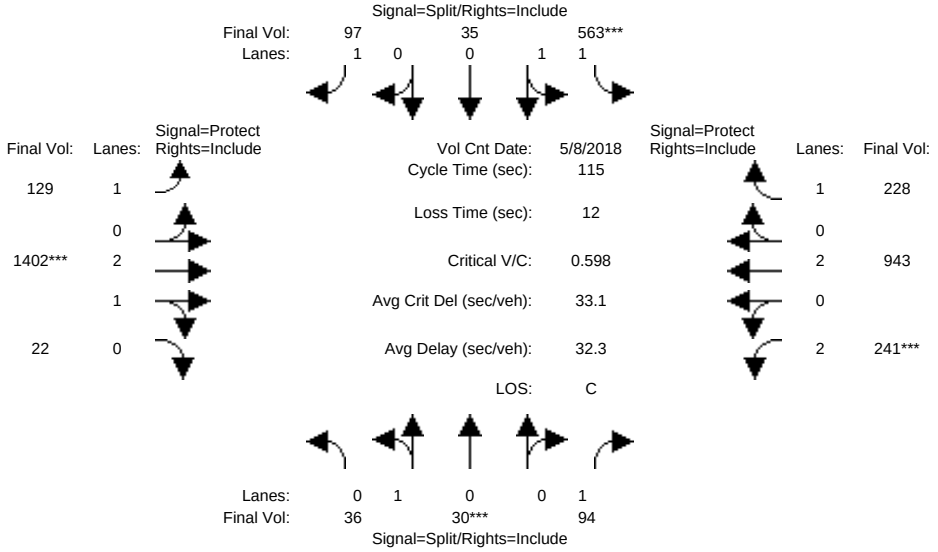
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #106: Madrone Parkway/Cochrane Plaza and Cochrane Road



Street Name:	Madrone Parkway/Cochrane Plaza						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	36	30	94	559	35	97	129	1385	22	241	933	226
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	30	94	559	35	97	129	1385	22	241	933	226
Added Vol:	0	0	0	4	0	0	0	17	0	0	10	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	36	30	94	563	35	97	129	1402	22	241	943	228
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	36	30	94	563	35	97	129	1402	22	241	943	228
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	36	30	94	563	35	97	129	1402	22	241	943	228
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	36	30	94	563	35	97	129	1402	22	241	943	228
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.93	0.95	0.92	0.92	0.98	0.95	0.83	1.00	0.92
Lanes:	0.55	0.45	1.00	1.88	0.12	1.00	1.00	2.95	0.05	2.00	2.00	1.00
Final Sat.:	982	818	1750	3342	208	1750	1750	5513	87	3150	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.05	0.17	0.17	0.06	0.07	0.25	0.25	0.08	0.25	0.13
Crit Moves:		****		****				****		****		
Green Time:	10.3	10.3	10.3	31.3	31.3	31.3	14.1	47.2	47.2	14.2	47.3	47.3
Volume/Cap:	0.41	0.41	0.60	0.62	0.62	0.20	0.60	0.62	0.62	0.62	0.60	0.32
Delay/Veh:	51.1	51.1	56.6	37.9	37.9	32.5	52.6	27.3	27.3	50.9	27.1	23.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.1	51.1	56.6	37.9	37.9	32.5	52.6	27.3	27.3	50.9	27.1	23.1
LOS by Move:	D	D	E	D	D	C	D	C	C	D	C	C
HCM2k95thQ:	6	6	9	19	19	6	9	23	23	9	23	11

Note: Queue reported is the number of cars per lane.

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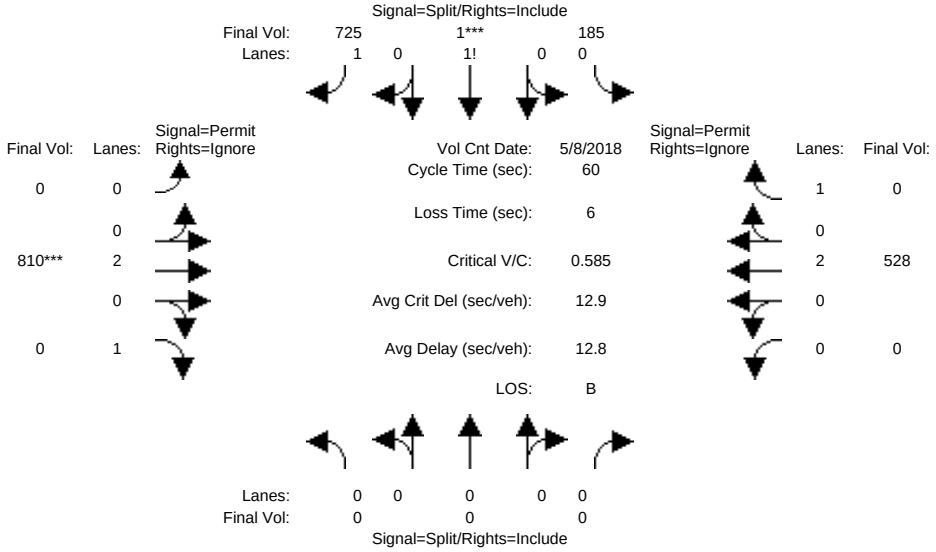
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	185	1	725	0	810	238	0	528	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	185	1	725	0	810	238	0	528	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	185	1	725	0	810	238	0	528	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	185	1	725	0	810	0	0	528	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	185	1	725	0	810	0	0	528	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	185	1	725	0	810	0	0	528	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.33	0.01	1.66	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	590	3	2907	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.31	0.31	0.25	0.00	0.21	0.00	0.00	0.14	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	32.1	32.1	32.1	0.0	21.9	0.0	0.0	21.9	0.0
Volume/Cap:	0.00	0.00	0.00	0.59	0.59	0.47	0.00	0.59	0.00	0.00	0.38	0.00
Delay/Veh:	0.0	0.0	0.0	10.0	10.0	8.8	0.0	16.1	0.0	0.0	14.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	10.0	10.0	8.8	0.0	16.1	0.0	0.0	14.3	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	15	15	11	0	12	0	0	7	0

Note: Queue reported is the number of cars per lane.

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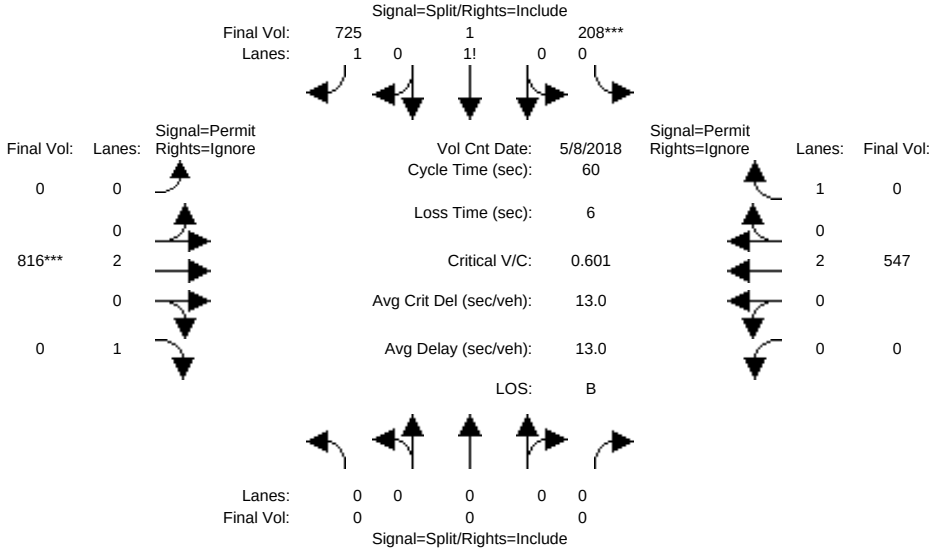
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	185	1	725	0	810	238	0	528	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	185	1	725	0	810	238	0	528	0
Added Vol:	0	0	0	23	0	0	0	6	0	0	19	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	208	1	725	0	816	238	0	547	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	208	1	725	0	816	0	0	547	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	208	1	725	0	816	0	0	547	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	208	1	725	0	816	0	0	547	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.36	0.01	1.63	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	637	3	2860	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.33	0.33	0.25	0.00	0.21	0.00	0.00	0.14	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	32.6	32.6	32.6	0.0	21.4	0.0	0.0	21.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.60	0.60	0.47	0.00	0.60	0.00	0.00	0.40	0.00
Delay/Veh:	0.0	0.0	0.0	10.0	10.0	8.6	0.0	16.6	0.0	0.0	14.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	10.0	10.0	8.6	0.0	16.6	0.0	0.0	14.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	16	16	11	0	12	0	0	7	0

Note: Queue reported is the number of cars per lane.

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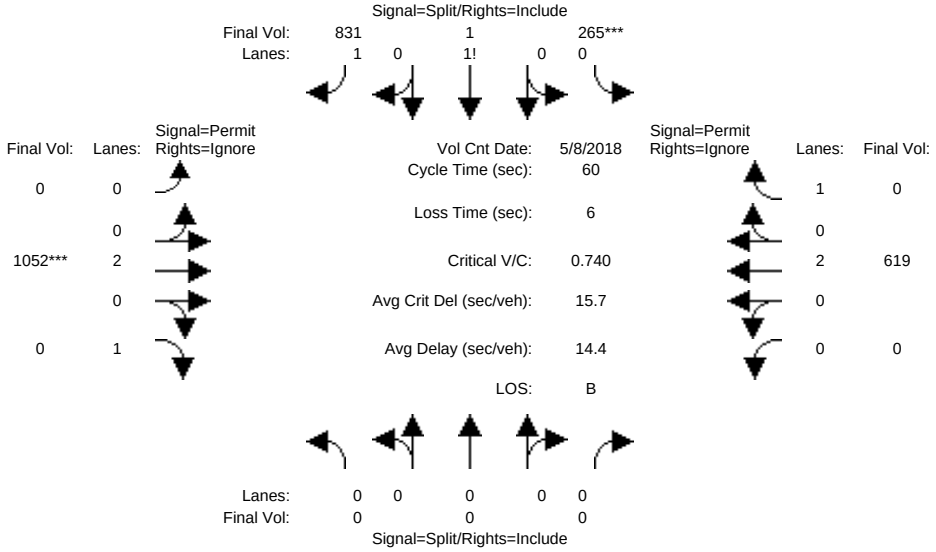
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	265	1	831	0	1052	267	0	619	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	265	1	831	0	1052	267	0	619	152
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	265	1	831	0	1052	267	0	619	152
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	265	1	831	0	1052	0	0	619	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	265	1	831	0	1052	0	0	619	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	265	1	831	0	1052	0	0	619	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.38	0.01	1.61	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	680	3	2817	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.39	0.39	0.30	0.00	0.28	0.00	0.00	0.16	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	31.6	31.6	31.6	0.0	22.4	0.0	0.0	22.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.74	0.74	0.56	0.00	0.74	0.00	0.00	0.44	0.00
Delay/Veh:	0.0	0.0	0.0	13.1	13.1	9.9	0.0	18.4	0.0	0.0	14.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.1	13.1	9.9	0.0	18.4	0.0	0.0	14.3	0.0
LOS by Move:	A	A	A	B	B	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	22	22	14	0	16	0	0	8	0

Note: Queue reported is the number of cars per lane.

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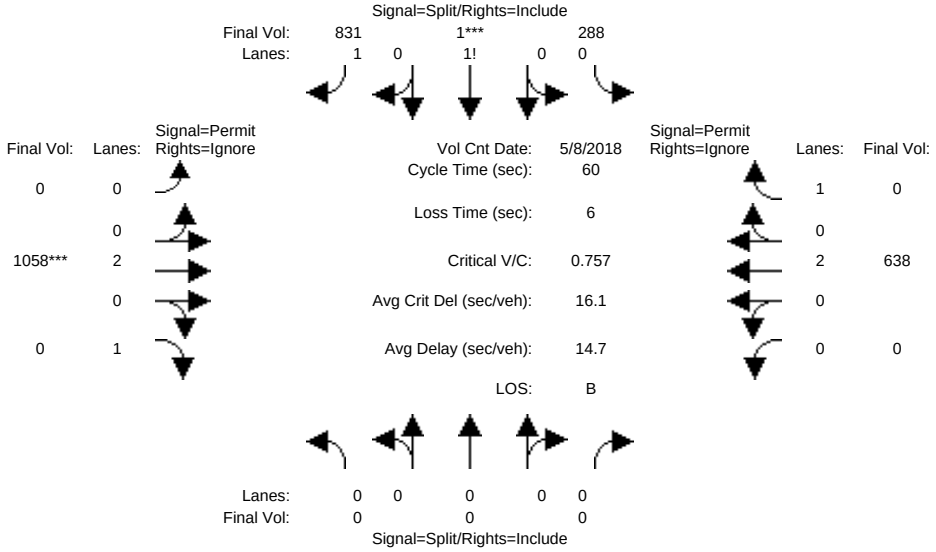
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	265	1	831	0	1052	267	0	619	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	265	1	831	0	1052	267	0	619	152
Added Vol:	0	0	0	23	0	0	0	6	0	0	19	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	288	1	831	0	1058	267	0	638	163
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	288	1	831	0	1058	0	0	638	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	288	1	831	0	1058	0	0	638	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	288	1	831	0	1058	0	0	638	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.40	0.01	1.59	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	715	2	2782	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.40	0.40	0.30	0.00	0.28	0.00	0.00	0.17	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	31.9	31.9	31.9	0.0	22.1	0.0	0.0	22.1	0.0
Volume/Cap:	0.00	0.00	0.00	0.76	0.76	0.56	0.00	0.76	0.00	0.00	0.46	0.00
Delay/Veh:	0.0	0.0	0.0	13.3	13.3	9.7	0.0	19.0	0.0	0.0	14.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.3	13.3	9.7	0.0	19.0	0.0	0.0	14.6	0.0
LOS by Move:	A	A	A	B	B	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	23	23	14	0	17	0	0	9	0

Note: Queue reported is the number of cars per lane.

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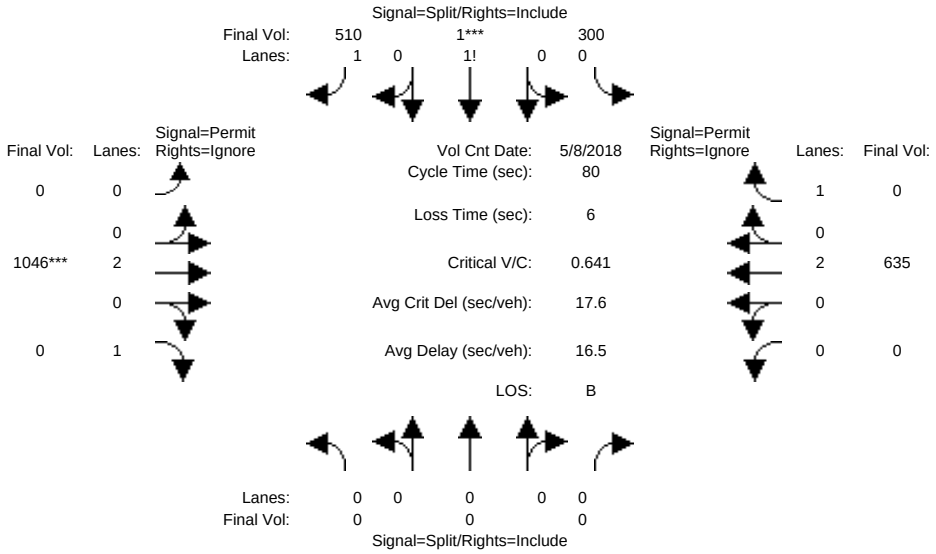
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	300	1	510	0	1046	741	0	635	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	300	1	510	0	1046	741	0	635	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	300	1	510	0	1046	741	0	635	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	300	1	510	0	1046	0	0	635	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	300	1	510	0	1046	0	0	635	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	300	1	510	0	1046	0	0	635	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.54	0.01	1.45	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	944	3	2553	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.32	0.32	0.20	0.00	0.28	0.00	0.00	0.17	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	39.6	39.6	39.6	0.0	34.4	0.0	0.0	34.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.64	0.64	0.40	0.00	0.64	0.00	0.00	0.39	0.00
Delay/Veh:	0.0	0.0	0.0	16.0	16.0	12.9	0.0	18.8	0.0	0.0	15.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.0	16.0	12.9	0.0	18.8	0.0	0.0	15.8	0.0
LOS by Move:	A	A	A	B	B	B	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	21	21	12	0	18	0	0	10	0

Note: Queue reported is the number of cars per lane.

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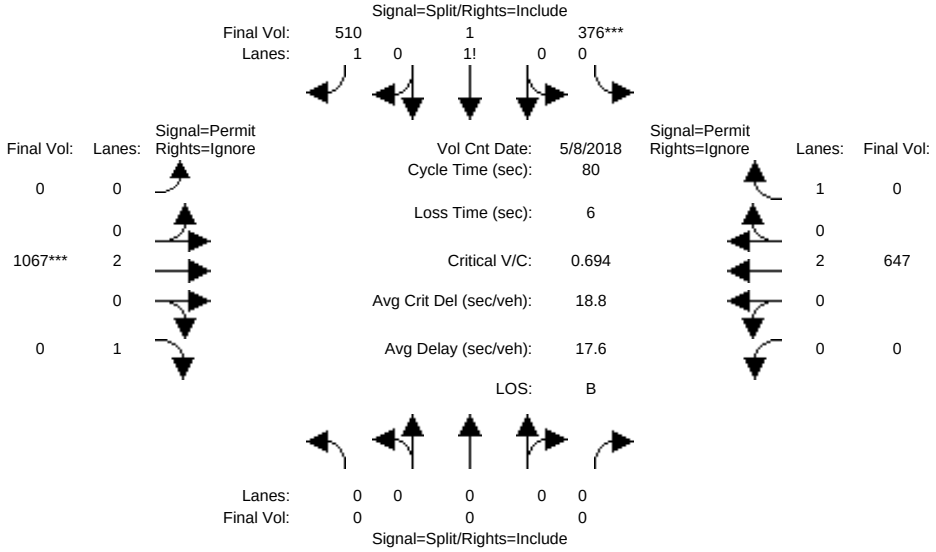
Existing Plus Project PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	300	1	510	0	1046	741	0	635	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	300	1	510	0	1046	741	0	635	0
Added Vol:	0	0	0	76	0	0	0	21	0	0	12	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	376	1	510	0	1067	741	0	647	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	376	1	510	0	1067	0	0	647	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	376	1	510	0	1067	0	0	647	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	376	1	510	0	1067	0	0	647	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.59	0.01	1.40	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1041	3	2456	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.36	0.36	0.21	0.00	0.28	0.00	0.00	0.17	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	41.6	41.6	41.6	0.0	32.4	0.0	0.0	32.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.69	0.69	0.40	0.00	0.69	0.00	0.00	0.42	0.00
Delay/Veh:	0.0	0.0	0.0	16.1	16.1	11.7	0.0	21.1	0.0	0.0	17.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.1	16.1	11.7	0.0	21.1	0.0	0.0	17.3	0.0
LOS by Move:	A	A	A	B	B	B	A	C	A	A	B	A
HCM2k95thQ:	0	0	0	24	24	12	0	20	0	0	11	0

Note: Queue reported is the number of cars per lane.

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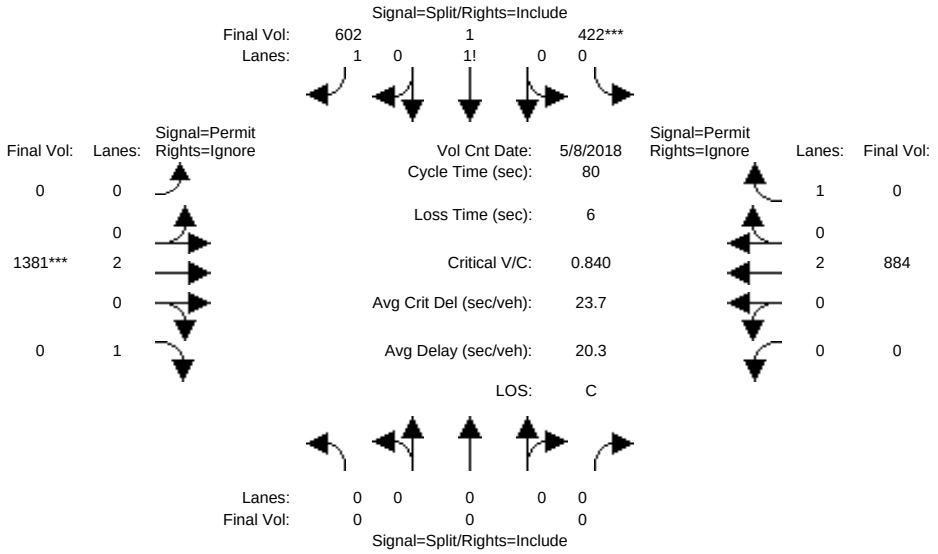
Year 2030 Cumulative without Project PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	422	1	602	0	1381	741	0	884	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	422	1	602	0	1381	741	0	884	157
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	422	1	602	0	1381	741	0	884	157
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	422	1	602	0	1381	0	0	884	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	422	1	602	0	1381	0	0	884	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	422	1	602	0	1381	0	0	884	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.58	0.01	1.41	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1020	2	2478	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.41	0.41	0.24	0.00	0.36	0.00	0.00	0.23	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	39.4	39.4	39.4	0.0	34.6	0.0	0.0	34.6	0.0
Volume/Cap:	0.00	0.00	0.00	0.84	0.84	0.49	0.00	0.84	0.00	0.00	0.54	0.00
Delay/Veh:	0.0	0.0	0.0	22.9	22.9	13.8	0.0	24.3	0.0	0.0	17.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.9	22.9	13.8	0.0	24.3	0.0	0.0	17.1	0.0
LOS by Move:	A	A	A	C	C	B	A	C	A	A	B	A
HCM2k95thQ:	0	0	0	33	33	15	0	27	0	0	15	0

Note: Queue reported is the number of cars per lane.

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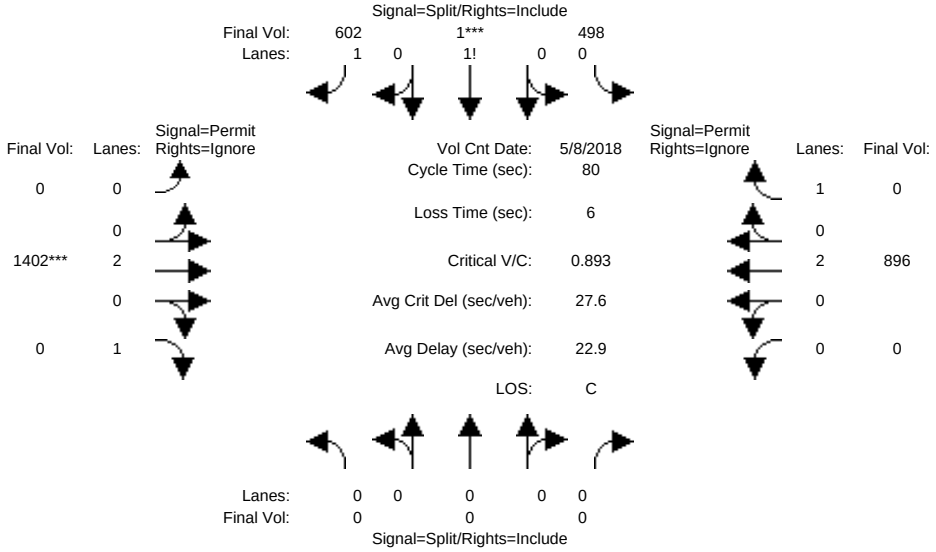
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	422	1	602	0	1381	741	0	884	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	422	1	602	0	1381	741	0	884	157
Added Vol:	0	0	0	76	0	0	0	21	0	0	12	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	498	1	602	0	1402	741	0	896	164
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	498	1	602	0	1402	0	0	896	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	498	1	602	0	1402	0	0	896	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	498	1	602	0	1402	0	0	896	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.62	0.01	1.37	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1089	2	2408	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.46	0.46	0.25	0.00	0.37	0.00	0.00	0.24	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	41.0	41.0	41.0	0.0	33.0	0.0	0.0	33.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.89	0.89	0.49	0.00	0.89	0.00	0.00	0.57	0.00
Delay/Veh:	0.0	0.0	0.0	26.1	26.1	12.9	0.0	28.8	0.0	0.0	18.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	26.1	26.1	12.9	0.0	28.8	0.0	0.0	18.5	0.0
LOS by Move:	A	A	A	C	C	B	A	C	A	A	B	A
HCM2k95thQ:	0	0	0	39	39	15	0	30	0	0	16	0

Note: Queue reported is the number of cars per lane.

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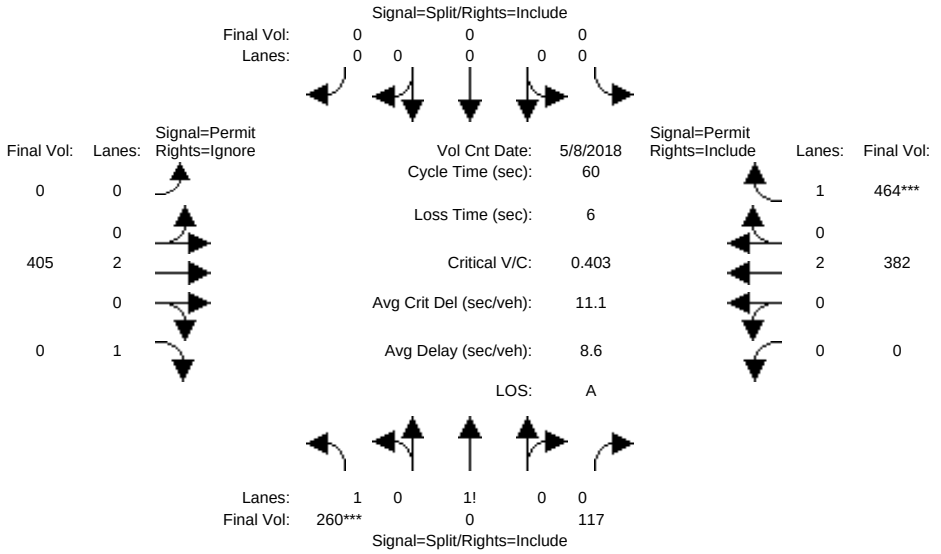
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	117	0	0	0	0	405	0	0	382	464
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	117	0	0	0	0	405	0	0	382	464
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	117	0	0	0	0	405	0	0	382	464
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	117	0	0	0	0	405	0	0	382	464
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	117	0	0	0	0	405	0	0	382	464
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	117	0	0	0	0	405	0	0	382	464
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.53	0.00	0.47	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2671	0	829	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.14	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.10	0.27
Crit Moves:	****											****
Green Time:	18.8	0.0	18.8	0.0	0.0	0.0	0.0	35.2	0.0	0.0	35.2	35.2
Volume/Cap:	0.31	0.00	0.45	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.17	0.45
Delay/Veh:	15.8	0.0	16.9	0.0	0.0	0.0	0.0	5.8	0.0	0.0	5.7	7.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.8	0.0	16.9	0.0	0.0	0.0	0.0	5.8	0.0	0.0	5.7	7.3
LOS by Move:	B	A	B	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	9	0	0	0	0	3	0	0	3	11

Note: Queue reported is the number of cars per lane.

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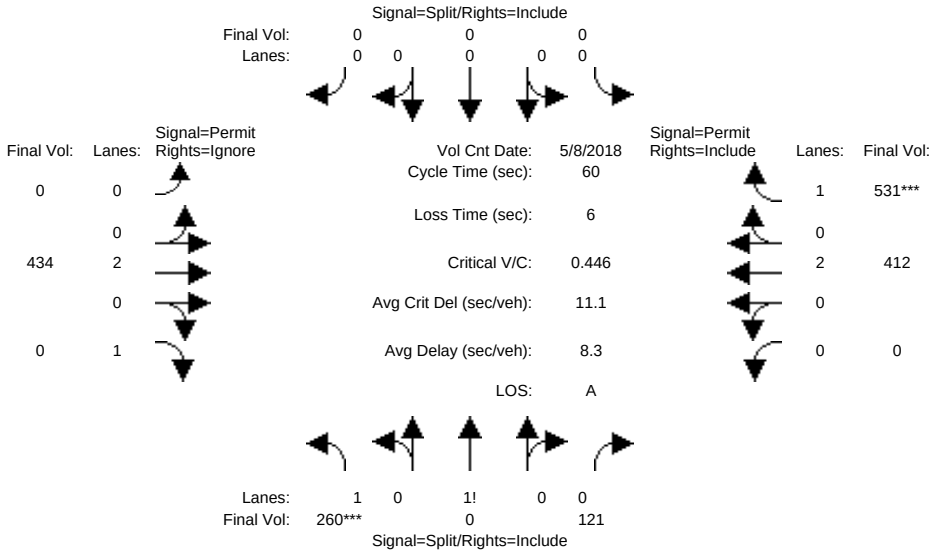
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	117	0	0	0	0	405	0	0	382	464
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	117	0	0	0	0	405	0	0	382	464
Added Vol:	0	0	4	0	0	0	0	29	0	0	30	67
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	121	0	0	0	0	434	0	0	412	531
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	121	0	0	0	0	434	0	0	412	531
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	121	0	0	0	0	434	0	0	412	531
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	121	0	0	0	0	434	0	0	412	531
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.52	0.00	0.48	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2656	0	844	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.14	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11	0.30
Crit Moves:	****											****
Green Time:	17.3	0.0	17.3	0.0	0.0	0.0	0.0	36.7	0.0	0.0	36.7	36.7
Volume/Cap:	0.34	0.00	0.50	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.18	0.50
Delay/Veh:	17.0	0.0	18.2	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.1	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.0	0.0	18.2	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.1	6.9
LOS by Move:	B	A	B	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	9	0	0	0	0	3	0	0	4	12

Note: Queue reported is the number of cars per lane.

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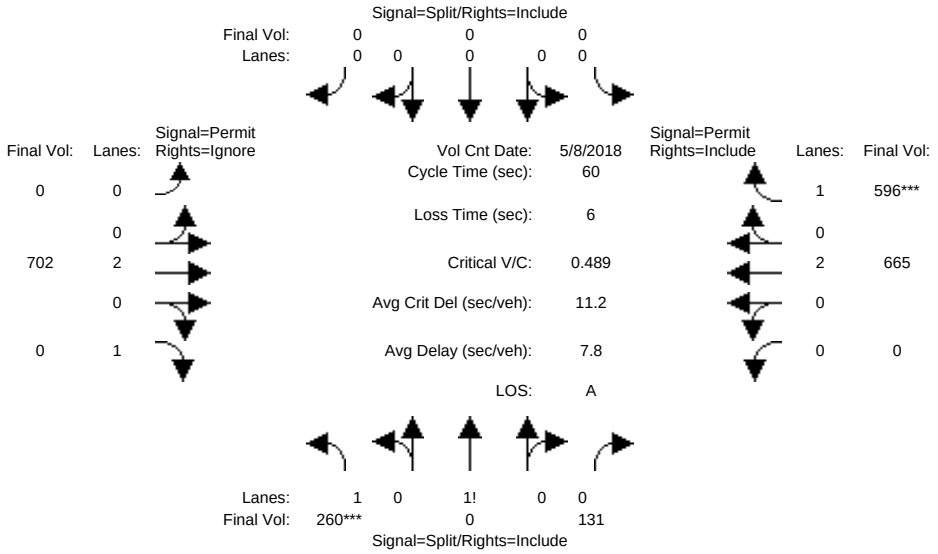
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	131	0	0	0	0	702	0	0	665	596
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	131	0	0	0	0	702	0	0	665	596
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	131	0	0	0	0	702	0	0	665	596
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	131	0	0	0	0	702	0	0	665	596
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	131	0	0	0	0	702	0	0	665	596
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	131	0	0	0	0	702	0	0	665	596
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.50	0.00	0.50	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2622	0	878	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.15	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.17	0.34
Crit Moves:	****											****
Green Time:	16.4	0.0	16.4	0.0	0.0	0.0	0.0	37.6	0.0	0.0	37.6	37.6
Volume/Cap:	0.36	0.00	0.54	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.28	0.54
Delay/Veh:	17.8	0.0	19.4	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.2	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.8	0.0	19.4	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.2	6.9
LOS by Move:	B	A	B	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	10	0	0	0	0	6	0	0	6	14

Note: Queue reported is the number of cars per lane.

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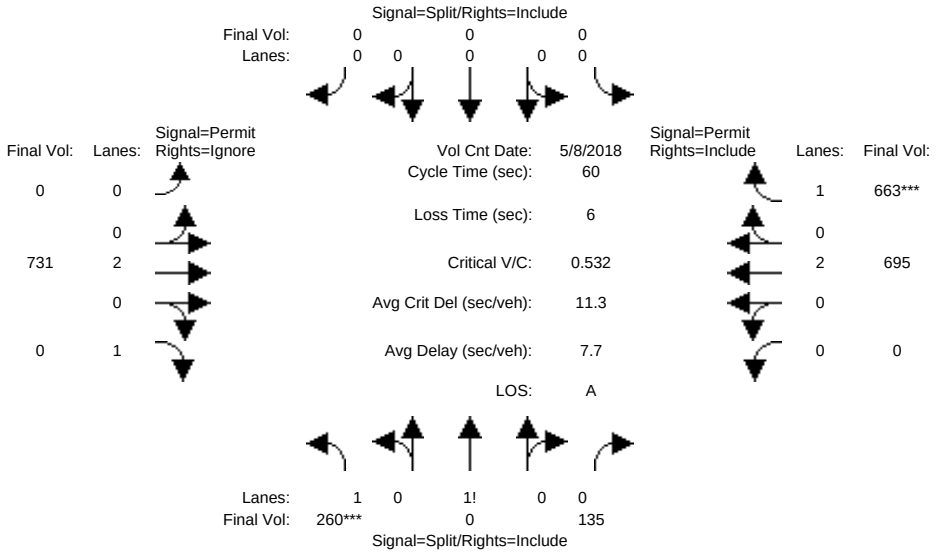

Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	131	0	0	0	0	702	0	0	665	596
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	131	0	0	0	0	702	0	0	665	596
Added Vol:	0	0	4	0	0	0	0	29	0	0	30	67
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	135	0	0	0	0	731	0	0	695	663
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	135	0	0	0	0	731	0	0	695	663
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	135	0	0	0	0	731	0	0	695	663
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	135	0	0	0	0	731	0	0	695	663
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.49	0.00	0.51	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2608	0	892	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.15	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.18	0.38
Crit Moves:	****											****
Green Time:	15.4	0.0	15.4	0.0	0.0	0.0	0.0	38.6	0.0	0.0	38.6	38.6
Volume/Cap:	0.39	0.00	0.59	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.28	0.59
Delay/Veh:	18.6	0.0	20.9	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.7	7.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.6	0.0	20.9	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.7	7.0
LOS by Move:	B	A	C	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	11	0	0	0	0	6	0	0	6	16

Note: Queue reported is the number of cars per lane.

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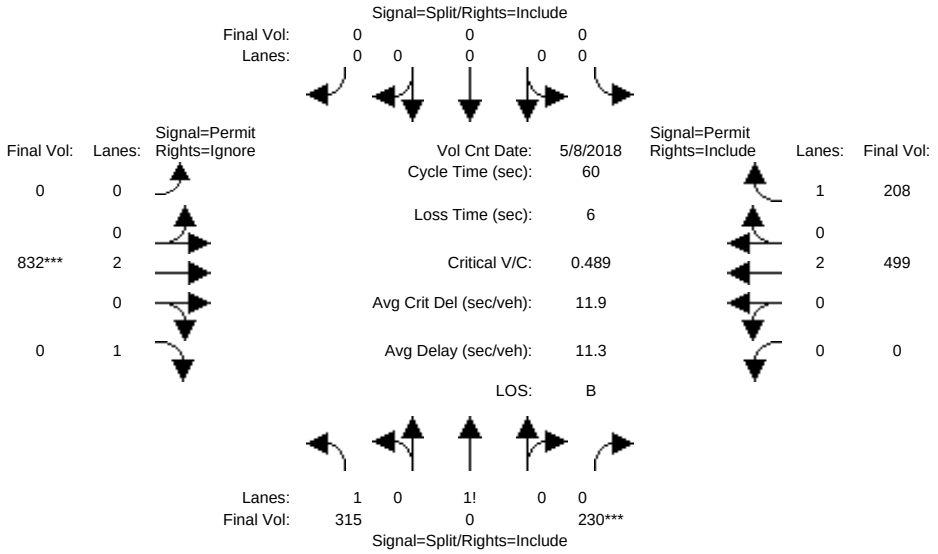
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	315	0	230	0	0	0	0	832	0	0	499	208
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	0	230	0	0	0	0	832	0	0	499	208
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	315	0	230	0	0	0	0	832	0	0	499	208
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	315	0	230	0	0	0	0	832	0	0	499	208
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	0	230	0	0	0	0	832	0	0	499	208
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	315	0	230	0	0	0	0	832	0	0	499	208
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.41	0.00	0.59	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2461	0	1039	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.22	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.13	0.12
Crit Moves:			****					****				
Green Time:	27.2	0.0	27.2	0.0	0.0	0.0	0.0	26.8	0.0	0.0	26.8	26.8
Volume/Cap:	0.28	0.00	0.49	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.29	0.27
Delay/Veh:	10.4	0.0	11.9	0.0	0.0	0.0	0.0	11.9	0.0	0.0	10.6	10.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.4	0.0	11.9	0.0	0.0	0.0	0.0	11.9	0.0	0.0	10.6	10.6
LOS by Move:	B	A	B	A	A	A	A	B	A	A	B	B
HCM2k95thQ:	6	0	11	0	0	0	0	10	0	0	6	5

Note: Queue reported is the number of cars per lane.

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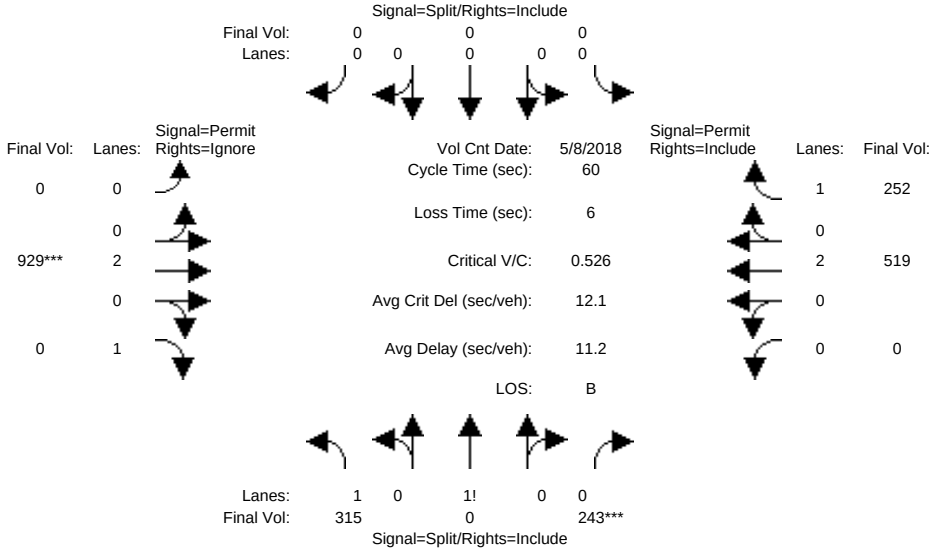
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	315	0	230	0	0	0	0	832	0	0	499	208
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	0	230	0	0	0	0	832	0	0	499	208
Added Vol:	0	0	13	0	0	0	0	97	0	0	20	44
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	315	0	243	0	0	0	0	929	0	0	519	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	315	0	243	0	0	0	0	929	0	0	519	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	0	243	0	0	0	0	929	0	0	519	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	315	0	243	0	0	0	0	929	0	0	519	252
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.39	0.00	0.61	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2438	0	1062	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.23	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.14	0.14
Crit Moves:			****					****				
Green Time:	26.1	0.0	26.1	0.0	0.0	0.0	0.0	27.9	0.0	0.0	27.9	27.9
Volume/Cap:	0.30	0.00	0.53	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.29	0.31
Delay/Veh:	11.1	0.0	12.9	0.0	0.0	0.0	0.0	11.7	0.0	0.0	10.0	10.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.1	0.0	12.9	0.0	0.0	0.0	0.0	11.7	0.0	0.0	10.0	10.3
LOS by Move:	B	A	B	A	A	A	A	B	A	A	B	B
HCM2k95thQ:	6	0	12	0	0	0	0	11	0	0	6	7

Note: Queue reported is the number of cars per lane.

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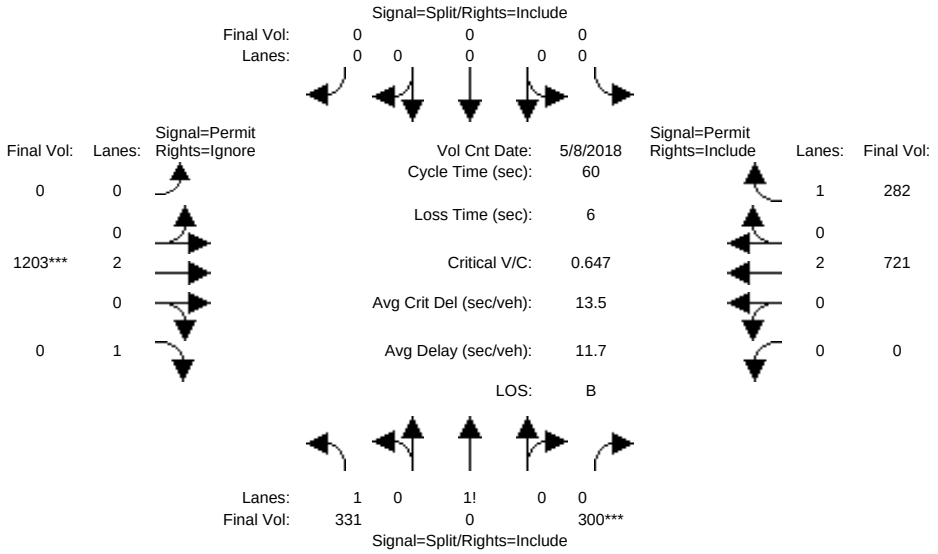
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	331	0	300	0	0	0	0	1203	0	0	721	282
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	0	300	0	0	0	0	1203	0	0	721	282
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	331	0	300	0	0	0	0	1203	0	0	721	282
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	331	0	300	0	0	0	0	1203	0	0	721	282
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	0	300	0	0	0	0	1203	0	0	721	282
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	331	0	300	0	0	0	0	1203	0	0	721	282
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.36	0.00	0.64	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2372	0	1128	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.27	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.19	0.16
Crit Moves:			****					****				
Green Time:	24.7	0.0	24.7	0.0	0.0	0.0	0.0	29.3	0.0	0.0	29.3	29.3
Volume/Cap:	0.34	0.00	0.65	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.39	0.33
Delay/Veh:	12.2	0.0	15.7	0.0	0.0	0.0	0.0	12.3	0.0	0.0	9.8	9.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.2	0.0	15.7	0.0	0.0	0.0	0.0	12.3	0.0	0.0	9.8	9.6
LOS by Move:	B	A	B	A	A	A	A	B	A	A	A	A
HCM2k95thQ:	7	0	16	0	0	0	0	15	0	0	9	7

Note: Queue reported is the number of cars per lane.

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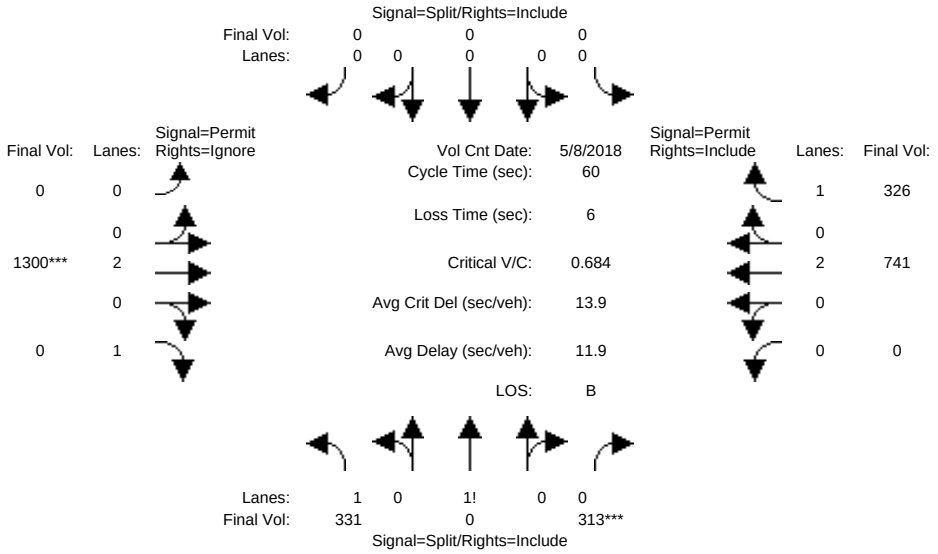
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	331	0	300	0	0	0	0	1203	0	0	721	282
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	0	300	0	0	0	0	1203	0	0	721	282
Added Vol:	0	0	13	0	0	0	0	97	0	0	20	44
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	331	0	313	0	0	0	0	1300	0	0	741	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	331	0	313	0	0	0	0	1300	0	0	741	326
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	0	313	0	0	0	0	1300	0	0	741	326
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	331	0	313	0	0	0	0	1300	0	0	741	326
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.35	0.00	0.65	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2355	0	1145	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.27	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.20	0.19
Crit Moves:			****					****				
Green Time:	24.0	0.0	24.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	30.0	30.0
Volume/Cap:	0.35	0.00	0.68	0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.39	0.37
Delay/Veh:	12.7	0.0	17.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	9.4	9.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.7	0.0	17.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	9.4	9.5
LOS by Move:	B	A	B	A	A	A	A	B	A	A	A	A
HCM2k95thQ:	7	0	17	0	0	0	0	16	0	0	9	8

Note: Queue reported is the number of cars per lane.

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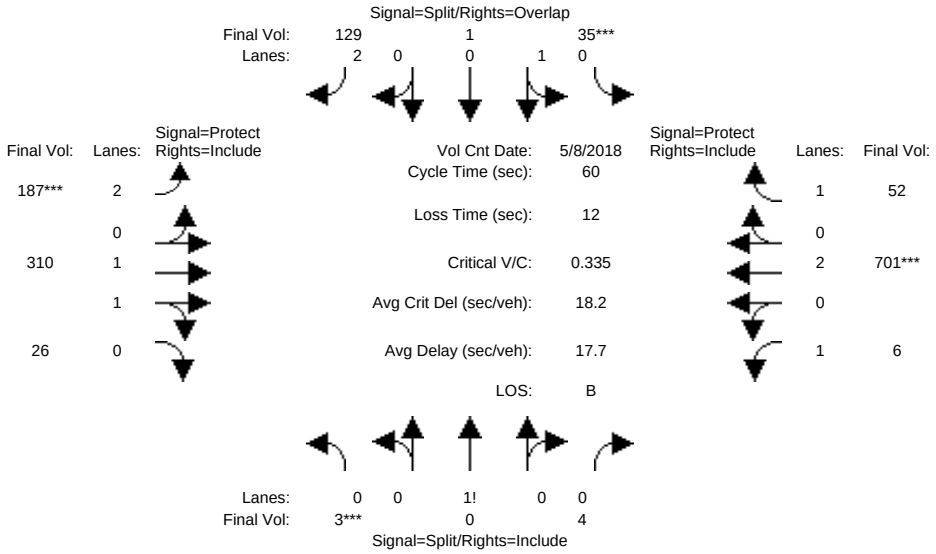
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	3	0	4	35	1	129	187	310	26	6	701	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	0	4	35	1	129	187	310	26	6	701	52
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	0	4	35	1	129	187	310	26	6	701	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	0	4	35	1	129	187	310	26	6	701	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	0	4	35	1	129	187	310	26	6	701	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	0	4	35	1	129	187	310	26	6	701	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.98	0.95	0.92	1.00	0.92
Lanes:	0.43	0.00	0.57	0.97	0.03	2.00	2.00	1.84	0.16	1.00	2.00	1.00
Final Sat.:	750	0	1000	1750	50	3150	3150	3413	286	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.02	0.02	0.04	0.06	0.09	0.09	0.00	0.18	0.03
Crit Moves:	****			****			****				****	
Green Time:	10.0	0.0	10.0	10.0	10.0	17.0	7.0	16.5	16.5	11.5	21.0	21.0
Volume/Cap:	0.02	0.00	0.02	0.12	0.12	0.14	0.51	0.33	0.33	0.02	0.53	0.08
Delay/Veh:	21.0	0.0	21.0	21.4	21.4	16.1	26.1	17.6	17.6	19.7	15.9	13.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.0	0.0	21.0	21.4	21.4	16.1	26.1	17.6	17.6	19.7	15.9	13.1
LOS by Move:	C	A	C	C	C	B	C	B	B	B	B	B
HCM2k95thQ:	0	0	0	1	1	2	6	6	6	0	11	2

Note: Queue reported is the number of cars per lane.

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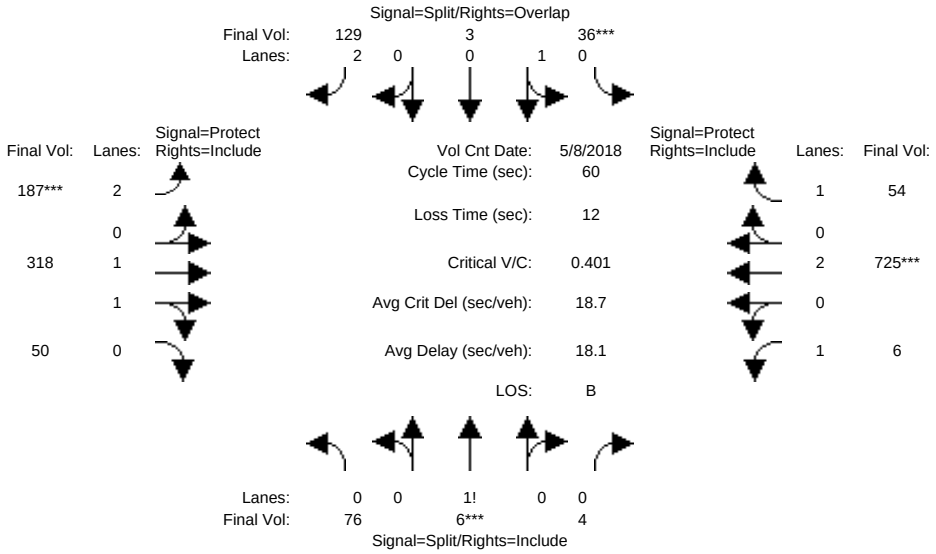
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	3	0	4	35	1	129	187	310	26	6	701	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	0	4	35	1	129	187	310	26	6	701	52
Added Vol:	73	6	0	1	2	0	0	8	24	0	24	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	76	6	4	36	3	129	187	318	50	6	725	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	76	6	4	36	3	129	187	318	50	6	725	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	76	6	4	36	3	129	187	318	50	6	725	54
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	76	6	4	36	3	129	187	318	50	6	725	54
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.98	0.95	0.92	1.00	0.92
Lanes:	0.88	0.07	0.05	0.92	0.08	2.00	2.00	1.72	0.28	1.00	2.00	1.00
Final Sat.:	1547	122	81	1662	138	3150	3150	3197	503	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.05	0.05	0.05	0.02	0.02	0.04	0.06	0.10	0.10	0.00	0.19	0.03
Crit Moves:		****		****			****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	17.0	7.0	16.5	16.5	11.5	21.0	21.0
Volume/Cap:	0.29	0.29	0.29	0.13	0.13	0.14	0.51	0.36	0.36	0.02	0.55	0.09
Delay/Veh:	22.5	22.5	22.5	21.5	21.5	16.1	26.1	17.8	17.8	19.7	16.1	13.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.5	22.5	22.5	21.5	21.5	16.1	26.1	17.8	17.8	19.7	16.1	13.1
LOS by Move:	C	C	C	C	C	B	C	B	B	B	B	B
HCM2k95thQ:	4	4	4	2	2	2	6	6	6	0	12	2

Note: Queue reported is the number of cars per lane.

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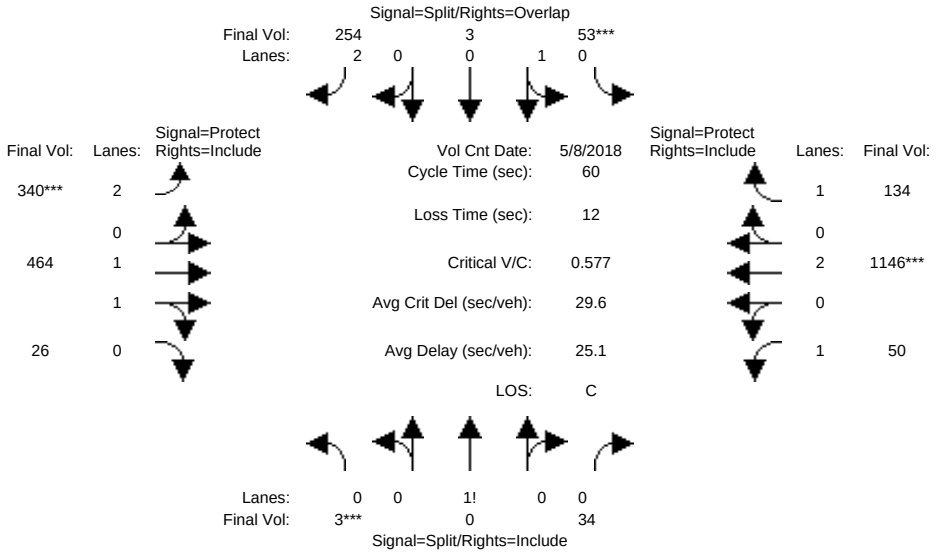
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	3	0	34	53	3	254	340	464	26	50	1146	134
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	0	34	53	3	254	340	464	26	50	1146	134
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	0	34	53	3	254	340	464	26	50	1146	134
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	0	34	53	3	254	340	464	26	50	1146	134
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	3	0	34	53	3	254	340	464	26	50	1146	134
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	3	0	34	53	3	254	340	464	26	50	1146	134
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.98	0.95	0.92	1.00	0.92
Lanes:	0.08	0.00	0.92	0.95	0.05	2.00	2.00	1.89	0.11	1.00	2.00	1.00
Final Sat.:	142	0	1608	1704	96	3150	3150	3504	196	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.02	0.00	0.02	0.03	0.03	0.08	0.11	0.13	0.13	0.03	0.30	0.08
Crit Moves:	****			****			****				****	
Green Time:	10.0	0.0	10.0	10.0	10.0	17.4	7.4	16.5	16.5	11.5	20.6	20.6
Volume/Cap:	0.13	0.00	0.13	0.19	0.19	0.28	0.88	0.48	0.48	0.15	0.88	0.22
Delay/Veh:	21.5	0.0	21.5	21.8	21.8	16.6	45.6	18.6	18.6	20.4	25.5	14.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.5	0.0	21.5	21.8	21.8	16.6	45.6	18.6	18.6	20.4	25.5	14.2
LOS by Move:	C	A	C	C	C	B	D	B	B	C	C	B
HCM2k95thQ:	1	0	1	2	2	5	13	9	9	2	25	4

Note: Queue reported is the number of cars per lane.

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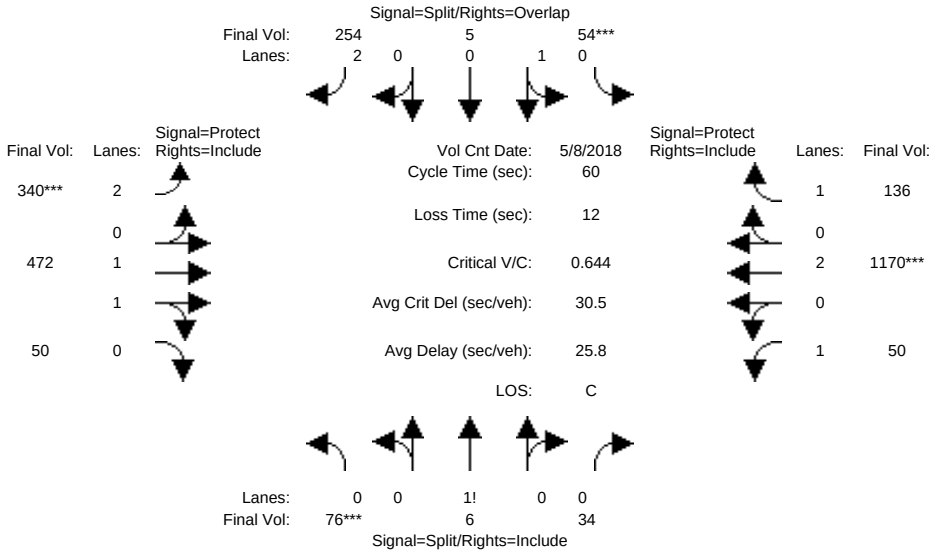
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	3	0	34	53	3	254	340	464	26	50	1146	134
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	3	0	34	53	3	254	340	464	26	50	1146	134
Added Vol:	73	6	0	1	2	0	0	8	24	0	24	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	76	6	34	54	5	254	340	472	50	50	1170	136
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	76	6	34	54	5	254	340	472	50	50	1170	136
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	76	6	34	54	5	254	340	472	50	50	1170	136
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	76	6	34	54	5	254	340	472	50	50	1170	136
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.98	0.95	0.92	1.00	0.92
Lanes:	0.66	0.05	0.29	0.92	0.08	2.00	2.00	1.80	0.20	1.00	2.00	1.00
Final Sat.:	1147	91	513	1647	153	3150	3150	3345	354	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.03	0.03	0.08	0.11	0.14	0.14	0.03	0.31	0.08
Crit Moves:	****			****			****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	17.3	7.3	16.5	16.5	11.5	20.7	20.7
Volume/Cap:	0.40	0.40	0.40	0.20	0.20	0.28	0.89	0.51	0.51	0.15	0.89	0.22
Delay/Veh:	23.2	23.2	23.2	21.9	21.9	16.7	48.0	18.8	18.8	20.4	26.5	14.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.2	23.2	23.2	21.9	21.9	16.7	48.0	18.8	18.8	20.4	26.5	14.1
LOS by Move:	C	C	C	C	C	B	D	B	B	C	C	B
HCM2k95thQ:	5	5	5	2	2	5	14	9	9	2	25	4

Note: Queue reported is the number of cars per lane.

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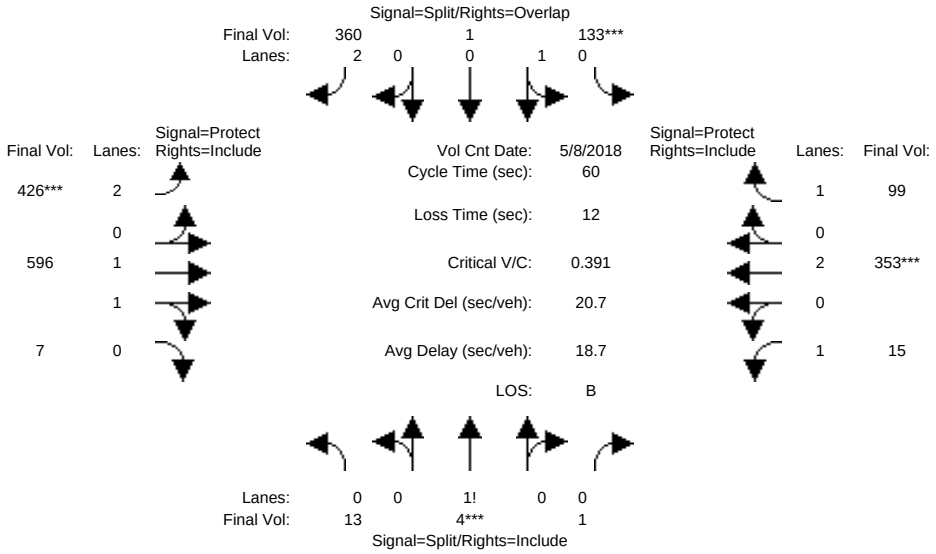
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	13	4	1	133	1	360	426	596	7	15	353	99
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	4	1	133	1	360	426	596	7	15	353	99
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	4	1	133	1	360	426	596	7	15	353	99
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	4	1	133	1	360	426	596	7	15	353	99
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	4	1	133	1	360	426	596	7	15	353	99
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	4	1	133	1	360	426	596	7	15	353	99
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.72	0.22	0.06	0.99	0.01	2.00	2.00	1.98	0.02	1.00	2.00	1.00
Final Sat.:	1264	389	97	1787	13	3150	3150	3657	43	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.07	0.07	0.11	0.14	0.16	0.16	0.01	0.09	0.06
Crit Moves:		****		****			****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	26.6	16.6	16.5	16.5	11.5	11.4	11.4
Volume/Cap:	0.06	0.06	0.06	0.45	0.45	0.26	0.49	0.59	0.59	0.04	0.49	0.30
Delay/Veh:	21.1	21.1	21.1	23.6	23.6	10.6	18.6	19.8	19.8	19.8	22.2	21.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.1	21.1	21.1	23.6	23.6	10.6	18.6	19.8	19.8	19.8	22.2	21.4
LOS by Move:	C	C	C	C	C	B	B	B	B	B	C	C
HCM2k95thQ:	1	1	1	6	6	5	9	11	11	1	7	4

Note: Queue reported is the number of cars per lane.

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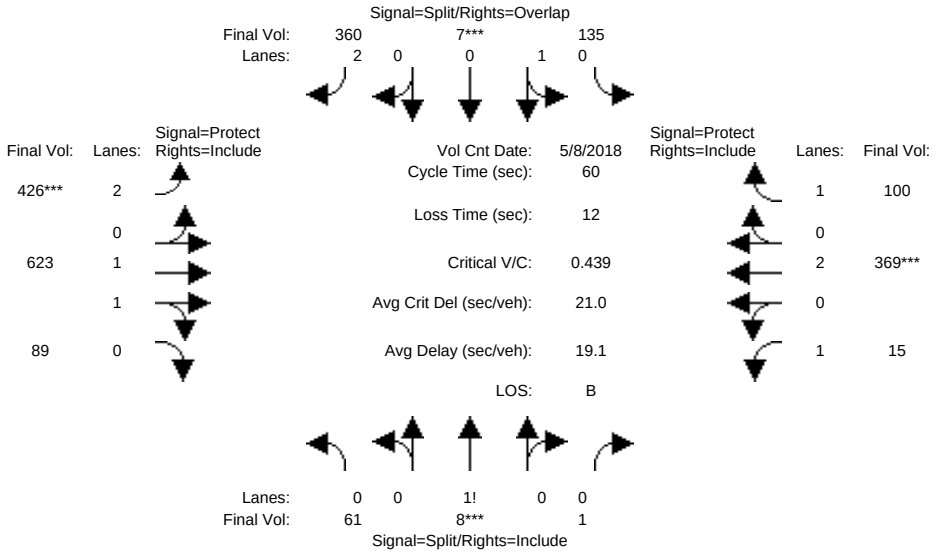
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	13	4	1	133	1	360	426	596	7	15	353	99
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	4	1	133	1	360	426	596	7	15	353	99
Added Vol:	48	4	0	2	6	0	0	27	82	0	16	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	8	1	135	7	360	426	623	89	15	369	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	8	1	135	7	360	426	623	89	15	369	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	8	1	135	7	360	426	623	89	15	369	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	8	1	135	7	360	426	623	89	15	369	100
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.98	0.95	0.92	1.00	0.92
Lanes:	0.88	0.11	0.01	0.95	0.05	2.00	2.00	1.74	0.26	1.00	2.00	1.00
Final Sat.:	1525	200	25	1711	89	3150	3150	3237	462	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.08	0.08	0.11	0.14	0.19	0.19	0.01	0.10	0.06
Crit Moves:		****			****		****				****	
Green Time:	10.0	10.0	10.0	10.0	10.0	26.3	16.3	17.4	17.4	10.6	11.7	11.7
Volume/Cap:	0.24	0.24	0.24	0.47	0.47	0.26	0.50	0.66	0.66	0.05	0.50	0.29
Delay/Veh:	22.1	22.1	22.1	23.8	23.8	10.8	18.9	20.3	20.3	20.6	22.1	21.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.1	22.1	22.1	23.8	23.8	10.8	18.9	20.3	20.3	20.6	22.1	21.1
LOS by Move:	C	C	C	C	C	B	B	C	C	C	C	C
HCM2k95thQ:	3	3	3	6	6	5	9	14	14	1	7	4

Note: Queue reported is the number of cars per lane.

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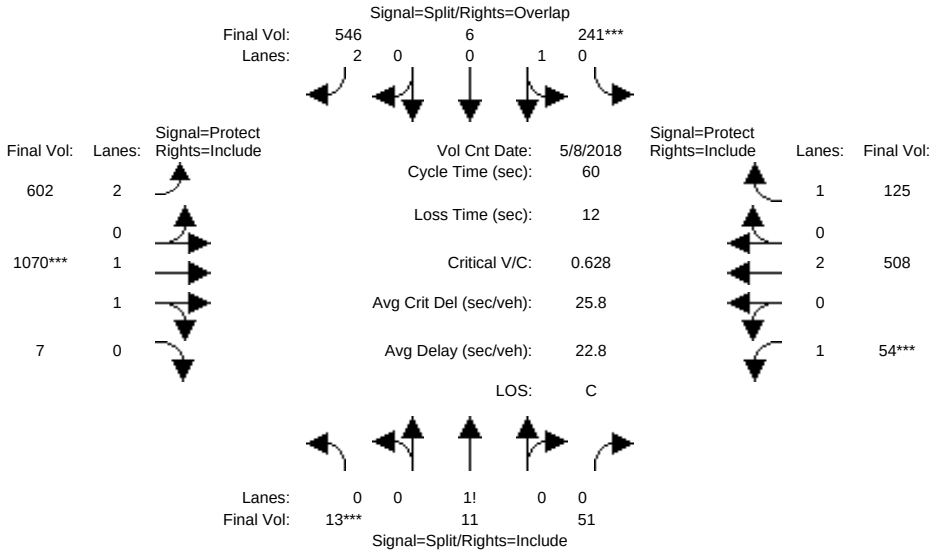
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	13	11	51	241	6	546	602	1070	7	54	508	125
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	11	51	241	6	546	602	1070	7	54	508	125
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	11	51	241	6	546	602	1070	7	54	508	125
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	11	51	241	6	546	602	1070	7	54	508	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	11	51	241	6	546	602	1070	7	54	508	125
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	11	51	241	6	546	602	1070	7	54	508	125
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.97	0.95	0.92	1.00	0.92
Lanes:	0.17	0.15	0.68	0.98	0.02	2.00	2.00	1.99	0.01	1.00	2.00	1.00
Final Sat.:	303	257	1190	1756	44	3150	3150	3676	24	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.04	0.04	0.04	0.14	0.14	0.17	0.19	0.29	0.29	0.03	0.13	0.07
Crit Moves:	****			****				****		****		
Green Time:	10.0	10.0	10.0	10.0	10.0	25.0	15.0	21.0	21.0	7.0	13.0	13.0
Volume/Cap:	0.26	0.26	0.26	0.82	0.82	0.42	0.77	0.83	0.83	0.26	0.61	0.33
Delay/Veh:	22.2	22.2	22.2	40.7	40.7	12.6	25.5	22.6	22.6	24.8	22.6	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.2	22.2	22.2	40.7	40.7	12.6	25.5	22.6	22.6	24.8	22.6	20.3
LOS by Move:	C	C	C	D	D	B	C	C	C	C	C	C
HCM2k95thQ:	3	3	3	14	14	9	16	22	22	3	10	5

Note: Queue reported is the number of cars per lane.

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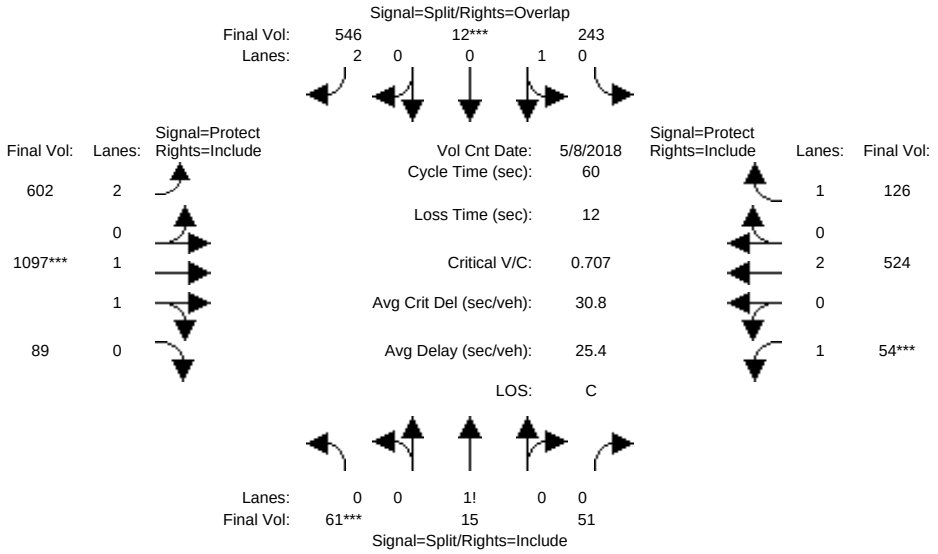
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #109: De Paul Drive and Cochrane Road



Street Name:	De Paul Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	13	11	51	241	6	546	602	1070	7	54	508	125
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	11	51	241	6	546	602	1070	7	54	508	125
Added Vol:	48	4	0	2	6	0	0	27	82	0	16	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	15	51	243	12	546	602	1097	89	54	524	126
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	15	51	243	12	546	602	1097	89	54	524	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	15	51	243	12	546	602	1097	89	54	524	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	15	51	243	12	546	602	1097	89	54	524	126
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.95	0.83	0.83	0.98	0.95	0.92	1.00	0.92
Lanes:	0.48	0.12	0.40	0.95	0.05	2.00	2.00	1.85	0.15	1.00	2.00	1.00
Final Sat.:	841	207	703	1715	85	3150	3150	3422	278	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	0.14	0.14	0.17	0.19	0.32	0.32	0.03	0.14	0.07
Crit Moves:	****				****			****			****	
Green Time:	10.0	10.0	10.0	10.0	10.0	25.0	15.0	21.0	21.0	7.0	13.0	13.0
Volume/Cap:	0.44	0.44	0.44	0.85	0.85	0.42	0.77	0.92	0.92	0.26	0.63	0.33
Delay/Veh:	23.5	23.5	23.5	44.2	44.2	12.6	25.5	29.0	29.0	24.8	22.9	20.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.5	23.5	23.5	44.2	44.2	12.6	25.5	29.0	29.0	24.8	22.9	20.3
LOS by Move:	C	C	C	D	D	B	C	C	C	C	C	C
HCM2k95thQ:	6	6	6	15	15	9	16	27	27	3	11	5

Note: Queue reported is the number of cars per lane.

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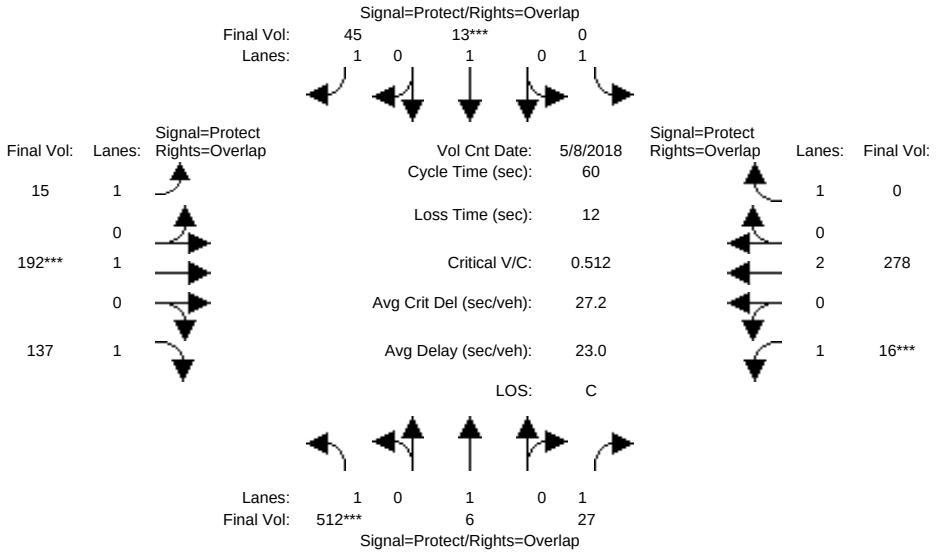
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	512	6	27	0	13	45	15	192	137	16	278	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	512	6	27	0	13	45	15	192	137	16	278	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	512	6	27	0	13	45	15	192	137	16	278	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	512	6	27	0	13	45	15	192	137	16	278	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	512	6	27	0	13	45	15	192	137	16	278	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	512	6	27	0	13	45	15	192	137	16	278	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.29	0.00	0.02	0.00	0.01	0.03	0.01	0.10	0.08	0.01	0.07	0.00
Crit Moves:	****				****			****			****	
Green Time:	21.0	31.0	38.0	0.0	10.0	17.0	7.0	10.0	31.0	7.0	10.0	0.0
Volume/Cap:	0.84	0.01	0.02	0.00	0.04	0.09	0.07	0.61	0.15	0.08	0.44	0.00
Delay/Veh:	27.7	7.0	4.1	0.0	21.0	15.9	23.8	26.5	7.7	23.8	23.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.7	7.0	4.1	0.0	21.0	15.9	23.8	26.5	7.7	23.8	23.0	0.0
LOS by Move:	C	A	A	A	C	B	C	C	A	C	C	A
HCM2k95thQ:	22	0	0	0	0	1	1	9	3	1	6	0

Note: Queue reported is the number of cars per lane.

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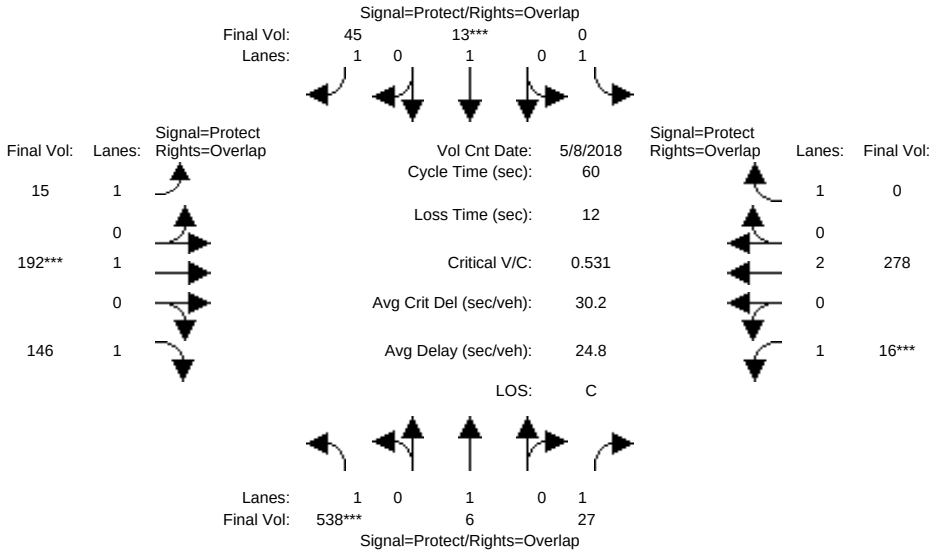
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	512	6	27	0	13	45	15	192	137	16	278	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	512	6	27	0	13	45	15	192	137	16	278	0
Added Vol:	26	0	0	0	0	0	0	0	9	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	538	6	27	0	13	45	15	192	146	16	278	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	538	6	27	0	13	45	15	192	146	16	278	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	538	6	27	0	13	45	15	192	146	16	278	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	538	6	27	0	13	45	15	192	146	16	278	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.31	0.00	0.02	0.00	0.01	0.03	0.01	0.10	0.08	0.01	0.07	0.00
Crit Moves:	****				****			****			****	
Green Time:	21.0	31.0	38.0	0.0	10.0	17.0	7.0	10.0	31.0	7.0	10.0	0.0
Volume/Cap:	0.88	0.01	0.02	0.00	0.04	0.09	0.07	0.61	0.16	0.08	0.44	0.00
Delay/Veh:	32.0	7.0	4.1	0.0	21.0	15.9	23.8	26.5	7.7	23.8	23.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.0	7.0	4.1	0.0	21.0	15.9	23.8	26.5	7.7	23.8	23.0	0.0
LOS by Move:	C	A	A	A	C	B	C	C	A	C	C	A
HCM2k95thQ:	25	0	0	0	0	1	1	9	3	1	6	0

Note: Queue reported is the number of cars per lane.

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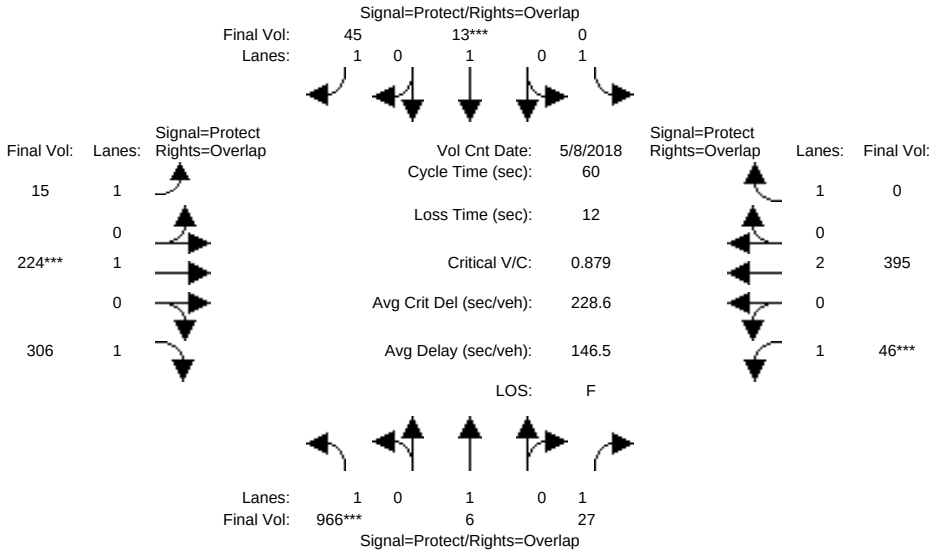
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	966	6	27	0	13	45	15	224	306	46	395	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	966	6	27	0	13	45	15	224	306	46	395	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	966	6	27	0	13	45	15	224	306	46	395	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	966	6	27	0	13	45	15	224	306	46	395	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	966	6	27	0	13	45	15	224	306	46	395	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	966	6	27	0	13	45	15	224	306	46	395	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.55	0.00	0.02	0.00	0.01	0.03	0.01	0.12	0.17	0.03	0.10	0.00
Crit Moves:	****				****			****			****	
Green Time:	21.0	31.0	38.0	0.0	10.0	17.0	7.0	10.0	31.0	7.0	10.0	0.0
Volume/Cap:	1.58	0.01	0.02	0.00	0.04	0.09	0.07	0.71	0.34	0.23	0.62	0.00
Delay/Veh:	287.0	7.0	4.1	0.0	21.0	15.9	23.8	30.8	8.7	24.6	25.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	287.0	7.0	4.1	0.0	21.0	15.9	23.8	30.8	8.7	24.6	25.2	0.0
LOS by Move:	F	A	A	A	C	B	C	C	A	C	C	A
HCM2k95thQ:	103	0	0	0	0	1	1	11	7	2	9	0

Note: Queue reported is the number of cars per lane.

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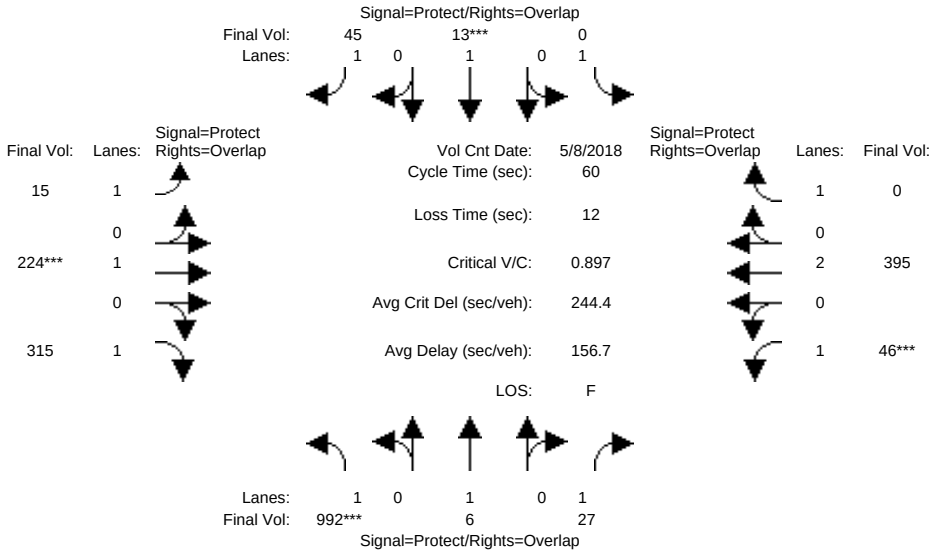
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	966	6	27	0	13	45	15	224	306	46	395	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	966	6	27	0	13	45	15	224	306	46	395	0
Added Vol:	26	0	0	0	0	0	0	0	9	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	992	6	27	0	13	45	15	224	315	46	395	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	992	6	27	0	13	45	15	224	315	46	395	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	992	6	27	0	13	45	15	224	315	46	395	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	992	6	27	0	13	45	15	224	315	46	395	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.57	0.00	0.02	0.00	0.01	0.03	0.01	0.12	0.18	0.03	0.10	0.00
Crit Moves:	****				****			****		****		
Green Time:	21.0	31.0	38.0	0.0	10.0	17.0	7.0	10.0	31.0	7.0	10.0	0.0
Volume/Cap:	1.62	0.01	0.02	0.00	0.04	0.09	0.07	0.71	0.35	0.23	0.62	0.00
Delay/Veh:	305.8	7.0	4.1	0.0	21.0	15.9	23.8	30.8	8.8	24.6	25.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	305.8	7.0	4.1	0.0	21.0	15.9	23.8	30.8	8.8	24.6	25.2	0.0
LOS by Move:	F	A	A	A	C	B	C	C	A	C	C	A
HCM2k95thQ:	109	0	0	0	0	1	1	11	8	2	9	0

Note: Queue reported is the number of cars per lane.

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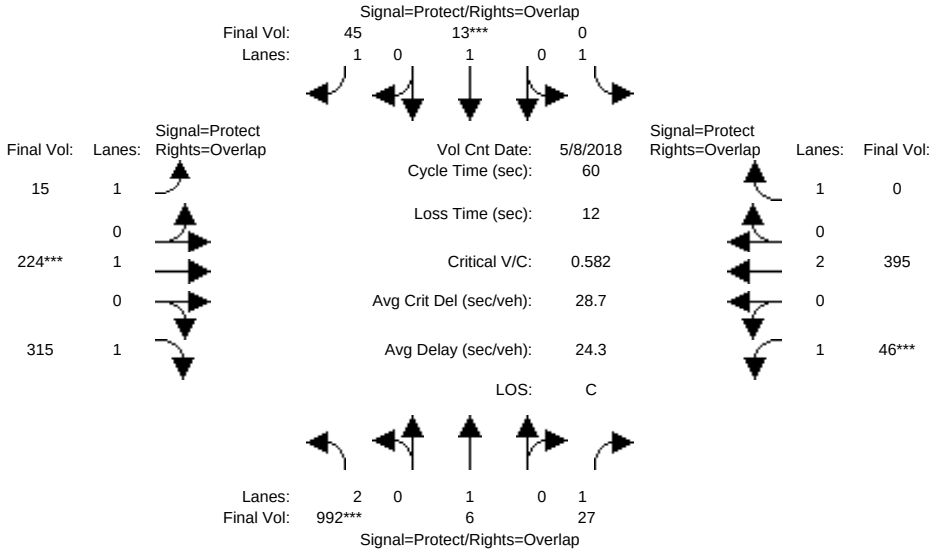
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM (with Mitigations)

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	966	6	27	0	13	45	15	224	306	46	395	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	966	6	27	0	13	45	15	224	306	46	395	0
Added Vol:	26	0	0	0	0	0	0	0	9	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	992	6	27	0	13	45	15	224	315	46	395	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	992	6	27	0	13	45	15	224	315	46	395	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	992	6	27	0	13	45	15	224	315	46	395	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	992	6	27	0	13	45	15	224	315	46	395	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.31	0.00	0.02	0.00	0.01	0.03	0.01	0.12	0.18	0.03	0.10	0.00
Crit Moves:	****				****			****		****		
Green Time:	21.0	31.0	38.0	0.0	10.0	17.0	7.0	10.0	31.0	7.0	10.0	0.0
Volume/Cap:	0.90	0.01	0.02	0.00	0.04	0.09	0.07	0.71	0.35	0.23	0.62	0.00
Delay/Veh:	28.6	7.0	4.1	0.0	21.0	15.9	23.8	30.8	8.8	24.6	25.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.6	7.0	4.1	0.0	21.0	15.9	23.8	30.8	8.8	24.6	25.2	0.0
LOS by Move:	C	A	A	A	C	B	C	C	A	C	C	A
HCM2k95thQ:	26	0	0	0	0	1	1	11	8	2	9	0

Note: Queue reported is the number of cars per lane.

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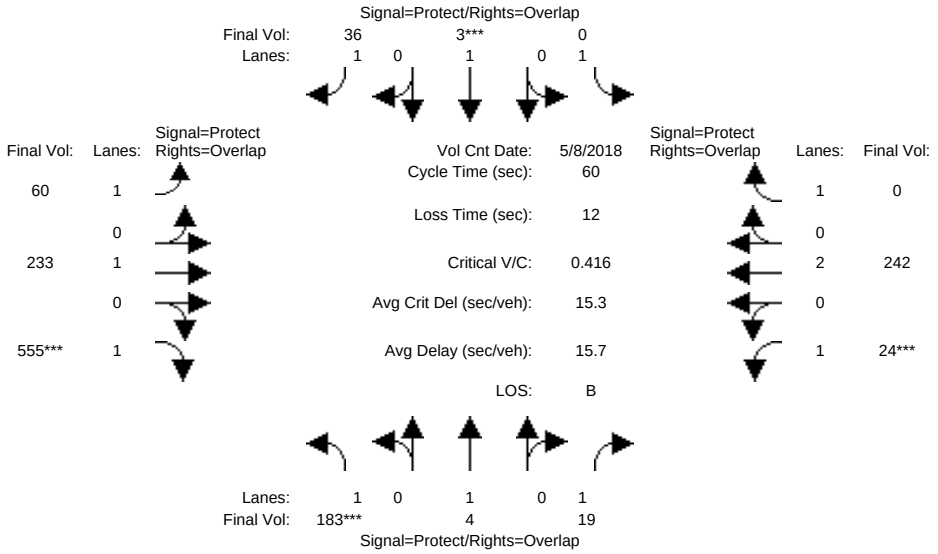
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	183	4	19	0	3	36	60	233	555	24	242	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	183	4	19	0	3	36	60	233	555	24	242	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	183	4	19	0	3	36	60	233	555	24	242	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	183	4	19	0	3	36	60	233	555	24	242	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	183	4	19	0	3	36	60	233	555	24	242	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	183	4	19	0	3	36	60	233	555	24	242	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.01	0.00	0.00	0.02	0.03	0.12	0.32	0.01	0.06	0.00
Crit Moves:	****				****				****	****		
Green Time:	10.6	20.6	27.6	0.0	10.0	21.3	11.3	20.4	31.0	7.0	16.1	0.0
Volume/Cap:	0.59	0.01	0.02	0.00	0.01	0.06	0.18	0.36	0.61	0.12	0.24	0.00
Delay/Veh:	25.7	12.9	8.8	0.0	20.9	12.8	20.8	15.3	11.5	24.0	17.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.7	12.9	8.8	0.0	20.9	12.8	20.8	15.3	11.5	24.0	17.3	0.0
LOS by Move:	C	B	A	A	C	B	C	B	B	C	B	A
HCM2k95thQ:	9	0	0	0	0	1	2	7	16	1	4	0

Note: Queue reported is the number of cars per lane.

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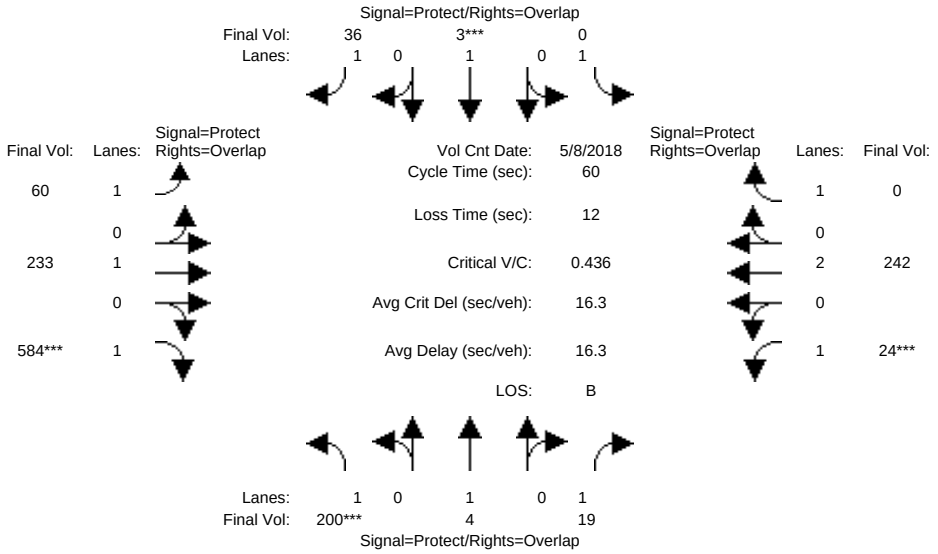
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	183	4	19	0	3	36	60	233	555	24	242	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	183	4	19	0	3	36	60	233	555	24	242	0
Added Vol:	17	0	0	0	0	0	0	0	29	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	200	4	19	0	3	36	60	233	584	24	242	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	200	4	19	0	3	36	60	233	584	24	242	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	200	4	19	0	3	36	60	233	584	24	242	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	200	4	19	0	3	36	60	233	584	24	242	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.00	0.01	0.00	0.00	0.02	0.03	0.12	0.33	0.01	0.06	0.00
Crit Moves:	****				****				****	****		
Green Time:	10.7	20.7	27.7	0.0	10.0	21.2	11.2	20.3	31.0	7.0	16.1	0.0
Volume/Cap:	0.64	0.01	0.02	0.00	0.01	0.06	0.18	0.36	0.65	0.12	0.24	0.00
Delay/Veh:	27.4	12.9	8.8	0.0	20.9	12.8	20.8	15.3	12.1	24.0	17.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.4	12.9	8.8	0.0	20.9	12.8	20.8	15.3	12.1	24.0	17.3	0.0
LOS by Move:	C	B	A	A	C	B	C	B	B	C	B	A
HCM2k95thQ:	10	0	0	0	0	1	2	7	17	1	4	0

Note: Queue reported is the number of cars per lane.

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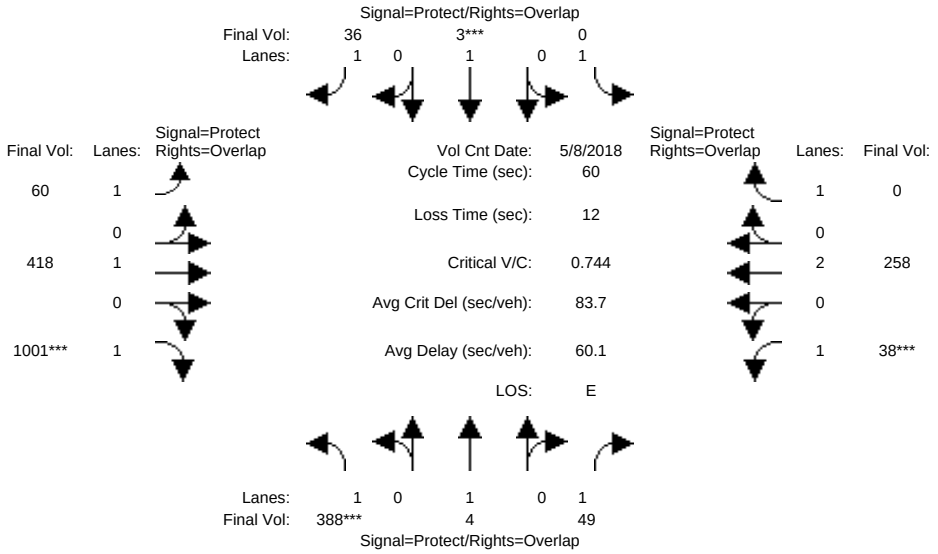
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	388	4	49	0	3	36	60	418	1001	38	258	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	388	4	49	0	3	36	60	418	1001	38	258	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	388	4	49	0	3	36	60	418	1001	38	258	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	388	4	49	0	3	36	60	418	1001	38	258	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	388	4	49	0	3	36	60	418	1001	38	258	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	388	4	49	0	3	36	60	418	1001	38	258	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.22	0.00	0.03	0.00	0.00	0.02	0.03	0.22	0.57	0.02	0.07	0.00
Crit Moves:	****				****				****	****		
Green Time:	12.0	22.0	29.0	0.0	10.0	20.7	10.7	19.0	31.0	7.0	15.3	0.0
Volume/Cap:	1.11	0.01	0.06	0.00	0.01	0.06	0.19	0.70	1.11	0.19	0.27	0.00
Delay/Veh:	104.1	12.1	8.3	0.0	20.9	13.2	21.3	21.5	78.3	24.4	18.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	104.1	12.1	8.3	0.0	20.9	13.2	21.3	21.5	78.3	24.4	18.0	0.0
LOS by Move:	F	B	A	A	C	B	C	C	E	C	B	A
HCM2k95thQ:	30	0	1	0	0	1	2	15	60	2	4	0

Note: Queue reported is the number of cars per lane.

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City of Morgan Hill
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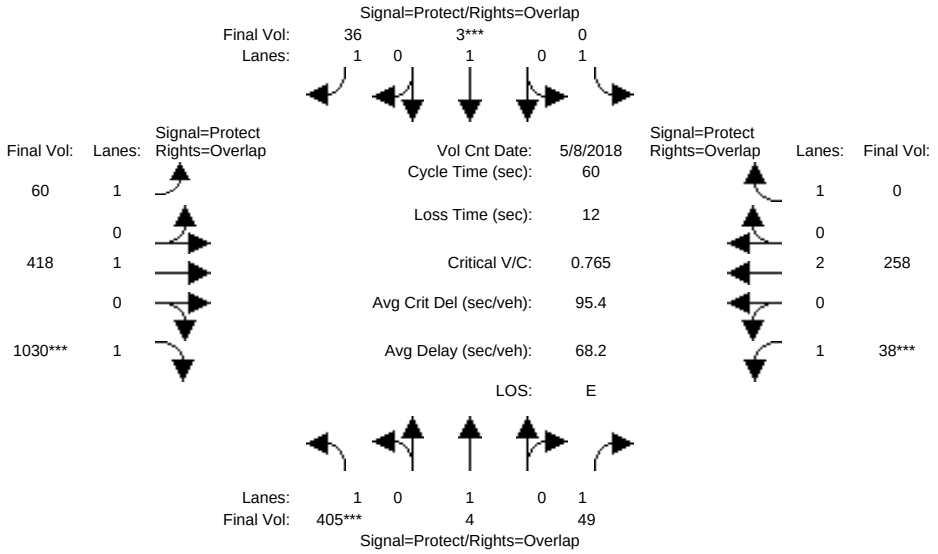
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	388	4	49	0	3	36	60	418	1001	38	258	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	388	4	49	0	3	36	60	418	1001	38	258	0
Added Vol:	17	0	0	0	0	0	0	0	29	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	405	4	49	0	3	36	60	418	1030	38	258	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	405	4	49	0	3	36	60	418	1030	38	258	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	405	4	49	0	3	36	60	418	1030	38	258	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	405	4	49	0	3	36	60	418	1030	38	258	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	1750	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.23	0.00	0.03	0.00	0.00	0.02	0.03	0.22	0.59	0.02	0.07	0.00
Crit Moves:	****				****				****	****		
Green Time:	12.2	22.2	29.2	0.0	10.0	20.6	10.6	18.8	31.0	7.0	15.2	0.0
Volume/Cap:	1.14	0.01	0.06	0.00	0.01	0.06	0.19	0.70	1.14	0.19	0.27	0.00
Delay/Veh:	115.0	11.9	8.2	0.0	20.9	13.2	21.3	21.9	90.5	24.4	18.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	115.0	11.9	8.2	0.0	20.9	13.2	21.3	21.9	90.5	24.4	18.1	0.0
LOS by Move:	F	B	A	A	C	B	C	C	F	C	B	A
HCM2k95thQ:	32	0	1	0	0	1	2	16	65	2	4	0

Note: Queue reported is the number of cars per lane.

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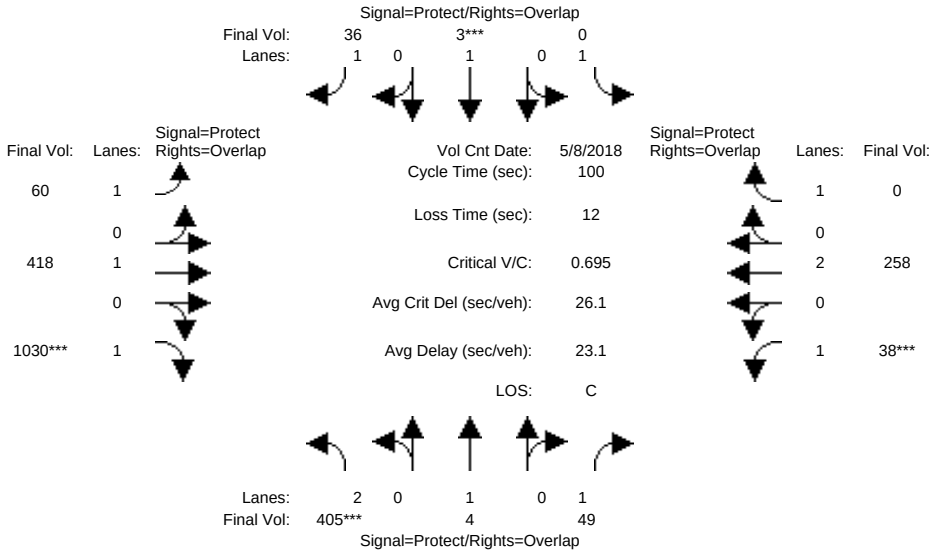
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM (with Mitigations)

Intersection #110: Mission View Drive and Cochrane Road



Street Name:	Mission View Drive						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	388	4	49	0	3	36	60	418	1001	38	258	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	388	4	49	0	3	36	60	418	1001	38	258	0
Added Vol:	17	0	0	0	0	0	0	0	29	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	405	4	49	0	3	36	60	418	1030	38	258	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	405	4	49	0	3	36	60	418	1030	38	258	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	405	4	49	0	3	36	60	418	1030	38	258	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	405	4	49	0	3	36	60	418	1030	38	258	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.83	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Final Sat.:	3150	1900	1750	1750	1900	1750	1750	1900	1750	1750	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.03	0.00	0.00	0.02	0.03	0.22	0.59	0.02	0.07	0.00
Crit Moves:	****				****				****	****		
Green Time:	15.5	25.5	32.5	0.0	10.0	35.7	25.7	55.5	71.0	7.0	36.8	0.0
Volume/Cap:	0.83	0.01	0.09	0.00	0.02	0.06	0.13	0.40	0.83	0.31	0.18	0.00
Delay/Veh:	52.3	27.8	23.5	0.0	40.6	21.1	28.7	12.9	15.0	45.7	21.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.3	27.8	23.5	0.0	40.6	21.1	28.7	12.9	15.0	45.7	21.5	0.0
LOS by Move:	D	C	C	A	D	C	C	B	B	D	C	A
HCM2k95thQ:	18	0	2	0	0	2	3	14	43	3	5	0

Note: Queue reported is the number of cars per lane.

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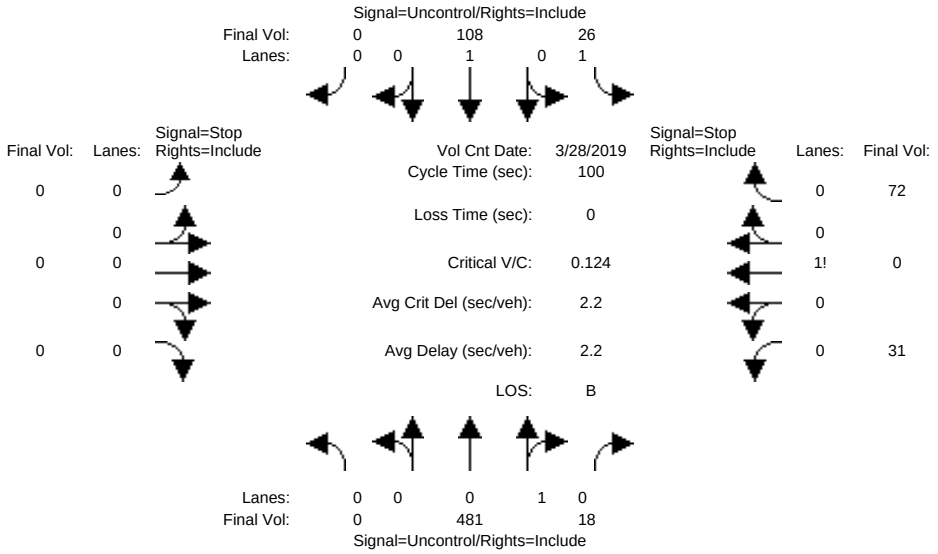
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	481	18	26	108	0	0	0	0	31	0	72
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	481	18	26	108	0	0	0	0	31	0	72
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	481	18	26	108	0	0	0	0	31	0	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	481	18	26	108	0	0	0	0	31	0	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	481	18	26	108	0	0	0	0	31	0	72
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	499	xxxx	xxxxx	xxxx	xxxx	xxxxx	650	650	490
Potent Cap.:	xxxx	xxxx	xxxxx	1075	xxxx	xxxxx	xxxx	xxxx	xxxxx	437	391	582
Move Cap.:	xxxx	xxxx	xxxxx	1075	xxxx	xxxxx	xxxx	xxxx	xxxxx	429	381	582
Volume/Cap:	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.07	0.00	0.12
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	526	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.7	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			13.5		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

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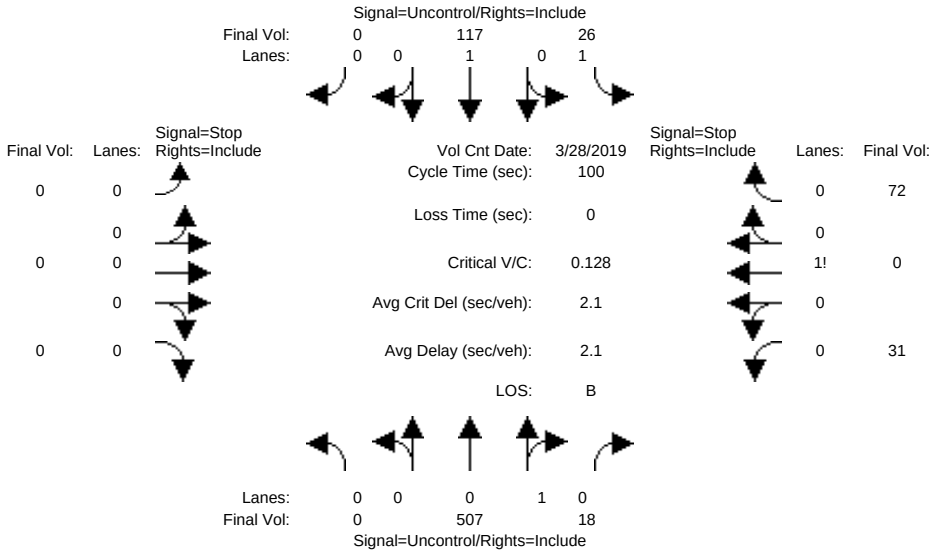
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	481	18	26	108	0	0	0	0	31	0	72
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	481	18	26	108	0	0	0	0	31	0	72
Added Vol:	0	26	0	0	9	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	507	18	26	117	0	0	0	0	31	0	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	507	18	26	117	0	0	0	0	31	0	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	507	18	26	117	0	0	0	0	31	0	72
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	525	xxxx	xxxxx	xxxx	xxxx	xxxxx	685	685	516
Potent Cap.:	xxxx	xxxx	xxxxx	1052	xxxx	xxxxx	xxxx	xxxx	xxxxx	417	373	563
Move Cap.:	xxxx	xxxx	xxxxx	1052	xxxx	xxxxx	xxxx	xxxx	xxxxx	409	364	563
Volume/Cap:	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.08	0.00	0.13
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	506	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.9	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			13.9		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

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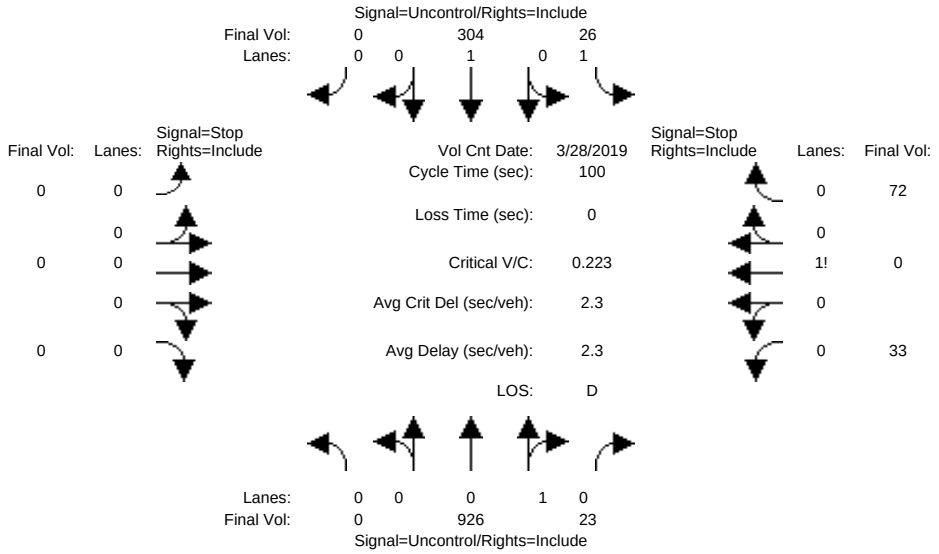
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	926	23	26	304	0	0	0	0	33	0	72
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	926	23	26	304	0	0	0	0	33	0	72
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	926	23	26	304	0	0	0	0	33	0	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	926	23	26	304	0	0	0	0	33	0	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	926	23	26	304	0	0	0	0	33	0	72
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	949	xxxx	xxxxx	xxxx	xxxx	xxxxx	1294	1294	938
Potent Cap.:	xxxx	xxxx	xxxxx	732	xxxx	xxxxx	xxxx	xxxx	xxxxx	181	164	324
Move Cap.:	xxxx	xxxx	xxxxx	732	xxxx	xxxxx	xxxx	xxxx	xxxxx	176	158	324
Volume/Cap:	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.19	0.00	0.22
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	10.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	256	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.9	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	28.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			28.5		
ApproachLOS:	*			*			*			D		

Note: Queue reported is the number of cars per lane.

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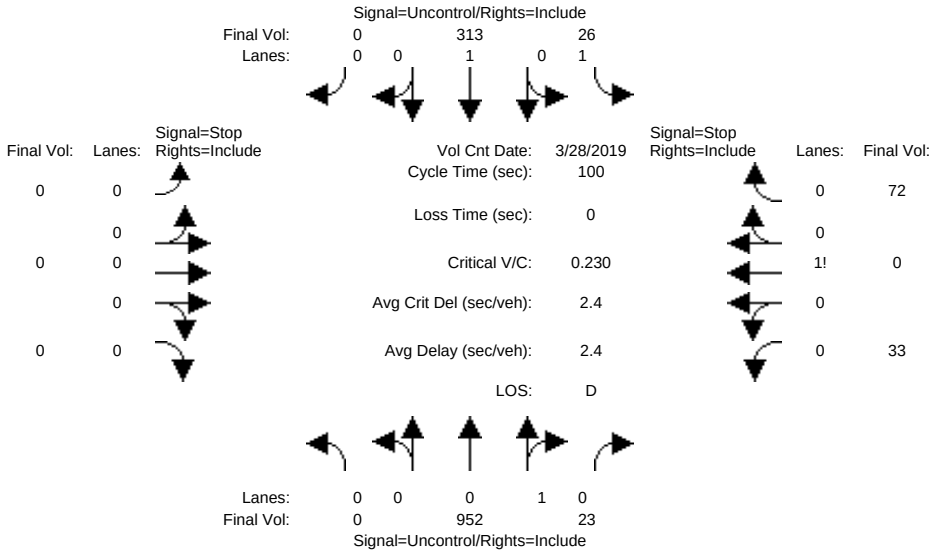
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	926	23	26	304	0	0	0	0	33	0	72
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	926	23	26	304	0	0	0	0	33	0	72
Added Vol:	0	26	0	0	9	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	952	23	26	313	0	0	0	0	33	0	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	952	23	26	313	0	0	0	0	33	0	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	952	23	26	313	0	0	0	0	33	0	72
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	975	xxxx	xxxxx	xxxx	xxxx	xxxxx	1329	1329	964
Potent Cap.:	xxxx	xxxx	xxxxx	716	xxxx	xxxxx	xxxx	xxxx	xxxxx	173	156	313
Move Cap.:	xxxx	xxxx	xxxxx	716	xxxx	xxxxx	xxxx	xxxx	xxxxx	168	151	313
Volume/Cap:	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.20	0.00	0.23
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	10.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	246	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	2.0	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	30.1	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			30.1		
ApproachLOS:	*			*			*			D		

Note: Queue reported is the number of cars per lane.

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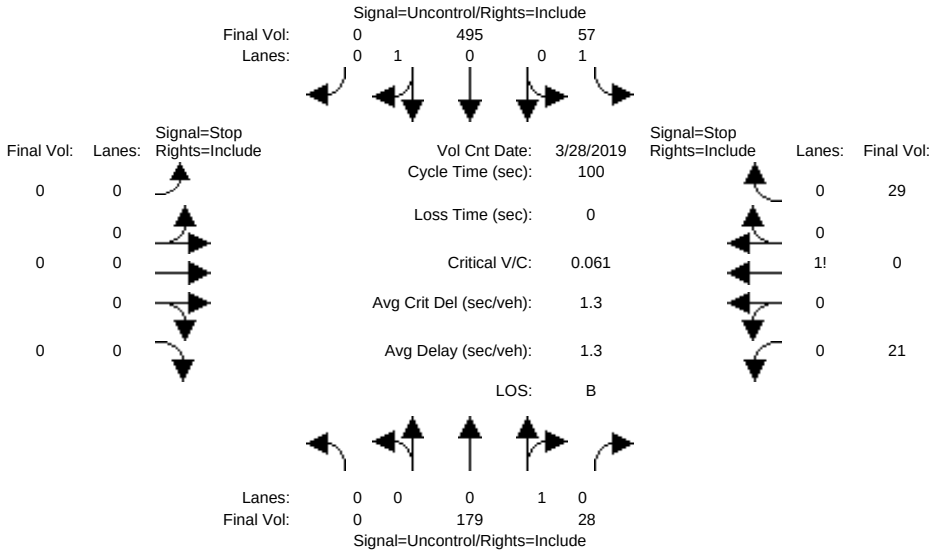
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	179	28	57	495	0	0	0	0	21	0	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	179	28	57	495	0	0	0	0	21	0	29
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	179	28	57	495	0	0	0	0	21	0	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	179	28	57	495	0	0	0	0	21	0	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	179	28	57	495	0	0	0	0	21	0	29
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	207	xxxx	xxxxx	xxxx	xxxx	xxxxx	802	802	193
Potent Cap.:	xxxx	xxxx	xxxxx	1376	xxxx	xxxxx	xxxx	xxxx	xxxxx	356	320	854
Move Cap.:	xxxx	xxxx	xxxxx	1376	xxxx	xxxxx	xxxx	xxxx	xxxxx	345	306	854
Volume/Cap:	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	0.00	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	527	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	12.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			12.5		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

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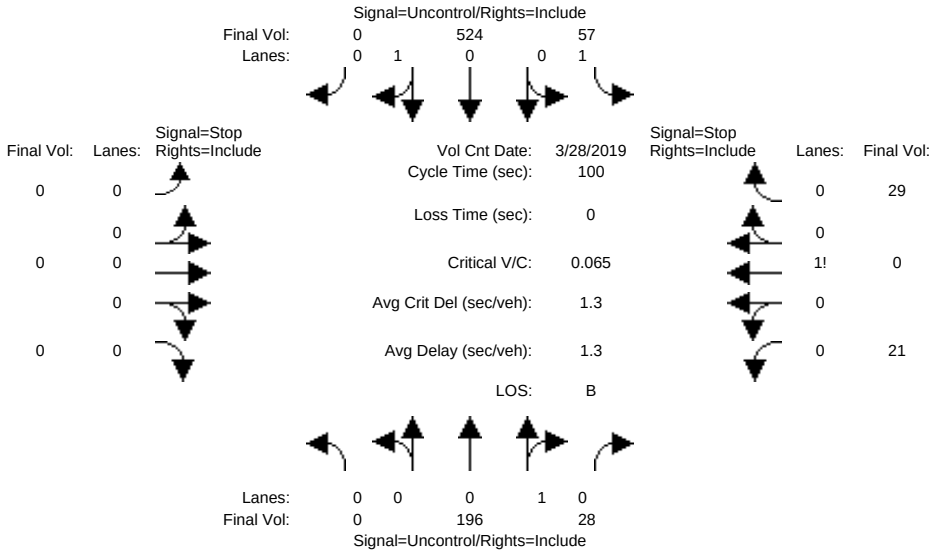
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	179	28	57	495	0	0	0	0	21	0	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	179	28	57	495	0	0	0	0	21	0	29
Added Vol:	0	17	0	0	29	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	196	28	57	524	0	0	0	0	21	0	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	196	28	57	524	0	0	0	0	21	0	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	196	28	57	524	0	0	0	0	21	0	29
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	224	xxxx	xxxxx	xxxx	xxxx	xxxxx	848	848	210
Potent Cap.:	xxxx	xxxx	xxxxx	1357	xxxx	xxxxx	xxxx	xxxx	xxxxx	334	301	835
Move Cap.:	xxxx	xxxx	xxxxx	1357	xxxx	xxxxx	xxxx	xxxx	xxxxx	324	288	835
Volume/Cap:	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	0.00	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	7.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	502	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.3	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.0	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			13.0		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

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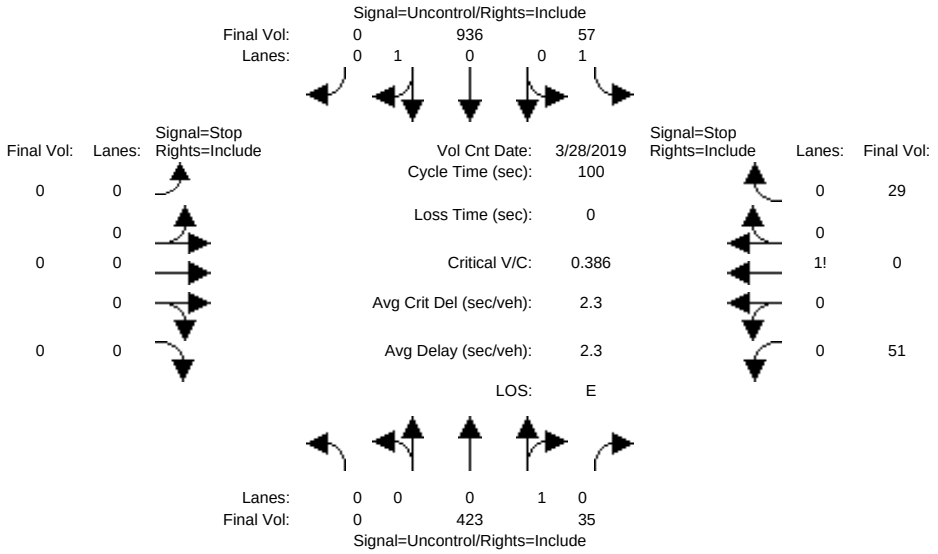
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	423	35	57	936	0	0	0	0	51	0	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	423	35	57	936	0	0	0	0	51	0	29
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	423	35	57	936	0	0	0	0	51	0	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	423	35	57	936	0	0	0	0	51	0	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	423	35	57	936	0	0	0	0	51	0	29
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	458	xxxx	xxxxx	xxxx	xxxx	xxxxx	1491	1491	441
Potent Cap.:	xxxx	xxxx	xxxxx	1114	xxxx	xxxxx	xxxx	xxxx	xxxxx	138	125	621
Move Cap.:	xxxx	xxxx	xxxxx	1114	xxxx	xxxxx	xxxx	xxxx	xxxxx	132	119	621
Volume/Cap:	xxxx	xxxx	xxxx	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	0.39	0.00	0.05
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	185	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	2.0	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	38.5	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	E	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			38.5		
ApproachLOS:	*			*			*			E		

Note: Queue reported is the number of cars per lane.

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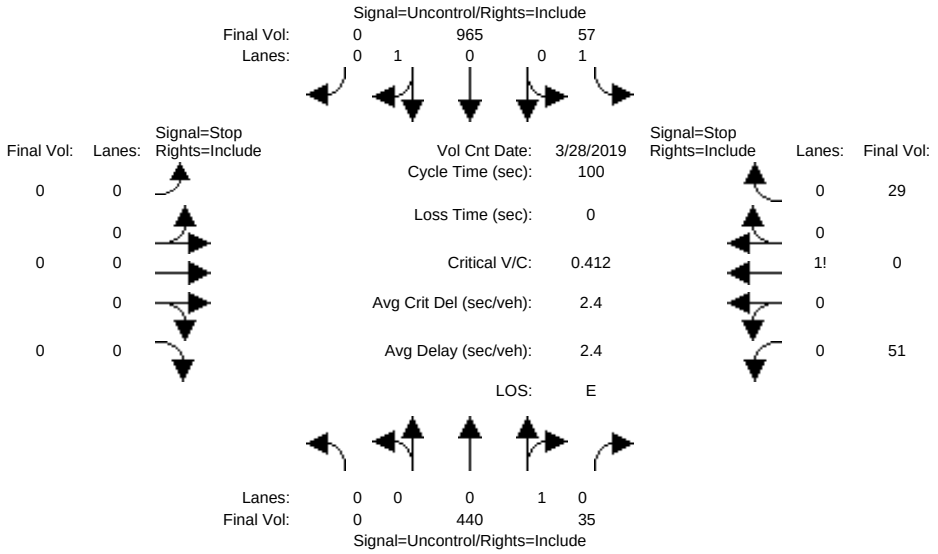
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #5664: Mission View Drive and Avenida De Los Padres



Street Name:	Mission View Drive						Avenida De Los Padres					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	423	35	57	936	0	0	0	0	51	0	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	423	35	57	936	0	0	0	0	51	0	29
Added Vol:	0	17	0	0	29	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	440	35	57	965	0	0	0	0	51	0	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	440	35	57	965	0	0	0	0	51	0	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	440	35	57	965	0	0	0	0	51	0	29
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	475	xxxx	xxxxx	xxxx	xxxx	xxxxx	1537	1537	458
Potent Cap.:	xxxx	xxxx	xxxxx	1098	xxxx	xxxxx	xxxx	xxxx	xxxxx	129	117	607
Move Cap.:	xxxx	xxxx	xxxxx	1098	xxxx	xxxxx	xxxx	xxxx	xxxxx	124	111	607
Volume/Cap:	xxxx	xxxx	xxxx	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	0.41	0.00	0.05
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	174	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	2.2	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	42.1	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	E	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			42.1		
ApproachLOS:	*			*			*			E		

Note: Queue reported is the number of cars per lane.

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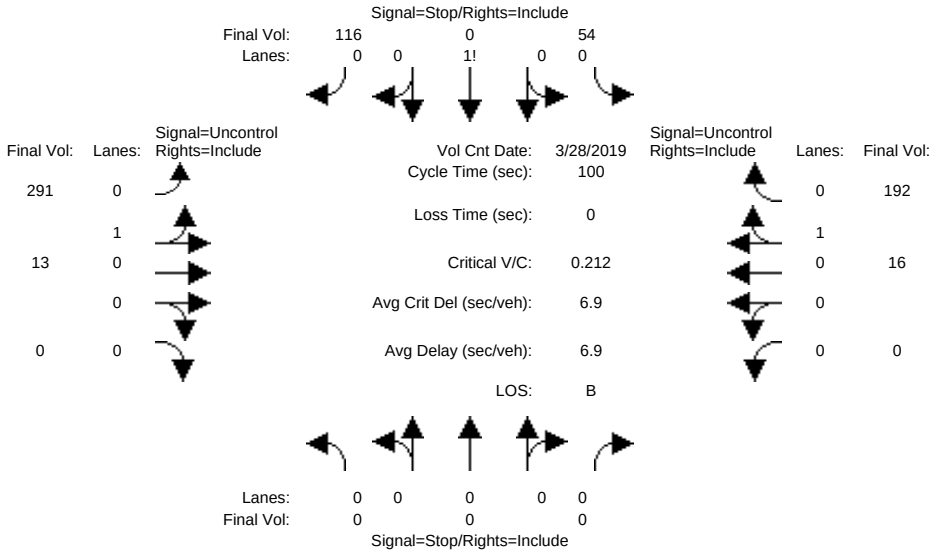
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	54	0	116	291	13	0	0	16	192
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	54	0	116	291	13	0	0	16	192
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	54	0	116	291	13	0	0	16	192
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	54	0	116	291	13	0	0	16	192
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	54	0	116	291	13	0	0	16	192
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	707	707	112	208	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	405	363	947	1375	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	326	271	947	1375	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.17	0.00	0.12	0.21	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.8	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	590	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	1.2	xxxxx	0.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	13.6	xxxxx	8.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			13.6			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

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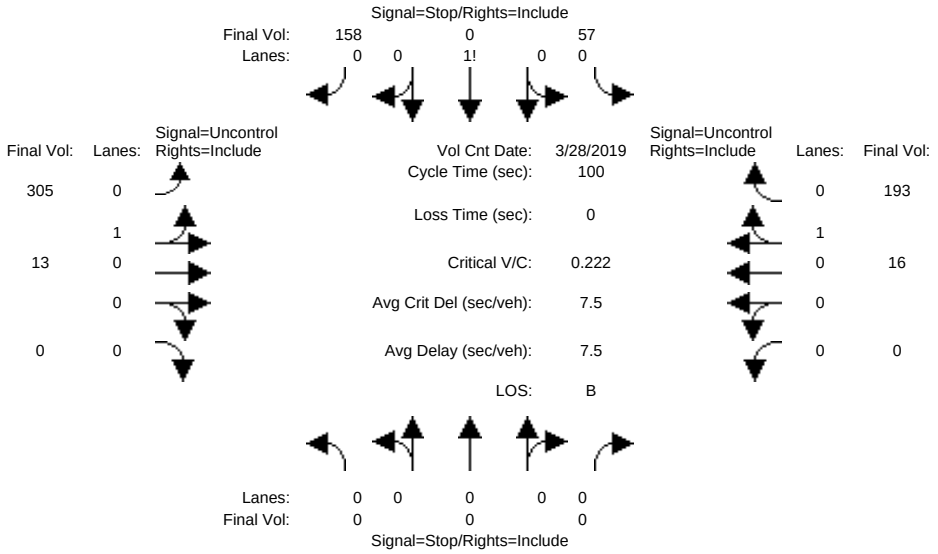
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	54	0	116	291	13	0	0	16	192
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	54	0	116	291	13	0	0	16	192
Added Vol:	0	0	0	3	0	42	14	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	57	0	158	305	13	0	0	16	193
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	57	0	158	305	13	0	0	16	193
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	57	0	158	305	13	0	0	16	193
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	736	736	113	209	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	389	349	946	1374	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	309	256	946	1374	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.18	0.00	0.17	0.22	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.9	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	612	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	1.6	xxxxx	0.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	14.0	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			14.0			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

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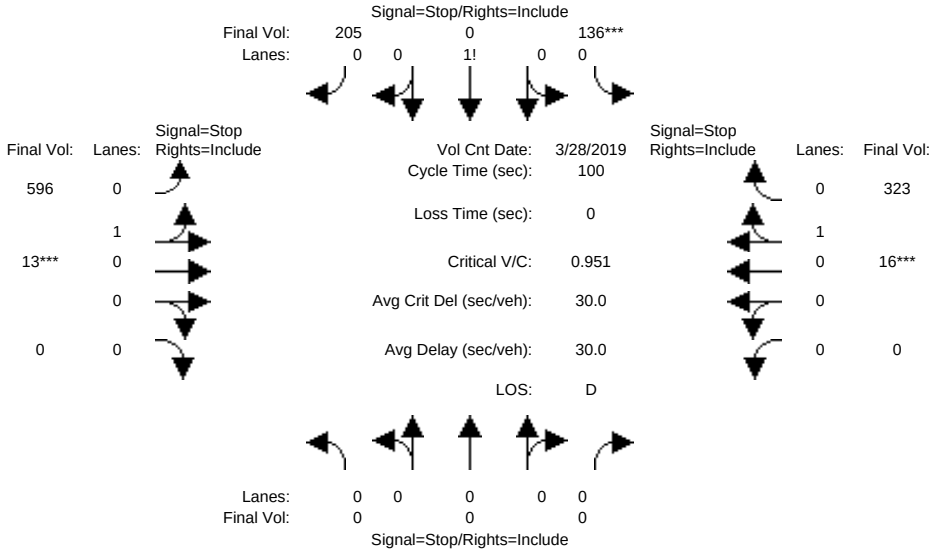
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	136	0	205	596	13	0	0	16	323
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	136	0	205	596	13	0	0	16	323
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	136	0	205	596	13	0	0	16	323
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	136	0	205	596	13	0	0	16	323
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	136	0	205	596	13	0	0	16	323
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	136	0	205	596	13	0	0	16	323
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.40	0.00	0.60	0.98	0.02	0.00	0.00	0.05	0.95
Final Sat.:	0	0	0	237	0	358	627	14	0	0	31	631
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.57	xxxx	0.57	0.95	0.95	xxxx	xxxx	0.51	0.51
Crit Moves:				****				****			****	
Delay/Veh:	0.0	0.0	0.0	16.0	0.0	16.0	47.0	47.0	0.0	0.0	13.3	13.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.0	0.0	16.0	47.0	47.0	0.0	0.0	13.3	13.3
LOS by Move:	*	*	*	C	*	C	E	E	*	*	B	B
ApproachDel:	xxxxxx			16.0			47.0			13.3		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			16.0			47.0			13.3		
LOS by Appr:	*			C			E			B		
AllWayAvgQ:	0.0	0.0	0.0	1.2	1.2	1.2	6.8	6.8	6.8	0.9	0.9	0.9

Note: Queue reported is the number of cars per lane.

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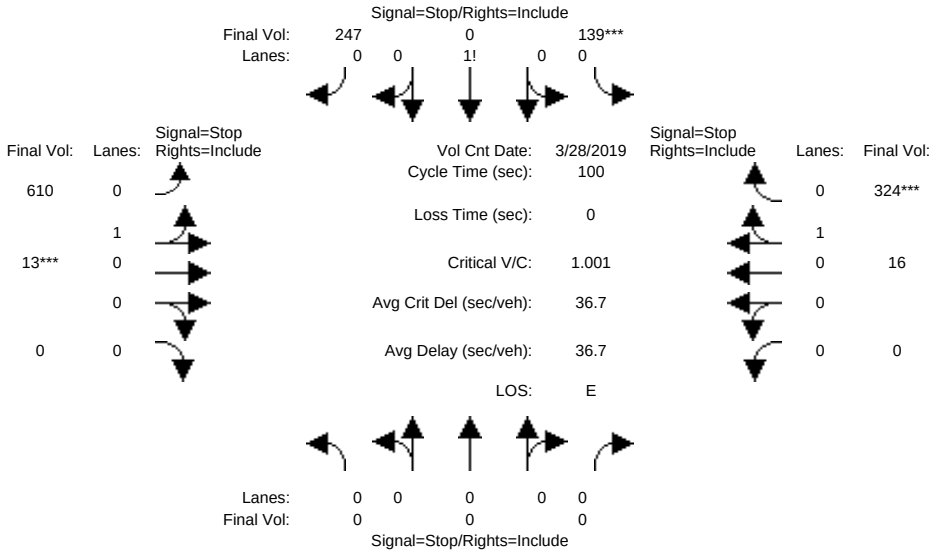
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	136	0	205	596	13	0	0	16	323
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	136	0	205	596	13	0	0	16	323
Added Vol:	0	0	0	3	0	42	14	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	139	0	247	610	13	0	0	16	324
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	139	0	247	610	13	0	0	16	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	139	0	247	610	13	0	0	16	324
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	139	0	247	610	13	0	0	16	324
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.36	0.00	0.64	0.98	0.02	0.00	0.00	0.05	0.95
Final Sat.:	0	0	0	215	0	383	609	13	0	0	30	612
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	0.65	xxxx	0.65	1.00	1.00	xxxx	xxxx	0.53	0.53
Crit Moves:				****				****				****
Delay/Veh:	0.0	0.0	0.0	18.8	0.0	18.8	60.0	60.0	0.0	0.0	14.3	14.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	18.8	0.0	18.8	60.0	60.0	0.0	0.0	14.3	14.3
LOS by Move:	*	*	*	C	*	C	F	F	*	*	B	B
ApproachDel:	xxxxxx			18.8			60.0			14.3		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			18.8			60.0			14.3		
LOS by Appr:	*			C			F			B		
AllWayAvgQ:	0.0	0.0	0.0	1.6	1.6	1.6	8.9	8.9	8.9	1.0	1.0	1.0

Note: Queue reported is the number of cars per lane.

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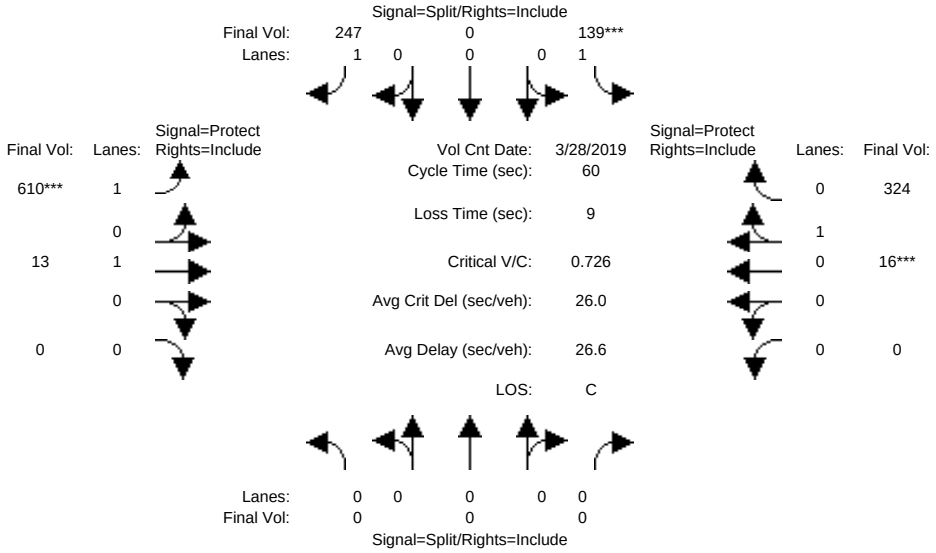
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM (with Mitigations)

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	136	0	205	596	13	0	0	16	323
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	136	0	205	596	13	0	0	16	323
Added Vol:	0	0	0	3	0	42	14	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	139	0	247	610	13	0	0	16	324
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	139	0	247	610	13	0	0	16	324
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	139	0	247	610	13	0	0	16	324
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	139	0	247	610	13	0	0	16	324
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.95	0.95
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.05	0.95
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	85	1715
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.08	0.00	0.14	0.35	0.01	0.00	0.00	0.19	0.19
Crit Moves:				****			****				****	
Green Time:	0.0	0.0	0.0	11.7	0.0	11.7	25.5	39.3	0.0	0.0	13.8	13.8
Volume/Cap:	0.00	0.00	0.00	0.41	0.00	0.73	0.82	0.01	0.00	0.00	0.82	0.82
Delay/Veh:	0.0	0.0	0.0	21.9	0.0	30.3	22.4	3.6	0.0	0.0	34.1	34.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	21.9	0.0	30.3	22.4	3.6	0.0	0.0	34.1	34.1
LOS by Move:	A	A	A	C	A	C	C	A	A	A	C	C
HCM2k95thQ:	0	0	0	6	0	12	24	0	0	0	17	17

Note: Queue reported is the number of cars per lane.

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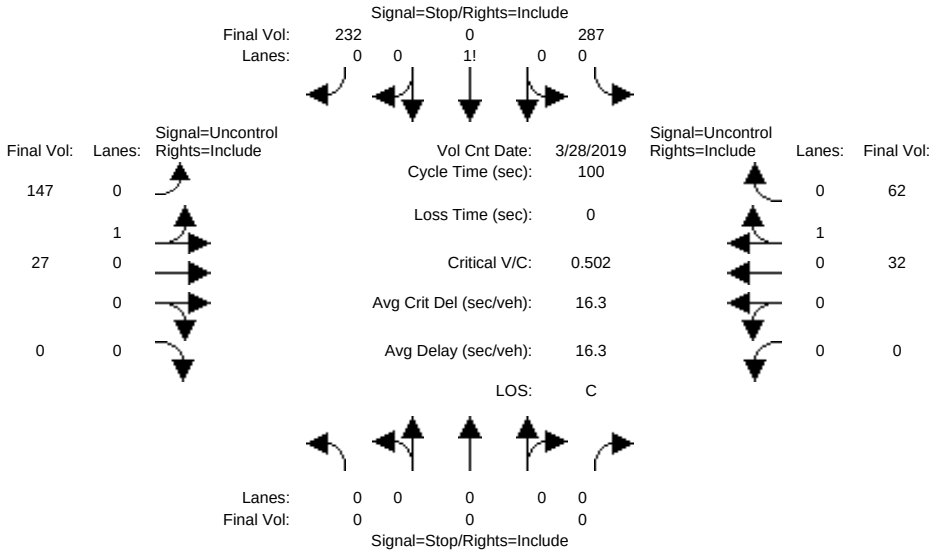
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	287	0	232	147	27	0	0	32	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	287	0	232	147	27	0	0	32	62
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	287	0	232	147	27	0	0	32	62
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	287	0	232	147	27	0	0	32	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	287	0	232	147	27	0	0	32	62
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	384	384	63	94	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	623	553	1007	1513	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	572	494	1007	1513	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.50	0.00	0.23	0.10	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	709	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	6.4	xxxxx	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	22.6	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	C	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			22.6			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

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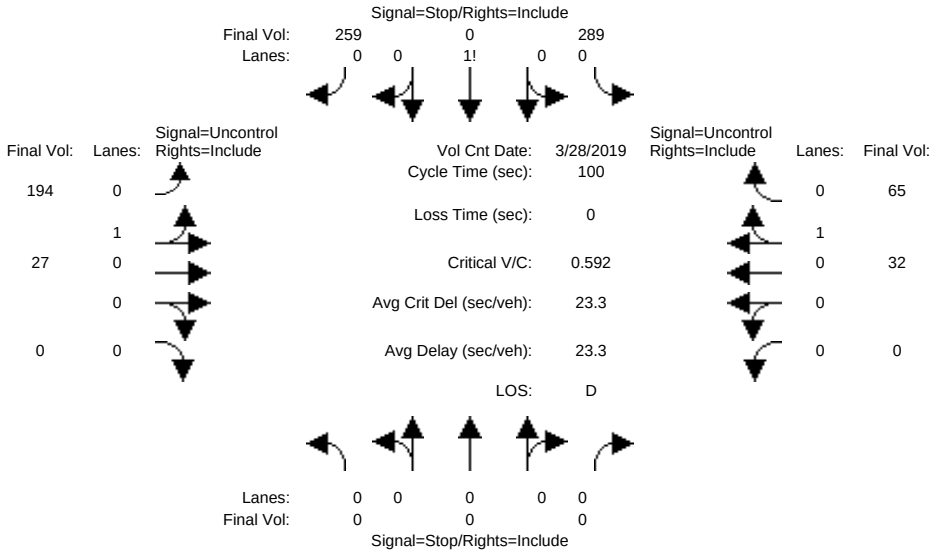
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	287	0	232	147	27	0	0	32	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	287	0	232	147	27	0	0	32	62
Added Vol:	0	0	0	2	0	27	47	0	0	0	0	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	289	0	259	194	27	0	0	32	65
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	289	0	259	194	27	0	0	32	65
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	289	0	259	194	27	0	0	32	65
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	480	480	65	97	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	549	488	1005	1509	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	488	418	1005	1509	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.59	0.00	0.26	0.13	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	645	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	9.5	xxxxx	0.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	34.0	xxxxx	7.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	D	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			34.0			xxxxxx			xxxxxx		
ApproachLOS:	*			D			*			*		

Note: Queue reported is the number of cars per lane.

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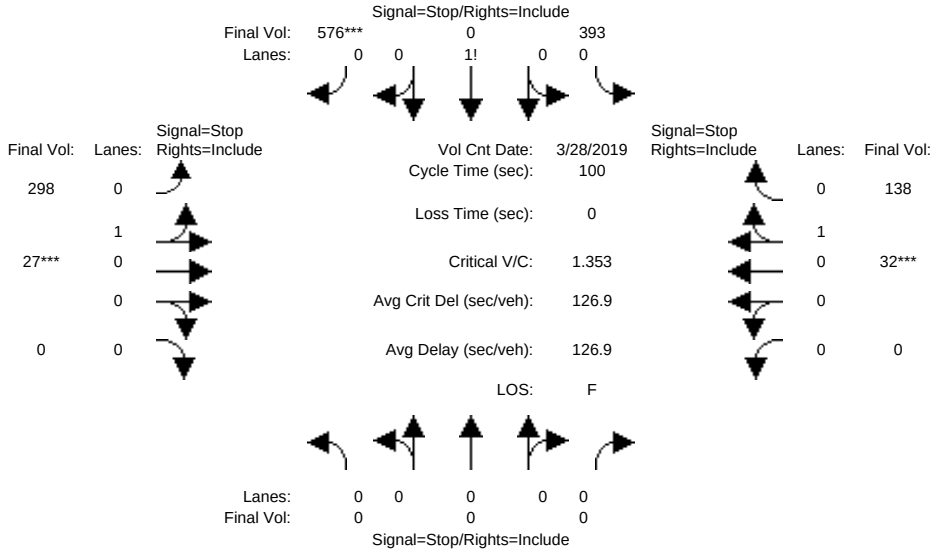
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	393	0	576	298	27	0	0	32	138
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	393	0	576	298	27	0	0	32	138
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	393	0	576	298	27	0	0	32	138
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	393	0	576	298	27	0	0	32	138
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	393	0	576	298	27	0	0	32	138
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	393	0	576	298	27	0	0	32	138
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.41	0.00	0.59	0.92	0.08	0.00	0.00	0.19	0.81
Final Sat.:	0	0	0	291	0	426	527	48	0	0	114	490
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	1.35	xxxx	1.35	0.57	0.57	xxxx	xxxx	0.28	0.28
Crit Moves:						****		****			****	
Delay/Veh:	0.0	0.0	0.0	184.1	0.0	184.1	17.0	17.0	0.0	0.0	11.1	11.1
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	184.1	0.0	184.1	17.0	17.0	0.0	0.0	11.1	11.1
LOS by Move:	*	*	*	F	*	F	C	C	*	*	B	B
ApproachDel:	xxxxxx			184.1			17.0			11.1		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			184.1			17.0			11.1		
LOS by Appr:	*			F			C			B		
AllWayAvgQ:	0.0	0.0	0.0	35.0	35.0	35.0	1.2	1.2	1.2	0.4	0.4	0.4

Note: Queue reported is the number of cars per lane.

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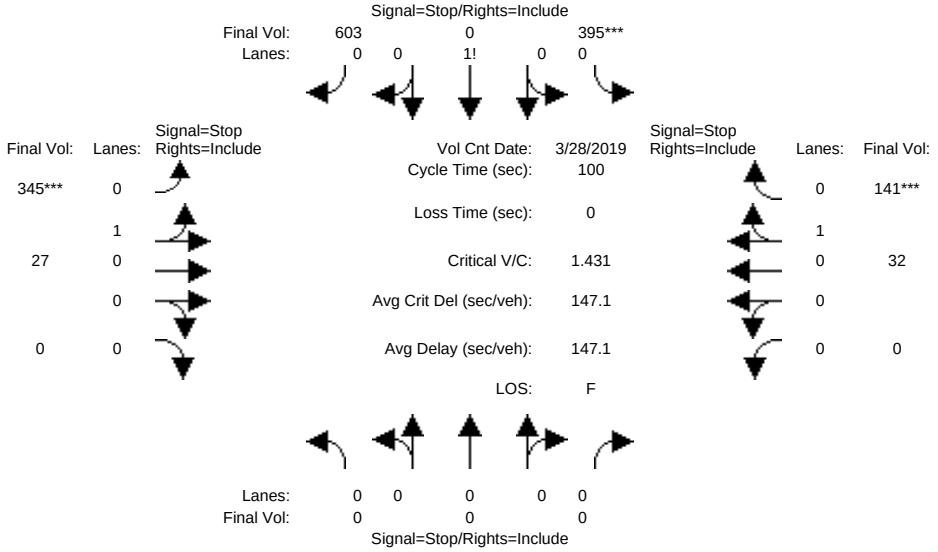
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM 4-Way Stop (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	393	0	576	298	27	0	0	32	138
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	393	0	576	298	27	0	0	32	138
Added Vol:	0	0	0	2	0	27	47	0	0	0	0	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	395	0	603	345	27	0	0	32	141
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	395	0	603	345	27	0	0	32	141
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	395	0	603	345	27	0	0	32	141
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	395	0	603	345	27	0	0	32	141
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	0.40	0.00	0.60	0.93	0.07	0.00	0.00	0.18	0.82
Final Sat.:	0	0	0	276	0	421	533	42	0	0	110	485
Capacity Analysis Module:												
Vol/Sat:	xxxx	xxxx	xxxx	1.43	xxxx	1.43	0.65	0.65	xxxx	xxxx	0.29	0.29
Crit Moves:				****			****					****
Delay/Veh:	0.0	0.0	0.0	218.0	0.0	218.0	19.9	19.9	0.0	0.0	11.4	11.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	218.0	0.0	218.0	19.9	19.9	0.0	0.0	11.4	11.4
LOS by Move:	*	*	*	F	*	F	C	C	*	*	B	B
ApproachDel:	xxxxxx			218.0			19.9			11.4		
Delay Adj:	xxxxx			1.00			1.00			1.00		
ApprAdjDel:	xxxxxx			218.0			19.9			11.4		
LOS by Appr:	*			F			C			B		
AllWayAvgQ:	0.0	0.0	0.0	40.6	40.6	40.6	1.7	1.7	1.7	0.4	0.4	0.4

Note: Queue reported is the number of cars per lane.

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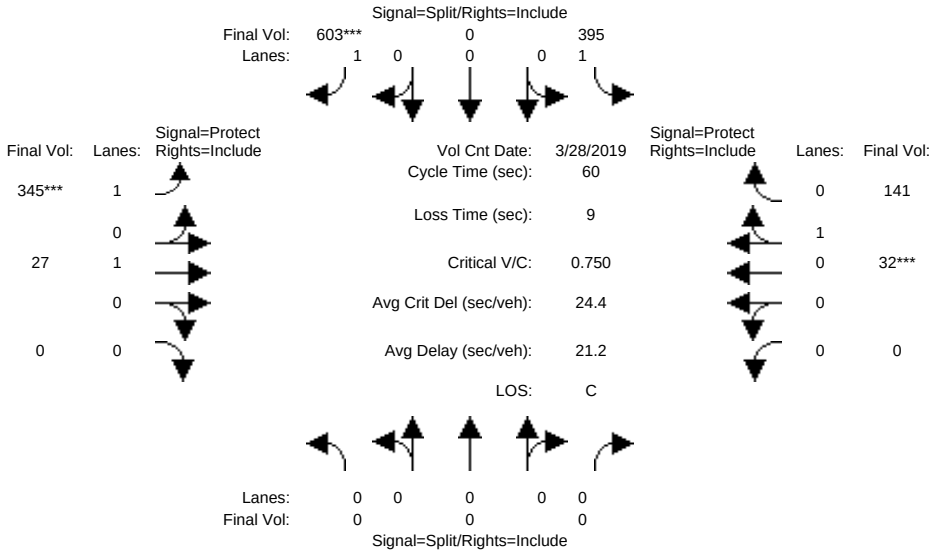
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM (with Mitigations)

Intersection #3117: Mission View Drive and Half Road



Street Name:	Mission View Drive						Half Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	7	10	0	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	0	0	0	393	0	576	298	27	0	0	32	138
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	393	0	576	298	27	0	0	32	138
Added Vol:	0	0	0	2	0	27	47	0	0	0	0	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	395	0	603	345	27	0	0	32	141
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	395	0	603	345	27	0	0	32	141
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	395	0	603	345	27	0	0	32	141
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	395	0	603	345	27	0	0	32	141
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	0.95	0.95
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	0.00	0.18	0.82
Final Sat.:	0	0	0	1750	0	1750	1750	1900	0	0	333	1467
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.23	0.00	0.34	0.20	0.01	0.00	0.00	0.10	0.10
Crit Moves:						****	****				****	
Green Time:	0.0	0.0	0.0	26.1	0.0	26.1	14.9	24.9	0.0	0.0	10.0	10.0
Volume/Cap:	0.00	0.00	0.00	0.52	0.00	0.79	0.79	0.03	0.00	0.00	0.58	0.58
Delay/Veh:	0.0	0.0	0.0	13.0	0.0	20.3	30.7	10.4	0.0	0.0	25.8	25.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.0	0.0	20.3	30.7	10.4	0.0	0.0	25.8	25.8
LOS by Move:	A	A	A	B	A	C	C	B	A	A	C	C
HCM2k95thQ:	0	0	0	12	0	23	17	1	0	0	8	8

Note: Queue reported is the number of cars per lane.

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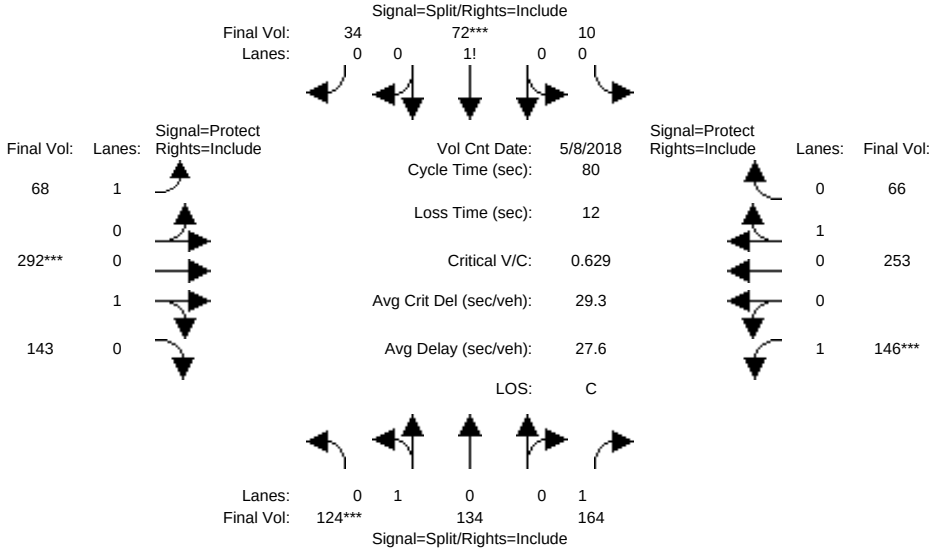
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	124	134	164	10	72	34	68	292	143	146	253	66
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	134	164	10	72	34	68	292	143	146	253	66
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	134	164	10	72	34	68	292	143	146	253	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	134	164	10	72	34	68	292	143	146	253	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	134	164	10	72	34	68	292	143	146	253	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	134	164	10	72	34	68	292	143	146	253	66
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.48	0.52	1.00	0.09	0.62	0.29	1.00	0.67	0.33	1.00	0.79	0.21
Final Sat.:	865	935	1750	151	1086	513	1750	1208	592	1750	1428	372
Capacity Analysis Module:												
Vol/Sat:	0.14	0.14	0.09	0.07	0.07	0.07	0.04	0.24	0.24	0.08	0.18	0.18
Crit Moves:	****				****			****		****		
Green Time:	17.7	17.7	17.7	10.0	10.0	10.0	13.3	29.9	29.9	10.3	26.9	26.9
Volume/Cap:	0.65	0.65	0.42	0.53	0.53	0.53	0.23	0.65	0.65	0.65	0.53	0.53
Delay/Veh:	31.9	31.9	27.5	35.3	35.3	35.3	29.3	22.9	22.9	39.4	22.2	22.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.9	31.9	27.5	35.3	35.3	35.3	29.3	22.9	22.9	39.4	22.2	22.2
LOS by Move:	C	C	C	D	D	D	C	C	C	D	C	C
HCM2k95thQ:	14	14	8	7	7	7	4	19	19	10	14	14

Note: Queue reported is the number of cars per lane.

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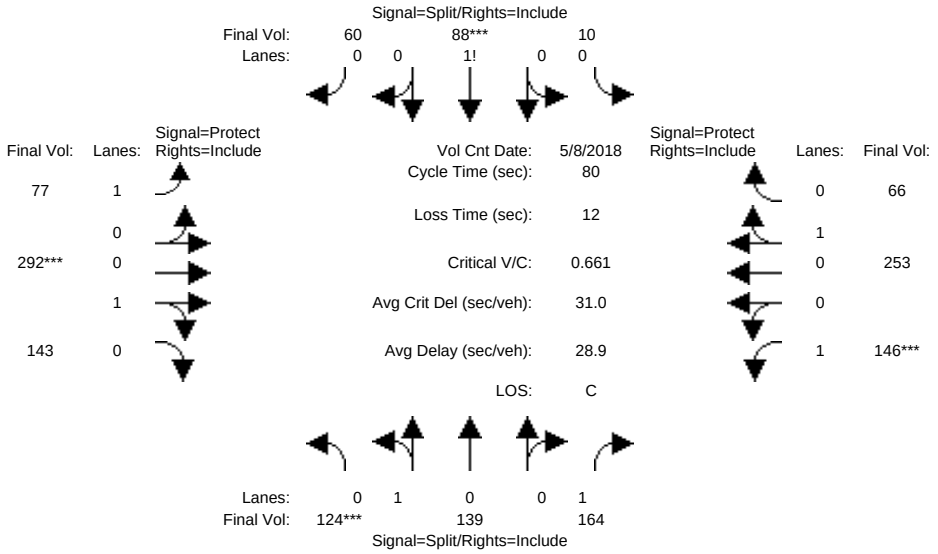
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	124	134	164	10	72	34	68	292	143	146	253	66
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	134	164	10	72	34	68	292	143	146	253	66
Added Vol:	0	5	0	0	16	26	9	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	139	164	10	88	60	77	292	143	146	253	66
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	139	164	10	88	60	77	292	143	146	253	66
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	139	164	10	88	60	77	292	143	146	253	66
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	139	164	10	88	60	77	292	143	146	253	66
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.47	0.53	1.00	0.06	0.56	0.38	1.00	0.67	0.33	1.00	0.79	0.21
Final Sat.:	849	951	1750	111	975	665	1750	1208	592	1750	1428	372
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.09	0.09	0.09	0.09	0.04	0.24	0.24	0.08	0.18	0.18
Crit Moves:	****				****			****			****	
Green Time:	17.7	17.7	17.7	10.9	10.9	10.9	13.0	29.3	29.3	10.1	26.4	26.4
Volume/Cap:	0.66	0.66	0.42	0.66	0.66	0.66	0.27	0.66	0.66	0.66	0.54	0.54
Delay/Veh:	32.5	32.5	27.5	39.5	39.5	39.5	29.9	23.7	23.7	40.5	22.8	22.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	32.5	32.5	27.5	39.5	39.5	39.5	29.9	23.7	23.7	40.5	22.8	22.8
LOS by Move:	C	C	C	D	D	D	C	C	C	D	C	C
HCM2k95thQ:	14	14	8	10	10	10	4	19	19	10	14	14

Note: Queue reported is the number of cars per lane.

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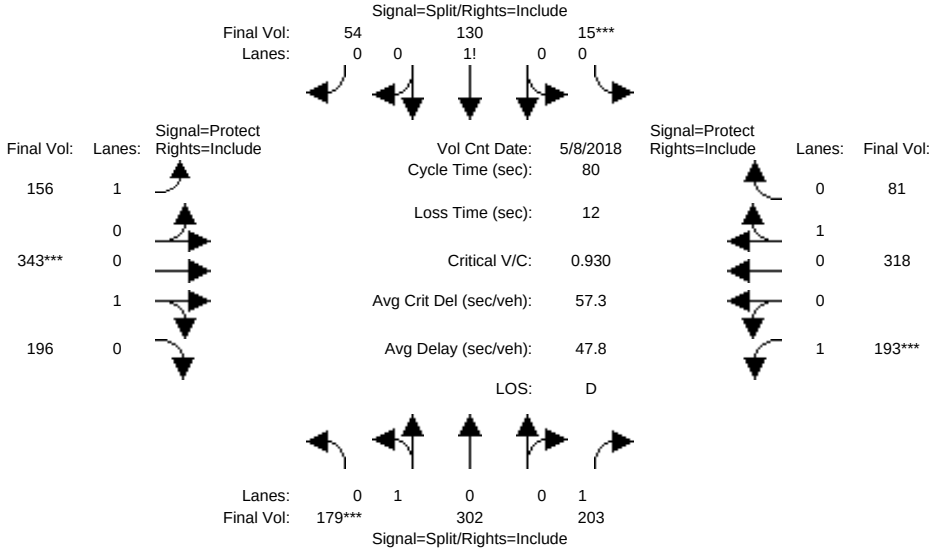
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	179	302	203	15	130	54	156	343	196	193	318	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	179	302	203	15	130	54	156	343	196	193	318	81
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	179	302	203	15	130	54	156	343	196	193	318	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	179	302	203	15	130	54	156	343	196	193	318	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	179	302	203	15	130	54	156	343	196	193	318	81
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	179	302	203	15	130	54	156	343	196	193	318	81
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.37	0.63	1.00	0.08	0.65	0.27	1.00	0.64	0.36	1.00	0.80	0.20
Final Sat.:	670	1130	1750	132	1143	475	1750	1145	655	1750	1435	365
Capacity Analysis Module:												
Vol/Sat:	0.27	0.27	0.12	0.11	0.11	0.11	0.09	0.30	0.30	0.11	0.22	0.22
Crit Moves:	****			****				****		****		
Green Time:	22.9	22.9	22.9	10.0	10.0	10.0	10.1	25.7	25.7	9.4	25.0	25.0
Volume/Cap:	0.93	0.93	0.41	0.91	0.91	0.91	0.71	0.93	0.93	0.93	0.71	0.71
Delay/Veh:	52.1	52.1	23.6	71.6	71.6	71.6	43.7	48.8	48.8	79.2	28.4	28.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	52.1	52.1	23.6	71.6	71.6	71.6	43.7	48.8	48.8	79.2	28.4	28.4
LOS by Move:	D	D	C	E	E	E	D	D	D	E	C	C
HCM2k95thQ:	29	29	9	16	16	16	11	32	32	17	19	19

Note: Queue reported is the number of cars per lane.

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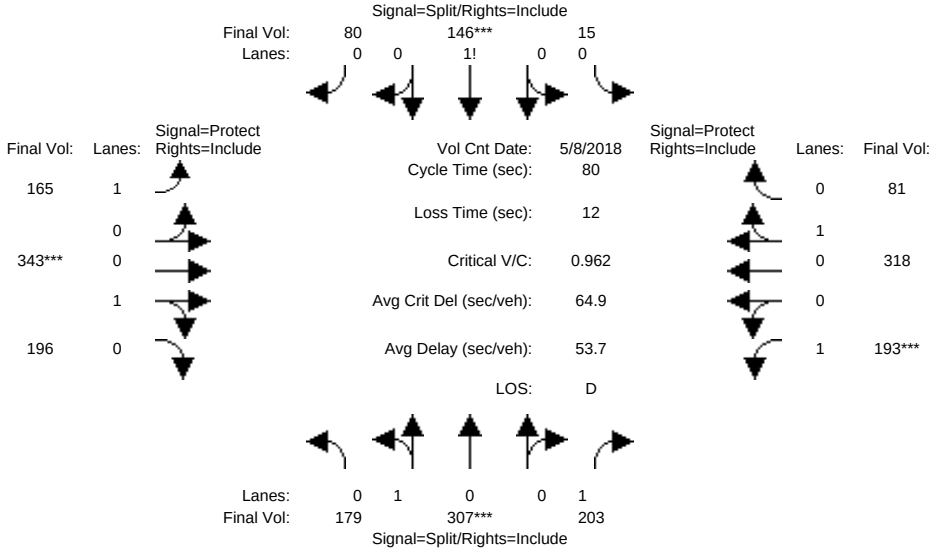
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	179	302	203	15	130	54	156	343	196	193	318	81
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	179	302	203	15	130	54	156	343	196	193	318	81
Added Vol:	0	5	0	0	16	26	9	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	179	307	203	15	146	80	165	343	196	193	318	81
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	179	307	203	15	146	80	165	343	196	193	318	81
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	179	307	203	15	146	80	165	343	196	193	318	81
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	179	307	203	15	146	80	165	343	196	193	318	81
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.37	0.63	1.00	0.06	0.61	0.33	1.00	0.64	0.36	1.00	0.80	0.20
Final Sat.:	663	1137	1750	109	1060	581	1750	1145	655	1750	1435	365
Capacity Analysis Module:												
Vol/Sat:	0.27	0.27	0.12	0.14	0.14	0.14	0.09	0.30	0.30	0.11	0.22	0.22
Crit Moves:		****			****			****			****	
Green Time:	22.5	22.5	22.5	11.5	11.5	11.5	10.2	24.9	24.9	9.2	23.9	23.9
Volume/Cap:	0.96	0.96	0.41	0.96	0.96	0.96	0.74	0.96	0.96	0.96	0.74	0.74
Delay/Veh:	58.7	58.7	24.0	80.1	80.1	80.1	46.2	55.6	55.6	87.6	30.7	30.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.7	58.7	24.0	80.1	80.1	80.1	46.2	55.6	55.6	87.6	30.7	30.7
LOS by Move:	E	E	C	F	F	F	D	E	E	F	C	C
HCM2k95thQ:	31	31	9	20	20	20	12	33	33	17	20	20

Note: Queue reported is the number of cars per lane.

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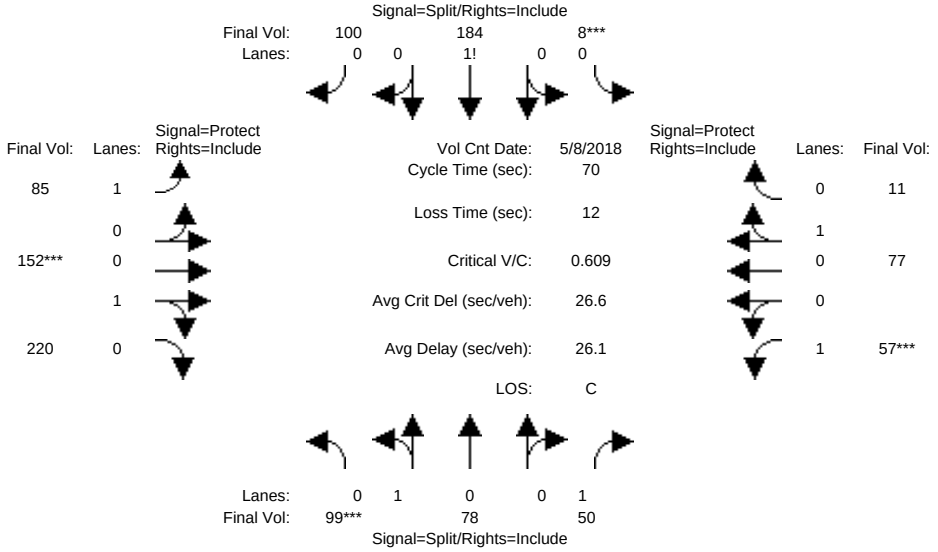
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	99	78	50	8	184	100	85	152	220	57	77	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	99	78	50	8	184	100	85	152	220	57	77	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	78	50	8	184	100	85	152	220	57	77	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	78	50	8	184	100	85	152	220	57	77	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	78	50	8	184	100	85	152	220	57	77	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	78	50	8	184	100	85	152	220	57	77	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.56	0.44	1.00	0.03	0.63	0.34	1.00	0.41	0.59	1.00	0.87	0.13
Final Sat.:	1007	793	1750	48	1103	599	1750	735	1065	1750	1575	225
Capacity Analysis Module:												
Vol/Sat:	0.10	0.10	0.03	0.17	0.17	0.17	0.05	0.21	0.21	0.03	0.05	0.05
Crit Moves:	****			****				****		****		
Green Time:	10.6	10.6	10.6	18.0	18.0	18.0	12.1	22.3	22.3	7.0	17.3	17.3
Volume/Cap:	0.65	0.65	0.19	0.65	0.65	0.65	0.28	0.65	0.65	0.33	0.20	0.20
Delay/Veh:	33.3	33.3	26.3	26.4	26.4	26.4	25.7	23.0	23.0	30.4	21.1	21.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.3	33.3	26.3	26.4	26.4	26.4	25.7	23.0	23.0	30.4	21.1	21.1
LOS by Move:	C	C	C	C	C	C	C	C	C	C	C	C
HCM2k95thQ:	10	10	2	14	14	14	4	16	16	3	3	3

Note: Queue reported is the number of cars per lane.

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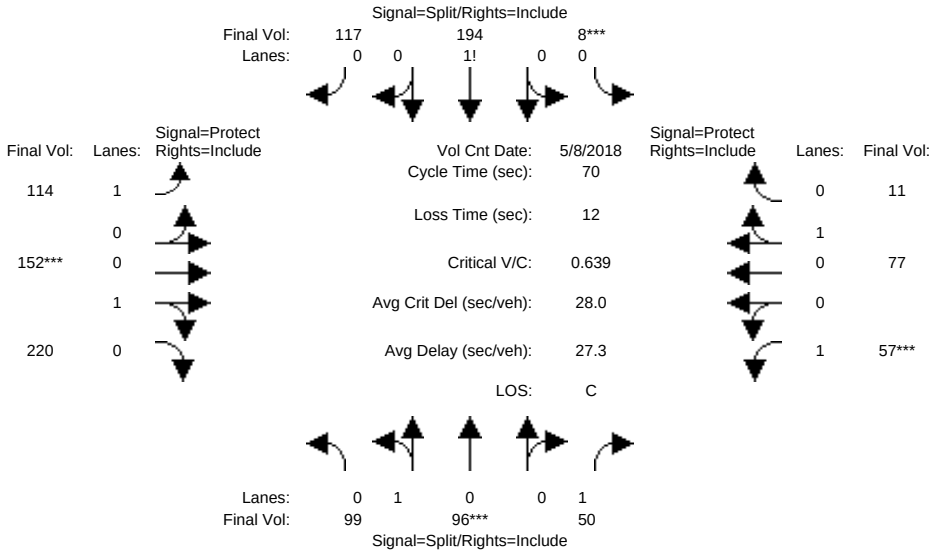
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	99	78	50	8	184	100	85	152	220	57	77	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	99	78	50	8	184	100	85	152	220	57	77	11
Added Vol:	0	18	0	0	10	17	29	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	99	96	50	8	194	117	114	152	220	57	77	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	96	50	8	194	117	114	152	220	57	77	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	96	50	8	194	117	114	152	220	57	77	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	96	50	8	194	117	114	152	220	57	77	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.51	0.49	1.00	0.02	0.61	0.37	1.00	0.41	0.59	1.00	0.87	0.13
Final Sat.:	914	886	1750	44	1064	642	1750	735	1065	1750	1575	225
Capacity Analysis Module:												
Vol/Sat:	0.11	0.11	0.03	0.18	0.18	0.18	0.07	0.21	0.21	0.03	0.05	0.05
Crit Moves:		****		****				****		****		
Green Time:	11.1	11.1	11.1	18.7	18.7	18.7	11.6	21.2	21.2	7.0	16.6	16.6
Volume/Cap:	0.68	0.68	0.18	0.68	0.68	0.68	0.39	0.68	0.68	0.33	0.21	0.21
Delay/Veh:	34.4	34.4	25.8	27.1	27.1	27.1	26.9	25.0	25.0	30.4	21.7	21.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.4	34.4	25.8	27.1	27.1	27.1	26.9	25.0	25.0	30.4	21.7	21.7
LOS by Move:	C	C	C	C	C	C	C	C	C	C	C	C
HCM2k95thQ:	11	11	2	15	15	15	6	16	16	3	3	3

Note: Queue reported is the number of cars per lane.

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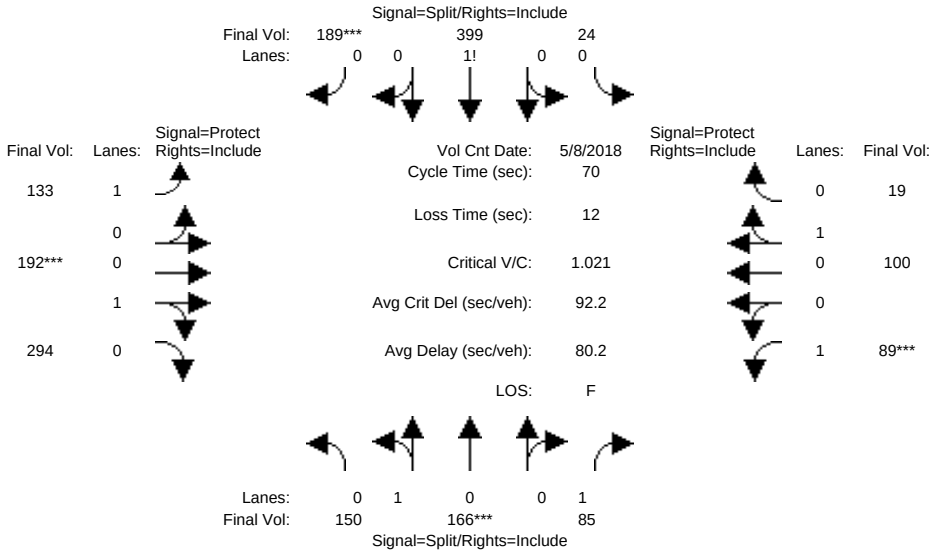
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	150	166	85	24	399	189	133	192	294	89	100	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	150	166	85	24	399	189	133	192	294	89	100	19
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	150	166	85	24	399	189	133	192	294	89	100	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	150	166	85	24	399	189	133	192	294	89	100	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	150	166	85	24	399	189	133	192	294	89	100	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	150	166	85	24	399	189	133	192	294	89	100	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.47	0.53	1.00	0.04	0.65	0.31	1.00	0.40	0.60	1.00	0.84	0.16
Final Sat.:	854	946	1750	69	1141	540	1750	711	1089	1750	1513	287
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.05	0.35	0.35	0.35	0.08	0.27	0.27	0.05	0.07	0.07
Crit Moves:		****				****		****		****		
Green Time:	11.3	11.3	11.3	22.4	22.4	22.4	10.0	17.3	17.3	7.0	14.3	14.3
Volume/Cap:	1.09	1.09	0.30	1.09	1.09	1.09	0.53	1.09	1.09	0.51	0.32	0.32
Delay/Veh:	108.9	109	26.5	89.1	89.1	89.1	30.0	96.0	96.0	32.3	24.2	24.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	108.9	109	26.5	89.1	89.1	89.1	30.0	96.0	96.0	32.3	24.2	24.2
LOS by Move:	F	F	C	F	F	F	C	F	F	C	C	C
HCM2k95thQ:	26	26	4	43	43	43	7	36	36	6	5	5

Note: Queue reported is the number of cars per lane.

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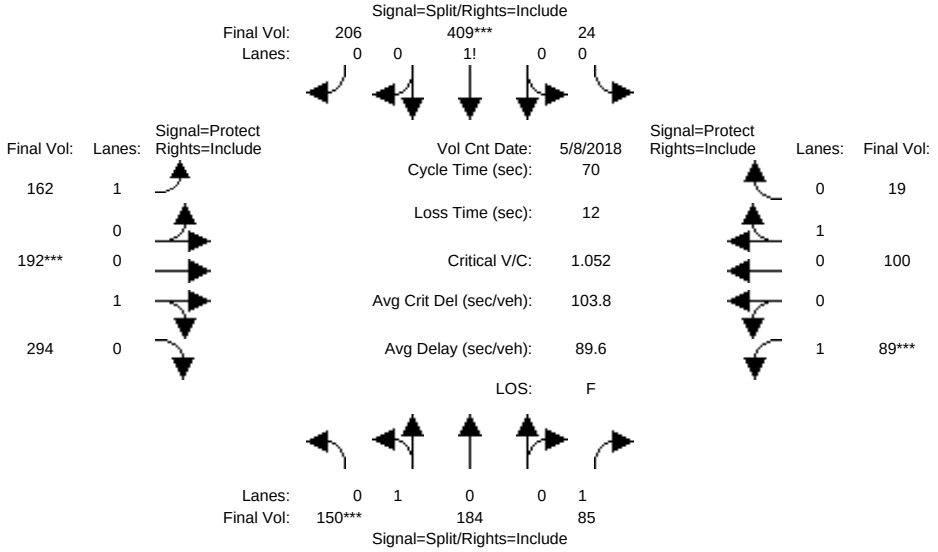
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	150	166	85	24	399	189	133	192	294	89	100	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	150	166	85	24	399	189	133	192	294	89	100	19
Added Vol:	0	18	0	0	10	17	29	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	150	184	85	24	409	206	162	192	294	89	100	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	150	184	85	24	409	206	162	192	294	89	100	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	150	184	85	24	409	206	162	192	294	89	100	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	150	184	85	24	409	206	162	192	294	89	100	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.45	0.55	1.00	0.04	0.64	0.32	1.00	0.40	0.60	1.00	0.84	0.16
Final Sat.:	808	992	1750	66	1120	564	1750	711	1089	1750	1513	287
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.05	0.37	0.37	0.37	0.09	0.27	0.27	0.05	0.07	0.07
Crit Moves:	****				****			****			****	
Green Time:	11.5	11.5	11.5	22.7	22.7	22.7	9.8	16.8	16.8	7.0	14.0	14.0
Volume/Cap:	1.13	1.13	0.29	1.13	1.13	1.13	0.66	1.13	1.13	0.51	0.33	0.33
Delay/Veh:	120.0	120	26.2	101.3	101	101.3	35.1	109	109.1	32.3	24.5	24.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	120.0	120	26.2	101.3	101	101.3	35.1	109	109.1	32.3	24.5	24.5
LOS by Move:	F	F	C	F	F	F	D	F	F	C	C	C
HCM2k95thQ:	29	29	4	47	47	47	10	37	37	6	5	5

Note: Queue reported is the number of cars per lane.

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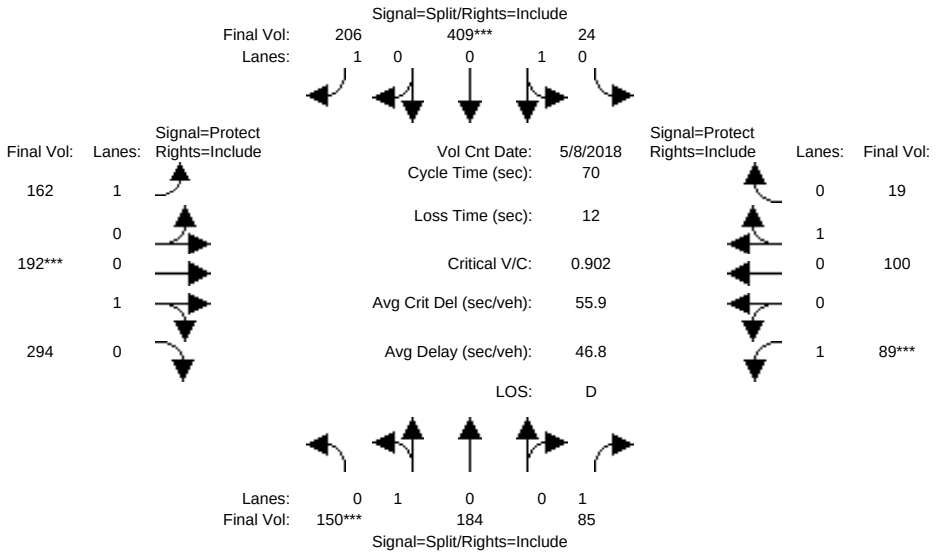
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM (with Mitigations)

Intersection #120: Condit Road and Main Avenue



Street Name:	Condit Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	150	166	85	24	399	189	133	192	294	89	100	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	150	166	85	24	399	189	133	192	294	89	100	19
Added Vol:	0	18	0	0	10	17	29	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	150	184	85	24	409	206	162	192	294	89	100	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	150	184	85	24	409	206	162	192	294	89	100	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	150	184	85	24	409	206	162	192	294	89	100	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	150	184	85	24	409	206	162	192	294	89	100	19
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.95	0.95	0.92	0.95	0.95
Lanes:	0.45	0.55	1.00	0.06	0.94	1.00	1.00	0.40	0.60	1.00	0.84	0.16
Final Sat.:	808	992	1750	100	1700	1750	1750	711	1089	1750	1513	287
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.05	0.24	0.24	0.12	0.09	0.27	0.27	0.05	0.07	0.07
Crit Moves:	****				****			****			****	
Green Time:	13.6	13.6	13.6	17.6	17.6	17.6	11.0	19.8	19.8	7.0	15.8	15.8
Volume/Cap:	0.96	0.96	0.25	0.96	0.96	0.47	0.59	0.96	0.96	0.51	0.29	0.29
Delay/Veh:	64.3	64.3	24.3	56.8	56.8	23.0	30.7	53.6	53.6	32.3	22.9	22.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	64.3	64.3	24.3	56.8	56.8	23.0	30.7	53.6	53.6	32.3	22.9	22.9
LOS by Move:	E	E	C	E	E	C	C	D	D	C	C	C
HCM2k95thQ:	22	22	4	27	27	9	9	29	29	6	5	5

Note: Queue reported is the number of cars per lane.

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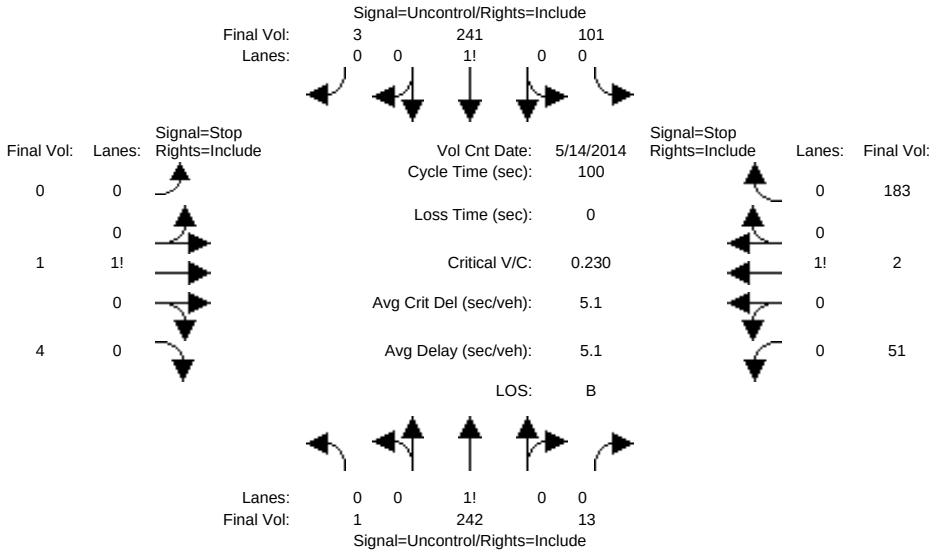
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing AM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	1	242	13	101	241	3	0	1	4	51	2	183
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	242	13	101	241	3	0	1	4	51	2	183
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	242	13	101	241	3	0	1	4	51	2	183
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	242	13	101	241	3	0	1	4	51	2	183
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	242	13	101	241	3	0	1	4	51	2	183
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	244	xxxx	xxxxx	255	xxxx	xxxxx	xxxx	702	243	698	697	249
Potent Cap.:	1334	xxxx	xxxxx	1322	xxxx	xxxxx	xxxx	365	801	358	368	795
Move Cap.:	1334	xxxx	xxxxx	1322	xxxx	xxxxx	xxxx	335	801	333	338	795
Volume/Cap:	0.00	xxxx	xxxx	0.08	xxxx	xxxx	xxxx	0.00	0.00	0.15	0.01	0.23
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.7	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	627	xxxx	606	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.0	xxxxx	1.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	10.8	xxxxx	14.7	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	B	*	B	*
ApproachDel:	xxxxxx			xxxxxx			10.8			14.7		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

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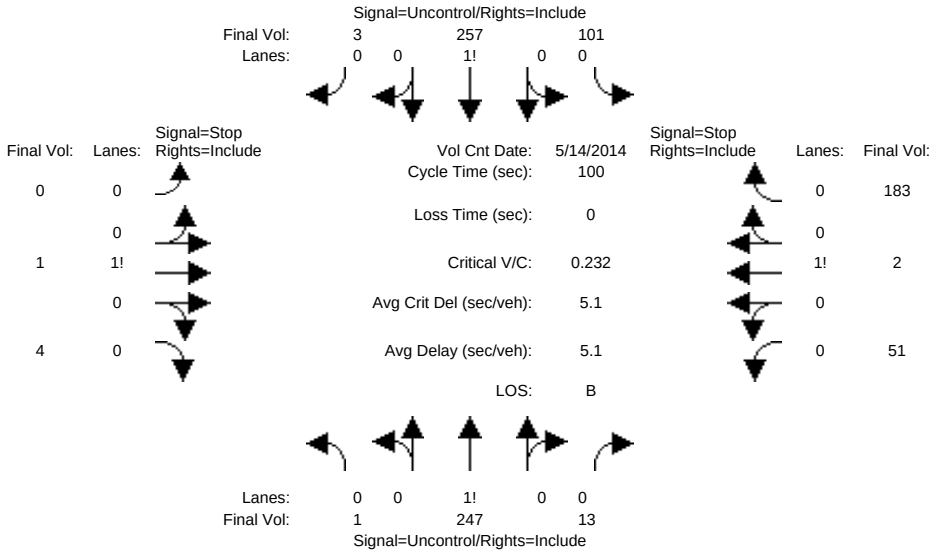
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	1	242	13	101	241	3	0	1	4	51	2	183
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	242	13	101	241	3	0	1	4	51	2	183
Added Vol:	0	5	0	0	16	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	247	13	101	257	3	0	1	4	51	2	183
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	1	247	13	101	257	3	0	1	4	51	2	183
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	247	13	101	257	3	0	1	4	51	2	183
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	260	xxxx	xxxxx	260	xxxx	xxxxx	xxxx	723	259	719	718	254
Potent Cap.:	1316	xxxx	xxxxx	1316	xxxx	xxxxx	xxxx	355	785	347	358	790
Move Cap.:	1316	xxxx	xxxxx	1316	xxxx	xxxxx	xxxx	326	785	322	328	790
Volume/Cap:	0.00	xxxx	xxxx	0.08	xxxx	xxxx	xxxx	0.00	0.01	0.16	0.01	0.23
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.7	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	613	xxxx	596	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.0	xxxxx	1.9	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	10.9	xxxxx	14.9	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	B	*	B	*
ApproachDel:	xxxxxx			xxxxxx			10.9			14.9		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

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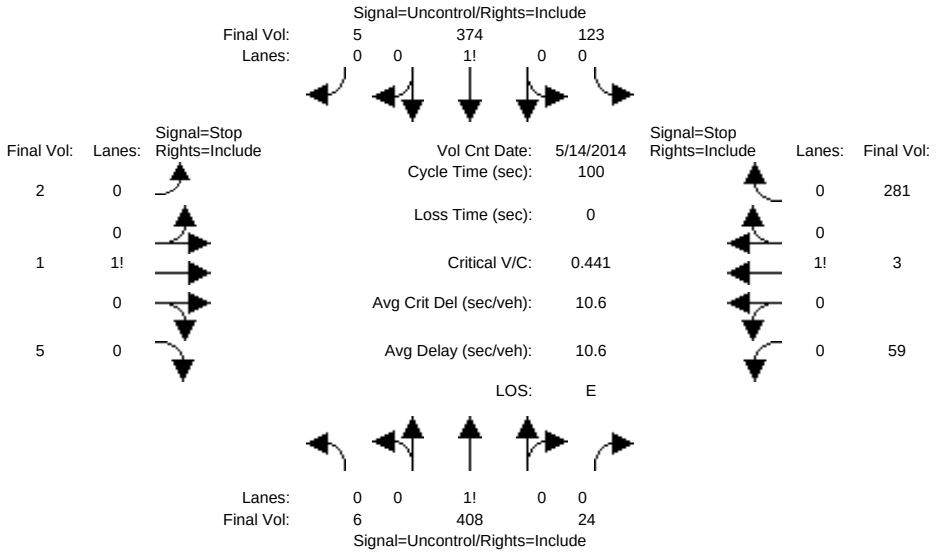
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	6	408	24	123	374	5	2	1	5	59	3	281
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	408	24	123	374	5	2	1	5	59	3	281
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	408	24	123	374	5	2	1	5	59	3	281
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	408	24	123	374	5	2	1	5	59	3	281
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	6	408	24	123	374	5	2	1	5	59	3	281
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	379	xxxx	xxxxx	432	xxxx	xxxxx	1197	1067	377	1058	1057	420
Potent Cap.:	1191	xxxx	xxxxx	1138	xxxx	xxxxx	164	224	674	205	227	638
Move Cap.:	1191	xxxx	xxxxx	1138	xxxx	xxxxx	83	197	674	184	200	638
Volume/Cap:	0.01	xxxx	xxxx	0.11	xxxx	xxxx	0.02	0.01	0.01	0.32	0.02	0.44
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.0	xxxx	xxxxx	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	218	xxxxx	xxxx	441	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	6.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	22.2	xxxxx	xxxxx	36.3	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	E	*
ApproachDel:	xxxxxx			xxxxxx			22.2			36.3		
ApproachLOS:	*			*			C			E		

Note: Queue reported is the number of cars per lane.

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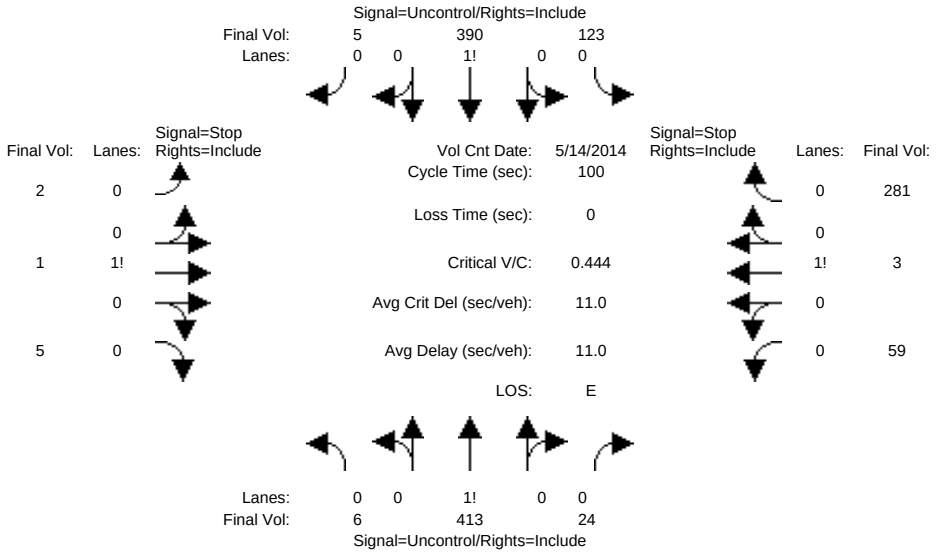
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	6	408	24	123	374	5	2	1	5	59	3	281
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	408	24	123	374	5	2	1	5	59	3	281
Added Vol:	0	5	0	0	16	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	413	24	123	390	5	2	1	5	59	3	281
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	413	24	123	390	5	2	1	5	59	3	281
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	6	413	24	123	390	5	2	1	5	59	3	281
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	395	xxxx	xxxxx	437	xxxx	xxxxx	1218	1088	393	1079	1078	425
Potent Cap.:	1175	xxxx	xxxxx	1134	xxxx	xxxxx	159	218	661	198	220	634
Move Cap.:	1175	xxxx	xxxxx	1134	xxxx	xxxxx	79	191	661	177	194	634
Volume/Cap:	0.01	xxxx	xxxx	0.11	xxxx	xxxx	0.03	0.01	0.01	0.33	0.02	0.44
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.1	xxxx	xxxxx	8.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	211	xxxxx	xxxx	433	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	xxxxx	7.0	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	22.8	xxxxx	xxxxx	38.2	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	E	*
ApproachDel:	xxxxxx			xxxxxx			22.8			38.2		
ApproachLOS:	*			*			C			E		

Note: Queue reported is the number of cars per lane.

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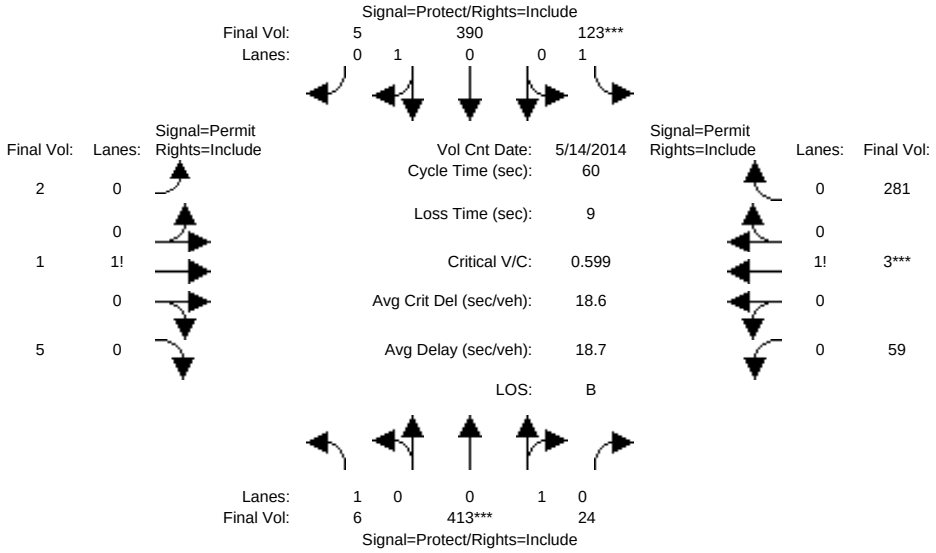
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM (with Mitigations)

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	6	408	24	123	374	5	2	1	5	59	3	281
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	408	24	123	374	5	2	1	5	59	3	281
Added Vol:	0	5	0	0	16	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	413	24	123	390	5	2	1	5	59	3	281
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	413	24	123	390	5	2	1	5	59	3	281
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	413	24	123	390	5	2	1	5	59	3	281
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	413	24	123	390	5	2	1	5	59	3	281
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Lanes:	1.00	0.95	0.05	1.00	0.99	0.01	0.25	0.12	0.63	0.17	0.01	0.82
Final Sat.:	1750	1701	99	1750	1777	23	438	219	1094	301	15	1434
Capacity Analysis Module:												
Vol/Sat:	0.00	0.24	0.24	0.07	0.22	0.22	0.00	0.00	0.00	0.20	0.20	0.20
Crit Moves:		****		****							****	
Green Time:	10.9	24.3	24.3	7.0	20.5	20.5	19.6	19.6	19.6	19.6	19.6	19.6
Volume/Cap:	0.02	0.60	0.60	0.60	0.64	0.64	0.01	0.01	0.01	0.60	0.60	0.60
Delay/Veh:	20.2	15.4	15.4	30.0	19.0	19.0	13.6	13.6	13.6	18.6	18.6	18.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.2	15.4	15.4	30.0	19.0	19.0	13.6	13.6	13.6	18.6	18.6	18.6
LOS by Move:	C	B	B	C	B	B	B	B	B	B	B	B
HCM2k95thQ:	0	12	12	7	14	14	0	0	0	13	13	13

Note: Queue reported is the number of cars per lane.

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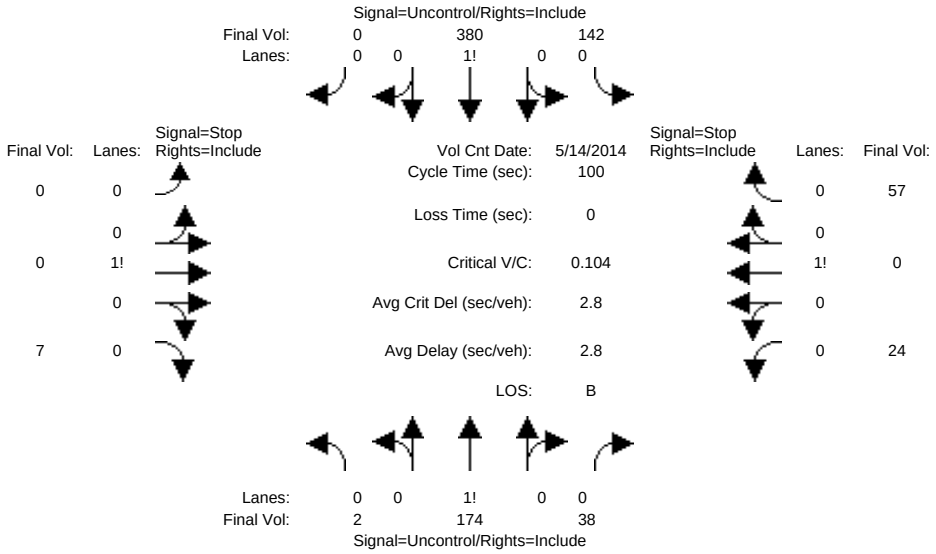
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing PM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	2	174	38	142	380	0	0	0	7	24	0	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	174	38	142	380	0	0	0	7	24	0	57
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	174	38	142	380	0	0	0	7	24	0	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	174	38	142	380	0	0	0	7	24	0	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	2	174	38	142	380	0	0	0	7	24	0	57
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	380	xxxx	xxxxx	212	xxxx	xxxxx	xxxx	xxxx	380	865	861	193
Potent Cap.:	1190	xxxx	xxxxx	1370	xxxx	xxxxx	xxxx	xxxx	671	276	295	854
Move Cap.:	1190	xxxx	xxxxx	1370	xxxx	xxxxx	xxxx	xxxx	671	250	262	854
Volume/Cap:	0.00	xxxx	xxxx	0.10	xxxx	xxxx	xxxx	xxxx	0.01	0.10	0.00	0.07
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx
Control Del:	8.0	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	10.4	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	B	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	497	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	13.6	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			10.4			13.6		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

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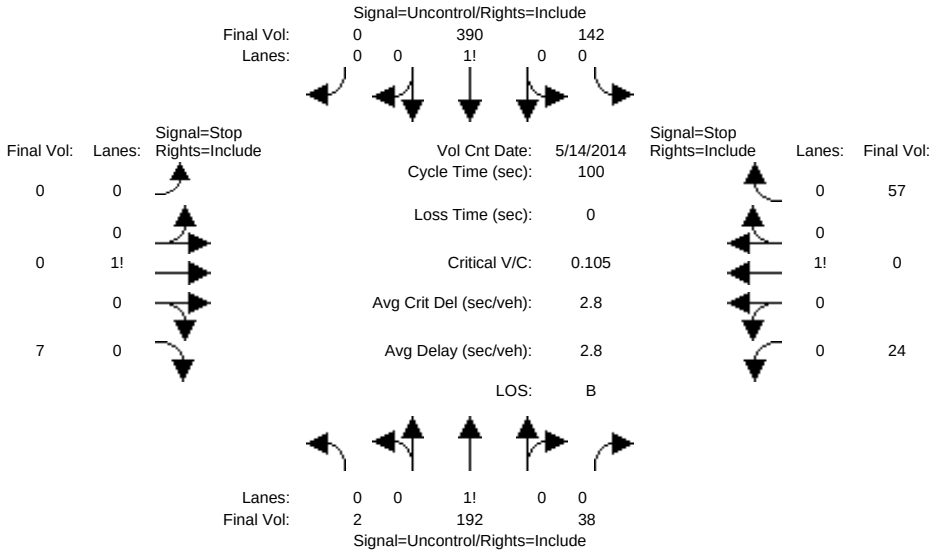
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	2	174	38	142	380	0	0	0	7	24	0	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	174	38	142	380	0	0	0	7	24	0	57
Added Vol:	0	18	0	0	10	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	192	38	142	390	0	0	0	7	24	0	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	192	38	142	390	0	0	0	7	24	0	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	2	192	38	142	390	0	0	0	7	24	0	57
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	390	xxxx	xxxxx	230	xxxx	xxxxx	xxxx	xxxx	390	893	889	211
Potent Cap.:	1180	xxxx	xxxxx	1350	xxxx	xxxxx	xxxx	xxxx	663	265	285	834
Move Cap.:	1180	xxxx	xxxxx	1350	xxxx	xxxxx	xxxx	xxxx	663	239	252	834
Volume/Cap:	0.00	xxxx	xxxx	0.11	xxxx	xxxx	xxxx	xxxx	0.01	0.10	0.00	0.07
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx
Control Del:	8.1	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	10.5	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	B	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	480	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.6	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	14.0	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			10.5			14.0		
ApproachLOS:	*			*			B			B		

Note: Queue reported is the number of cars per lane.

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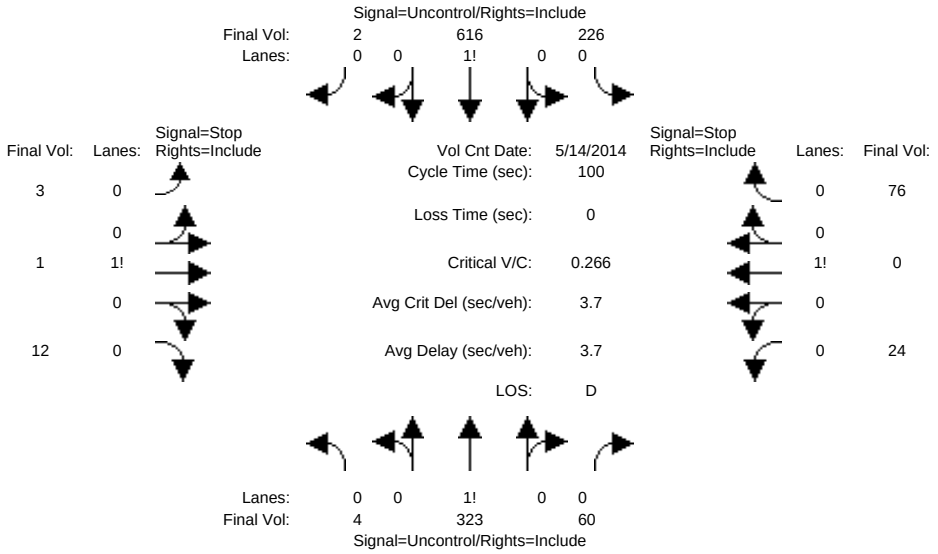
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	4	323	60	226	616	2	3	1	12	24	0	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	323	60	226	616	2	3	1	12	24	0	76
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	323	60	226	616	2	3	1	12	24	0	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	323	60	226	616	2	3	1	12	24	0	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	323	60	226	616	2	3	1	12	24	0	76
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	618	xxxx	xxxxx	383	xxxx	xxxxx	1468	1460	617	1437	1431	353
Potent Cap.:	972	xxxx	xxxxx	1187	xxxx	xxxxx	107	130	494	112	136	695
Move Cap.:	972	xxxx	xxxxx	1187	xxxx	xxxxx	79	102	494	90	106	695
Volume/Cap:	0.00	xxxx	xxxx	0.19	xxxx	xxxx	0.04	0.01	0.02	0.27	0.00	0.11
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.7	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.7	xxxx	xxxxx	8.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	222	xxxxx	xxxx	267	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	1.7	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	22.5	xxxxx	xxxxx	26.4	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			22.5			26.4		
ApproachLOS:	*			*			C			D		

Note: Queue reported is the number of cars per lane.

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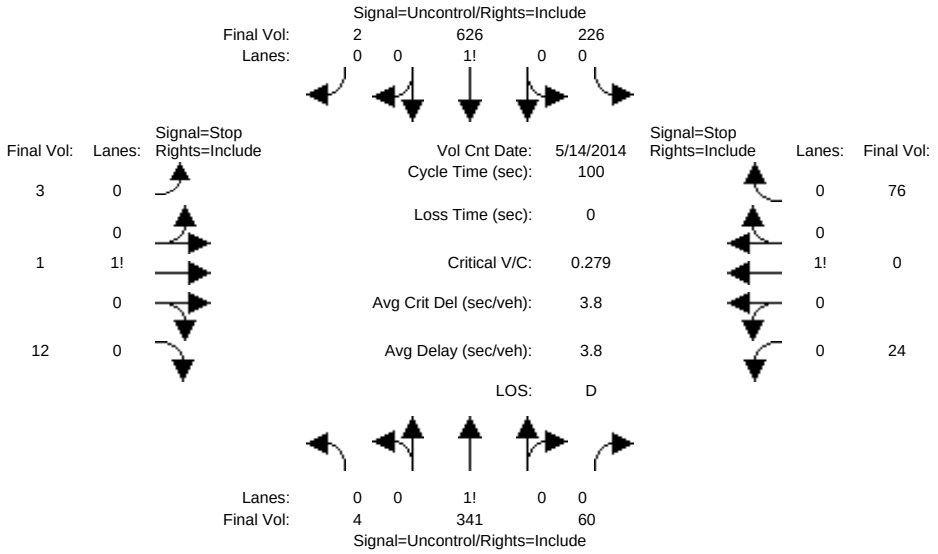
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #1120: Condit Road and Diana Avenue



Street Name:	Condit Road						Diana Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module: >> Count Date: 14 May 2014 <<												
Base Vol:	4	323	60	226	616	2	3	1	12	24	0	76
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	4	323	60	226	616	2	3	1	12	24	0	76
Added Vol:	0	18	0	0	10	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	341	60	226	626	2	3	1	12	24	0	76
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	341	60	226	626	2	3	1	12	24	0	76
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	4	341	60	226	626	2	3	1	12	24	0	76
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	6.2	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	3.3	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	628	xxxx	xxxxx	401	xxxx	xxxxx	1496	1488	627	1465	1459	371
Potent Cap.:	964	xxxx	xxxxx	1169	xxxx	xxxxx	102	125	487	107	131	679
Move Cap.:	964	xxxx	xxxxx	1169	xxxx	xxxxx	75	97	487	86	101	679
Volume/Cap:	0.00	xxxx	xxxx	0.19	xxxx	xxxx	0.04	0.01	0.02	0.28	0.00	0.11
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.7	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.8	xxxx	xxxxx	8.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	214	xxxxx	xxxx	256	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.2	xxxxx	xxxxx	1.8	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	23.2	xxxxx	xxxxx	27.8	xxxxx
Shared LOS:	*	*	*	*	*	*	*	C	*	*	D	*
ApproachDel:	xxxxxx			xxxxxx			23.2			27.8		
ApproachLOS:	*			*			C			D		

Note: Queue reported is the number of cars per lane.

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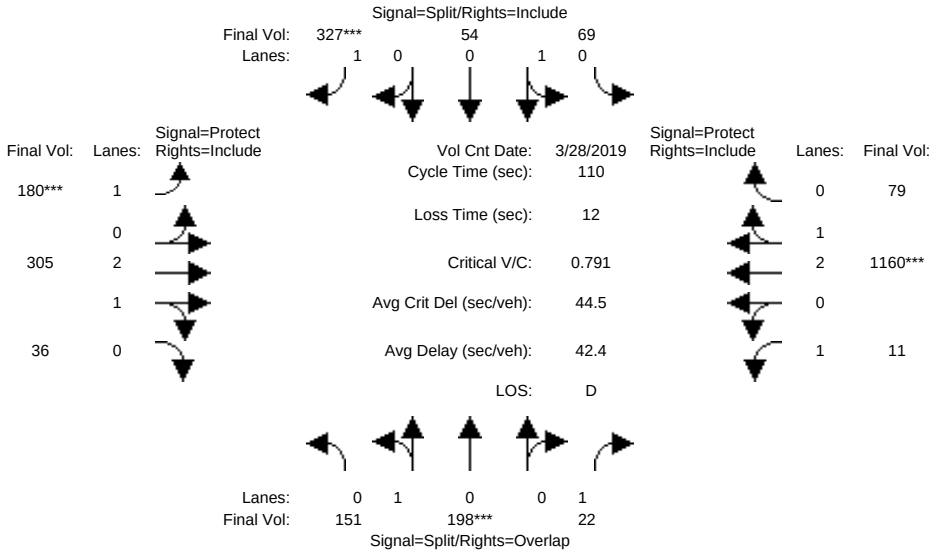
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	151	198	22	69	54	327	180	305	36	11	1160	79
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	151	198	22	69	54	327	180	305	36	11	1160	79
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	151	198	22	69	54	327	180	305	36	11	1160	79
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	151	198	22	69	54	327	180	305	36	11	1160	79
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	151	198	22	69	54	327	180	305	36	11	1160	79
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	151	198	22	69	54	327	180	305	36	11	1160	79
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.98	0.95
Lanes:	0.43	0.57	1.00	0.56	0.44	1.00	1.00	2.67	0.33	1.00	2.80	0.20
Final Sat.:	779	1021	1750	1010	790	1750	1750	5008	591	1750	5242	357
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.01	0.07	0.07	0.19	0.10	0.06	0.06	0.01	0.22	0.22
Crit Moves:		****				****	****				****	
Green Time:	27.0	27.0	45.5	26.0	26.0	26.0	14.3	26.5	26.5	18.6	30.8	30.8
Volume/Cap:	0.79	0.79	0.03	0.29	0.29	0.79	0.79	0.25	0.25	0.04	0.79	0.79
Delay/Veh:	48.3	48.3	19.2	34.8	34.8	49.4	63.4	33.8	33.8	38.3	39.5	39.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.3	48.3	19.2	34.8	34.8	49.4	63.4	33.8	33.8	38.3	39.5	39.5
LOS by Move:	D	D	B	C	C	D	E	C	C	D	D	D
HCM2k95thQ:	24	24	1	7	7	24	13	6	6	1	24	24

Note: Queue reported is the number of cars per lane.

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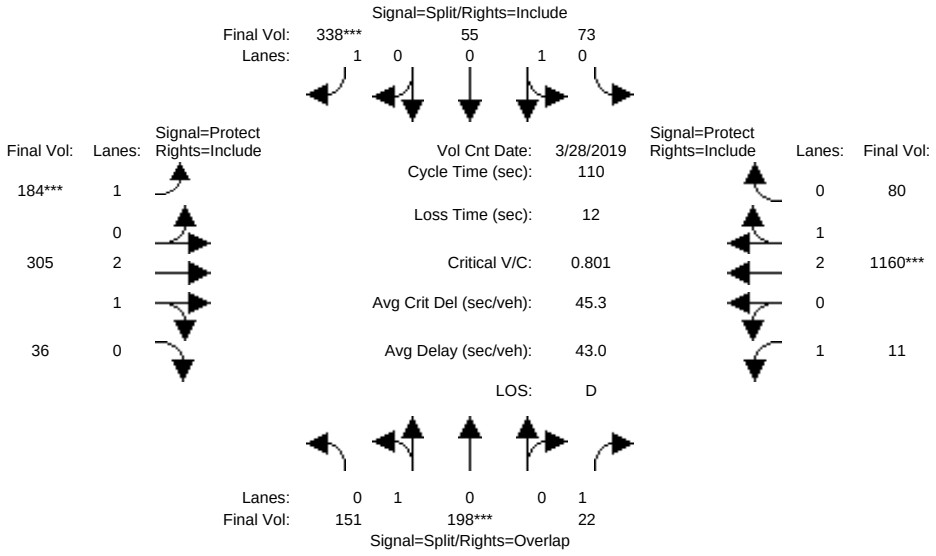
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	151	198	22	69	54	327	180	305	36	11	1160	79
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	151	198	22	69	54	327	180	305	36	11	1160	79
Added Vol:	0	0	0	4	1	11	4	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	151	198	22	73	55	338	184	305	36	11	1160	80
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	151	198	22	73	55	338	184	305	36	11	1160	80
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	151	198	22	73	55	338	184	305	36	11	1160	80
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	151	198	22	73	55	338	184	305	36	11	1160	80
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.98	0.95
Lanes:	0.43	0.57	1.00	0.57	0.43	1.00	1.00	2.67	0.33	1.00	2.80	0.20
Final Sat.:	779	1021	1750	1027	773	1750	1750	5008	591	1750	5238	361
Capacity Analysis Module:												
Vol/Sat:	0.19	0.19	0.01	0.07	0.07	0.19	0.11	0.06	0.06	0.01	0.22	0.22
Crit Moves:		****				****	****				****	
Green Time:	26.6	26.6	45.1	26.5	26.5	26.5	14.4	26.4	26.4	18.5	30.4	30.4
Volume/Cap:	0.80	0.80	0.03	0.29	0.29	0.80	0.80	0.25	0.25	0.04	0.80	0.80
Delay/Veh:	49.4	49.4	19.4	34.5	34.5	49.7	64.3	33.9	33.9	38.4	40.1	40.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.4	49.4	19.4	34.5	34.5	49.7	64.3	33.9	33.9	38.4	40.1	40.1
LOS by Move:	D	D	B	C	C	D	E	C	C	D	D	D
HCM2k95thQ:	24	24	1	8	8	24	13	6	6	1	24	24

Note: Queue reported is the number of cars per lane.

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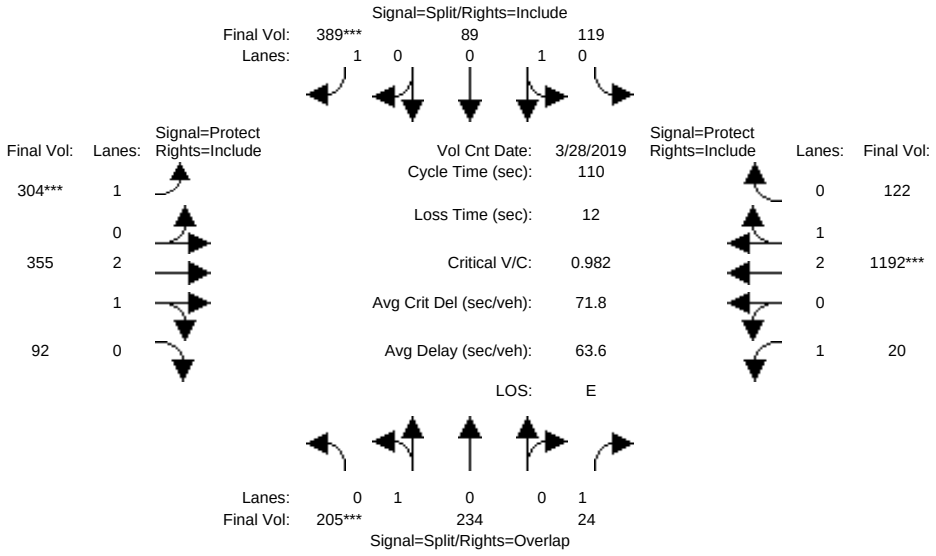
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	205	234	24	119	89	389	304	355	92	20	1192	122
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	205	234	24	119	89	389	304	355	92	20	1192	122
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	205	234	24	119	89	389	304	355	92	20	1192	122
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	205	234	24	119	89	389	304	355	92	20	1192	122
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	205	234	24	119	89	389	304	355	92	20	1192	122
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	205	234	24	119	89	389	304	355	92	20	1192	122
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.99	0.95
Lanes:	0.47	0.53	1.00	0.57	0.43	1.00	1.00	2.36	0.64	1.00	2.71	0.29
Final Sat.:	841	959	1750	1030	770	1750	1750	4446	1152	1750	5079	520
Capacity Analysis Module:												
Vol/Sat:	0.24	0.24	0.01	0.12	0.12	0.22	0.17	0.08	0.08	0.01	0.23	0.23
Crit Moves:	****					****	****				****	
Green Time:	27.3	27.3	46.2	24.9	24.9	24.9	19.5	26.9	26.9	18.8	26.3	26.3
Volume/Cap:	0.98	0.98	0.03	0.51	0.51	0.98	0.98	0.33	0.33	0.07	0.98	0.98
Delay/Veh:	78.7	78.7	18.8	38.3	38.3	82.5	91.1	34.2	34.2	38.3	61.8	61.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.7	78.7	18.8	38.3	38.3	82.5	91.1	34.2	34.2	38.3	61.8	61.8
LOS by Move:	E	E	B	D	D	F	F	C	C	D	E	E
HCM2k95thQ:	36	36	1	13	13	33	24	8	8	1	30	30

Note: Queue reported is the number of cars per lane.

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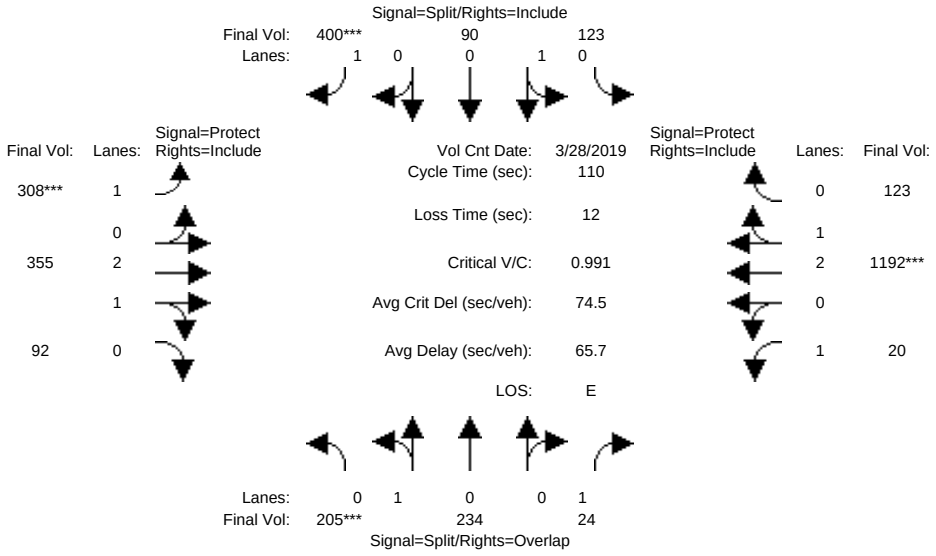
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	205	234	24	119	89	389	304	355	92	20	1192	122
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	205	234	24	119	89	389	304	355	92	20	1192	122
Added Vol:	0	0	0	4	1	11	4	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	205	234	24	123	90	400	308	355	92	20	1192	123
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	205	234	24	123	90	400	308	355	92	20	1192	123
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	205	234	24	123	90	400	308	355	92	20	1192	123
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	205	234	24	123	90	400	308	355	92	20	1192	123
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.99	0.95
Lanes:	0.47	0.53	1.00	0.58	0.42	1.00	1.00	2.36	0.64	1.00	2.71	0.29
Final Sat.:	841	959	1750	1039	761	1750	1750	4446	1152	1750	5076	524
Capacity Analysis Module:												
Vol/Sat:	0.24	0.24	0.01	0.12	0.12	0.23	0.18	0.08	0.08	0.01	0.23	0.23
Crit Moves:	****					****	****				****	
Green Time:	27.1	27.1	45.8	25.4	25.4	25.4	19.5	26.8	26.8	18.8	26.1	26.1
Volume/Cap:	0.99	0.99	0.03	0.51	0.51	0.99	0.99	0.33	0.33	0.07	0.99	0.99
Delay/Veh:	81.8	81.8	19.0	38.0	38.0	84.6	93.8	34.3	34.3	38.4	64.5	64.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	81.8	81.8	19.0	38.0	38.0	84.6	93.8	34.3	34.3	38.4	64.5	64.5
LOS by Move:	F	F	B	D	D	F	F	C	C	D	E	E
HCM2k95thQ:	36	36	1	13	13	35	25	8	8	1	30	30

Note: Queue reported is the number of cars per lane.

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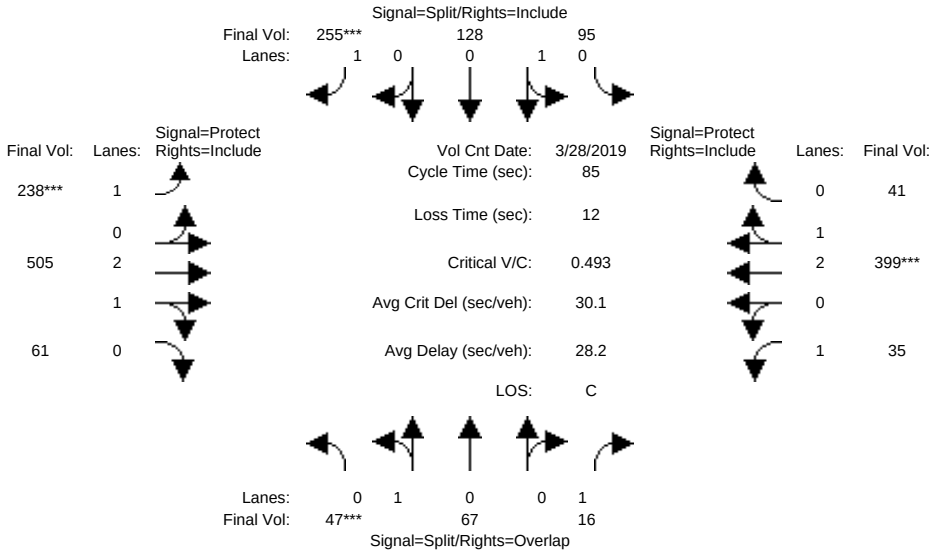
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	47	67	16	95	128	255	238	505	61	35	399	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	47	67	16	95	128	255	238	505	61	35	399	41
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	67	16	95	128	255	238	505	61	35	399	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	67	16	95	128	255	238	505	61	35	399	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	67	16	95	128	255	238	505	61	35	399	41
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	67	16	95	128	255	238	505	61	35	399	41
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.99	0.95
Lanes:	0.41	0.59	1.00	0.43	0.57	1.00	1.00	2.66	0.34	1.00	2.71	0.29
Final Sat.:	742	1058	1750	767	1033	1750	1750	4996	603	1750	5077	522
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.01	0.12	0.12	0.15	0.14	0.10	0.10	0.02	0.08	0.08
Crit Moves:	****					****	****				****	
Green Time:	10.9	10.9	26.1	25.1	25.1	25.1	23.4	21.8	21.8	15.2	13.5	13.5
Volume/Cap:	0.49	0.49	0.03	0.42	0.42	0.49	0.49	0.40	0.40	0.11	0.49	0.49
Delay/Veh:	36.1	36.1	20.6	24.6	24.6	25.4	26.6	26.4	26.4	29.4	33.0	33.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.1	36.1	20.6	24.6	24.6	25.4	26.6	26.4	26.4	29.4	33.0	33.0
LOS by Move:	D	D	C	C	C	C	C	C	C	C	C	C
HCM2k95thQ:	7	7	1	10	10	12	11	8	8	2	7	7

Note: Queue reported is the number of cars per lane.

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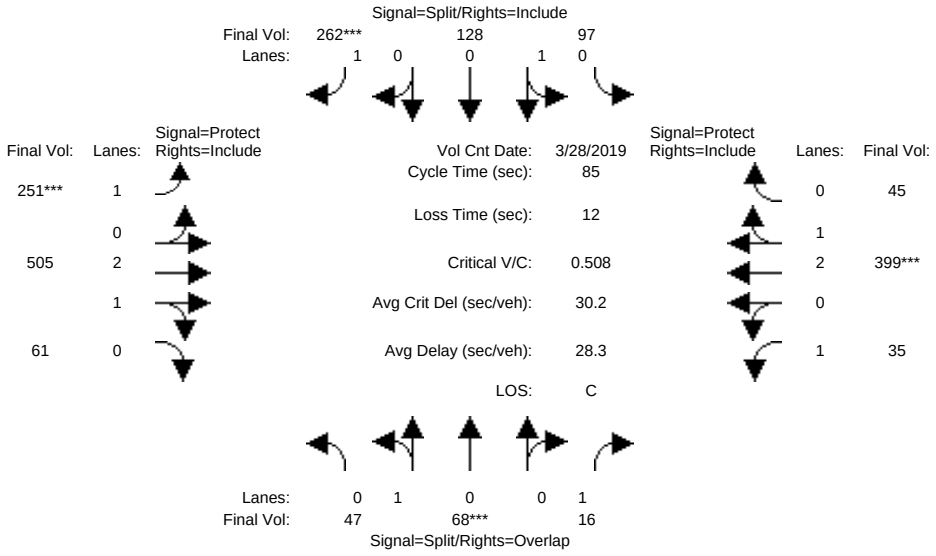
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	47	67	16	95	128	255	238	505	61	35	399	41
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	47	67	16	95	128	255	238	505	61	35	399	41
Added Vol:	0	1	0	2	0	7	13	0	0	0	0	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	68	16	97	128	262	251	505	61	35	399	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	68	16	97	128	262	251	505	61	35	399	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	68	16	97	128	262	251	505	61	35	399	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	68	16	97	128	262	251	505	61	35	399	45
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.99	0.95
Lanes:	0.41	0.59	1.00	0.43	0.57	1.00	1.00	2.66	0.34	1.00	2.68	0.32
Final Sat.:	736	1064	1750	776	1024	1750	1750	4996	603	1750	5032	567
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.01	0.13	0.13	0.15	0.14	0.10	0.10	0.02	0.08	0.08
Crit Moves:		****				****	****				****	
Green Time:	10.7	10.7	26.0	25.0	25.0	25.0	24.0	21.9	21.9	15.3	13.3	13.3
Volume/Cap:	0.51	0.51	0.03	0.42	0.42	0.51	0.51	0.39	0.39	0.11	0.51	0.51
Delay/Veh:	36.6	36.6	20.7	24.7	24.7	25.7	26.4	26.2	26.2	29.3	33.4	33.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.6	36.6	20.7	24.7	24.7	25.7	26.4	26.2	26.2	29.3	33.4	33.4
LOS by Move:	D	D	C	C	C	C	C	C	C	C	C	C
HCM2k95thQ:	7	7	1	10	10	13	11	8	8	2	7	7

Note: Queue reported is the number of cars per lane.

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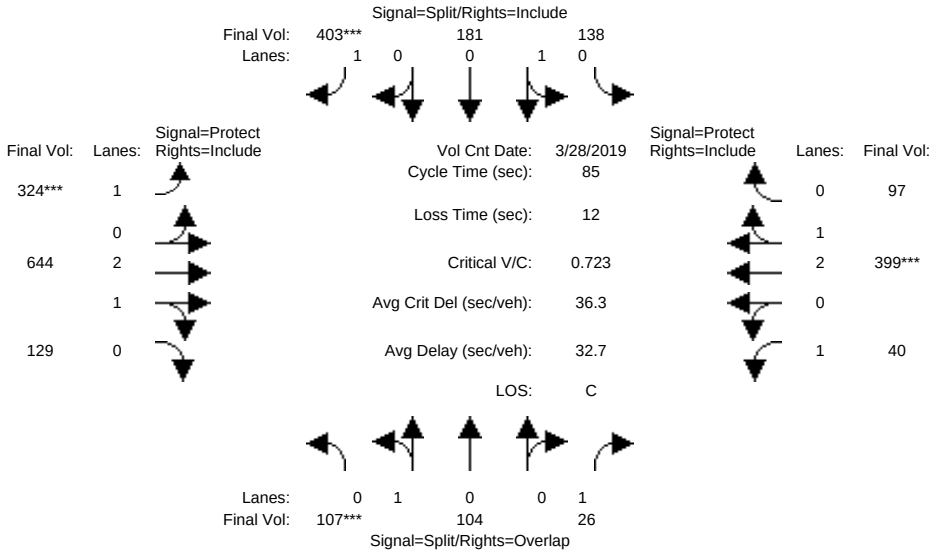
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	107	104	26	138	181	403	324	644	129	40	399	97
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	104	26	138	181	403	324	644	129	40	399	97
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	104	26	138	181	403	324	644	129	40	399	97
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	104	26	138	181	403	324	644	129	40	399	97
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	104	26	138	181	403	324	644	129	40	399	97
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	104	26	138	181	403	324	644	129	40	399	97
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.99	0.95
Lanes:	0.51	0.49	1.00	0.43	0.57	1.00	1.00	2.48	0.52	1.00	2.39	0.61
Final Sat.:	913	887	1750	779	1021	1750	1750	4664	934	1750	4503	1095
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.01	0.18	0.18	0.23	0.19	0.14	0.14	0.02	0.09	0.09
Crit Moves:	****					****	****				****	
Green Time:	13.8	13.8	25.8	27.1	27.1	27.1	21.8	20.1	20.1	12.0	10.4	10.4
Volume/Cap:	0.72	0.72	0.05	0.56	0.56	0.72	0.72	0.58	0.58	0.16	0.72	0.72
Delay/Veh:	42.4	42.4	21.0	25.2	25.2	30.3	34.6	29.4	29.4	32.4	39.7	39.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.4	42.4	21.0	25.2	25.2	30.3	34.6	29.4	29.4	32.4	39.7	39.7
LOS by Move:	D	D	C	C	C	C	C	C	C	C	D	D
HCM2k95thQ:	14	14	1	15	15	21	16	12	12	2	9	9

Note: Queue reported is the number of cars per lane.

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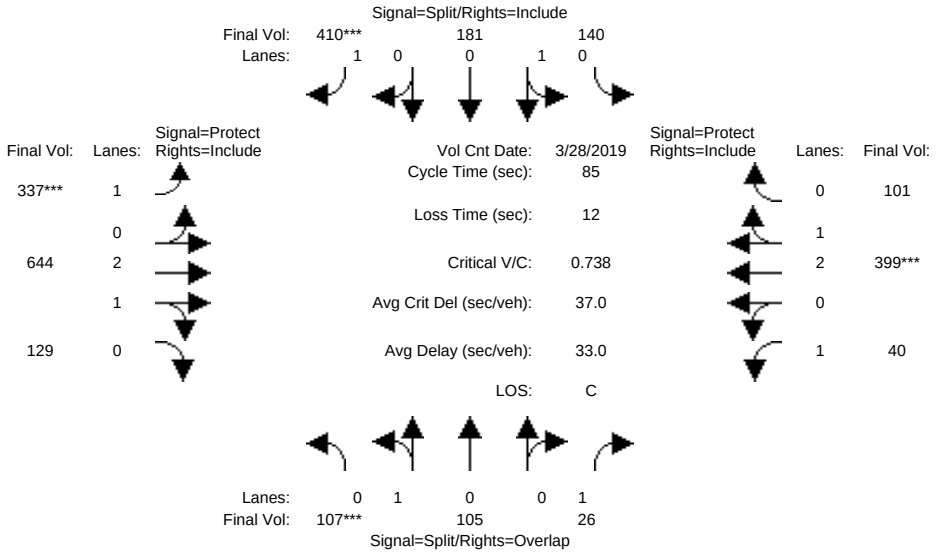
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #3115: Condit Road and Dunne Avenue



Street Name:	Condit Road						Dunne Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 28 Mar 2019 <<												
Base Vol:	107	104	26	138	181	403	324	644	129	40	399	97
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	104	26	138	181	403	324	644	129	40	399	97
Added Vol:	0	1	0	2	0	7	13	0	0	0	0	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	107	105	26	140	181	410	337	644	129	40	399	101
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	105	26	140	181	410	337	644	129	40	399	101
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	105	26	140	181	410	337	644	129	40	399	101
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	105	26	140	181	410	337	644	129	40	399	101
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.92	0.95	0.95	0.92	0.92	0.99	0.95	0.92	0.99	0.95
Lanes:	0.50	0.50	1.00	0.44	0.56	1.00	1.00	2.48	0.52	1.00	2.37	0.63
Final Sat.:	908	892	1750	785	1015	1750	1750	4664	934	1750	4467	1131
Capacity Analysis Module:												
Vol/Sat:	0.12	0.12	0.01	0.18	0.18	0.23	0.19	0.14	0.14	0.02	0.09	0.09
Crit Moves:	****					****	****				****	
Green Time:	13.6	13.6	25.7	27.0	27.0	27.0	22.2	20.3	20.3	12.1	10.3	10.3
Volume/Cap:	0.74	0.74	0.05	0.56	0.56	0.74	0.74	0.58	0.58	0.16	0.74	0.74
Delay/Veh:	43.7	43.7	21.0	25.4	25.4	31.1	35.0	29.2	29.2	32.3	40.3	40.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.7	43.7	21.0	25.4	25.4	31.1	35.0	29.2	29.2	32.3	40.3	40.3
LOS by Move:	D	D	C	C	C	C	D	C	C	C	D	D
HCM2k95thQ:	14	14	1	15	15	21	17	12	12	2	9	9

Note: Queue reported is the number of cars per lane.

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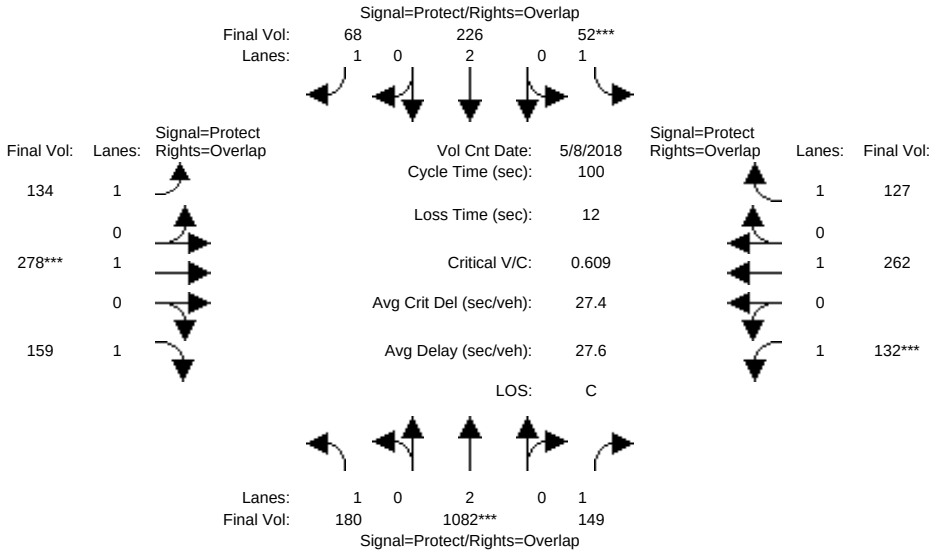
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	180	1082	149	52	226	68	134	278	159	132	262	127
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	180	1082	149	52	226	68	134	278	159	132	262	127
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	180	1082	149	52	226	68	134	278	159	132	262	127
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	180	1082	149	52	226	68	134	278	159	132	262	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	180	1082	149	52	226	68	134	278	159	132	262	127
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	180	1082	149	52	226	68	134	278	159	132	262	127
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.28	0.09	0.03	0.06	0.04	0.08	0.15	0.09	0.08	0.14	0.07
Crit Moves:		****		****				****		****		
Green Time:	26.6	45.5	57.6	7.0	25.9	38.6	12.7	23.4	50.0	12.1	22.8	29.8
Volume/Cap:	0.39	0.63	0.15	0.42	0.23	0.10	0.60	0.63	0.18	0.63	0.60	0.24
Delay/Veh:	30.5	21.5	9.9	46.9	29.3	19.7	46.0	37.2	13.8	47.6	37.0	26.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.5	21.5	9.9	46.9	29.3	19.7	46.0	37.2	13.8	47.6	37.0	26.8
LOS by Move:	C	C	A	D	C	B	D	D	B	D	D	C
HCM2k95thQ:	9	22	4	3	5	3	8	14	6	10	15	6

Note: Queue reported is the number of cars per lane.

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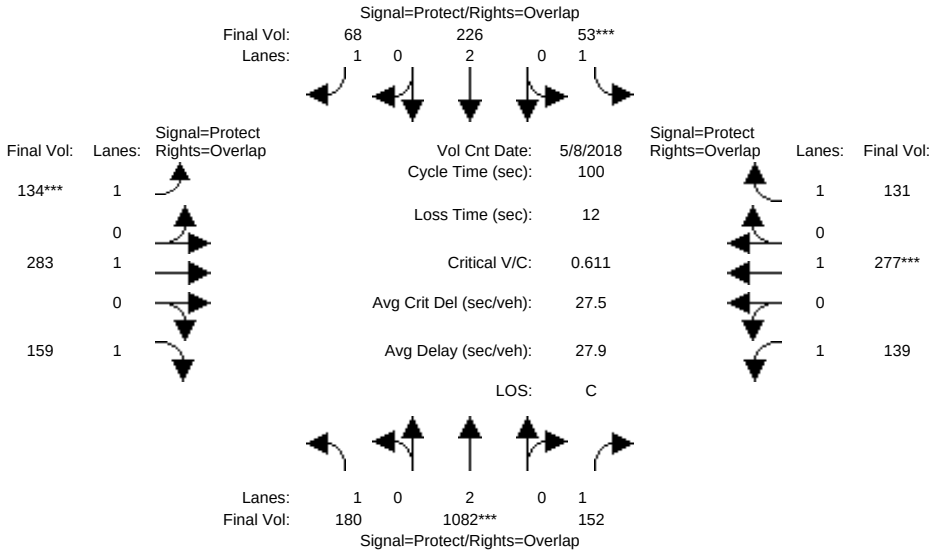
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	180	1082	149	52	226	68	134	278	159	132	262	127
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	180	1082	149	52	226	68	134	278	159	132	262	127
Added Vol:	0	0	3	1	0	0	0	5	0	7	15	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	180	1082	152	53	226	68	134	283	159	139	277	131
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	180	1082	152	53	226	68	134	283	159	139	277	131
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	180	1082	152	53	226	68	134	283	159	139	277	131
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	180	1082	152	53	226	68	134	283	159	139	277	131
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.28	0.09	0.03	0.06	0.04	0.08	0.15	0.09	0.08	0.15	0.07
Crit Moves:		****		****			****				****	
Green Time:	26.6	45.5	57.8	7.0	25.9	38.1	12.2	23.2	49.8	12.4	23.3	30.3
Volume/Cap:	0.39	0.63	0.15	0.43	0.23	0.10	0.63	0.64	0.18	0.64	0.63	0.25
Delay/Veh:	30.6	21.5	9.8	47.0	29.3	20.0	47.5	37.9	14.0	48.2	37.3	26.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.6	21.5	9.8	47.0	29.3	20.0	47.5	37.9	14.0	48.2	37.3	26.5
LOS by Move:	C	C	A	D	C	B	D	D	B	D	D	C
HCM2k95thQ:	9	22	4	3	5	3	8	15	6	11	16	7

Note: Queue reported is the number of cars per lane.

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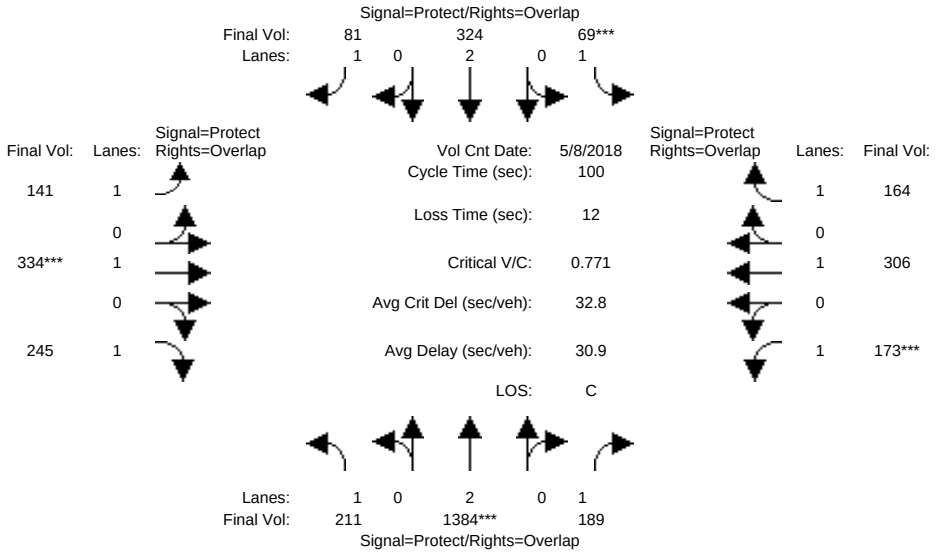
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	211	1384	189	69	324	81	141	334	245	173	306	164
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	211	1384	189	69	324	81	141	334	245	173	306	164
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	211	1384	189	69	324	81	141	334	245	173	306	164
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	211	1384	189	69	324	81	141	334	245	173	306	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	211	1384	189	69	324	81	141	334	245	173	306	164
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	211	1384	189	69	324	81	141	334	245	173	306	164
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.36	0.11	0.04	0.09	0.05	0.08	0.18	0.14	0.10	0.16	0.09
Crit Moves:		****		****				****		****		
Green Time:	29.1	46.2	58.7	7.0	24.1	35.7	11.6	22.3	51.4	12.5	23.2	30.2
Volume/Cap:	0.41	0.79	0.18	0.56	0.35	0.13	0.69	0.79	0.27	0.79	0.69	0.31
Delay/Veh:	29.2	25.3	9.6	50.9	31.7	21.8	52.4	46.2	13.9	59.7	39.9	27.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.2	25.3	9.6	50.9	31.7	21.8	52.4	46.2	13.9	59.7	39.9	27.2
LOS by Move:	C	C	A	D	C	C	D	D	B	E	D	C
HCM2k95thQ:	10	29	5	5	8	4	9	18	9	15	18	8

Note: Queue reported is the number of cars per lane.

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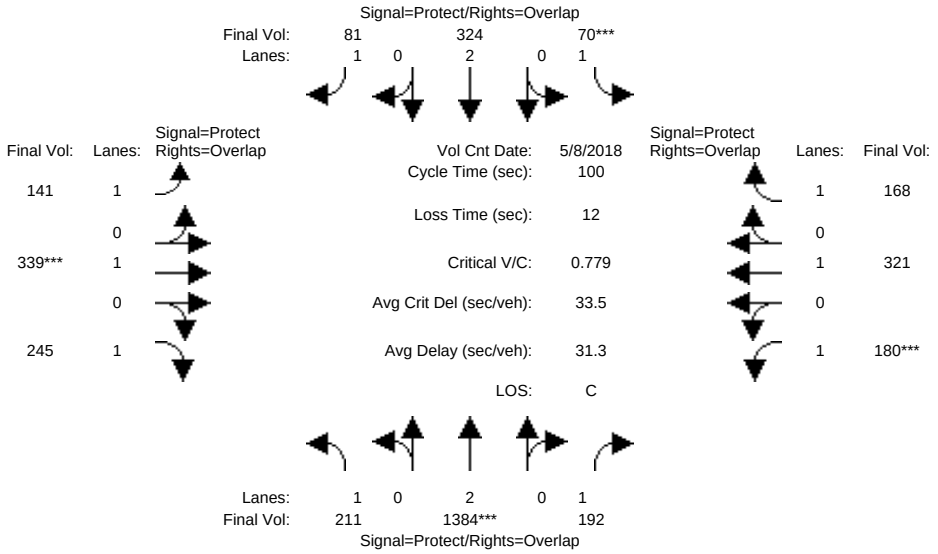
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	211	1384	189	69	324	81	141	334	245	173	306	164
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	211	1384	189	69	324	81	141	334	245	173	306	164
Added Vol:	0	0	3	1	0	0	0	5	0	7	15	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	211	1384	192	70	324	81	141	339	245	180	321	168
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	211	1384	192	70	324	81	141	339	245	180	321	168
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	211	1384	192	70	324	81	141	339	245	180	321	168
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	211	1384	192	70	324	81	141	339	245	180	321	168
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.12	0.36	0.11	0.04	0.09	0.05	0.08	0.18	0.14	0.10	0.17	0.10
Crit Moves:		****		****				****		****		
Green Time:	28.8	45.7	58.6	7.0	23.9	35.3	11.4	22.4	51.2	12.9	23.9	30.9
Volume/Cap:	0.42	0.80	0.19	0.57	0.36	0.13	0.71	0.80	0.27	0.80	0.71	0.31
Delay/Veh:	29.4	25.9	9.7	51.4	31.9	22.0	53.7	46.8	14.0	60.0	39.9	26.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.4	25.9	9.7	51.4	31.9	22.0	53.7	46.8	14.0	60.0	39.9	26.7
LOS by Move:	C	C	A	D	C	C	D	D	B	E	D	C
HCM2k95thQ:	10	29	5	5	8	4	9	18	9	15	19	9

Note: Queue reported is the number of cars per lane.

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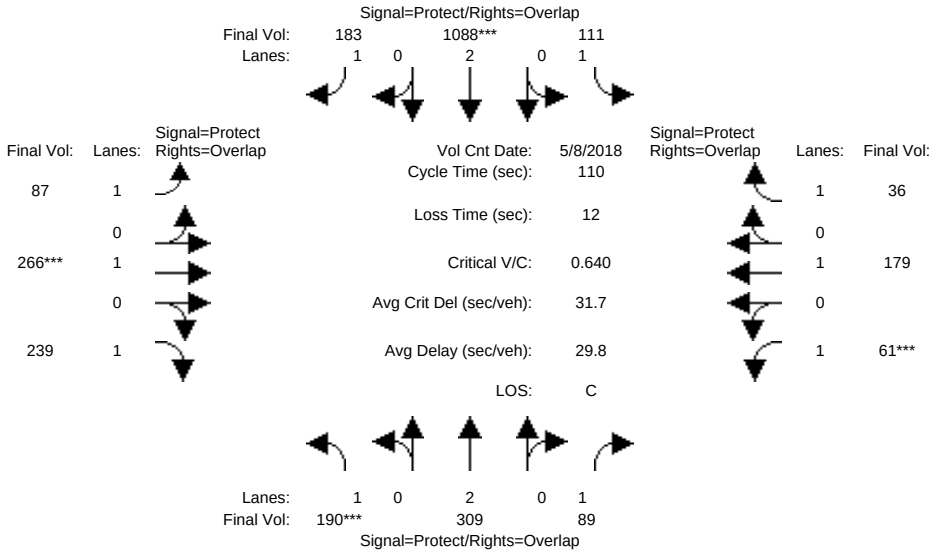
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	190	309	89	111	1088	183	87	266	239	61	179	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	190	309	89	111	1088	183	87	266	239	61	179	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	190	309	89	111	1088	183	87	266	239	61	179	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	190	309	89	111	1088	183	87	266	239	61	179	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	190	309	89	111	1088	183	87	266	239	61	179	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	190	309	89	111	1088	183	87	266	239	61	179	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.08	0.05	0.06	0.29	0.10	0.05	0.14	0.14	0.03	0.09	0.02
Crit Moves:	****				****			****		****		
Green Time:	18.5	39.5	46.5	27.7	48.7	61.1	12.4	23.8	42.3	7.0	18.4	46.1
Volume/Cap:	0.65	0.23	0.12	0.25	0.65	0.19	0.44	0.65	0.36	0.55	0.56	0.05
Delay/Veh:	47.7	24.7	19.4	33.2	24.8	12.2	47.1	42.8	24.5	55.6	44.4	19.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	47.7	24.7	19.4	33.2	24.8	12.2	47.1	42.8	24.5	55.6	44.4	19.0
LOS by Move:	D	C	B	C	C	B	D	D	C	E	D	B
HCM2k95thQ:	12	7	4	6	25	6	6	15	11	6	12	2

Note: Queue reported is the number of cars per lane.

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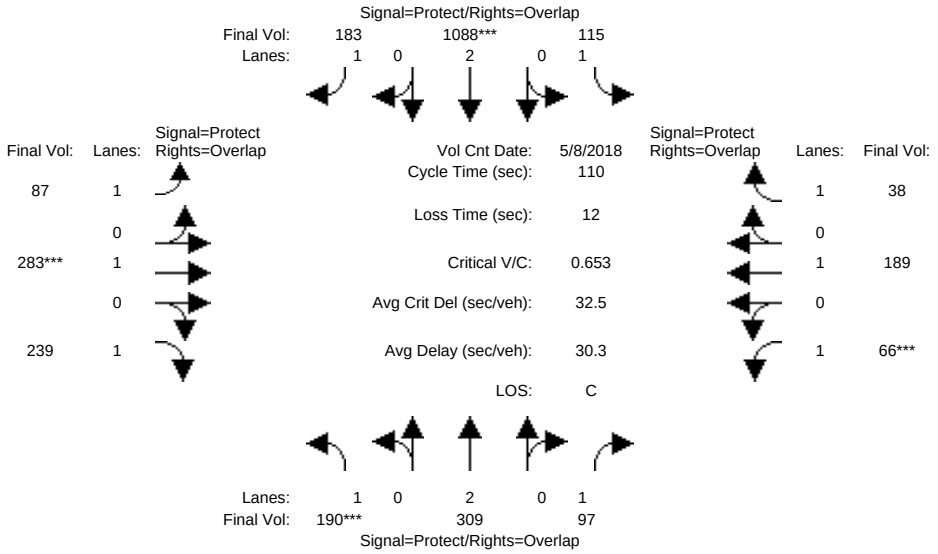
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	190	309	89	111	1088	183	87	266	239	61	179	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	190	309	89	111	1088	183	87	266	239	61	179	36
Added Vol:	0	0	8	4	0	0	0	17	0	5	10	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	190	309	97	115	1088	183	87	283	239	66	189	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	190	309	97	115	1088	183	87	283	239	66	189	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	190	309	97	115	1088	183	87	283	239	66	189	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	190	309	97	115	1088	183	87	283	239	66	189	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.11	0.08	0.06	0.07	0.29	0.10	0.05	0.15	0.14	0.04	0.10	0.02
Crit Moves:	****				****			****		****		
Green Time:	18.2	38.4	45.4	27.7	47.9	60.4	12.5	24.9	43.1	7.0	19.5	47.2
Volume/Cap:	0.66	0.23	0.13	0.26	0.66	0.19	0.44	0.66	0.35	0.59	0.56	0.05
Delay/Veh:	48.4	25.5	20.2	33.3	25.5	12.6	47.1	42.4	23.9	58.4	43.5	18.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	48.4	25.5	20.2	33.3	25.5	12.6	47.1	42.4	23.9	58.4	43.5	18.4
LOS by Move:	D	C	C	C	C	B	D	D	C	E	D	B
HCM2k95thQ:	13	7	4	6	25	6	6	16	11	7	12	2

Note: Queue reported is the number of cars per lane.

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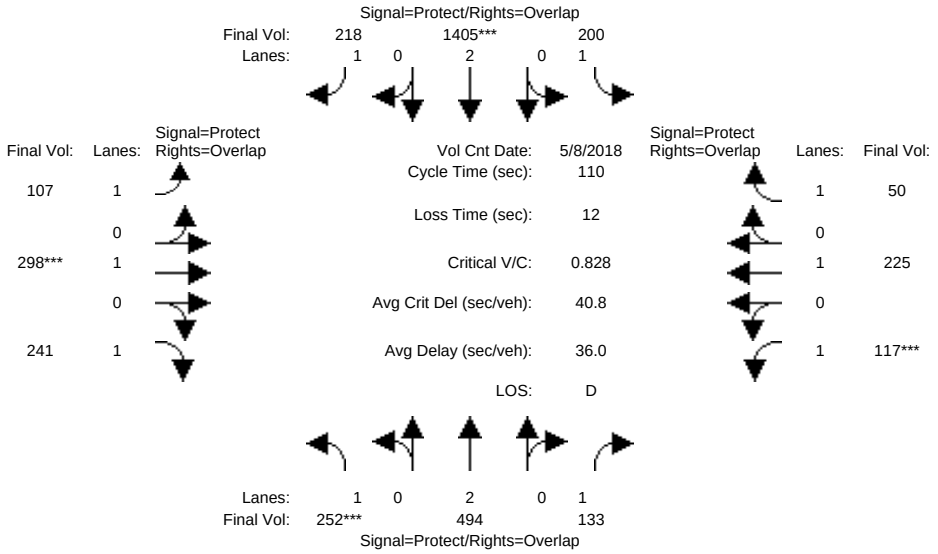
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	252	494	133	200	1405	218	107	298	241	117	225	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	252	494	133	200	1405	218	107	298	241	117	225	50
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	252	494	133	200	1405	218	107	298	241	117	225	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	252	494	133	200	1405	218	107	298	241	117	225	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	252	494	133	200	1405	218	107	298	241	117	225	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	252	494	133	200	1405	218	107	298	241	117	225	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.13	0.08	0.11	0.37	0.12	0.06	0.16	0.14	0.07	0.12	0.03
Crit Moves:	****				****			****		****		
Green Time:	19.1	36.3	45.2	31.9	49.1	59.5	10.4	20.8	40.0	8.9	19.3	51.3
Volume/Cap:	0.83	0.39	0.18	0.39	0.83	0.23	0.65	0.83	0.38	0.83	0.67	0.06
Delay/Veh:	60.7	28.6	20.8	31.8	30.2	13.4	56.7	57.5	26.2	81.3	47.7	16.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.7	28.6	20.8	31.8	30.2	13.4	56.7	57.5	26.2	81.3	47.7	16.2
LOS by Move:	E	C	C	C	C	B	E	E	C	F	D	B
HCM2k95thQ:	17	12	6	11	35	8	7	18	12	12	16	2

Note: Queue reported is the number of cars per lane.

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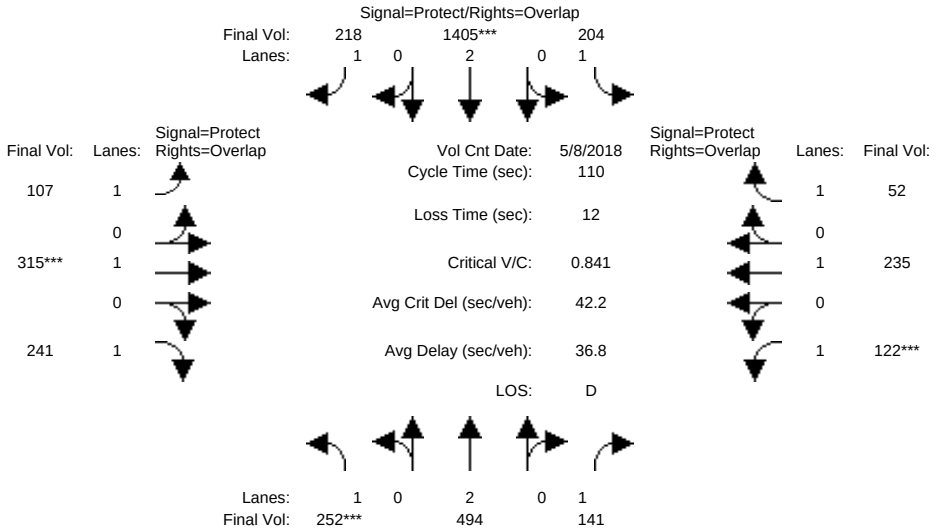
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #119: Butterfield Boulevard and Main Avenue



Street Name:	Butterfield Boulevard						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	252	494	133	200	1405	218	107	298	241	117	225	50
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	252	494	133	200	1405	218	107	298	241	117	225	50
Added Vol:	0	0	8	4	0	0	0	17	0	5	10	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	252	494	141	204	1405	218	107	315	241	122	235	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	252	494	141	204	1405	218	107	315	241	122	235	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	252	494	141	204	1405	218	107	315	241	122	235	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	252	494	141	204	1405	218	107	315	241	122	235	52
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1750	3800	1750	1750	3800	1750	1750	1900	1750	1750	1900	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.13	0.08	0.12	0.37	0.12	0.06	0.17	0.14	0.07	0.12	0.03
Crit Moves:	****				****			****		****		
Green Time:	18.8	35.4	44.5	31.8	48.4	58.8	10.5	21.7	40.5	9.1	20.3	52.1
Volume/Cap:	0.84	0.40	0.20	0.40	0.84	0.23	0.64	0.84	0.37	0.84	0.67	0.06
Delay/Veh:	62.9	29.3	21.3	32.0	31.4	13.7	56.3	58.1	25.8	83.1	46.6	15.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.9	29.3	21.3	32.0	31.4	13.7	56.3	58.1	25.8	83.1	46.6	15.7
LOS by Move:	E	C	C	C	C	B	E	E	C	F	D	B
HCM2k95thQ:	17	12	6	11	36	8	7	19	12	13	16	2

Note: Queue reported is the number of cars per lane.

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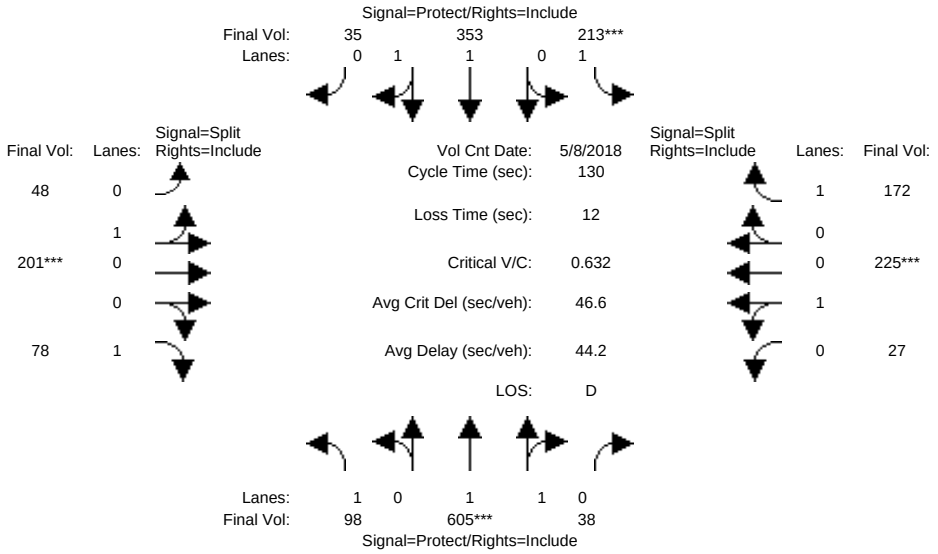
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #118: Monterey Road and Main Avenue



Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	98	605	38	213	353	35	48	201	78	27	225	172
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	605	38	213	353	35	48	201	78	27	225	172
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	605	38	213	353	35	48	201	78	27	225	172
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	605	38	213	353	35	48	201	78	27	225	172
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	605	38	213	353	35	48	201	78	27	225	172
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	605	38	213	353	35	48	201	78	27	225	172
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.88	0.12	1.00	1.81	0.19	0.19	0.81	1.00	0.11	0.89	1.00
Final Sat.:	1750	3481	219	1750	3366	334	347	1453	1750	193	1607	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.17	0.17	0.12	0.10	0.10	0.14	0.14	0.04	0.14	0.14	0.10
Crit Moves:		****		****				****			****	
Green Time:	21.2	35.7	35.7	25.0	39.6	39.6	28.4	28.4	28.4	28.8	28.8	28.8
Volume/Cap:	0.34	0.63	0.63	0.63	0.34	0.34	0.63	0.63	0.20	0.63	0.63	0.44
Delay/Veh:	49.0	42.7	42.7	52.1	35.3	35.3	49.4	49.4	41.8	49.1	49.1	44.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.0	42.7	42.7	52.1	35.3	35.3	49.4	49.4	41.8	49.1	49.1	44.5
LOS by Move:	D	D	D	D	D	D	D	D	D	D	D	D
HCM2k95thQ:	7	21	21	16	11	11	19	19	6	17	17	12

Note: Queue reported is the number of cars per lane.

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City of Morgan Hill
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2000 HCM Operations (Future Volume Alternative)
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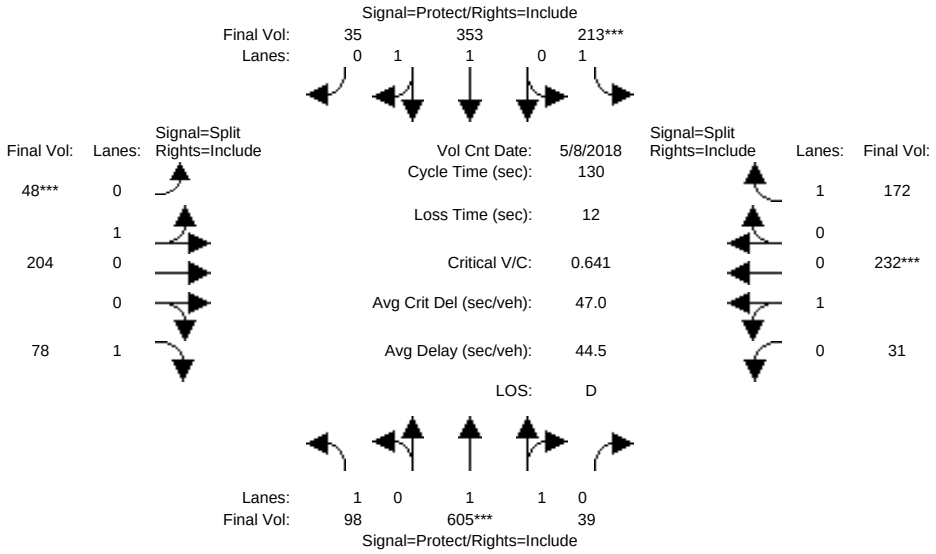

Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	98	605	38	213	353	35	48	201	78	27	225	172
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	605	38	213	353	35	48	201	78	27	225	172
Added Vol:	0	0	1	0	0	0	0	3	0	4	7	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	605	39	213	353	35	48	204	78	31	232	172
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	605	39	213	353	35	48	204	78	31	232	172
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	605	39	213	353	35	48	204	78	31	232	172
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	605	39	213	353	35	48	204	78	31	232	172
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.88	0.12	1.00	1.81	0.19	0.19	0.81	1.00	0.12	0.88	1.00
Final Sat.:	1750	3476	224	1750	3366	334	343	1457	1750	212	1588	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.17	0.17	0.12	0.10	0.10	0.14	0.14	0.04	0.15	0.15	0.10
Crit Moves:		****		****			****				****	
Green Time:	20.9	35.3	35.3	24.7	39.1	39.1	28.4	28.4	28.4	29.6	29.6	29.6
Volume/Cap:	0.35	0.64	0.64	0.64	0.35	0.35	0.64	0.64	0.20	0.64	0.64	0.43
Delay/Veh:	49.3	43.2	43.2	52.8	35.7	35.7	49.7	49.7	41.8	48.8	48.8	43.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.3	43.2	43.2	52.8	35.7	35.7	49.7	49.7	41.8	48.8	48.8	43.7
LOS by Move:	D	D	D	D	D	D	D	D	D	D	D	D
HCM2k95thQ:	7	21	21	16	11	11	19	19	6	18	18	12

Note: Queue reported is the number of cars per lane.

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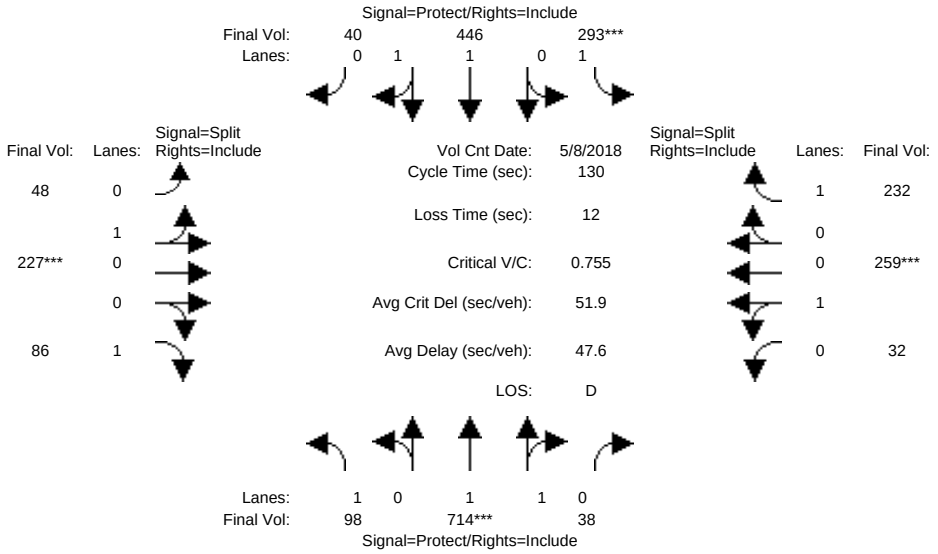
Year 2030 Cumulative without Project AM

Intersection #118: Monterey Road and Main Avenue



Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	98	714	38	293	446	40	48	227	86	32	259	232
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	714	38	293	446	40	48	227	86	32	259	232
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	714	38	293	446	40	48	227	86	32	259	232
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	714	38	293	446	40	48	227	86	32	259	232
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	714	38	293	446	40	48	227	86	32	259	232
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	714	38	293	446	40	48	227	86	32	259	232
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.90	0.10	1.00	1.83	0.17	0.17	0.83	1.00	0.11	0.89	1.00
Final Sat.:	1750	3513	187	1750	3395	305	314	1486	1750	198	1602	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.20	0.20	0.17	0.13	0.13	0.15	0.15	0.05	0.16	0.16	0.13
Crit Moves:		****		****				****			****	
Green Time:	19.1	35.0	35.0	28.8	44.8	44.8	26.3	26.3	26.3	27.8	27.8	27.8
Volume/Cap:	0.38	0.75	0.75	0.75	0.38	0.38	0.75	0.75	0.24	0.75	0.75	0.62
Delay/Veh:	51.1	46.9	46.9	55.5	32.4	32.4	57.5	57.5	43.8	56.1	56.1	49.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.1	46.9	46.9	55.5	32.4	32.4	57.5	57.5	43.8	56.1	56.1	49.4
LOS by Move:	D	D	D	E	C	C	E	E	D	E	E	D
HCM2k95thQ:	7	25	25	21	14	14	22	22	6	21	21	16

Note: Queue reported is the number of cars per lane.

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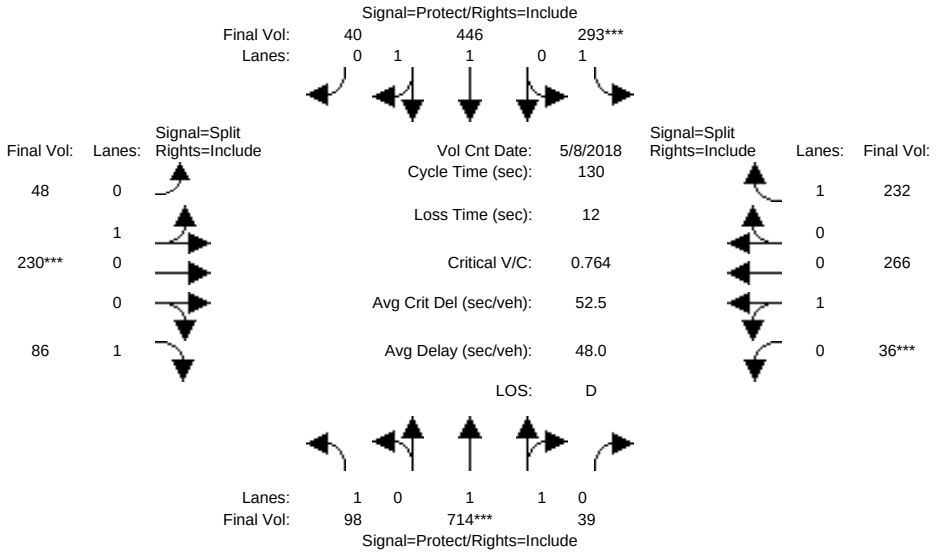
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #118: Monterey Road and Main Avenue



Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	98	714	38	293	446	40	48	227	86	32	259	232
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	714	38	293	446	40	48	227	86	32	259	232
Added Vol:	0	0	1	0	0	0	0	3	0	4	7	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	98	714	39	293	446	40	48	230	86	36	266	232
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	714	39	293	446	40	48	230	86	36	266	232
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	714	39	293	446	40	48	230	86	36	266	232
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	714	39	293	446	40	48	230	86	36	266	232
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.89	0.11	1.00	1.83	0.17	0.17	0.83	1.00	0.12	0.88	1.00
Final Sat.:	1750	3508	192	1750	3395	305	311	1489	1750	215	1585	1750
Capacity Analysis Module:												
Vol/Sat:	0.06	0.20	0.20	0.17	0.13	0.13	0.15	0.15	0.05	0.17	0.17	0.13
Crit Moves:		****		****				****		****		
Green Time:	18.9	34.6	34.6	28.5	44.3	44.3	26.3	26.3	26.3	28.6	28.6	28.6
Volume/Cap:	0.39	0.76	0.76	0.76	0.39	0.39	0.76	0.76	0.24	0.76	0.76	0.60
Delay/Veh:	51.3	47.5	47.5	56.4	32.7	32.7	58.2	58.2	43.9	56.1	56.1	48.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.3	47.5	47.5	56.4	32.7	32.7	58.2	58.2	43.9	56.1	56.1	48.3
LOS by Move:	D	D	D	E	C	C	E	E	D	E	E	D
HCM2k95thQ:	7	26	26	21	14	14	23	23	6	21	21	16

Note: Queue reported is the number of cars per lane.

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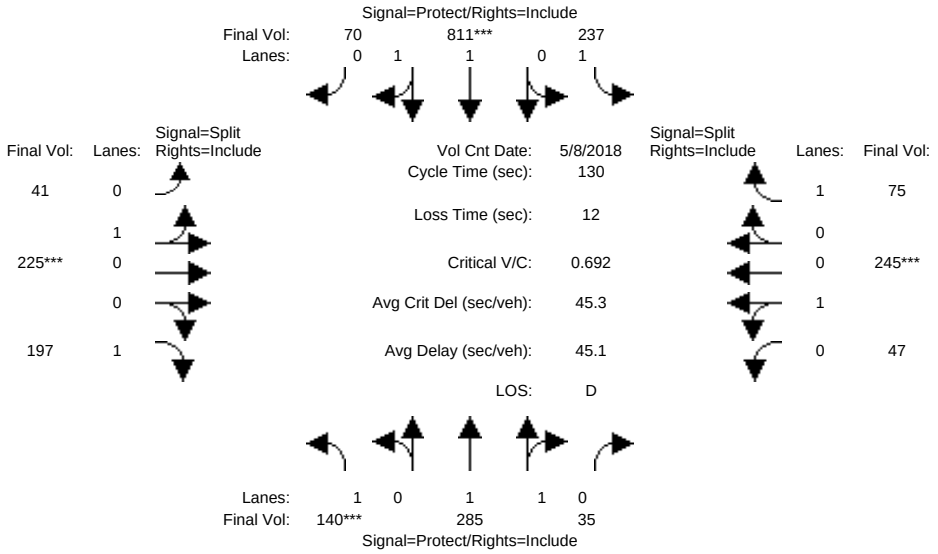
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #118: Monterey Road and Main Avenue



Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	140	285	35	237	811	70	41	225	197	47	245	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	285	35	237	811	70	41	225	197	47	245	75
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	285	35	237	811	70	41	225	197	47	245	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	285	35	237	811	70	41	225	197	47	245	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	285	35	237	811	70	41	225	197	47	245	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	285	35	237	811	70	41	225	197	47	245	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.78	0.22	1.00	1.84	0.16	0.15	0.85	1.00	0.16	0.84	1.00
Final Sat.:	1750	3295	405	1750	3406	294	277	1523	1750	290	1510	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.14	0.24	0.24	0.15	0.15	0.11	0.16	0.16	0.04
Crit Moves:	****				****			****			****	
Green Time:	15.0	23.3	23.3	36.5	44.7	44.7	27.8	27.8	27.8	30.5	30.5	30.5
Volume/Cap:	0.69	0.48	0.48	0.48	0.69	0.69	0.69	0.69	0.53	0.69	0.69	0.18
Delay/Veh:	65.1	48.5	48.5	39.7	38.4	38.4	52.5	52.5	46.7	50.4	50.4	40.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	65.1	48.5	48.5	39.7	38.4	38.4	52.5	52.5	46.7	50.4	50.4	40.0
LOS by Move:	E	D	D	D	D	D	D	D	D	D	D	D
HCM2k95thQ:	12	11	11	15	27	27	21	21	15	20	20	5

Note: Queue reported is the number of cars per lane.

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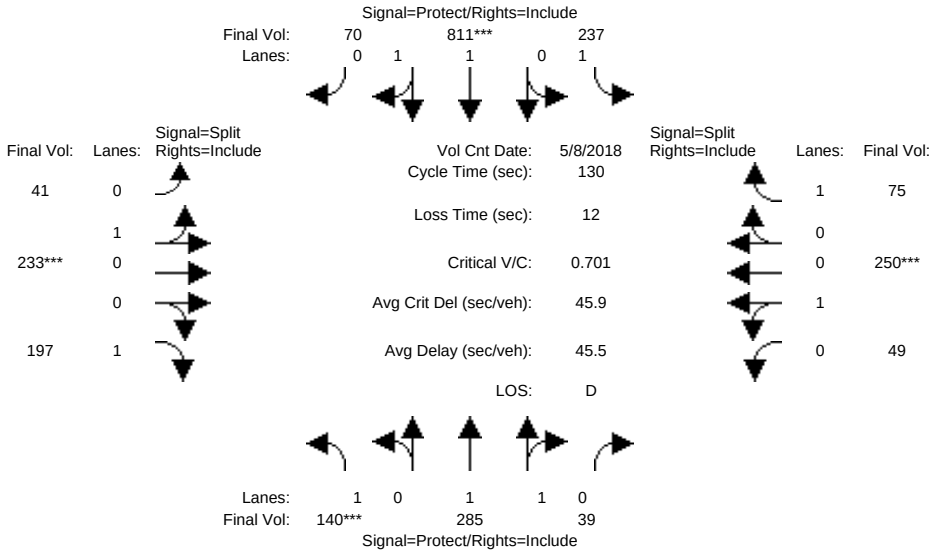
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #118: Monterey Road and Main Avenue



Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	140	285	35	237	811	70	41	225	197	47	245	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	285	35	237	811	70	41	225	197	47	245	75
Added Vol:	0	0	4	0	0	0	0	8	0	2	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	285	39	237	811	70	41	233	197	49	250	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	285	39	237	811	70	41	233	197	49	250	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	285	39	237	811	70	41	233	197	49	250	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	285	39	237	811	70	41	233	197	49	250	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.75	0.25	1.00	1.84	0.16	0.15	0.85	1.00	0.16	0.84	1.00
Final Sat.:	1750	3254	445	1750	3406	294	269	1531	1750	295	1505	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.14	0.24	0.24	0.15	0.15	0.11	0.17	0.17	0.04
Crit Moves:	****				****			****			****	
Green Time:	14.8	23.2	23.2	35.8	44.1	44.1	28.2	28.2	28.2	30.8	30.8	30.8
Volume/Cap:	0.70	0.49	0.49	0.49	0.70	0.70	0.70	0.70	0.52	0.70	0.70	0.18
Delay/Veh:	66.1	48.7	48.7	40.3	39.0	39.0	52.6	52.6	46.2	50.6	50.6	39.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	66.1	48.7	48.7	40.3	39.0	39.0	52.6	52.6	46.2	50.6	50.6	39.8
LOS by Move:	E	D	D	D	D	D	D	D	D	D	D	D
HCM2k95thQ:	12	11	11	15	27	27	21	21	15	21	21	5

Note: Queue reported is the number of cars per lane.

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City of Morgan Hill
The Crosswinds Residential Development

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2000 HCM Operations (Future Volume Alternative)
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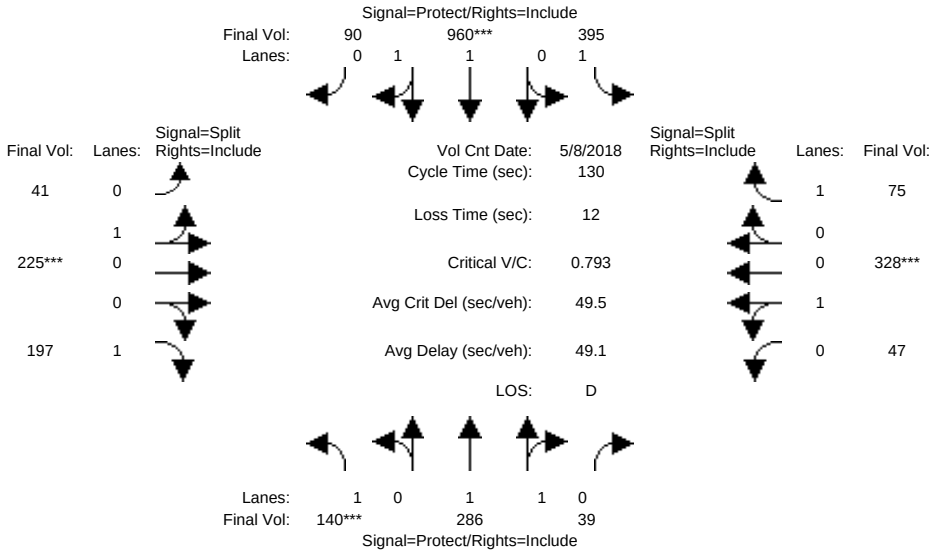

Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	140	286	39	395	960	90	41	225	197	47	328	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	286	39	395	960	90	41	225	197	47	328	75
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	286	39	395	960	90	41	225	197	47	328	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	286	39	395	960	90	41	225	197	47	328	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	286	39	395	960	90	41	225	197	47	328	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	286	39	395	960	90	41	225	197	47	328	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.75	0.25	1.00	1.82	0.18	0.15	0.85	1.00	0.13	0.87	1.00
Final Sat.:	1750	3256	444	1750	3383	317	277	1523	1750	226	1574	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.23	0.28	0.28	0.15	0.15	0.11	0.21	0.21	0.04
Crit Moves:	****				****			****			****	
Green Time:	13.1	16.7	16.7	42.9	46.5	46.5	24.2	24.2	24.2	34.1	34.1	34.1
Volume/Cap:	0.79	0.68	0.68	0.68	0.79	0.79	0.79	0.79	0.60	0.79	0.79	0.16
Delay/Veh:	78.4	58.2	58.2	41.0	40.8	40.8	62.7	62.7	51.7	53.6	53.6	37.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	78.4	58.2	58.2	41.0	40.8	40.8	62.7	62.7	51.7	53.6	53.6	37.1
LOS by Move:	E	E	E	D	D	D	E	E	D	D	D	D
HCM2k95thQ:	12	12	12	25	32	32	23	23	16	26	26	5

Note: Queue reported is the number of cars per lane.

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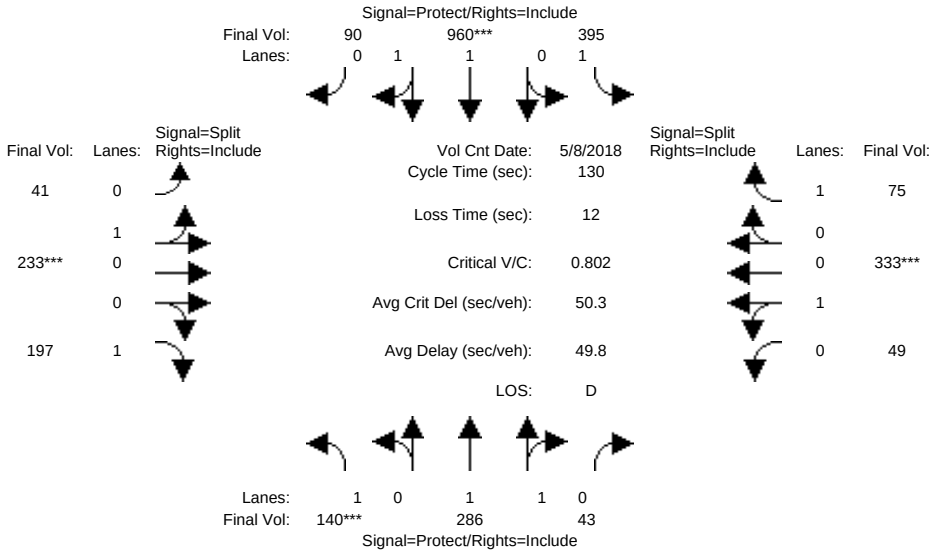

Street Name:	Monterey Road						Main Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	140	286	39	395	960	90	41	225	197	47	328	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	140	286	39	395	960	90	41	225	197	47	328	75
Added Vol:	0	0	4	0	0	0	0	8	0	2	5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	286	43	395	960	90	41	233	197	49	333	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	286	43	395	960	90	41	233	197	49	333	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	286	43	395	960	90	41	233	197	49	333	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	286	43	395	960	90	41	233	197	49	333	75
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.98	0.95	0.92	0.98	0.95	0.95	0.95	0.92	0.95	0.95	0.92
Lanes:	1.00	1.73	0.27	1.00	1.82	0.18	0.15	0.85	1.00	0.13	0.87	1.00
Final Sat.:	1750	3216	484	1750	3383	317	269	1531	1750	231	1569	1750
Capacity Analysis Module:												
Vol/Sat:	0.08	0.09	0.09	0.23	0.28	0.28	0.15	0.15	0.11	0.21	0.21	0.04
Crit Moves:	****				****			****			****	
Green Time:	13.0	16.7	16.7	42.3	46.0	46.0	24.7	24.7	24.7	34.4	34.4	34.4
Volume/Cap:	0.80	0.69	0.69	0.69	0.80	0.80	0.80	0.80	0.59	0.80	0.80	0.16
Delay/Veh:	80.1	58.7	58.7	41.9	41.6	41.6	63.1	63.1	51.0	54.1	54.1	36.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	80.1	58.7	58.7	41.9	41.6	41.6	63.1	63.1	51.0	54.1	54.1	36.9
LOS by Move:	F	E	E	D	D	D	E	E	D	D	D	D
HCM2k95thQ:	12	13	13	25	32	32	23	23	16	26	26	5

Note: Queue reported is the number of cars per lane.

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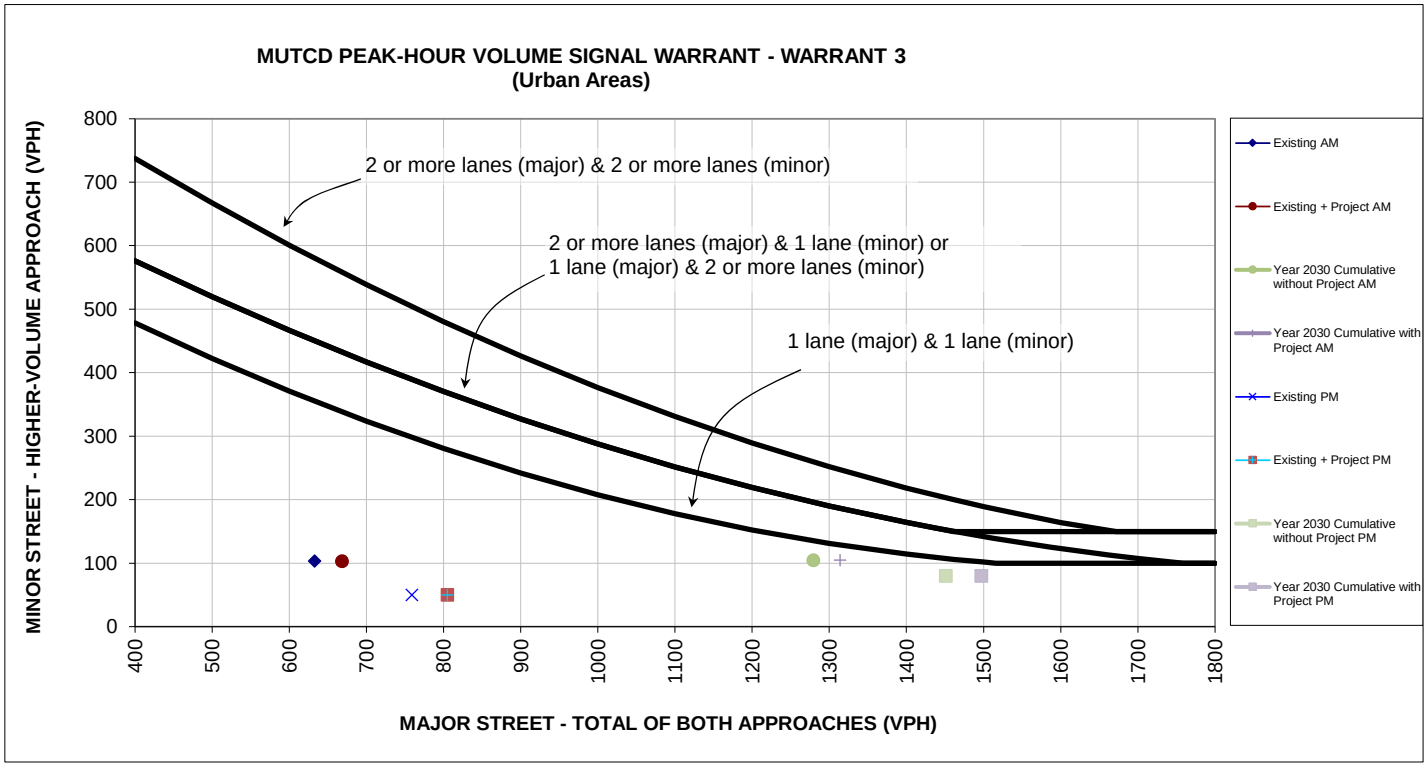
Appendix E

Signal Warrant Analysis

The Crosswinds Residential Development

7 . Mission View Drive and Avenida De Los Padres



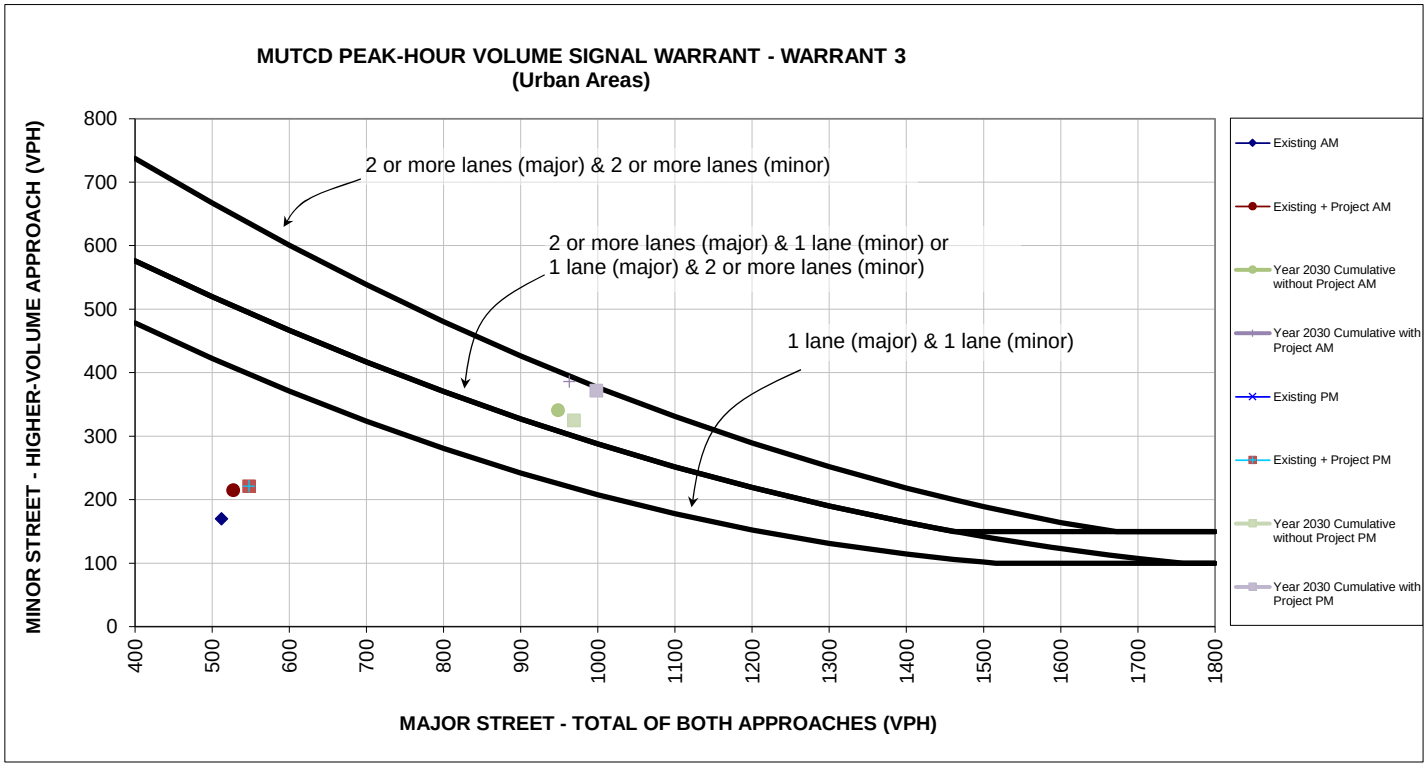
Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Approach Lanes: One	Approach Lanes: 2 or More	Existing AM	Existing + Project AM	Year 2030 Cumulative without Project AM	Year 2030 Cumulative with Project AM
Major Street - Both Approaches	Avenida De Los Padres	X		633	668	1279	1314
Minor Street - Highest Approach	Mission View Drive	X		103	103	105	105
Maximum warrant threshold for minor street volume				355	338	135	128
Difference between warrant threshold & minor street volume				252	235	30	23
		Warrant Met?		No	No	No	No

		Approach Lanes: One	Approach Lanes: 2 or More	Existing PM	Existing + Project PM	Year 2030 Cumulative without Project PM	Year 2030 Cumulative with Project PM
Major Street - Both Approaches	Avenida De Los Padres	X		759	805	1451	1497
Minor Street - Highest Approach	Mission View Drive	X		50	50	80	80
Maximum warrant threshold for minor street volume				298	279	107	102
Difference between warrant threshold & minor street volume				248	229	27	22
		Warrant Met?		No	No	No	No

The Crosswinds Residential Development

8 . Mission View Drive and Half Road



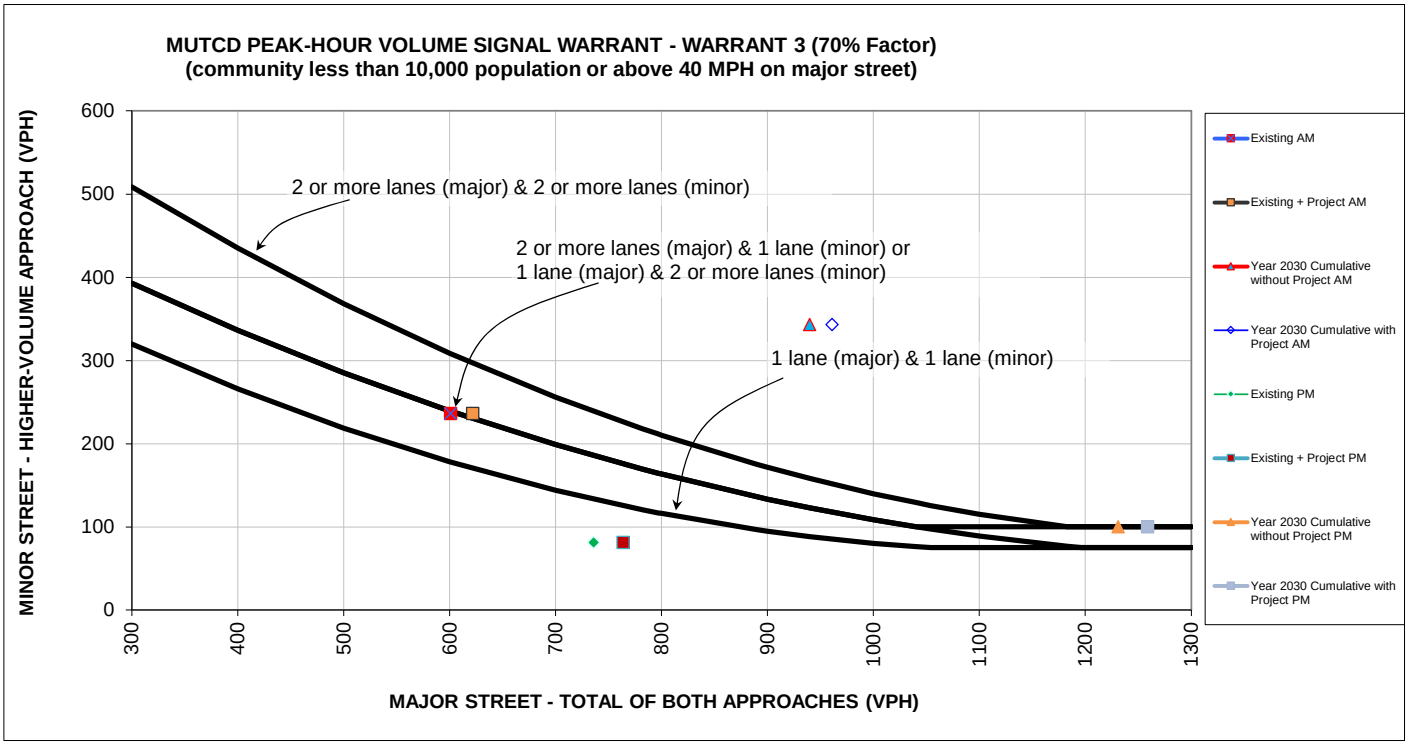
Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Approach Lanes: One	Approach Lanes: 2 or More	Existing AM	Existing + Project AM	Year 2030 Cumulative without Project AM	Year 2030 Cumulative with Project AM
Major Street - Both Approaches	Mission View Drive	X		512	527	948	963
Minor Street - Highest Approach	Half Road	X		170	215	341	386
Maximum warrant threshold for minor street volume				416	408	225	220
Difference between warrant threshold & minor street volume				246	193	116	166
		Warrant Met?		No	No	**Yes**	**Yes**

		Approach Lanes: One	Approach Lanes: 2 or More	Existing PM	Existing + Project PM	Year 2030 Cumulative without Project PM	Year 2030 Cumulative with Project PM
Major Street - Both Approaches	Mission View Drive	X		268	548	969	998
Minor Street - Highest Approach	Half Road	X		519	221	325	372
Maximum warrant threshold for minor street volume				559	397	218	208
Difference between warrant threshold & minor street volume				40	176	107	164
		Warrant Met?		No	No	**Yes**	**Yes**

The Crosswinds Residential Development

10 . Condit Road and Diana Avenue



Source: Figure 4C-4 of the Manual on Unifrom Traffic Control and Devices (MUTCD) from California Department of Transportation (Caltrans).
* 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Approach Lanes: One	Approach Lanes: 2 or More	Existing AM	Existing + Project AM	Year 2030 Cumulative without Project AM	Year 2030 Cumulative with Project AM
Major Street - Both Approaches	Diana Avenue	X		601	622	940	961
Minor Street - Highest Approach	Condit Road	X		236	236	343	343
Maximum warrant threshold for minor street volume				178	170	88	85
Difference between warrant threshold & minor street volume				58	66	255	258
		Warrant Met?		**Yes**	**Yes**	**Yes**	**Yes**

		Approach Lanes: One	Approach Lanes: 2 or More	Existing PM	Existing + Project PM	Year 2030 Cumulative without Project PM	Year 2030 Cumulative with Project PM
Major Street - Both Approaches	Diana Avenue	X		736	764	1231	1259
Minor Street - Highest Approach	Condit Road	X		81	81	100	100
Maximum warrant threshold for minor street volume				133	125	75	75
Difference between warrant threshold & minor street volume				52	44	25	25
		Warrant Met?		No	No	**Yes**	**Yes**

Appendix F

Intersection Queuing Calculations

DePaul/Cochrane
NB
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
NB
AM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 1.4
Percentile = 95% 4

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.2466	0.2466	0
0.3452	0.5918	1
0.2417	0.8335	2
0.1128	0.9463	3
0.0395	0.9857	4
0.0111	0.9968	5
0.0026	0.9994	6
0.0005	0.9999	7
0.0001	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
NB
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 0.3
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.7408	0.7408	0
0.2222	0.9631	1
0.0333	0.9964	2
0.0033	0.9997	3
0.0003	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Cochrane
NB
PM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 1.2
Percentile = 95% 3

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.3012	0.3012	0
0.3614	0.6626	1
0.2169	0.8795	2
0.0867	0.9662	3
0.0260	0.9923	4
0.0062	0.9985	5
0.0012	0.9997	6
0.0002	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 8.5
Percentile = 95% 14

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0002	0.0002	0
0.0017	0.0019	1
0.0074	0.0093	2
0.0208	0.0301	3
0.0443	0.0744	4
0.0752	0.1496	5
0.1066	0.2562	6
0.1294	0.3856	7
0.1375	0.5231	8
0.1299	0.6530	9
0.1104	0.7634	10
0.0853	0.8487	11
0.0604	0.9091	12
0.0395	0.9486	13
0.0240	0.9726	14
0.0136	0.9862	15
0.0072	0.9934	16
0.0036	0.9970	17
0.0017	0.9987	18
0.0008	0.9995	19
0.0003	0.9998	20
0.0001	0.9999	21
0.0001	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
AM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 9.0
Percentile = 95% 14

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0001	0.0001	0
0.0011	0.0012	1
0.0050	0.0062	2
0.0150	0.0212	3
0.0337	0.0550	4
0.0607	0.1157	5
0.0911	0.2068	6
0.1171	0.3239	7
0.1318	0.4557	8
0.1318	0.5874	9
0.1186	0.7060	10
0.0970	0.8030	11
0.0728	0.8758	12
0.0504	0.9261	13
0.0324	0.9585	14
0.0194	0.9780	15
0.0109	0.9889	16
0.0058	0.9947	17
0.0029	0.9976	18
0.0014	0.9989	19
0.0006	0.9996	20
0.0003	0.9998	21
0.0001	0.9999	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 3.1
Percentile = 95% 6

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0450	0.0450	0
0.1397	0.1847	1
0.2165	0.4012	2
0.2237	0.6248	3
0.1733	0.7982	4
0.1075	0.9057	5
0.0555	0.9612	6
0.0246	0.9858	7
0.0095	0.9953	8
0.0033	0.9986	9
0.0010	0.9996	10
0.0003	0.9999	11
0.0001	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Cochrane
NBL
PM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 3.3
Percentile = 95% 7

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0369	0.0369	0
0.1217	0.1586	1
0.2008	0.3594	2
0.2209	0.5803	3
0.1823	0.7626	4
0.1203	0.8829	5
0.0662	0.9490	6
0.0312	0.9802	7
0.0129	0.9931	8
0.0047	0.9978	9
0.0016	0.9994	10
0.0005	0.9998	11
0.0001	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
EBT/L
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 0.7
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.4966	0.4966	0
0.3476	0.8442	1
0.1217	0.9659	2
0.0284	0.9942	3
0.0050	0.9992	4
0.0007	0.9999	5
0.0001	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
EBT/L
AM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 0.7
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.4966	0.4966	0
0.3476	0.8442	1
0.1217	0.9659	2
0.0284	0.9942	3
0.0050	0.9992	4
0.0007	0.9999	5
0.0001	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
EBT/L
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 0.4
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.6703	0.6703	0
0.2681	0.9384	1
0.0536	0.9921	2
0.0072	0.9992	3
0.0007	0.9999	4
0.0001	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
EBT/L
PM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 0.5
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.6065	0.6065	0
0.3033	0.9098	1
0.0758	0.9856	2
0.0126	0.9982	3
0.0016	0.9998	4
0.0002	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
SB
AM
Existing Conditions
Avg. Queue Per Lane in Veh= 0.6
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.5488	0.5488	0
0.3293	0.8781	1
0.0988	0.9769	2
0.0198	0.9966	3
0.0030	0.9996	4
0.0004	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
SB
AM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 0.8
Percentile = 95% 2

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.4493	0.4493	0
0.3595	0.8088	1
0.1438	0.9526	2
0.0383	0.9909	3
0.0077	0.9986	4
0.0012	0.9998	5
0.0002	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
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0.0000	1.0000	30
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0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
SB
PM
Existing Conditions
Avg. Queue Per Lane in Veh= 3.3
Percentile = 95% 7

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0369	0.0369	0
0.1217	0.1586	1
0.2008	0.3594	2
0.2209	0.5803	3
0.1823	0.7626	4
0.1203	0.8829	5
0.0662	0.9490	6
0.0312	0.9802	7
0.0129	0.9931	8
0.0047	0.9978	9
0.0016	0.9994	10
0.0005	0.9998	11
0.0001	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Half
SB
PM
Existing Plus Project Conditions
Avg. Queue Per Lane in Veh= 5.2
Percentile = 95% 9

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.0055	0.0055	0
0.0287	0.0342	1
0.0746	0.1088	2
0.1293	0.2381	3
0.1681	0.4061	4
0.1748	0.5809	5
0.1515	0.7324	6
0.1125	0.8449	7
0.0731	0.9181	8
0.0423	0.9603	9
0.0220	0.9823	10
0.0104	0.9927	11
0.0045	0.9972	12
0.0018	0.9990	13
0.0007	0.9997	14
0.0002	0.9999	15
0.0001	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

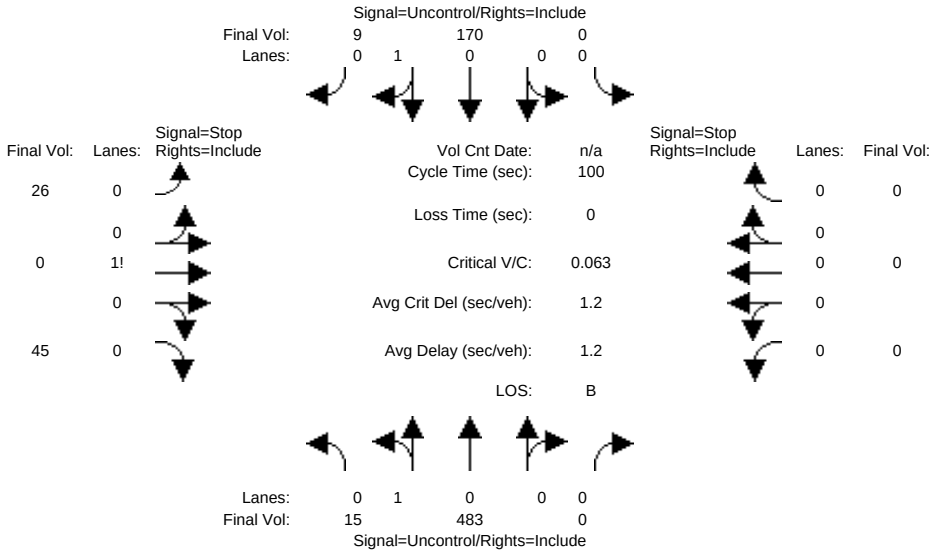
Appendix G

Project Driveway Operations Analyses

City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #11592: Mission View Drive and Project Driveway A



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	0	483	0	0	170	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	483	0	0	170	0	0	0	0	0	0	0
Added Vol:	15	0	0	0	0	9	26	0	45	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	483	0	0	170	9	26	0	45	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	483	0	0	170	9	26	0	45	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	15	483	0	0	170	9	26	0	45	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	179	xxxx	xxxxx	xxxx	xxxx	xxxxx	688	688	175	xxxx	xxxx	xxxxx
Potent Cap.:	1409	xxxx	xxxxx	xxxx	xxxx	xxxxx	415	372	874	xxxx	xxxx	xxxxx
Move Cap.:	1409	xxxx	xxxxx	xxxx	xxxx	xxxxx	412	368	874	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	0.00	0.05	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	620	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	11.6	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			11.6			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the number of cars per lane.

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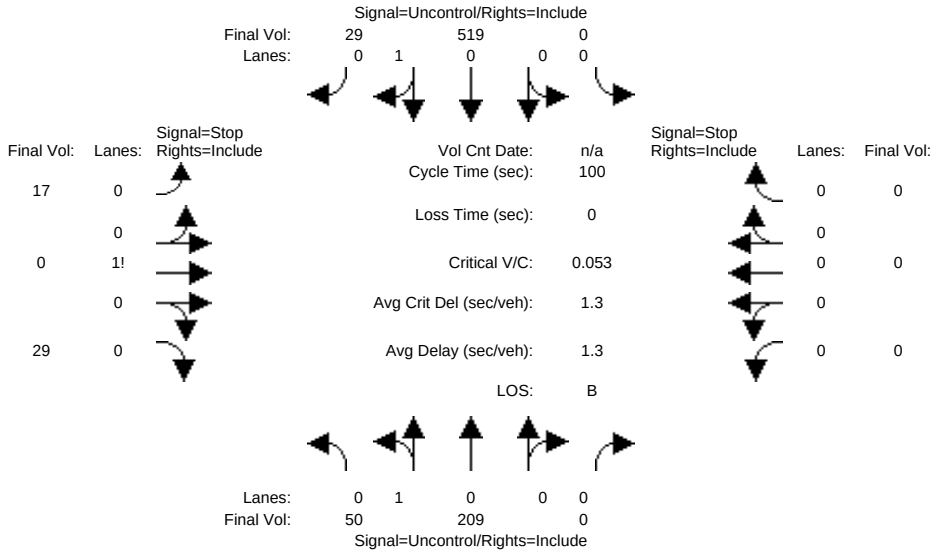
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #11592: Mission View Drive and Project Driveway A



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	209	0	0	519	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	209	0	0	519	0	0	0	0	0	0	0
Added Vol:	50	0	0	0	0	29	17	0	29	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	50	209	0	0	519	29	17	0	29	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	50	209	0	0	519	29	17	0	29	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	50	209	0	0	519	29	17	0	29	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	548	xxxx	xxxxx	xxxx	xxxx	xxxxx	843	843	534	xxxx	xxxx	xxxxx
Potent Cap.:	1032	xxxx	xxxxx	xxxx	xxxx	xxxxx	337	303	550	xxxx	xxxx	xxxxx
Move Cap.:	1032	xxxx	xxxxx	xxxx	xxxx	xxxxx	324	288	550	xxxx	xxxx	xxxxx
Volume/Cap:	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	0.00	0.05	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	437	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	8.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	14.2	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	B	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			14.2			xxxxxx		
ApproachLOS:	*			*			B			*		

Note: Queue reported is the number of cars per lane.

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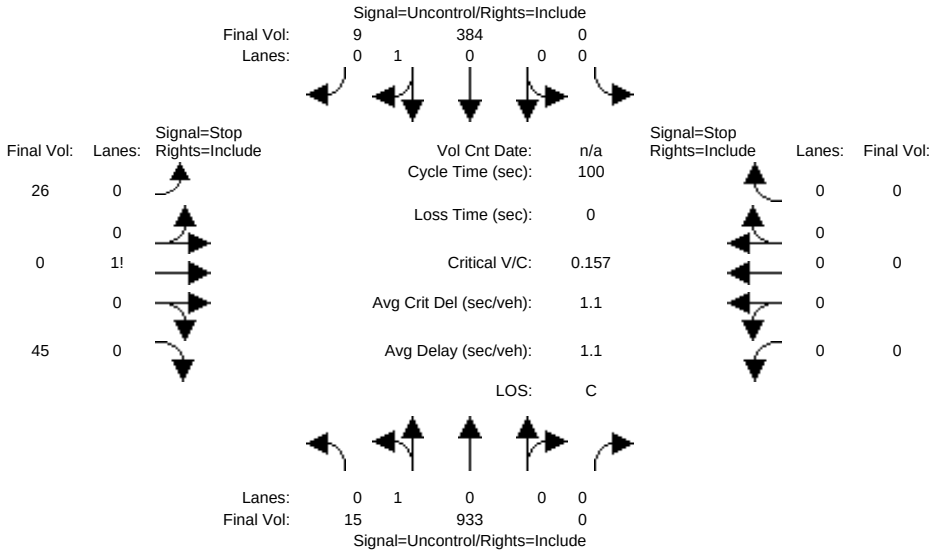
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #11592: Mission View Drive and Project Driveway A



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	933	0	0	384	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	933	0	0	384	0	0	0	0	0	0	0
Added Vol:	15	0	0	0	0	9	26	0	45	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	933	0	0	384	9	26	0	45	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	933	0	0	384	9	26	0	45	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	15	933	0	0	384	9	26	0	45	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	393	xxxx	xxxxx	xxxx	xxxx	xxxxx	1352	1352	389	xxxx	xxxx	xxxxx
Potent Cap.:	1177	xxxx	xxxxx	xxxx	xxxx	xxxxx	167	152	664	xxxx	xxxx	xxxxx
Move Cap.:	1177	xxxx	xxxxx	xxxx	xxxx	xxxxx	166	150	664	xxxx	xxxx	xxxxx
Volume/Cap:	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	0.16	0.00	0.07	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	316	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.8	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	8.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	19.7	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	C	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			19.7			xxxxxx		
ApproachLOS:	*			*			C			*		

Note: Queue reported is the number of cars per lane.

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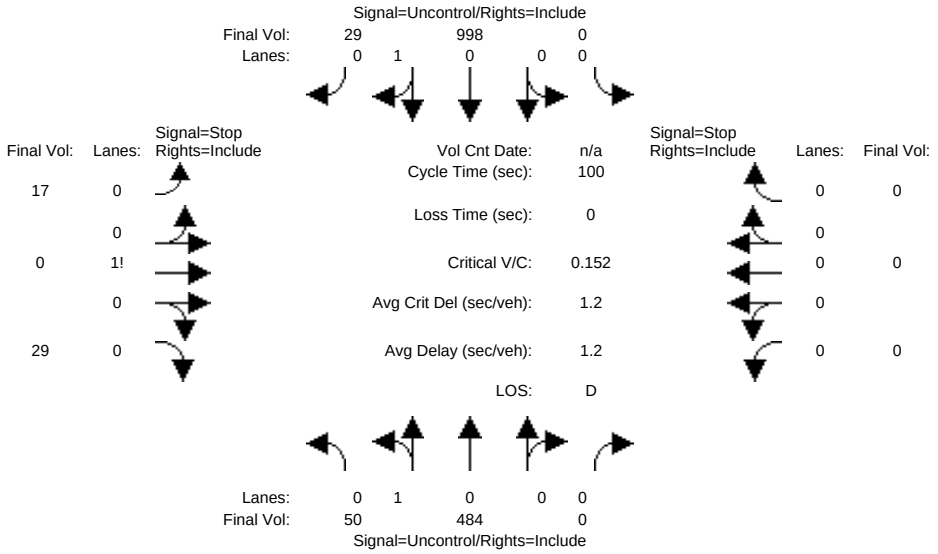
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #11592: Mission View Drive and Project Driveway A



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Volume Module:												
Base Vol:	0	484	0	0	998	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	484	0	0	998	0	0	0	0	0	0	0
Added Vol:	50	0	0	0	0	29	17	0	29	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	50	484	0	0	998	29	17	0	29	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	50	484	0	0	998	29	17	0	29	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	50	484	0	0	998	29	17	0	29	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	1027	xxxx	xxxxx	xxxx	xxxx	xxxxx	1597	1597	1013	xxxx	xxxx	xxxxx
Potent Cap.:	684	xxxx	xxxxx	xxxx	xxxx	xxxxx	119	108	293	xxxx	xxxx	xxxxx
Move Cap.:	684	xxxx	xxxxx	xxxx	xxxx	xxxxx	112	100	293	xxxx	xxxx	xxxxx
Volume/Cap:	0.07	xxxx	xxxx	xxxx	xxxx	xxxx	0.15	0.00	0.10	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	10.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	B	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	183	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.0	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	10.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	31.1	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	B	*	*	*	*	*	*	D	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			31.1			xxxxxx		
ApproachLOS:	*			*			D			*		

Note: Queue reported is the number of cars per lane.

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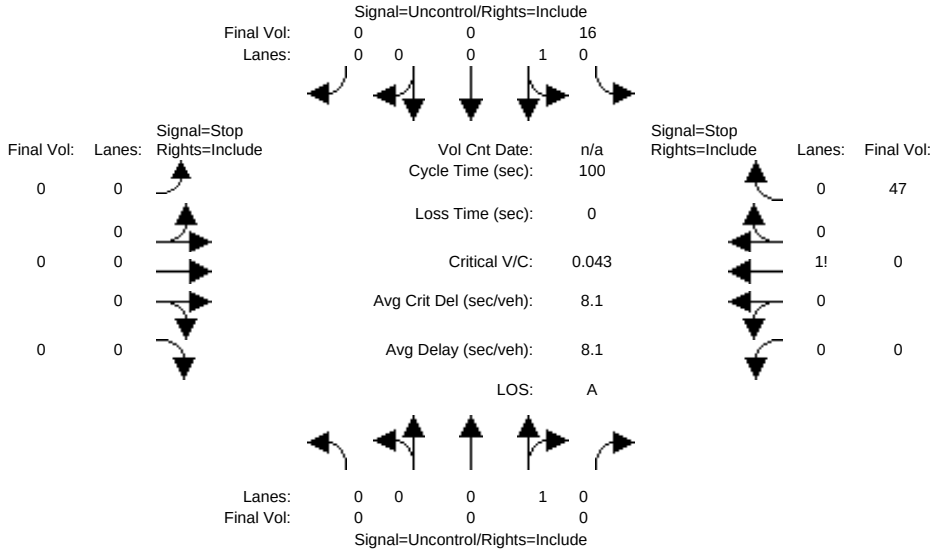
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #11591: DePaul Drive and Project Driveway B



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	16	0	0	0	0	0	0	0	47
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	16	0	0	0	0	0	0	0	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	16	0	0	0	0	0	0	0	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	16	0	0	0	0	0	0	0	47
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0
Potent Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Move Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.04
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.4
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.4		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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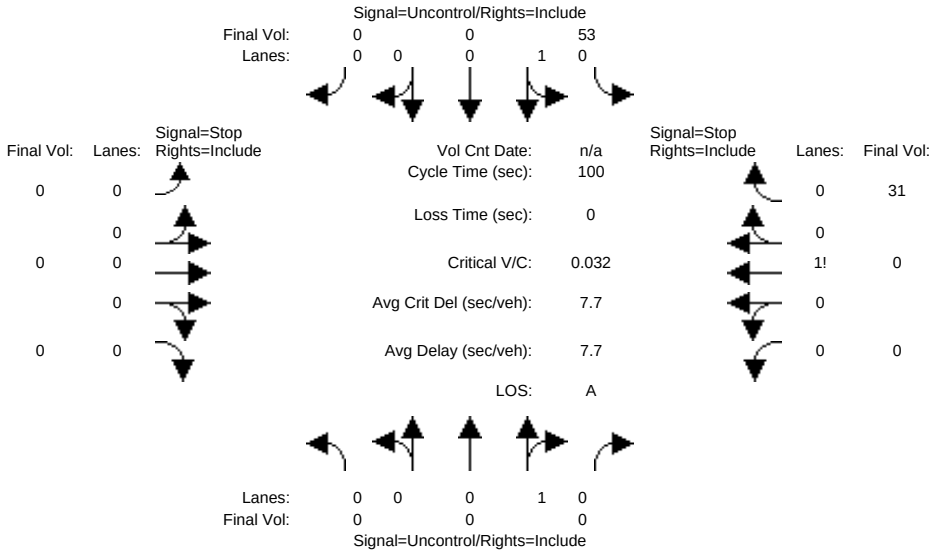
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #11591: DePaul Drive and Project Driveway B



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	53	0	0	0	0	0	0	0	31
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	53	0	0	0	0	0	0	0	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	53	0	0	0	0	0	0	0	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	53	0	0	0	0	0	0	0	31
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0
Potent Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Move Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Volume/Cap:	xxxx	xxxx	xxxx	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.4
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.4		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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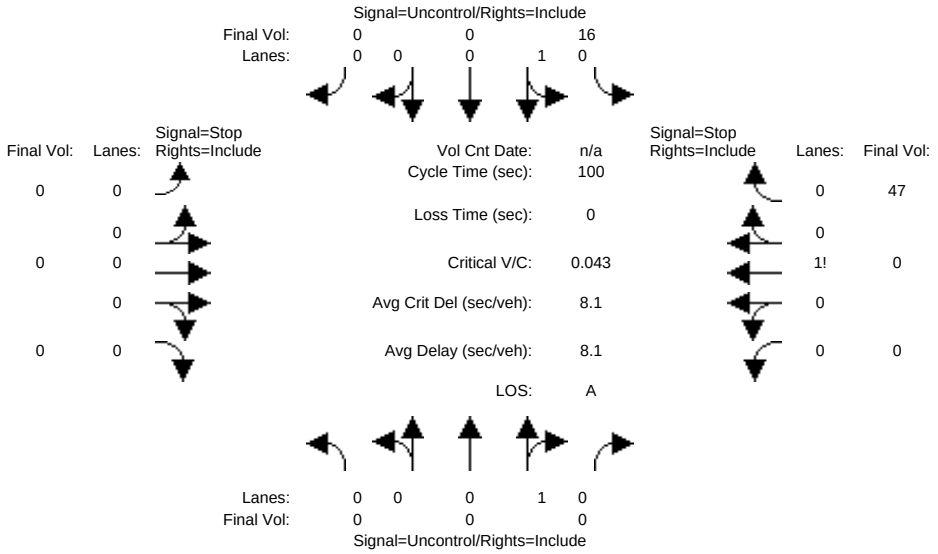
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #11591: DePaul Drive and Project Driveway B



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	16	0	0	0	0	0	0	0	47
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	16	0	0	0	0	0	0	0	47
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	16	0	0	0	0	0	0	0	47
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	16	0	0	0	0	0	0	0	47
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0
Potent Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Move Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.04
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.4
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A

Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.4		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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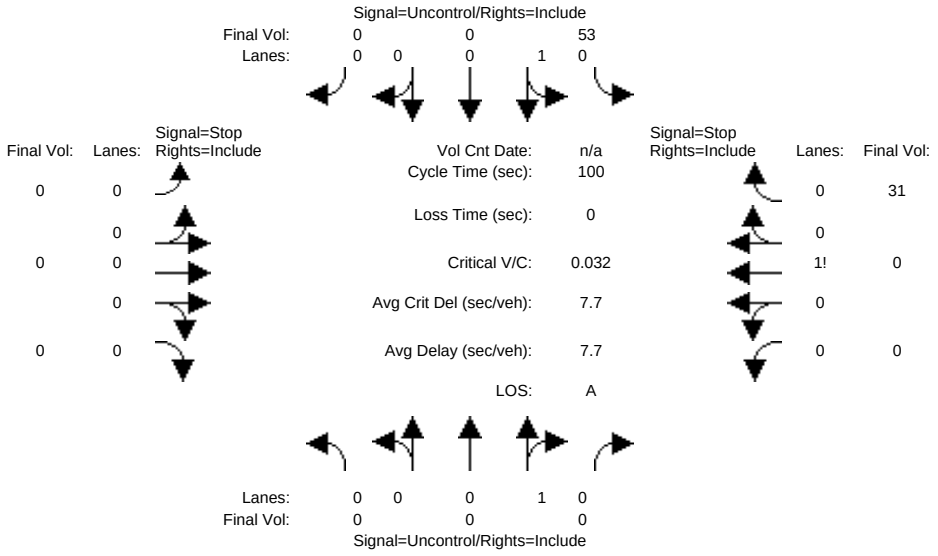
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #11591: DePaul Drive and Project Driveway B



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	53	0	0	0	0	0	0	0	31
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	53	0	0	0	0	0	0	0	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	53	0	0	0	0	0	0	0	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	53	0	0	0	0	0	0	0	31
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0
Potent Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Move Cap.:	xxxx	xxxx	xxxxx	1636	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1091
Volume/Cap:	xxxx	xxxx	xxxx	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.4
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.4		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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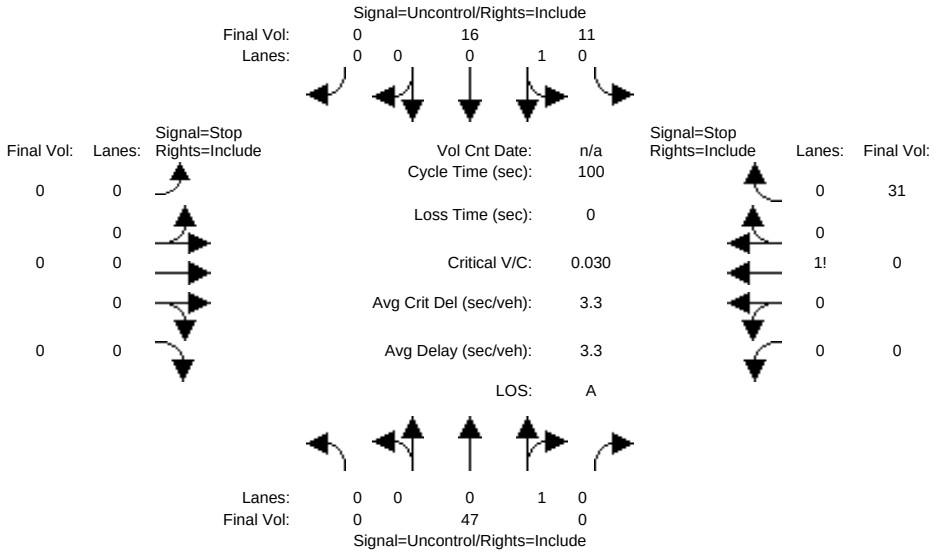
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project AM

Intersection #11620: DePaul Drive and Project Driveway C



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	47	0	11	16	0	0	0	0	0	0	31
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	47	0	11	16	0	0	0	0	0	0	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	47	0	11	16	0	0	0	0	0	0	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	47	0	11	16	0	0	0	0	0	0	31
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	47	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	47
Potent Cap.:	xxxx	xxxx	xxxxx	1573	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1028
Move Cap.:	xxxx	xxxx	xxxxx	1573	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1028
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.6
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.6		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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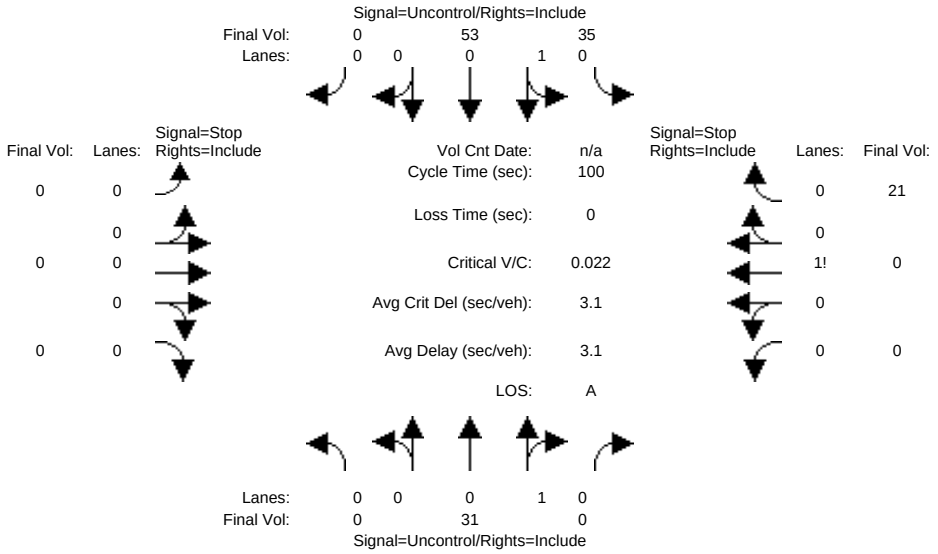
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Existing Plus Project PM

Intersection #11620: DePaul Drive and Project Driveway C



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	31	0	35	53	0	0	0	0	0	0	21
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	31	0	35	53	0	0	0	0	0	0	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	31	0	35	53	0	0	0	0	0	0	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	31	0	35	53	0	0	0	0	0	0	21
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	31	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	31
Potent Cap.:	xxxx	xxxx	xxxxx	1595	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1049
Move Cap.:	xxxx	xxxx	xxxxx	1595	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1049
Volume/Cap:	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.02
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.5
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.5		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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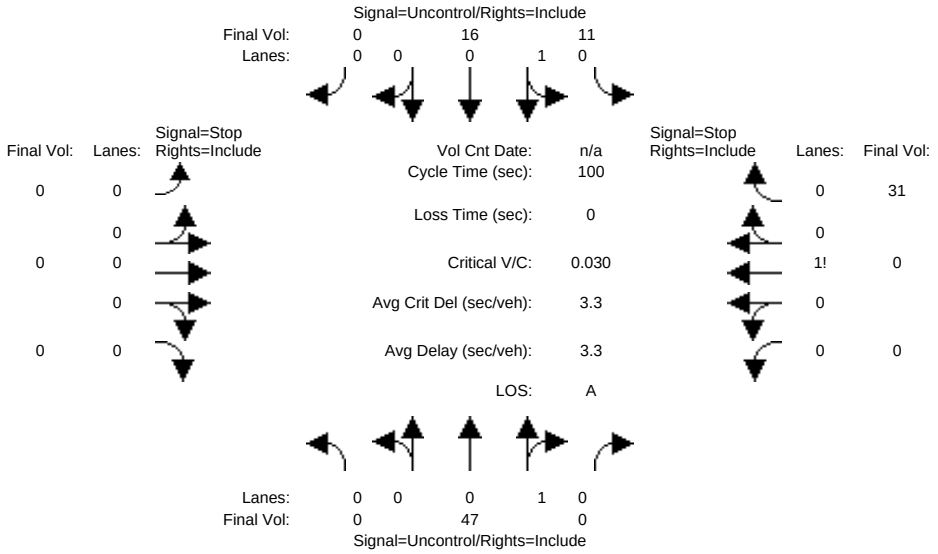
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #11620: DePaul Drive and Project Driveway C



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	47	0	11	16	0	0	0	0	0	0	31
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	47	0	11	16	0	0	0	0	0	0	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	47	0	11	16	0	0	0	0	0	0	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	47	0	11	16	0	0	0	0	0	0	31
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	47	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	47
Potent Cap.:	xxxx	xxxx	xxxxx	1573	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1028
Move Cap.:	xxxx	xxxx	xxxxx	1573	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1028
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.6
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.6		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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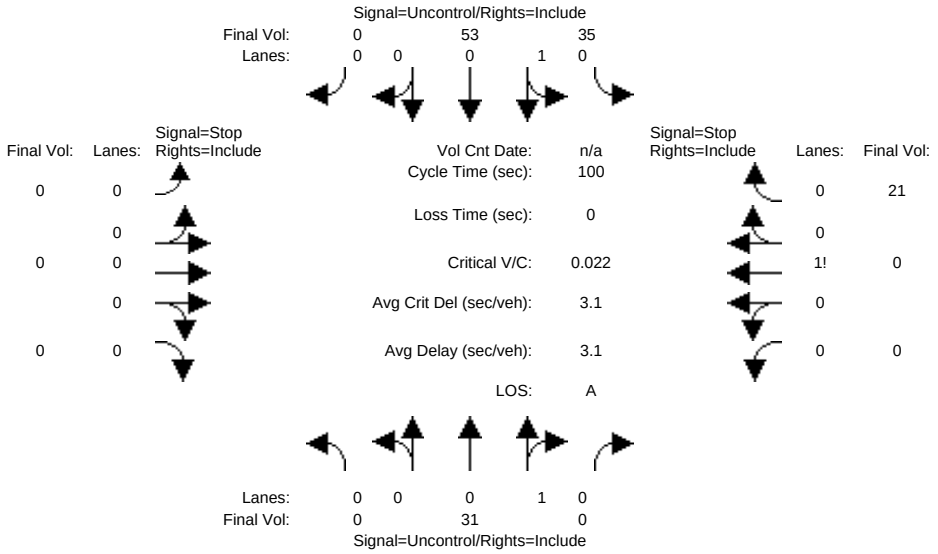
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Unsignalized (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #11620: DePaul Drive and Project Driveway C



Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	31	0	35	53	0	0	0	0	0	0	21
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	31	0	35	53	0	0	0	0	0	0	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	31	0	35	53	0	0	0	0	0	0	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	31	0	35	53	0	0	0	0	0	0	21
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	31	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	31
Potent Cap.:	xxxx	xxxx	xxxxx	1595	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1049
Move Cap.:	xxxx	xxxx	xxxxx	1595	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1049
Volume/Cap:	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.02
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.5
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.5		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

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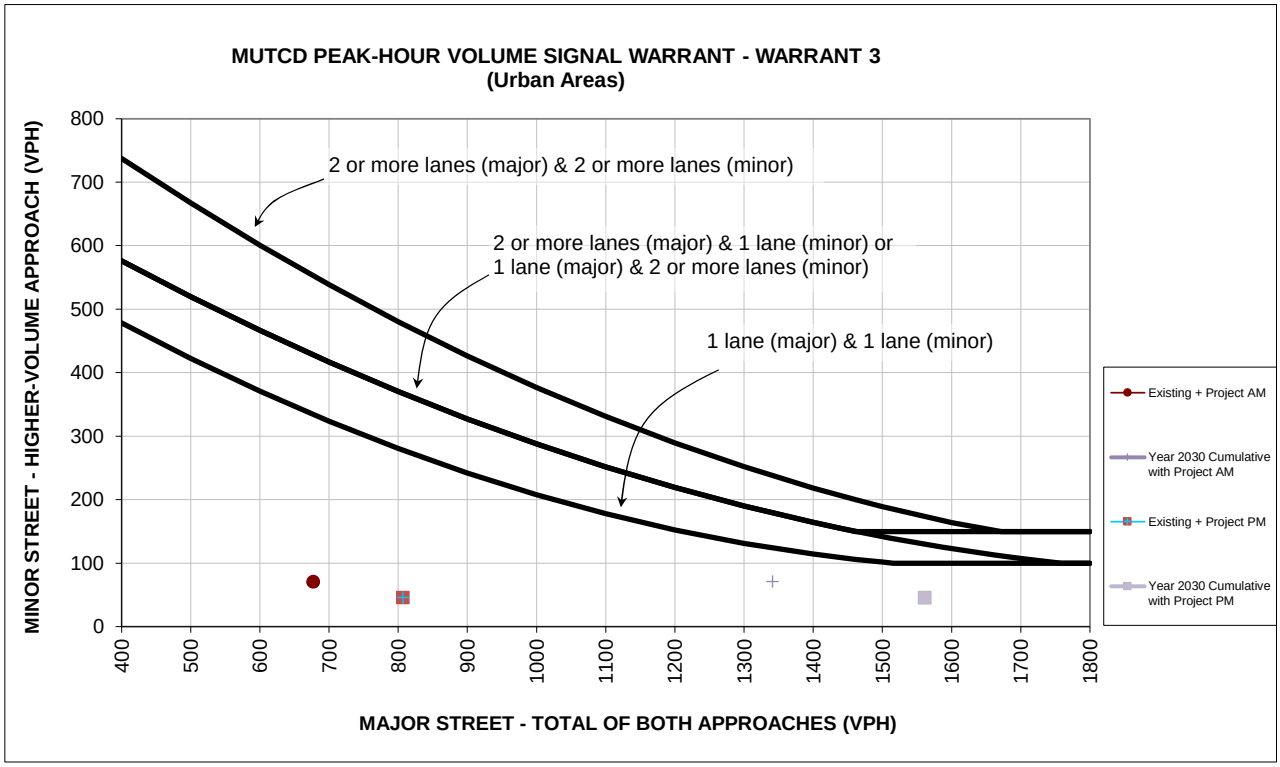
The Crosswinds Residential Development

14 . Mission View Drive and Project Driveway A



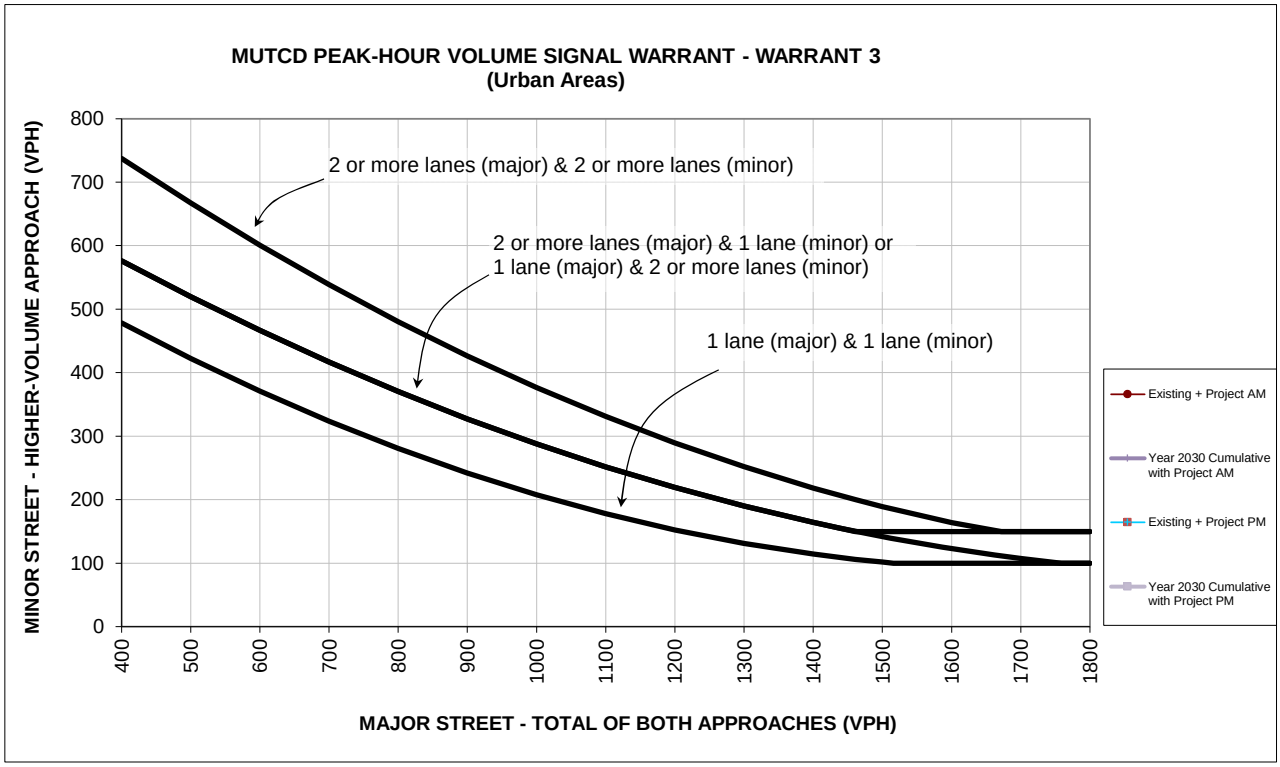
Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Approach Lanes: One	Approach Lanes: 2 or More	Existing + Project AM	Year 2030 Cumulative with Project AM
Major Street - Both Approaches	Project Driveway A	X		677	1341
Minor Street - Highest Approach	Mission View Drive	X		71	71
Maximum warrant threshold for minor street volume				334	124
Difference between warrant threshold & minor street volume				263	53
		Warrant Met?		No	No

		Approach Lanes: One	Approach Lanes: 2 or More	Existing + Project PM	Year 2030 Cumulative with Project PM
Major Street - Both Approaches	Project Driveway A	X		807	1561
Minor Street - Highest Approach	Mission View Drive	X		46	46
Maximum warrant threshold for minor street volume				278	100
Difference between warrant threshold & minor street volume				232	54
		Warrant Met?		No	No

The Crosswinds Residential Development

15 . DePaul Drive and Project Driveway B



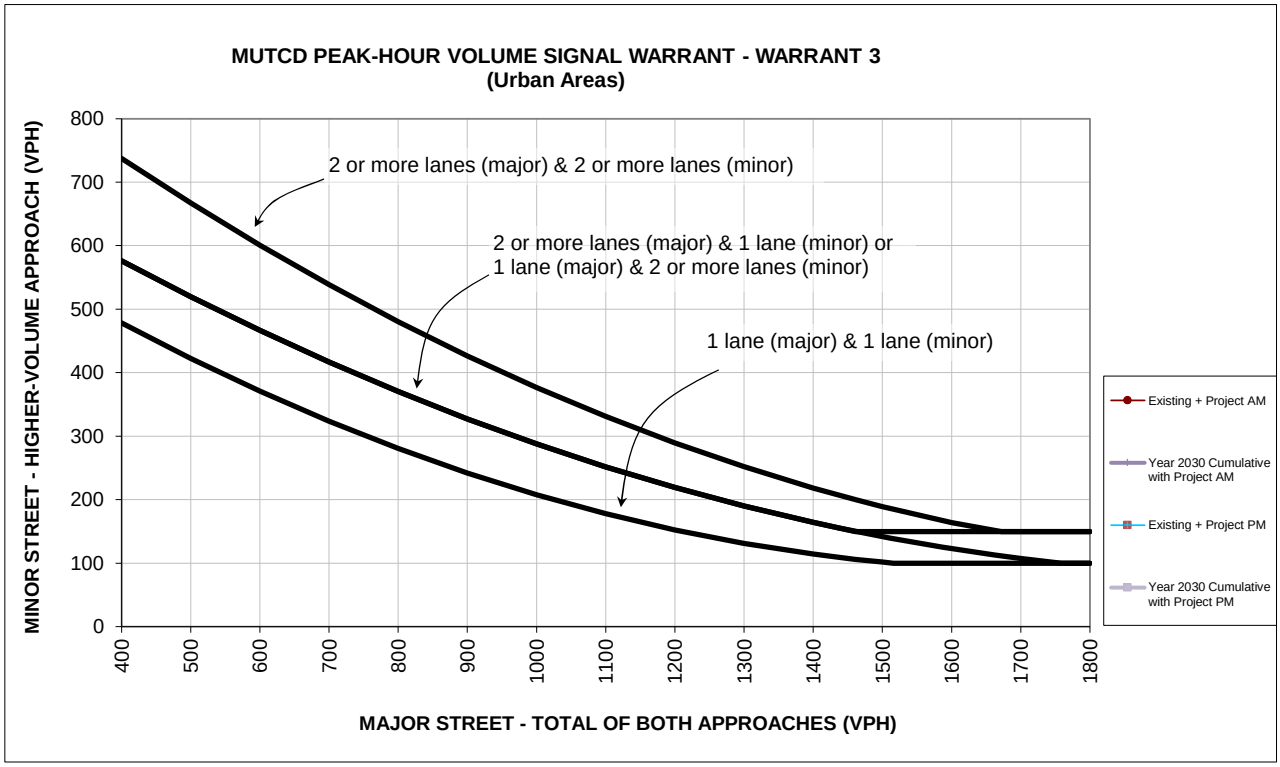
Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Approach Lanes: One	Approach Lanes: 2 or More	Existing + Project AM	Year 2030 Cumulative with Project AM
Major Street - Both Approaches	DePaul Drive	X		47	47
Minor Street - Highest Approach	Project Driveway B	X		16	16
Maximum warrant threshold for minor street volume				711	711
Difference between warrant threshold & minor street volume				695	695
		Warrant Met?		No	No

		Approach Lanes: One	Approach Lanes: 2 or More	Existing + Project PM	Year 2030 Cumulative with Project PM
Major Street - Both Approaches	DePaul Drive	X		53	53
Minor Street - Highest Approach	Project Driveway B	X		31	31
Maximum warrant threshold for minor street volume				706	706
Difference between warrant threshold & minor street volume				675	675
		Warrant Met?		No	No

The Crosswinds Residential Development

16 . DePaul Drive and Project Driveway C



Source: Figure 4C-3 of the Manual on Unifrom Traffic Control and Devices (MUTCD) from California Department of Transportation (Caltrans).
* 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

		Approach Lanes: One	Approach Lanes: 2 or More	Existing + Project AM	Year 2030 Cumulative with Project AM
Major Street - Both Approaches	DePaul Drive	X		74	74
Minor Street - Highest Approach	Project Driveway C	X		31	31
Maximum warrant threshold for minor street volume				691	691
Difference between warrant threshold & minor street volume				660	660
		Warrant Met?		No	No

		Approach Lanes: One	Approach Lanes: 2 or More	Existing + Project PM	Year 2030 Cumulative with Project PM
Major Street - Both Approaches	DePaul Drive	X		119	119
Minor Street - Highest Approach	Project Driveway C	X		21	21
Maximum warrant threshold for minor street volume				659	659
Difference between warrant threshold & minor street volume				638	638
		Warrant Met?		No	No

Vehicle Queuing Analysis Summary

Measurement	Mission View Drive and Project Driveway A				DePaul Drive and Project Driveway B				DePaul Drive and Project Driveway C			
	Northbound Left		Eastbound		Southbound Left		Westbound		Southbound Left		Westbound	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Existing plus Project Conditions												
Cycle Length/Control Delay (sec)[1]	7.6	8.7	11.6	14.2	7.2	7.3	8.4	8.4	7.3	7.3	8.6	8.5
Lanes	1	1	2	2	1	1	1	1	1	1	1	1
Volume (vph)	15	50	71	46	16	53	47	31	11	35	31	21
Volume (vphpl)	15	50	36	23	16	53	47	31	11	35	31	21
Avg. Queue (veh/ln.)	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.0
Avg. Queue[1] (ft./ln)	0	3	3	3	0	3	3	3	0	3	3	0
95th %. Queue (veh/ln.)	0	1	1	1	0	1	1	1	0	1	1	0
95th %. Queue (ft./ln)[2]	0	25	25	25	0	25	25	25	0	25	25	0
Year 2030 Cumulative with Project Conditions												
Control Delay (sec)	8.1	10.7	19.7	31.1	7.2	7.3	8.4	8.4	7.3	7.3	8.6	8.5
Lanes	1	1	2	2	1	1	1	1	1	1	1	1
Volume (vph)	15	50	71	46	16	53	47	31	11	35	31	21
Volume (vphpl)	15	50	36	23	16	53	47	31	11	35	31	21
95th %. Queue (veh/ln.)	0	1	1	1	0	1	1	1	0	1	1	0
95th %. Queue (ft./ln)[1]	0	25	25	25	0	25	25	25	0	25	25	0

Notes:
[1] Assumes 25 feet per vehicle queued

Mission View/Project Driveway A
NBL
AM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

Mission View/Project Driveway A
NBL
AM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

Mission View/Project Driveway A
NBL
PM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Project Driveway A
NBL
PM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Project Driveway A
EB
AM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Project Driveway A
EB
AM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.2
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.8187	0.8187	0
0.1637	0.9825	1
0.0164	0.9989	2
0.0011	0.9999	3
0.0001	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Project Driveway A
EB
PM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

Mission View/Project Driveway A
EB
PM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.2
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.8187	0.8187	0
0.1637	0.9825	1
0.0164	0.9989	2
0.0011	0.9999	3
0.0001	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway B
SBL
AM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

DePaul/Project Driveway B
SBL
AM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
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0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

DePaul/Project Driveway B
SBL
PM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway B
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0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

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0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

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0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
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0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway B
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PM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
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0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway C
SBL
AM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

DePaul/Project Driveway C
SBL
AM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

DePaul/Project Driveway C
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0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
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0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
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0.0000	1.0000	9
0.0000	1.0000	10
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0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway C
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AM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway C
WB
AM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.1
Percentile = 95% 1

Individual Probability	Cumulative Probability	Number of Queued Vehicles
0.9048	0.9048	0
0.0905	0.9953	1
0.0045	0.9998	2
0.0002	1.0000	3
0.0000	1.0000	4
0.0000	1.0000	5
0.0000	1.0000	6
0.0000	1.0000	7
0.0000	1.0000	8
0.0000	1.0000	9
0.0000	1.0000	10
0.0000	1.0000	11
0.0000	1.0000	12
0.0000	1.0000	13
0.0000	1.0000	14
0.0000	1.0000	15
0.0000	1.0000	16
0.0000	1.0000	17
0.0000	1.0000	18
0.0000	1.0000	19
0.0000	1.0000	20
0.0000	1.0000	21
0.0000	1.0000	22
0.0000	1.0000	23
0.0000	1.0000	24
0.0000	1.0000	25
0.0000	1.0000	26
0.0000	1.0000	27
0.0000	1.0000	28
0.0000	1.0000	29
0.0000	1.0000	30
0.0000	1.0000	31
0.0000	1.0000	32
0.0000	1.0000	33
0.0000	1.0000	34
0.0000	1.0000	35
0.0000	1.0000	36
0.0000	1.0000	37
0.0000	1.0000	38
0.0000	1.0000	39
0.0000	1.0000	40
0.0000	1.0000	41
0.0000	1.0000	42
0.0000	1.0000	43
0.0000	1.0000	44
0.0000	1.0000	45
0.0000	1.0000	46
0.0000	1.0000	47
0.0000	1.0000	48
0.0000	1.0000	49
0.0000	1.0000	50
0.0000	1.0000	51
0.0000	1.0000	52
0.0000	1.0000	53
0.0000	1.0000	54
0.0000	1.0000	55
0.0000	1.0000	56
0.0000	1.0000	57
0.0000	1.0000	58
0.0000	1.0000	59
0.0000	1.0000	60
0.0000	1.0000	61
0.0000	1.0000	62
0.0000	1.0000	63
0.0000	1.0000	64
0.0000	1.0000	65

DePaul/Project Driveway C
WB
PM
Existing plus Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
0.0000	#NUM!	45
0.0000	#NUM!	46
0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

DePaul/Project Driveway C
WB
PM
Year 2030 Cumulative with Project Conditions
Avg. Queue Per Lane in Veh= 0.0
Percentile = 95% 0

Individual Probability	Cumulative Probability	Number of Queued Vehicles
#NUM!	#NUM!	0
0.0000	#NUM!	1
0.0000	#NUM!	2
0.0000	#NUM!	3
0.0000	#NUM!	4
0.0000	#NUM!	5
0.0000	#NUM!	6
0.0000	#NUM!	7
0.0000	#NUM!	8
0.0000	#NUM!	9
0.0000	#NUM!	10
0.0000	#NUM!	11
0.0000	#NUM!	12
0.0000	#NUM!	13
0.0000	#NUM!	14
0.0000	#NUM!	15
0.0000	#NUM!	16
0.0000	#NUM!	17
0.0000	#NUM!	18
0.0000	#NUM!	19
0.0000	#NUM!	20
0.0000	#NUM!	21
0.0000	#NUM!	22
0.0000	#NUM!	23
0.0000	#NUM!	24
0.0000	#NUM!	25
0.0000	#NUM!	26
0.0000	#NUM!	27
0.0000	#NUM!	28
0.0000	#NUM!	29
0.0000	#NUM!	30
0.0000	#NUM!	31
0.0000	#NUM!	32
0.0000	#NUM!	33
0.0000	#NUM!	34
0.0000	#NUM!	35
0.0000	#NUM!	36
0.0000	#NUM!	37
0.0000	#NUM!	38
0.0000	#NUM!	39
0.0000	#NUM!	40
0.0000	#NUM!	41
0.0000	#NUM!	42
0.0000	#NUM!	43
0.0000	#NUM!	44
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0.0000	#NUM!	47
0.0000	#NUM!	48
0.0000	#NUM!	49
0.0000	#NUM!	50
0.0000	#NUM!	51
0.0000	#NUM!	52
0.0000	#NUM!	53
0.0000	#NUM!	54
0.0000	#NUM!	55
0.0000	#NUM!	56
0.0000	#NUM!	57
0.0000	#NUM!	58
0.0000	#NUM!	59
0.0000	#NUM!	60
0.0000	#NUM!	61
0.0000	#NUM!	62
0.0000	#NUM!	63
0.0000	#NUM!	64
0.0000	#NUM!	65

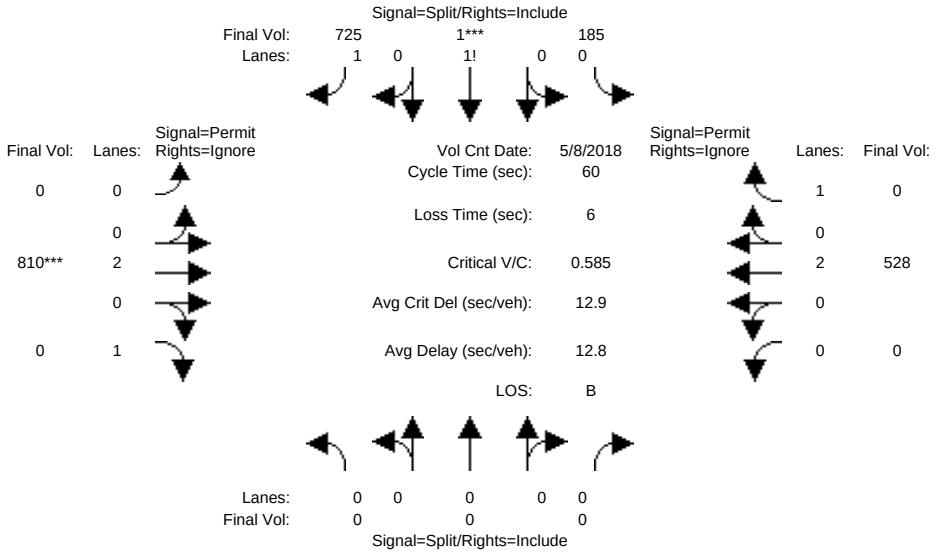
Appendix H

Freeway On-Ramp and Off-Ramp Queuing Analyses

City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	185	1	725	0	810	238	0	528	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	185	1	725	0	810	238	0	528	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	185	1	725	0	810	238	0	528	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	185	1	725	0	810	0	0	528	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	185	1	725	0	810	0	0	528	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	185	1	725	0	810	0	0	528	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.33	0.01	1.66	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	590	3	2907	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.31	0.31	0.25	0.00	0.21	0.00	0.00	0.14	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	32.1	32.1	32.1	0.0	21.9	0.0	0.0	21.9	0.0
Volume/Cap:	0.00	0.00	0.00	0.59	0.59	0.47	0.00	0.59	0.00	0.00	0.38	0.00
Delay/Veh:	0.0	0.0	0.0	10.0	10.0	8.8	0.0	16.1	0.0	0.0	14.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	10.0	10.0	8.8	0.0	16.1	0.0	0.0	14.3	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	15	15	11	0	12	0	0	7	0

Note: Queue reported is the number of cars per lane.

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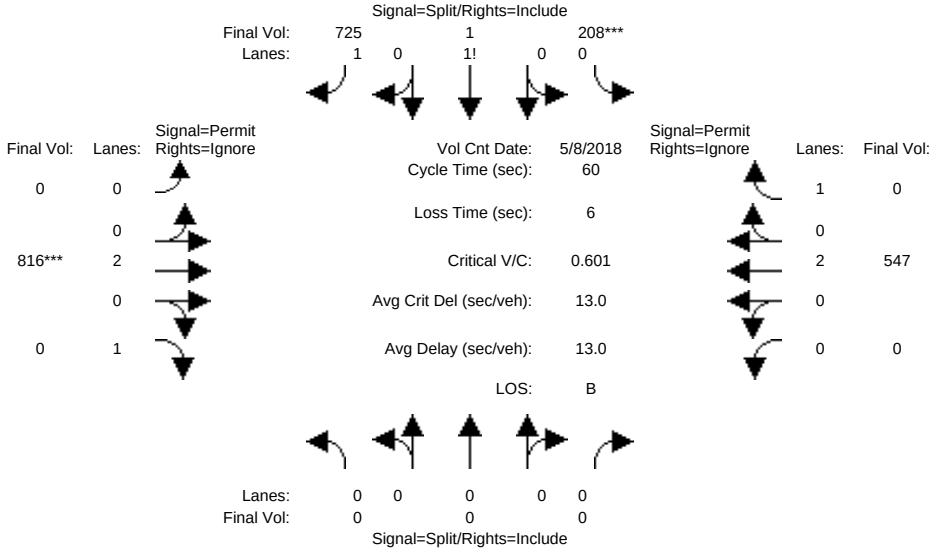
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	185	1	725	0	810	238	0	528	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	185	1	725	0	810	238	0	528	0
Added Vol:	0	0	0	23	0	0	0	6	0	0	19	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	208	1	725	0	816	238	0	547	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	208	1	725	0	816	0	0	547	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	208	1	725	0	816	0	0	547	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	208	1	725	0	816	0	0	547	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.36	0.01	1.63	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	637	3	2860	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.33	0.33	0.25	0.00	0.21	0.00	0.00	0.14	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	32.6	32.6	32.6	0.0	21.4	0.0	0.0	21.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.60	0.60	0.47	0.00	0.60	0.00	0.00	0.40	0.00
Delay/Veh:	0.0	0.0	0.0	10.0	10.0	8.6	0.0	16.6	0.0	0.0	14.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	10.0	10.0	8.6	0.0	16.6	0.0	0.0	14.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	16	16	11	0	12	0	0	7	0

Note: Queue reported is the number of cars per lane.

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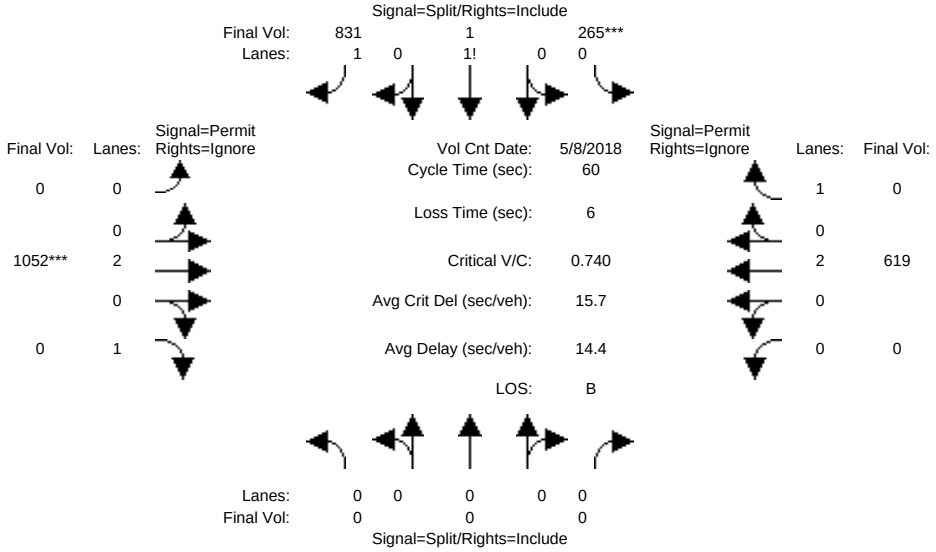
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	265	1	831	0	1052	267	0	619	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	265	1	831	0	1052	267	0	619	152
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	265	1	831	0	1052	267	0	619	152
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	265	1	831	0	1052	0	0	619	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	265	1	831	0	1052	0	0	619	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	265	1	831	0	1052	0	0	619	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.38	0.01	1.61	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	680	3	2817	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.39	0.39	0.30	0.00	0.28	0.00	0.00	0.16	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	31.6	31.6	31.6	0.0	22.4	0.0	0.0	22.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.74	0.74	0.56	0.00	0.74	0.00	0.00	0.44	0.00
Delay/Veh:	0.0	0.0	0.0	13.1	13.1	9.9	0.0	18.4	0.0	0.0	14.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.1	13.1	9.9	0.0	18.4	0.0	0.0	14.3	0.0
LOS by Move:	A	A	A	B	B	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	22	22	14	0	16	0	0	8	0

Note: Queue reported is the number of cars per lane.

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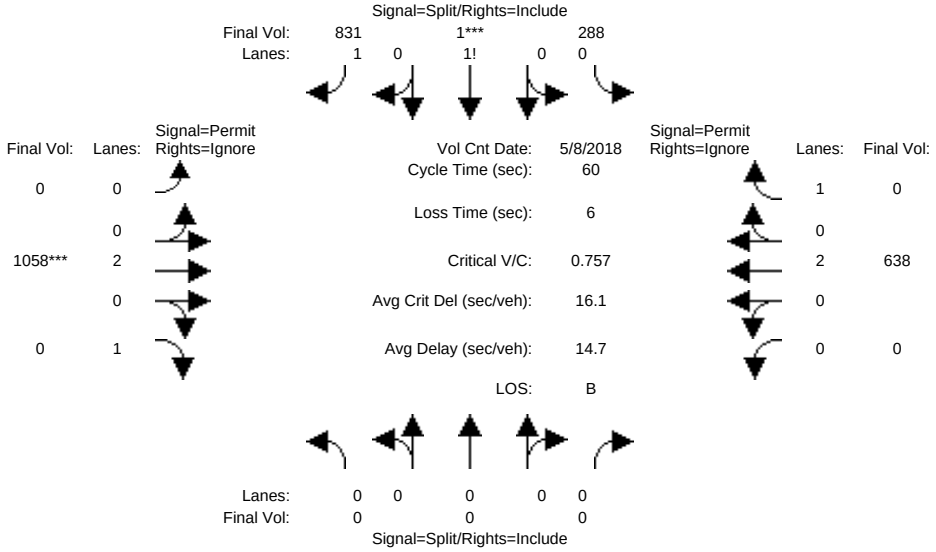
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	265	1	831	0	1052	267	0	619	152
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	265	1	831	0	1052	267	0	619	152
Added Vol:	0	0	0	23	0	0	0	6	0	0	19	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	288	1	831	0	1058	267	0	638	163
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	288	1	831	0	1058	0	0	638	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	288	1	831	0	1058	0	0	638	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	288	1	831	0	1058	0	0	638	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.40	0.01	1.59	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	715	2	2782	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.40	0.40	0.30	0.00	0.28	0.00	0.00	0.17	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	31.9	31.9	31.9	0.0	22.1	0.0	0.0	22.1	0.0
Volume/Cap:	0.00	0.00	0.00	0.76	0.76	0.56	0.00	0.76	0.00	0.00	0.46	0.00
Delay/Veh:	0.0	0.0	0.0	13.3	13.3	9.7	0.0	19.0	0.0	0.0	14.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	13.3	13.3	9.7	0.0	19.0	0.0	0.0	14.6	0.0
LOS by Move:	A	A	A	B	B	A	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	23	23	14	0	17	0	0	9	0

Note: Queue reported is the number of cars per lane.

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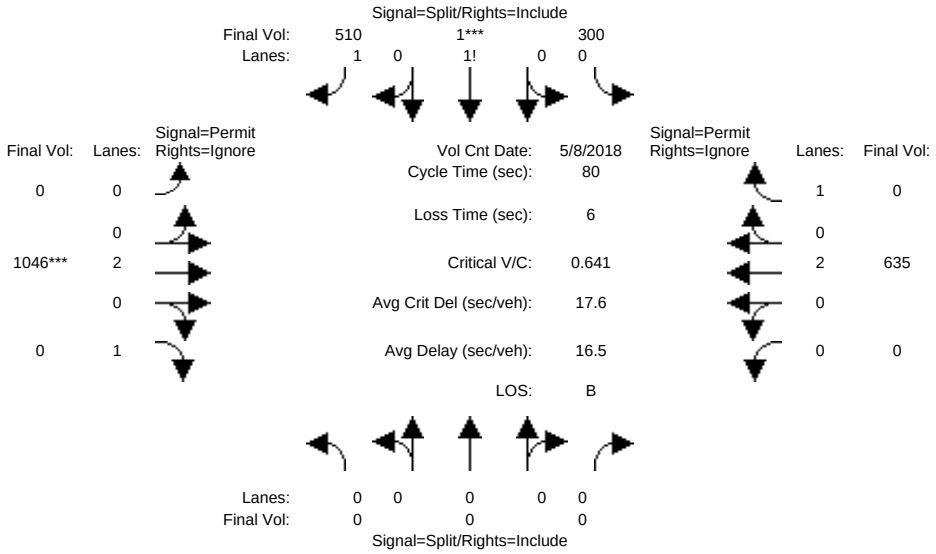
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	300	1	510	0	1046	741	0	635	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	300	1	510	0	1046	741	0	635	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	300	1	510	0	1046	741	0	635	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	300	1	510	0	1046	0	0	635	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	300	1	510	0	1046	0	0	635	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	300	1	510	0	1046	0	0	635	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.54	0.01	1.45	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	944	3	2553	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.32	0.32	0.20	0.00	0.28	0.00	0.00	0.17	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	39.6	39.6	39.6	0.0	34.4	0.0	0.0	34.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.64	0.64	0.40	0.00	0.64	0.00	0.00	0.39	0.00
Delay/Veh:	0.0	0.0	0.0	16.0	16.0	12.9	0.0	18.8	0.0	0.0	15.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.0	16.0	12.9	0.0	18.8	0.0	0.0	15.8	0.0
LOS by Move:	A	A	A	B	B	B	A	B	A	A	B	A
HCM2k95thQ:	0	0	0	21	21	12	0	18	0	0	10	0

Note: Queue reported is the number of cars per lane.

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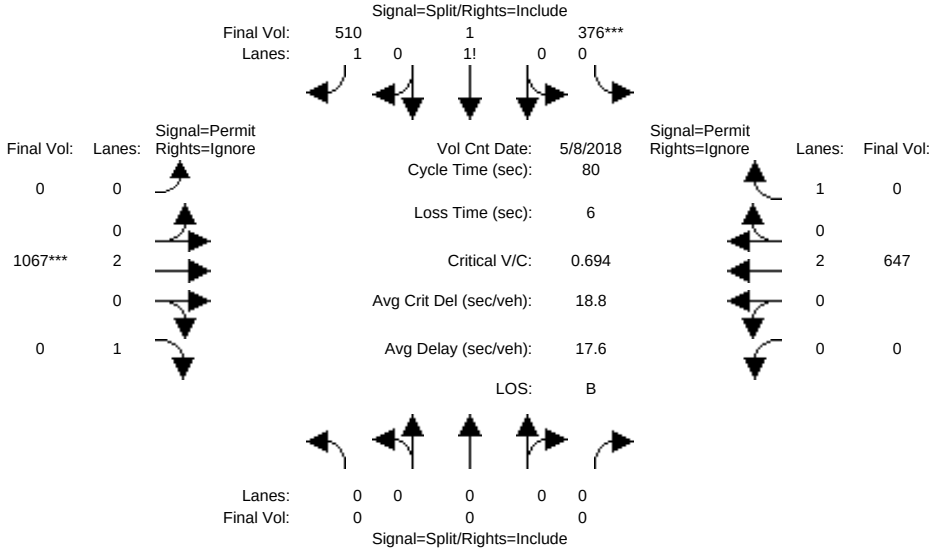
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	300	1	510	0	1046	741	0	635	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	300	1	510	0	1046	741	0	635	0
Added Vol:	0	0	0	76	0	0	0	21	0	0	12	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	376	1	510	0	1067	741	0	647	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	376	1	510	0	1067	0	0	647	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	376	1	510	0	1067	0	0	647	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	376	1	510	0	1067	0	0	647	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.59	0.01	1.40	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1041	3	2456	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.36	0.36	0.21	0.00	0.28	0.00	0.00	0.17	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	41.6	41.6	41.6	0.0	32.4	0.0	0.0	32.4	0.0
Volume/Cap:	0.00	0.00	0.00	0.69	0.69	0.40	0.00	0.69	0.00	0.00	0.42	0.00
Delay/Veh:	0.0	0.0	0.0	16.1	16.1	11.7	0.0	21.1	0.0	0.0	17.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	16.1	16.1	11.7	0.0	21.1	0.0	0.0	17.3	0.0
LOS by Move:	A	A	A	B	B	B	A	C	A	A	B	A
HCM2k95thQ:	0	0	0	24	24	12	0	20	0	0	11	0

Note: Queue reported is the number of cars per lane.

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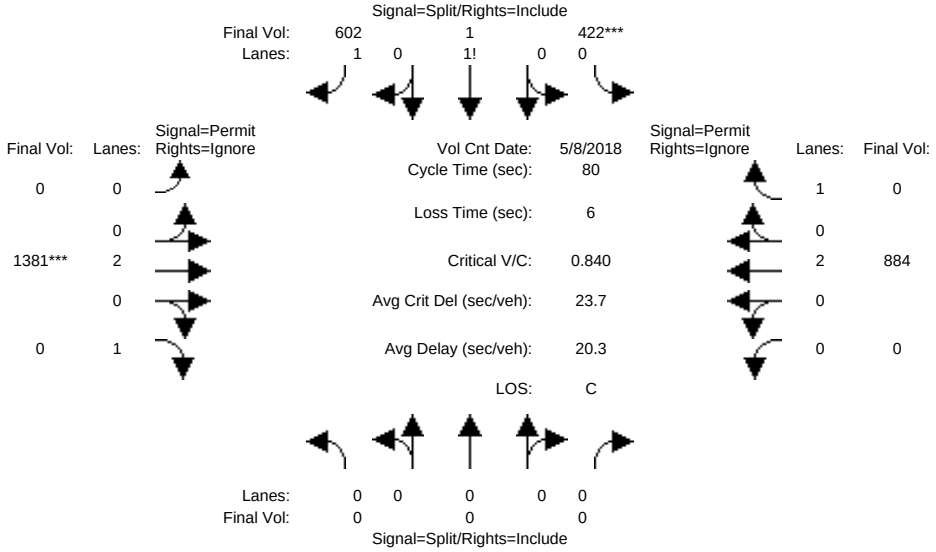
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	422	1	602	0	1381	741	0	884	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	422	1	602	0	1381	741	0	884	157
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	422	1	602	0	1381	741	0	884	157
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	422	1	602	0	1381	0	0	884	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	422	1	602	0	1381	0	0	884	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	422	1	602	0	1381	0	0	884	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.58	0.01	1.41	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1020	2	2478	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.41	0.41	0.24	0.00	0.36	0.00	0.00	0.23	0.00
Crit Moves:				****				****				
Green Time:	0.0	0.0	0.0	39.4	39.4	39.4	0.0	34.6	0.0	0.0	34.6	0.0
Volume/Cap:	0.00	0.00	0.00	0.84	0.84	0.49	0.00	0.84	0.00	0.00	0.54	0.00
Delay/Veh:	0.0	0.0	0.0	22.9	22.9	13.8	0.0	24.3	0.0	0.0	17.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.9	22.9	13.8	0.0	24.3	0.0	0.0	17.1	0.0
LOS by Move:	A	A	A	C	C	B	A	C	A	A	B	A
HCM2k95thQ:	0	0	0	33	33	15	0	27	0	0	15	0

Note: Queue reported is the number of cars per lane.

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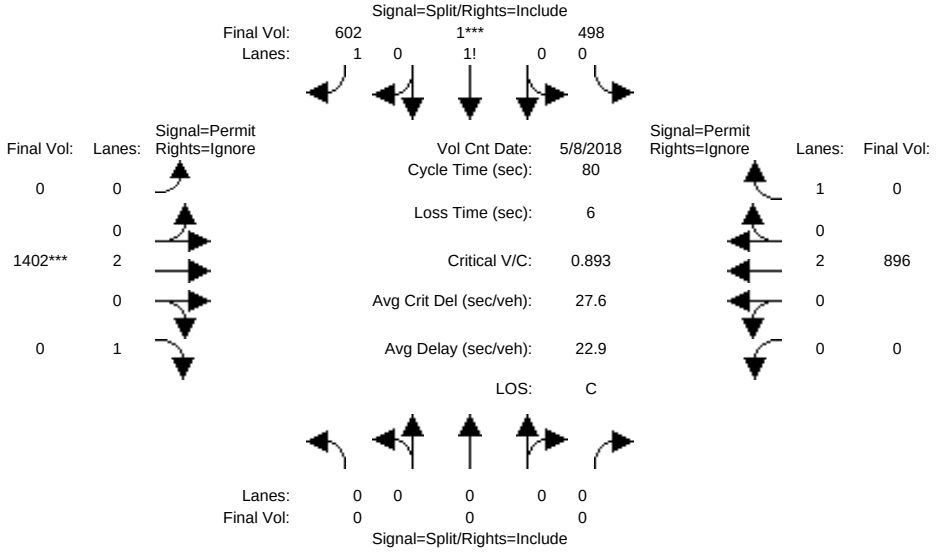
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #107: US 101 Southbound Ramps and Cochrane Road



Street Name:	US 101 Southbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	0	0	0	10	0	10	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	0	0	0	422	1	602	0	1381	741	0	884	157
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	422	1	602	0	1381	741	0	884	157
Added Vol:	0	0	0	76	0	0	0	21	0	0	12	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	498	1	602	0	1402	741	0	896	164
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
PHF Volume:	0	0	0	498	1	602	0	1402	0	0	896	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	498	1	602	0	1402	0	0	896	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
FinalVolume:	0	0	0	498	1	602	0	1402	0	0	896	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	0.92	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	0.00	0.00	0.00	0.62	0.01	1.37	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	0	0	0	1089	2	2408	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.46	0.46	0.25	0.00	0.37	0.00	0.00	0.24	0.00
Crit Moves:					****			****				
Green Time:	0.0	0.0	0.0	41.0	41.0	41.0	0.0	33.0	0.0	0.0	33.0	0.0
Volume/Cap:	0.00	0.00	0.00	0.89	0.89	0.49	0.00	0.89	0.00	0.00	0.57	0.00
Delay/Veh:	0.0	0.0	0.0	26.1	26.1	12.9	0.0	28.8	0.0	0.0	18.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	26.1	26.1	12.9	0.0	28.8	0.0	0.0	18.5	0.0
LOS by Move:	A	A	A	C	C	B	A	C	A	A	B	A
HCM2k95thQ:	0	0	0	39	39	15	0	30	0	0	16	0

Note: Queue reported is the number of cars per lane.

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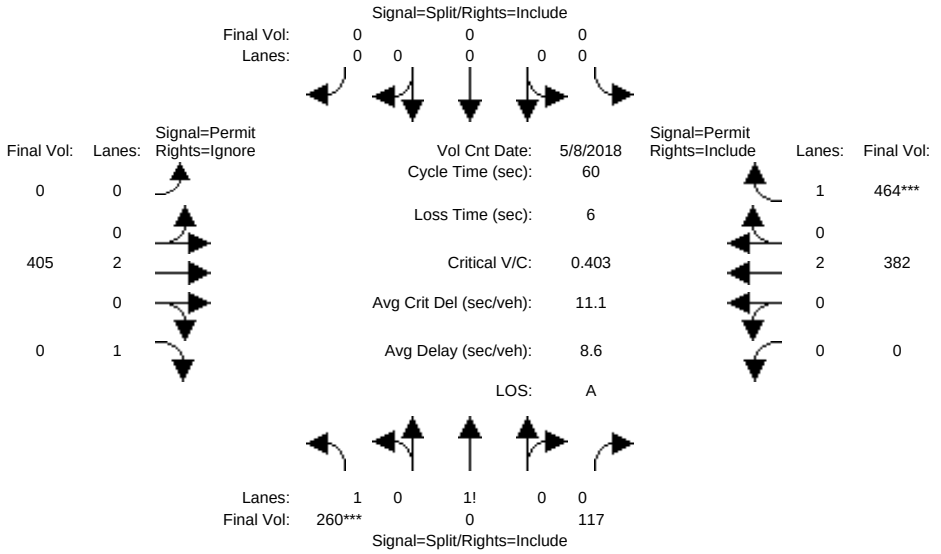
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	117	0	0	0	0	405	0	0	382	464
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	117	0	0	0	0	405	0	0	382	464
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	117	0	0	0	0	405	0	0	382	464
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	117	0	0	0	0	405	0	0	382	464
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	117	0	0	0	0	405	0	0	382	464
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	117	0	0	0	0	405	0	0	382	464
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.53	0.00	0.47	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2671	0	829	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.14	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.10	0.27
Crit Moves:	****											****
Green Time:	18.8	0.0	18.8	0.0	0.0	0.0	0.0	35.2	0.0	0.0	35.2	35.2
Volume/Cap:	0.31	0.00	0.45	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.17	0.45
Delay/Veh:	15.8	0.0	16.9	0.0	0.0	0.0	0.0	5.8	0.0	0.0	5.7	7.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.8	0.0	16.9	0.0	0.0	0.0	0.0	5.8	0.0	0.0	5.7	7.3
LOS by Move:	B	A	B	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	9	0	0	0	0	3	0	0	3	11

Note: Queue reported is the number of cars per lane.

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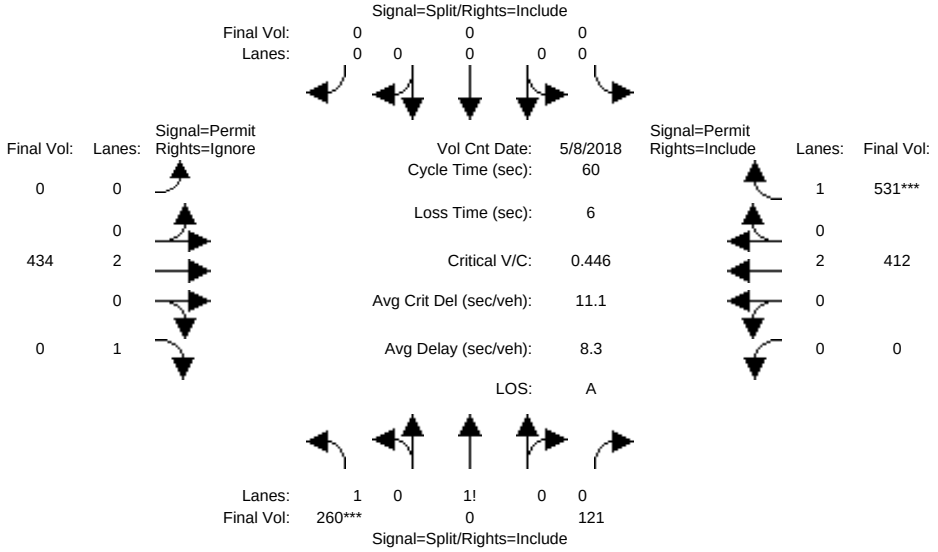
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	117	0	0	0	0	405	0	0	382	464
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	117	0	0	0	0	405	0	0	382	464
Added Vol:	0	0	4	0	0	0	0	29	0	0	30	67
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	121	0	0	0	0	434	0	0	412	531
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	121	0	0	0	0	434	0	0	412	531
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	121	0	0	0	0	434	0	0	412	531
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	121	0	0	0	0	434	0	0	412	531
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.52	0.00	0.48	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2656	0	844	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.14	0.00	0.00	0.00	0.00	0.11	0.00	0.00	0.11	0.30
Crit Moves:	****											****
Green Time:	17.3	0.0	17.3	0.0	0.0	0.0	0.0	36.7	0.0	0.0	36.7	36.7
Volume/Cap:	0.34	0.00	0.50	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.18	0.50
Delay/Veh:	17.0	0.0	18.2	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.1	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.0	0.0	18.2	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.1	6.9
LOS by Move:	B	A	B	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	9	0	0	0	0	3	0	0	4	12

Note: Queue reported is the number of cars per lane.

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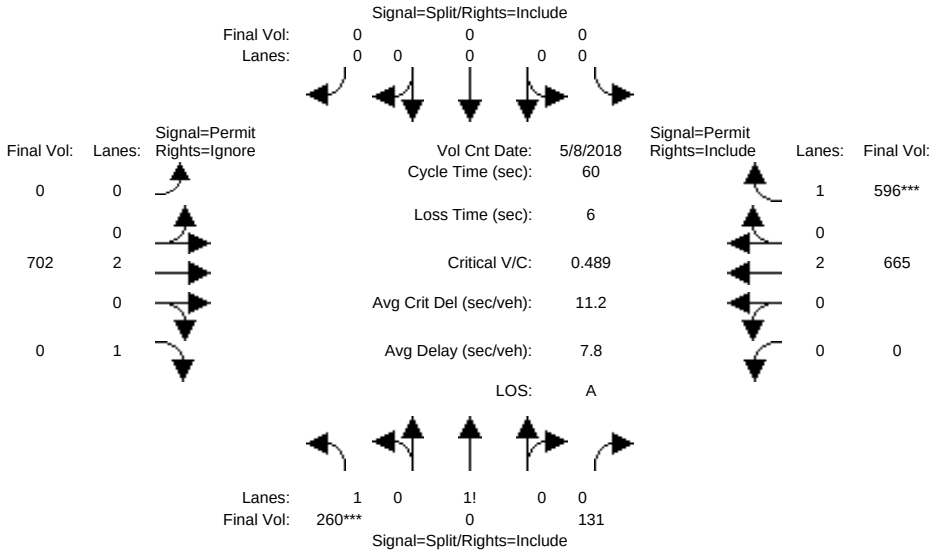
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	131	0	0	0	0	702	0	0	665	596
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	131	0	0	0	0	702	0	0	665	596
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	131	0	0	0	0	702	0	0	665	596
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	131	0	0	0	0	702	0	0	665	596
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	131	0	0	0	0	702	0	0	665	596
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	131	0	0	0	0	702	0	0	665	596
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.50	0.00	0.50	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2622	0	878	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.15	0.00	0.00	0.00	0.00	0.18	0.00	0.00	0.17	0.34
Crit Moves:	****											****
Green Time:	16.4	0.0	16.4	0.0	0.0	0.0	0.0	37.6	0.0	0.0	37.6	37.6
Volume/Cap:	0.36	0.00	0.54	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.28	0.54
Delay/Veh:	17.8	0.0	19.4	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.2	6.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.8	0.0	19.4	0.0	0.0	0.0	0.0	5.2	0.0	0.0	5.2	6.9
LOS by Move:	B	A	B	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	10	0	0	0	0	6	0	0	6	14

Note: Queue reported is the number of cars per lane.

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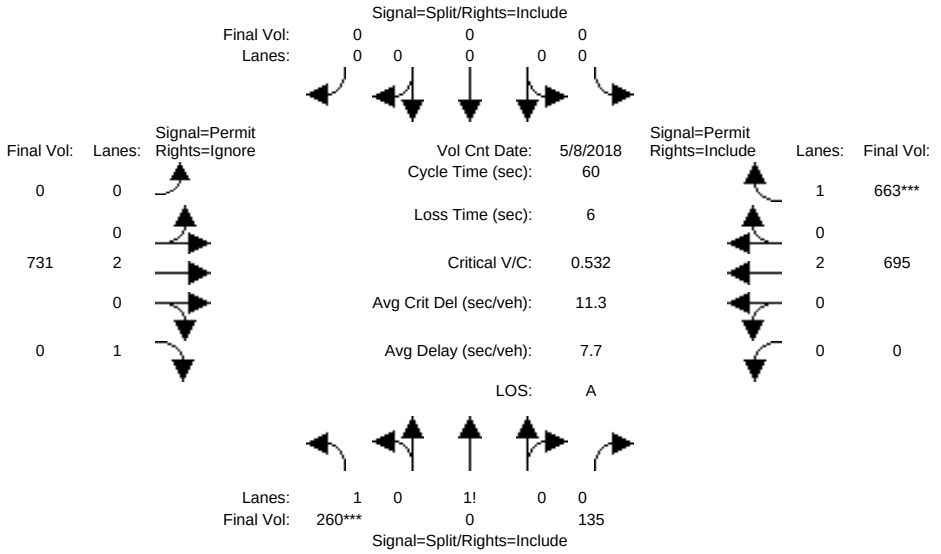
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project AM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	260	0	131	0	0	0	0	702	0	0	665	596
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	260	0	131	0	0	0	0	702	0	0	665	596
Added Vol:	0	0	4	0	0	0	0	29	0	0	30	67
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	260	0	135	0	0	0	0	731	0	0	695	663
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	260	0	135	0	0	0	0	731	0	0	695	663
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	260	0	135	0	0	0	0	731	0	0	695	663
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	260	0	135	0	0	0	0	731	0	0	695	663
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.49	0.00	0.51	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2608	0	892	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.10	0.00	0.15	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.18	0.38
Crit Moves:	****											****
Green Time:	15.4	0.0	15.4	0.0	0.0	0.0	0.0	38.6	0.0	0.0	38.6	38.6
Volume/Cap:	0.39	0.00	0.59	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.28	0.59
Delay/Veh:	18.6	0.0	20.9	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.7	7.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	18.6	0.0	20.9	0.0	0.0	0.0	0.0	4.8	0.0	0.0	4.7	7.0
LOS by Move:	B	A	C	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	6	0	11	0	0	0	0	6	0	0	6	16

Note: Queue reported is the number of cars per lane.

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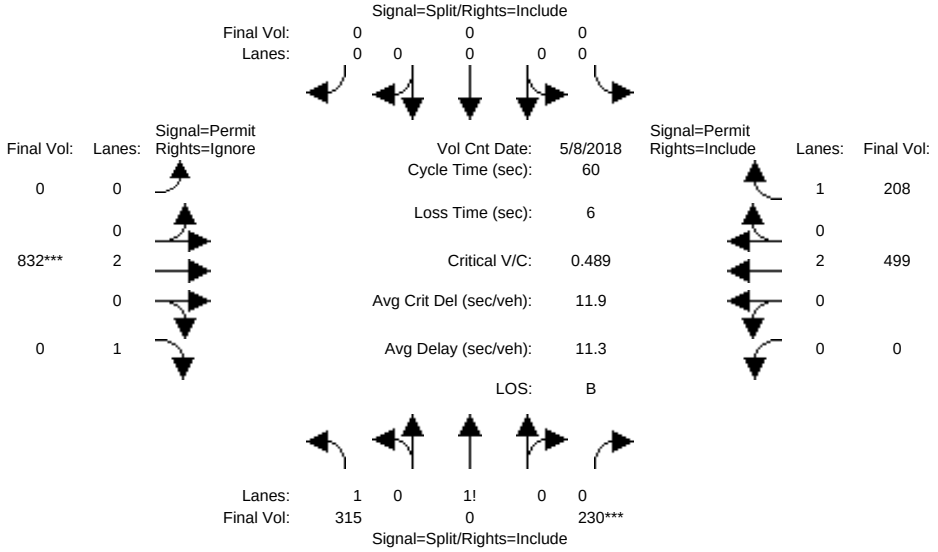
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	315	0	230	0	0	0	0	832	0	0	499	208
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	0	230	0	0	0	0	832	0	0	499	208
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	315	0	230	0	0	0	0	832	0	0	499	208
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	315	0	230	0	0	0	0	832	0	0	499	208
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	0	230	0	0	0	0	832	0	0	499	208
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	315	0	230	0	0	0	0	832	0	0	499	208
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.41	0.00	0.59	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2461	0	1039	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.22	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.13	0.12
Crit Moves:			****					****				
Green Time:	27.2	0.0	27.2	0.0	0.0	0.0	0.0	26.8	0.0	0.0	26.8	26.8
Volume/Cap:	0.28	0.00	0.49	0.00	0.00	0.00	0.00	0.49	0.00	0.00	0.29	0.27
Delay/Veh:	10.4	0.0	11.9	0.0	0.0	0.0	0.0	11.9	0.0	0.0	10.6	10.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	10.4	0.0	11.9	0.0	0.0	0.0	0.0	11.9	0.0	0.0	10.6	10.6
LOS by Move:	B	A	B	A	A	A	A	B	A	A	B	B
HCM2k95thQ:	6	0	11	0	0	0	0	10	0	0	6	5

Note: Queue reported is the number of cars per lane.

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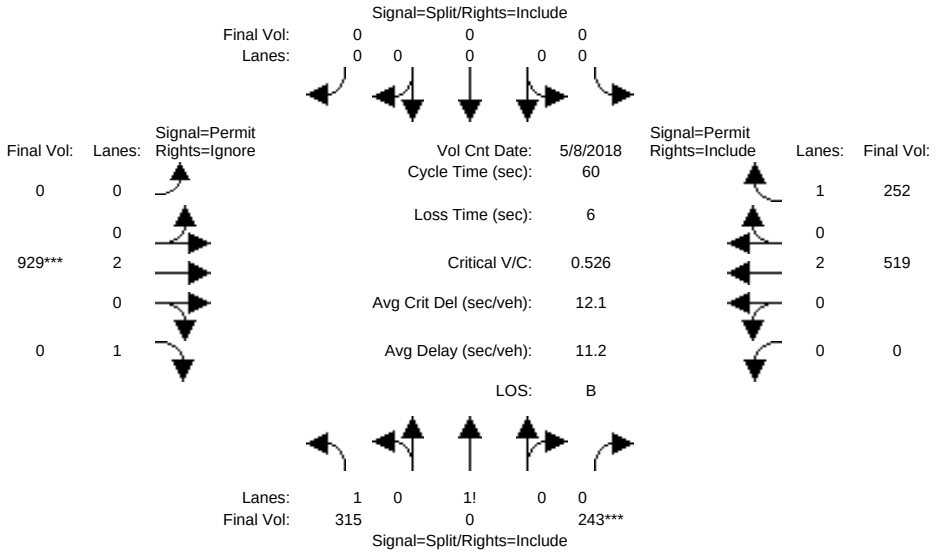
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Existing Plus Project PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	315	0	230	0	0	0	0	832	0	0	499	208
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	315	0	230	0	0	0	0	832	0	0	499	208
Added Vol:	0	0	13	0	0	0	0	97	0	0	20	44
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	315	0	243	0	0	0	0	929	0	0	519	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	315	0	243	0	0	0	0	929	0	0	519	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	315	0	243	0	0	0	0	929	0	0	519	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	315	0	243	0	0	0	0	929	0	0	519	252
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.39	0.00	0.61	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2438	0	1062	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.13	0.00	0.23	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.14	0.14
Crit Moves:			****					****				
Green Time:	26.1	0.0	26.1	0.0	0.0	0.0	0.0	27.9	0.0	0.0	27.9	27.9
Volume/Cap:	0.30	0.00	0.53	0.00	0.00	0.00	0.00	0.53	0.00	0.00	0.29	0.31
Delay/Veh:	11.1	0.0	12.9	0.0	0.0	0.0	0.0	11.7	0.0	0.0	10.0	10.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.1	0.0	12.9	0.0	0.0	0.0	0.0	11.7	0.0	0.0	10.0	10.3
LOS by Move:	B	A	B	A	A	A	A	B	A	A	B	B
HCM2k95thQ:	6	0	12	0	0	0	0	11	0	0	6	7

Note: Queue reported is the number of cars per lane.

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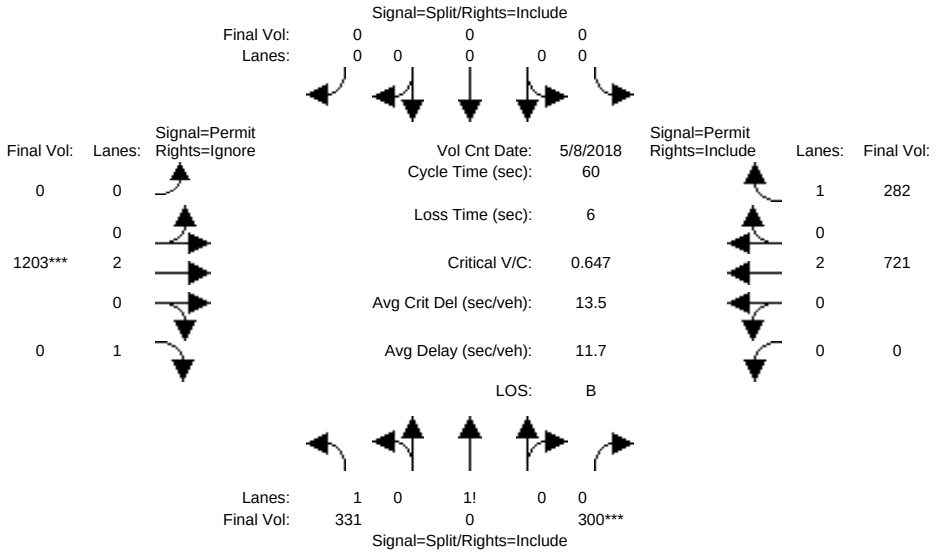
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative without Project PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	331	0	300	0	0	0	0	1203	0	0	721	282
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	0	300	0	0	0	0	1203	0	0	721	282
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	331	0	300	0	0	0	0	1203	0	0	721	282
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	331	0	300	0	0	0	0	1203	0	0	721	282
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	0	300	0	0	0	0	1203	0	0	721	282
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	331	0	300	0	0	0	0	1203	0	0	721	282
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.36	0.00	0.64	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2372	0	1128	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.27	0.00	0.00	0.00	0.00	0.32	0.00	0.00	0.19	0.16
Crit Moves:			****					****				
Green Time:	24.7	0.0	24.7	0.0	0.0	0.0	0.0	29.3	0.0	0.0	29.3	29.3
Volume/Cap:	0.34	0.00	0.65	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.39	0.33
Delay/Veh:	12.2	0.0	15.7	0.0	0.0	0.0	0.0	12.3	0.0	0.0	9.8	9.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.2	0.0	15.7	0.0	0.0	0.0	0.0	12.3	0.0	0.0	9.8	9.6
LOS by Move:	B	A	B	A	A	A	A	B	A	A	A	A
HCM2k95thQ:	7	0	16	0	0	0	0	15	0	0	9	7

Note: Queue reported is the number of cars per lane.

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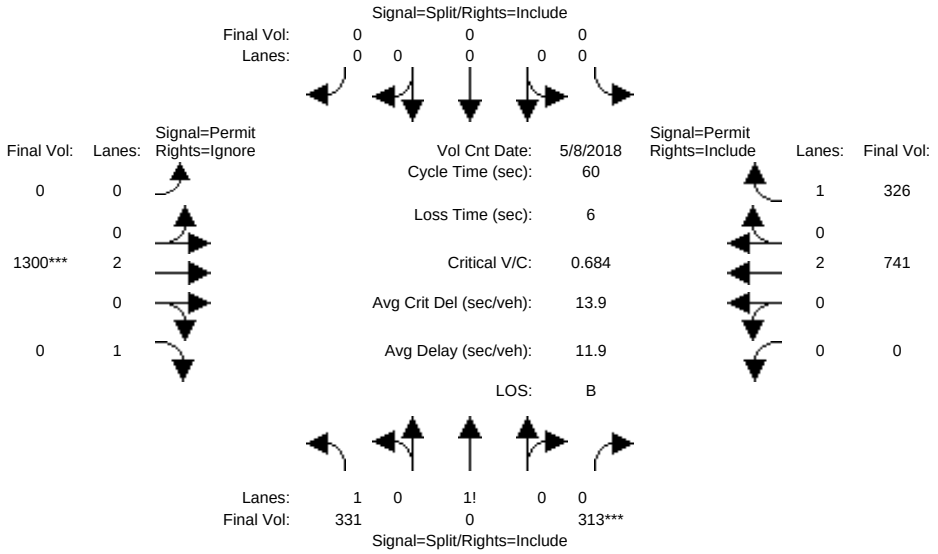
City of Morgan Hill
The Crosswinds Residential Development

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Year 2030 Cumulative with Project PM

Intersection #108: US 101 Northbound Ramps and Cochrane Road



Street Name:	US 101 Northbound Ramps						Cochrane Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	0	10	0	0	0	0	10	10	0	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module: >> Count Date: 8 May 2018 <<												
Base Vol:	331	0	300	0	0	0	0	1203	0	0	721	282
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	331	0	300	0	0	0	0	1203	0	0	721	282
Added Vol:	0	0	13	0	0	0	0	97	0	0	20	44
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	331	0	313	0	0	0	0	1300	0	0	741	326
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	331	0	313	0	0	0	0	1300	0	0	741	326
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	331	0	313	0	0	0	0	1300	0	0	741	326
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	331	0	313	0	0	0	0	1300	0	0	741	326
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92	0.92	1.00	0.92
Lanes:	1.35	0.00	0.65	0.00	0.00	0.00	0.00	2.00	1.00	0.00	2.00	1.00
Final Sat.:	2355	0	1145	0	0	0	0	3800	1750	0	3800	1750
Capacity Analysis Module:												
Vol/Sat:	0.14	0.00	0.27	0.00	0.00	0.00	0.00	0.34	0.00	0.00	0.20	0.19
Crit Moves:			****					****				
Green Time:	24.0	0.0	24.0	0.0	0.0	0.0	0.0	30.0	0.0	0.0	30.0	30.0
Volume/Cap:	0.35	0.00	0.68	0.00	0.00	0.00	0.00	0.68	0.00	0.00	0.39	0.37
Delay/Veh:	12.7	0.0	17.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	9.4	9.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.7	0.0	17.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	9.4	9.5
LOS by Move:	B	A	B	A	A	A	A	B	A	A	A	A
HCM2k95thQ:	7	0	17	0	0	0	0	16	0	0	9	8

Note: Queue reported is the number of cars per lane.

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Freeway On-Ramp Queuing Analysis

Existing Conditions

Time Interval	Ramp Meter Rate	Arrival Distribution	HOV Bypass	Mixed-Flow	Total	Queue Length
	Ramp		16%			
	Meter	Arrival	HOV			Queue
	Rate	Distribution	Bypass	Mixed-Flow	Total	Length
US 101 NB Diagonal On-Ramp from WB Cochrane Road						
7:30-7:45	150	27%	20	107	127	0
7:45-8:00	150	21%	16	83	99	0
8:00-8:15	150	27%	20	104	124	0
8:15-8:30	150	25%	18	96	114	0
	600	100%	74	390	464	**0**
	Ramp		0%			
Time	Meter	Arrival	HOV			Queue
Interval	Rate	Distribution	Bypass	Mixed-Flow	Total	Length
US 101 SB Loop On-Ramp from WB Cochrane Road						
4:30-4:45	150	22%	0	35	35	0
4:45-5:00	150	24%	0	37	37	0
5:00-5:15	150	24%	0	38	38	0
5:15-5:30	150	30%	0	47	47	0
	600	100%	0	157	157	**0**

Freeway On-Ramp Queuing Analysis

Existing Plus Project Conditions

Time Interval	Ramp Meter Rate	Arrival Distribution	HOV Bypass	Mixed-Flow	Total	Queue Length
			16%			
US 101 NB Diagonal On-Ramp from WB Cochrane Road						
7:30-7:45	150	27%	23	122	145	0
7:45-8:00	150	21%	18	95	113	0
8:00-8:15	150	27%	23	119	142	0
8:15-8:30	150	25%	21	110	130	0
	600	100%	85	446	531	**0**
			0%			
US 101 SB Loop On-Ramp from WB Cochrane Road						
4:30-4:45	150	22%	0	37	37	0
4:45-5:00	150	24%	0	39	39	0
5:00-5:15	150	24%	0	40	40	0
5:15-5:30	150	30%	0	49	49	0
	600	100%	0	164	164	**0**

Freeway On-Ramp Queuing Analysis

Year 2030 Cumulative without Project Conditions

Time Interval	Ramp Meter Rate	Arrival Distribution	HOV Bypass	Mixed-Flow	Total	Queue Length
			16%			
US 101 NB Diagonal On-Ramp from WB Cochrane Road						
7:30-7:45	150	27%	26	137	163	0
7:45-8:00	150	21%	20	107	127	0
8:00-8:15	150	27%	25	134	159	0
8:15-8:30	150	25%	23	123	146	0
	600	100%	95	501	596	**0**
			0%			
US 101 SB Loop On-Ramp from WB Cochrane Road						
4:30-4:45	150	22%	0	35	35	0
4:45-5:00	150	24%	0	37	37	0
5:00-5:15	150	24%	0	38	38	0
5:15-5:30	150	30%	0	47	47	0
	600	100%	0	157	157	**0**

Freeway On-Ramp Queuing Analysis

Year 2030 Cumulative with Project Conditions

Time Interval	Ramp Meter Rate	Arrival Distribution	HOV Bypass	Mixed-Flow	Total	Queue Length
			16%			
US 101 NB Diagonal On-Ramp from WB Cochrane Road						
7:30-7:45	150	27%	29	152	181	2
7:45-8:00	150	21%	23	119	141	0
8:00-8:15	150	27%	28	149	177	0
8:15-8:30	150	25%	26	137	163	0
	600	100%	106	557	663	**2**
			0%			
US 101 SB Loop On-Ramp from WB Cochrane Road						
4:30-4:45	150	22%	0	37	37	0
4:45-5:00	150	24%	0	39	39	0
5:00-5:15	150	24%	0	40	40	0
5:15-5:30	150	30%	0	49	49	0
	600	100%	0	164	164	**0**

CITY OF MORGAN HILL

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ERRATA

Crosswinds Residential Project
Environmental Impact Report (SCH No. 2021010358)
May 10, 2023

BACKGROUND AND PURPOSE OF ERRATA

The Draft Environmental Impact Report (Draft EIR) for the Crosswinds Residential project was published for public review on November 4, 2022. The public review period ended on January 3, 2023. A Final EIR, which included formal responses to public comments received on the Draft EIR and text revisions to the Draft EIR, was published for public review on May 3, 2023.

The purpose of this errata document to the Draft EIR is to make a clarification regarding the project's VMT reduction with the implementation of mitigation measures.

CEQA Guidelines Section 15088.5 requires that a lead agency recirculate an EIR when:

(a) A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review under Section 15087 but before certification. As used in this Section, the term "information" can include changes in the project or environmental setting as well as additional data or other information. New information added to an EIR is not "significant" unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative) that the project's proponents have declined to implement. "Significant new information" requiring recirculation includes, for example, a disclosure showing that:
    (1) A new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented.
    (2) A substantial increase in the severity of an environmental impact would result unless mitigation measures are adopted that reduce the impact to a level of insignificance.
    (3) A feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it.
    (4) The Draft EIR was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded.

(b) Recirculation is not required where the new information added to the EIR merely clarifies or amplifies or makes insignificant modifications in an adequate EIR.
(c) If the revision is limited to a few chapters or portions of the EIR, the lead agency need only recirculate the chapters or portions that have been modified.
(d) Recirculation of an EIR requires notice pursuant to Section 15087, and consultation pursuant to Section 15086.

(e) A decision not to recirculate an EIR must be supported by substantial evidence in the administrative record.
(f) The lead agency shall evaluate and respond to comments as provided in Section 15088. Recirculating an EIR can result in the lead agency receiving more than one set of comments from reviewers. The following are two ways in which the lead agency may identify the set of comments to which it will respond. This dual approach avoids confusion over whether the lead agency must respond to comments which are duplicates or which are no longer pertinent due to revisions to the EIR. In no case shall the lead agency fail to respond to pertinent comments on significant environmental issues.

EIR TEXT REVISIONS

The following text revisions reflect minor updates made to the VMT discussion in the Appendix G Transportation Analysis of the Draft EIR, after the Draft EIR and Final EIR were published. Deletions are shown with ~~a line through the text~~ and new text is shown with underlining.

Draft EIR, page 194 **REVISE** the text in the second paragraph as follows:

The provision of fully (100 percent) subsidized annual VTA transit passes for all project homeowners under mitigation MM TRN-2.1 could reduce the project's VMT per resident from 27.41 to 27.37.[a] VTA's VMT tool does not include a feature which calculates VMT reduction from the project applicant's contribution to the City's on-site demand rideshare service. ~~Although implementation of the above mitigation measure MM TRN-2.1 could reduce the number of trips generated by the project, by approximately 10 trips per day, the project's overall VMT would remain at 27.41 per resident.~~ The project design features would encourage the use of pedestrian and bicycle facilities, but not to a degree which would have any measurable effect on project VMT. ~~However,~~ Therefore, the project VMT would continue to be above the 20.94 VMT per capita threshold~~. The project, therefore,~~ and would result in a significant and unavoidable VMT impact (under Options 1 and 2). **(Significant and Unavoidable Impact with Mitigation)**

CONCLUSION

Recirculation of the Draft EIR for the project is not required pursuant to CEQA. The above text revisions are minor and do not represent substantial new information. The revisions would not alter the analysis, conclusions, or findings of the Draft EIR.

In conformance with Section 15121 of the CEQA Guidelines, the Draft EIR (including associated technical appendices and reports), Final EIR, together with the information contained in this Errata are intended to inform the decision-makers and the public of the environmental effects of the Crosswinds Residential project.

[a] Personal Communications: Hexagon Transportation Consultants, Del Rio, Robert. RE: Crosswinds FEIR - Clarification on Mitigation. May 8, 2023.

YIMBY Law

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YIMBY LAW

5/12/2023

Morgan Hill Planning Commission
17555 Peak Avenue, City Council Chamber Building
Morgan Hill, CA 95037

Planning_Commission@morganhill.ca.gov
Via Email

Re: Mission View Drive and Cochrane Road
SD2020-0003/SR2020-0010/EA2020-0007

Dear Morgan Hill Planning Commission,

YIMBY Law is a 501(c)3 non-profit corporation, whose mission is to increase the accessibility and affordability of housing in California. YIMBY Law sues municipalities when they fail to comply with state housing laws, including the Housing Accountability Act (HAA). As you know, the Planning Commission has an obligation to abide by all relevant state housing laws when evaluating the above captioned proposal, including the HAA. Should the City fail to follow the law, YIMBY Law will not hesitate to file suit to ensure that the law is enforced.

This project will include 269 for-sale homes with a 15% on-site affordability component. It will include three different housing types, allowing different, unique options for future homebuyers. The home types include detached courtyard homes, duets, and townhome style condos.

California Government Code § 65589.5, the Housing Accountability Act, prohibits localities from denying housing development projects that are compliant with the locality's zoning ordinance or general plan at the time the application was deemed complete, unless the locality can make findings that the proposed housing development would be a threat to public health and safety.

The above captioned proposal is zoning compliant and general plan compliant, therefore, your local agency must approve the application, or else make findings to the effect that the proposed project would have an adverse impact on public health and safety, as described above. Should the City fail to comply with the law, YIMBY Law will not hesitate to take legal action to ensure that the law is enforced.

I am signing this letter both in my capacity as the Executive Director of YIMBY Law, and as a resident of California who is affected by the shortage of housing in our state.

Sincerely,

Sonja Trauss
Executive Director
YIMBY Law