

CITY OF DALY CITY

Regular Meeting - CITY COUNCIL

AGENDA

Monday, May 22, 2017 - 7:00 PM
City Hall Council Chambers – 2nd Floor
333 – 90th Street, Daly City, CA 94015

Live Telecast: Comcast Channel 27, Astound 26, AT&T U-Verse 99

Webcast: www.dalycity.org/meetings

DRAFT

For those wishing to address the City Council on any Item on the Agenda or under Public Appearances/Oral Communications, please complete a Speaker Card located at the entrance to the Council Chambers and submit to a Staff Member as early in the meeting as possible.

Persons with disabilities who require auxiliary aids or services in attending or participating in this meeting should call the office of the City Clerk at 991-8078 as soon as possible.

CALL TO ORDER:

PLEDGE TO THE FLAG:

ROLL CALL:

PRESENTATIONS:

Commending Amberwood Apartments L.P. for their Energy Efficiency Improvements (Charles S. Syers, DDS, MA)

Proclaiming May 2017 as Older Americans Month (Eleanore Charleston)

Proclaiming May 14-20, 2017 as National Police Week (Chief Manuel Martinez, Jr. and Officer Lee Aquila)

Proclaiming May 21-27, 2017 as National Public Works Week (John Fuller, Director of Public Works)

Presentation on Daly City Dunes on San Bruno Mountain (Ariel Cherbowsky Corkidi, Programs Director, San Bruno Mountain Watch)

AVAILABILITY OF PUBLIC RECORDS:

All public record to an open session item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the City Clerk's Office, City Hall located at 333 90th Street, Daly City, CA during normal business hours, at the same time that the public records are distributed or made available to the legislative body.

Update Concerning the Pilipino Bayanihan Resource Center (Perla Ibarrientos)

APPROVAL OF MINUTES:

Regular Meeting of May 8, 2017

APPROVAL OF AGENDA:

CONSENT AGENDA

All items listed on the Consent Agenda are considered to be routine and may be approved by one roll call vote of the City Council. There shall be no separate discussion of the matters on the Consent Agenda unless requested by a member of the City Council. If discussion is required, that item will be removed from the Consent Agenda and will be considered separately at the end of the Agenda.

Communications:

1. General Plan Annual Progress Report (2016)

Resolutions:

2. Accepting San Mateo County Narcotics Task Force DARE Funds for the Purchase of Promotional Items for Children
3. Authorizing the City Manager to Execute a License Agreement with Musicart Studio, Inc. for the Use of Certain Portions of the Doelger Art Center (200 Northgate Avenue)
4. Approving an Increase in the Price of Food and Beverage Items in the Garden Deli at the Doelger Senior Center
5. Authorizing Use of Federal Asset Forfeiture Funds to Upgrade and Rehabilitate the Police Shooting Range Facility
6. Authorizing the Formation of the Daly City Youth Advisory Committee
7. Appropriation of Grant Funding from CalRecycle
8. Approving Intent to Adopt the City's Annual Appropriation Limitation (Gann Limit)
9. Accepting Daly City Police Athletic League Donation for Kops & Kids
10. Setting Time and Place for a Public Hearing to Consider One-Year HUD Action Plan for Fiscal Year 2017-18

END OF CONSENT AGENDA

PUBLIC HEARINGS:

11. Point Martin II Residential Subdivision - General Plan Amendment GPA-9-16-12295, Planned Development PD-10-15-11781, Major Subdivision SUB-9-16-12296, and Environmental Review CEQA-10-15-11782

Staff:

Van Lonkhuysen

Recommended Action:

Open/Close Hearing

Motion for City Attorney to Read by Title Only

Councilmember Introduce Ordinance

Adopt Resolution

Roll Call

AWARD OF BIDS/CONTRACTS:

12. Pre-Appropriate Funds and Award of Construction Contract for the FY 2017-18 Bayshore Slurry Seal and Parking Lot Improvements Project

Staff:

Brunmeier

Recommended Action:

Adopt Resolution

Roll Call

PUBLIC APPEARANCES/ORAL COMMUNICATIONS:

NOTE: Speakers are limited to two minutes, unless modified by the Mayor. The Council cannot take action on any matter raised under this item

APPOINTMENTS: Board/Commission Membership Committee Appointments

REPORTS:

13. Council Committee
14. City Council
15. Staff

ADJOURNMENT:

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The meeting was called to order by Mayor Sylvester at 7:11 P.M.

ROLL CALL: Councilmembers Present:

Glenn R. Sylvester, Mayor
Juslyn C. Manalo, Vice Mayor
Raymond A. Buenaventura
Judith A. Christensen

Staff Present:

Patricia E. Martel, City Manager
Rose L. Zimmerman, City Attorney
K. Annette Hipona, City Clerk

Councilmember Absent:

Michael P. Guingona

PRESENTATIONS:

Commending Felix Tupaz Duag for Numerous Contributions to Public Education

This item was tabled for the next Council meeting by Mayor Sylvester.

Proclaiming May 2017 as Asian American Pacific Islander Month (Rowena Poti Meafua)

Mayor Sylvester presented a proclamation to Ms. Meafua in recognition of the achievements and contributions made by Asian Americans and Pacific Islanders that enrich our nation. The proclamation also encourages residents to learn more about these cultures.

Ms. Meafua thanked God for guidance; she thanked the Council, the City Manager, Chief of Police and the Police Department for their support and the work that they do. Ms. Meafua acknowledged family and friends, and gave a special recognition to her father for serving the church community for over 50 years. She felt honored to receive the noble recognition on behalf of all Pacific Islanders, and presented Council with traditional leis as a symbol of gratitude. As a board member of Pacific Islands Together (PIT), Ms. Meafua invited everyone to attend their annual event called “Shine” taking place on May 20th at Jefferson High School.

Proclaiming May 4 as International Fire Fighters Day (Pamela DiGiovanni, Planning Commissioner)

Mayor Sylvester presented a proclamation to Ms. Pamela DiGiovanni and Ms. Christine Fuller in recognition of firefighters and how much they mean to the City. Firefighters present at the meeting were asked to come to the dais to receive the proclamation.

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Firefighter Ronnie thanked the Council on behalf of the Fire Department for the honor, and proclaimed all firefighters do their best for the residents. The Council showed their appreciation and thanked the firefighters for giving so much care to the community, and commended them for their heroism.

APPROVAL OF MINUTES:

Regular Meetings of April 24, 2017

It was moved by Councilmember Buenaventura, seconded by Vice Mayor Manalo, and carried to approve the minutes of April 24, 2017. Councilmember Christensen abstained due to being absent at that meeting.

APPROVAL OF AGENDA:

It was moved by Vice Mayor Manalo, seconded by Councilmember Christensen and carried to approve the agenda.

CONSENT AGENDA

It was moved by Vice Mayor Manalo, seconded by Councilmember Buenaventura and carried to approve the agenda.

Resolutions:

Authorizing City Manager to Execute Professional Services Agreement for Design Services for the Traffic Signal Management Project

Resolution 17-63, Authorizing Appropriation of Funds and Execution of Professional Services Agreement with Iteris, Inc.

Approving Budget Adjustment for Additional Funds in the Professional Services and Publication Accounts

Resolution 17-64, Authorizing Adjustment to the 2016-2017 Building Division Budget

Authorizing the Use of Federal Asset Forfeiture Funds to Paint and Outfit a Third K9 Vehicle

Resolution 17-65, Authorizing Use of Federal Asset Forfeiture (DEA) Funds to Convert an Unmarked Police Vehicle Into a Third K9 Vehicle

Setting Time and Place of Public Hearing - Notice of Intent to Lien Real Property (Set Hearing: 6/12/17)

Resolution 17-66, Setting Time and Place of Hearing Re: Notice of Intent to Lien Real Property

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Setting Time and Place for a Hearing on General Plan Amendment GPA-9-16-12295, Planned Development PD-10-15-11781, Major Subdivision SUB-9-16-12296, and Environmental Review CEQA-10-15-11782, Allowing the Subdivision of 18 acres for 117 residential lots as part of the Point Martin II Residential Subdivision on Carter Street (Set Hearing 5/22/17)

Resolution 17-67, Setting Time and Place of Public Hearing Regarding General Plan Amendment GPA-9-16-12295, Planned Development PD-10-15-11781, Major Subdivision SUB-9-16-12296, and Environmental Review CEQA-10-15-11782

Check Registers:

Check Registers for the Month of April 2017

END OF CONSENT AGENDA

PUBLIC HEARINGS:

Public Hearing – National Pollutant Discharge Elimination System Local Stormwater Program Regulatory Fee

Assistant Director of Public Works/City Engineer Richard Chiu gave some background of the Bay Area Municipal Regional Stormwater Permit, which covers mandatory municipal stormwater management activities. To cover the costs of those activities, the City adopted Ordinance 1219 to establish a stormwater fee which is charged to property owners in Daly City every year. According to Mr. Chiu, those fees have not changed in the past 20 years and presented a table of the fees. For this fiscal year, anticipated fees to be collected total approximately \$463,000. Upon approval, staff will prepare the documents for the County Tax Collector's Office for collection through the Property Tax Roles.

Mr. Fuller reported that the fee being collected does not cover all stormwater management activities, and therefore, will probably be necessary to recommend raising these fees in the upcoming year.

Mayor Sylvester opened the public hearing. There were no speakers on this matter.

It was moved by Councilmember Buenaventura, seconded by Councilmember Christensen and carried to close the public hearing.

It was moved by Vice Mayor Manalo, seconded by Councilmember Christensen and carried by unanimous roll call vote to adopt the following resolution:

Resolution 17-68, Maintaining Regulatory Fees Necessary to Fund the City's Local Specific Stormwater Management Plan Program Activities as to the National Pollutant Discharge Elimination System (NPDES) and Authorizing Their Collection on the Property Tax Roll

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Approval of Benefit Assessments for Linda Vista Area for Fiscal Year 2017-18

Assistant Director of Public Works/City Engineer Richard Chiu gave a brief overview of the establishment of the Linda Vista Area Benefit Assessment District. The benefited area is subdivided into two drainage basins: the Linda Vista basin serving a total of 176 lots, and the Bay Ridge basin serving a total of 177 lots. These subdivisions are required to detain on-site storm water run-off excess of the flow rate before the land was developed. According to Mr. Chiu, these basins require additional services beyond what the City normally provides. For fiscal year 2017-18, the proposed assessment fees are as follows: \$151.13 for the Linda Vista Basin and \$100.46 for the Bay Ridge Basin. The proposed assessments would generate revenue of approximately \$44,000.

Mayor Sylvester opened the public hearing.

Phyllis Rizzi, resident, thanked the City for doing a great job in maintaining the subject area, and for having an open dialogue with the residents. She voiced questions about potential changes to the neighborhood, particularly new housing developments and a new access road in relation to the basins. Mr. Fuller addressed Ms. Rizzi's questions.

It was moved by Vice Mayor Manalo, seconded by Councilmember Christensen and carried to close the public hearing.

It was moved by Vice Mayor Manalo, seconded by Councilmember Christensen and carried by unanimous roll call vote to adopt the following resolution:

Resolution 17-69, Approving Engineer's Report and Imposing a Benefit Assessment for Fiscal Year 2017-2018

COMMUNICATIONS:

Adoption of Investment Strategy and Funding for the Public Agencies Post-Employment Benefits Section 115 Trust Program to Pre-Fund Pension and Other Post-Employment Benefits

Director of Finance and Administrative Services Lawrence Chiu stated Council adopted Resolution 17-58 in April, authorizing participation in the Section 115 Trust Program administered by PARS. The next step is to authorize an investment portfolio as to how funds will be invested. The investment manager for the PARS Section 115 Trust Program is HighMark Capital Management, which offers five investment strategies. Mr. Chiu noted the strategies' risk profiles. Additionally, the City will need to determine whether the Section 115 Trust will be "actively managed" or passively managed." Active management utilizes mutual funds, while passive management invests in Exchange Traded Funds. Mr. Chiu also presented a table showing 1-year, 3-year, and 5-year returns on actively managed and passively managed accounts.

Staff recommended Council to adopt a "moderately conservative" strategy and "passively managed" approach by HighMark Capital for the City's investment portfolio in the Section 115

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Trust, and to authorize the transfer of excess revenue up to \$1 million as part of the year-end closing process for Fiscal Year 2016-2017 to fund the trust program. Mr. Chiu addressed Council's questions regarding how many agencies are currently taking part in the PARS program.

Andrew Brown, HighMark Capital Senior Portfolio Manager, addressed Council's question regarding the amount of control Council has over investing in specific companies that the Council may not view as socially responsible. Ms. Martel addressed Council's question and stated that although employees would ultimately benefit from the pension, the fund represents the employer's contributions that go toward pensions. Mr. Brown clarified for Council the advantages and disadvantages of the "actively managed" strategy vs. the "moderately conservative" strategy.

It was moved by Councilmember Buenaventura, seconded by Vice Mayor Manalo and carried by unanimous roll call vote to adopt the following resolution:

Resolution 17-70, Adopting Investment Strategy and Funding for Public Agencies Post-Employment Benefits Section 115 Trust Program to Pre-Fund Pension and other Post-Employment Benefits

ORDINANCES:

Second Reading, Ordinance No. 1413, Re: Amending Planned Development Standards for Planned Development PD-58B

It was moved by Vice Mayor Manalo, seconded by Councilmember Christensen and carried by unanimous roll call vote to adopt the following ordinance:

Ordinance 1413, Amending the Daly City Zoning Map by Amending Ordinance No. 1398 Re: Planned Development Standards for PD-58B (Parcels located north of Geneva Avenue, between Calgary and Rio Verde Streets)

PUBLIC APPEARANCES/ORAL COMMUNICATIONS:

Pamela DiGiovanni, resident, voiced concern about the Fire Department being dispatched to the wrong locations on 3 separate occasions. She wanted to remind everyone that the Fire Department not only answers calls for fires, but also for medical emergencies. Ms. DiGiovanni was also concerned over the limited number of police officers working the streets in Daly City. She raised an issue that the firefighters and police officers in Daly City are among the lowest paid in comparison to surrounding cities, resulting in employees leaving to work for other agencies.

The following Franciscan Park residents expressed concern over issues with LINC Housing's management of the Franciscan Mobile Home Park. Speakers included low-income families and individuals who voiced concern over the rent increase in June, and the fact that eligible low-income residents are being turned down for housing while larger homes were

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coming into the site. People asked for a transfer of ownership from LINC management to the Franciscan residents due to LINC's non-compliance to the court order, and due to its poor treatment of residents. Speakers asked for Council and staff's assistance in these matters, and requested these issues be discussed at the next Study Session.

Mamie Zhu
Rolando Tabalno
Sonny Quiniquini

David Medrano.
Bill Stipinovich
Mr. Quiniquini on behalf of Cyn Thompson

APPOINTMENTS:

There were no appointments.

REPORTS:

Council Committee

Vice Mayor Manalo requested an update on the Request for Proposal (RFP) for the parcel in regards to a potential hotel in Daly City. Ms. Martel reported that staff is still working with consultants to analyze the qualifications submitted for the Request for Quote (RFQ), and would be coming to the Council with a report in 2-3 weeks.

City Council Dinner Meeting (Sylvester)

City Council

Vice Mayor Manalo reported on attending the Youth Health Center's Spring for Youth Event and commended the organization for all the services they offer to young people. She also attended the Peninsula Family YMCA Everyday Heroes Event, and mentioned their importance in developing the City's youth, and commended the youth who are giving back to the community through the YMCA. She reported on the Daly City/Colma Chamber of Commerce Event wherein Sephora expanded its store size in Serramonte.

Mayor Sylvester reported on the Spring for Youth Event and congratulated Melissa Ambrose and Geraldine Mack for being awardees at that event. He recognized the Youth Health Center for providing training, resources, and information on health and well-being. The Mayor also attended the following events: the Relay for Life Event which was a collaboration between Daly City, San Bruno and South San Francisco; the Community Shield Event in San Mateo regarding public safety; the Bayshore Friendship Seniors Meeting; the Heroes Breakfast with kudos to Supervisor Carol Groom as a community hero; Sephora's event at Serramonte; and the Daly City Public Library Associate's (DCPLA) book events at 280 Metro Center.

Mayor Sylvester requested the following items: the creation of a citizens advisory committee on jet noise to work with the City's SFO Roundtable representative; a follow-up on the student advisory committee; a request for discussion of the HART Program for first time home buyers; an update on the SAFER Grant; to send notice to the Arts & Culture and Recreation Commissioners to collaborate for the City Street Fair; request for information for the

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City internships program; and a request to post the Asian American and Pacific Islander Month Event information on the City website. The Mayor voiced concern about the future financial cost of the infrastructure within the City, which includes providing fiber connectivity for County-wide internet access. He read a sample letter of support for federal advocacy for grant funding of internet fiber for free wifi in the community; the Council voiced support for sending the letter to Washington D.C.

Councilmember Christensen stated that regardless of whether the City hires a Parliamentarian to enforce Robert's Rules of Order, it would not stop her from speaking and explaining the reasoning behind her votes. She stated she owed it to the voters and the residents of Daly City, and for the sake of providing transparency. Mayor Sylvester suggested residents review videos for past Council meetings, and mentioned that there is a lack of decorum and lack of respect for one another within the City Council.

Staff

There were no reports.

ADJOURNMENT:

Mayor Sylvester requested a moment of silence and adjourned the meeting in memory of California Peace Officers whose lives were sacrificed in the line of duty in 2016 and 2017, Reajon Jackson, Dave Mayer, Timothy Nicholas Thurman, and Ora Lee Davis at 8:51 PM.

City Clerk

Approved as submitted, this 22nd

day of May, 2017.

Mayor



City Council Meeting Agenda Report

Item # _____

Meeting Date: May 22, 2017

Subject: GENERAL PLAN ANNUAL PROGRESS REPORT (2016)

RECOMMENDED ACTION

Review and accept the General Plan Annual Progress Report (APR) – 2016 (see Attachment A – General Plan Annual Progress Report).

BACKGROUND

State law requires that the City submit an annual report on the status of the General Plan and progress in its implementation to the City Council, the Governor's Office of Planning and Research (OPR), and the State Department of Housing and Community Development (HCD). Once the City Council has accepted the APR, staff will submit a copy to OPR and HCD, thereby fulfilling the City's statutory requirements.

DISCUSSION

The attached APR identifies the City's implementation activities during calendar year 2016 for the General Plan adopted by the City Council in 2013 and subsequently amended Housing Element in 2015.

The following were key implementation measures which occurred in 2016:

- Approval of the significant commercial development projects, including the construction of a 79,435 square foot self-storage building at 1001 East Market Street, the construction of a three-story mixed-use building at 7310 Mission Street, the construction of a new mixed-use building located at the northwest corner of Sullivan Avenue and Eastmoor Avenue, and the construction of 3,867 square foot "In N Out" restaurant with a drive-through lane at 372 Gellert Boulevard.
- Continued to work with Serramonte Shopping Center owners on significant improvements to the center, including realignment of the shopping center driveway, construction of a parking structure at the northwest quadrant of the center, construction of a two-story retail and restaurant building adjacent to Target, and construction of new retail buildings at the southwest and southeast quadrants of the center.
- Continued work on new residential projects under construction, including Annie Street Residential Lots (Warmington Homes), Accacia Velasco (SIA Consulting), Crestview Estates (Lennar), Wellington Heights (KB Homes), Garden Valley (KB Homes), and 6800 Mission (Mid-Peninsula Housing Coalition).

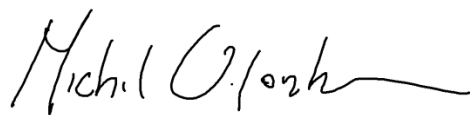
- Approval of new residential projects, including the subdivision of a 0.26-acre property at 221 South Parkview into four parcels for the purpose of constructing single-family detached home and the subdivision of a 6.96-acre property (formerly Robertson Intermediate School) for the purpose of construction 71 detached homes.
- Commenced construction of streetscape improvements along John Daly Boulevard between the Daly City BART Station and Mission Street, to improve the access and connectivity between the Daly City Bay Area Rapid Transit (BART) station at Delong Street and the SamTrans bus hub at the Top of the Hill (Mission Street).
- Authorized a contract for the installation of a new traffic signal to be installed at the intersection of Serramonte Boulevard and Callan Boulevard. The project includes updating the existing curb ramps to current ADA standards and installing marked crosswalks at the intersection.
- Commenced construction of the Mussel Rock Public Access and Amenities Improvements. The project includes installation of concrete viewing area benches, picnic tables, bike rack, fencing, interpretive signs (site history, site geology and site flora and fauna), informational kiosk, directional signs, accessible parking and pilot testing of gabion wall screening with planting.
- Distributed grants and loans totaling over \$289,290 to low- and very-low income households to maintain and repair their homes.

As of the end of 2016, the City had issued permits for 60 lower-income units, 31 moderate-income units, and 229 above-moderate income units, toward the 2015-2023 Regional Housing Need Allocation (RHNA). Daly City's remaining allocation for the 2015-2023 RHNA is for 528 lower-income units, 190 moderate-income units, and 312 above-moderate income units.

SUMMARY

During 2016, the City undertook a number of activities to implement the General Plan. A summary of these activities is provided in the attached General Plan Annual Progress Report.

Respectfully submitted,



Michael Van Lonkhuyzen
Planning Manager



Tatum Mothershead
Director of Economic and Community
Development

Attachment A – General Plan Annual Progress Report (2016)

CITY OF DALY CITY GENERAL PLAN ANNUAL PROGRESS REPORT (2016)

Period beginning January 1, 2016 and ending December 31, 2016

Introduction

The General Plan is a State-mandated long-term document that identifies how the City will develop by providing public policy relative to the distribution of future land uses, both public and private. The attached APR identifies the City's implementation activities during calendar year 2016 for the General Plan adopted by the City Council in 2013 and subsequently amended Housing Element in 2015.

The intent of the General Plan Annual Progress Report (APR) is to demonstrate the City's compliance with the requirements of Government Code Section 65400(b)(1), which mandates that the City prepare an annual report on the status of the General Plan and progress in its implementation. The Daly City City Council reviewed the APR in May 2016. In compliance with the Government Code, the City has provided the APR to the Governor's Office of Planning and Research (OPR) and the Department of Housing and Community Development (HCD).

Implementation Measures

During 2016, the City undertook the following significant General Plan implementation measures:

Land Use Element

The Land Use Element seeks to provide the framework for future decisions, providing policy direction for the future development of vacant lands and underutilized parcels in the City. Since the adoption of the Land Use Element, development in Daly City has occurred pursuant to the goals, objectives, and policies of the General Plan. While the City made an effort to implement all of the objectives of the Land Use Element in 2012, the following implementation measures were the most significant:

Objective 1 – Encourage commercial retail and office development in locations that can support intensive uses, that are compatible with surrounding land uses, and maintain the residential quality of existing neighborhoods.

The City continued to work with commercial property owners desiring to develop new and/or renovate existing commercial properties in Daly City. The following were the most notable non-residential construction projects approved in 2016:

1. The construction of a 79,435 square foot self-storage building at 1001 East Market Street.
2. The construction of a three-story mixed-use building at 7310 Mission Street. The building will provide 1,732 square feet of office space at the street level, two two-bedroom apartments at the second floor, and a roof deck with a one-bedroom penthouse at the third floor.
3. The construction of a new mixed-use building located at the northwest corner of Sullivan Avenue and Eastmoor Avenue. The building will consist of 35 units in a five-story building with podium-level parking, and 2,100 square feet of street-level retail.
4. The construction of 3,867 square foot "In N Out" restaurant with a drive-through lane at 372 Gellert Boulevard.

All of the above projects are presently under construction and have expected completion dates in 2017.

Objective 3 – Encourage the upgrading of Serramonte Shopping Center and Westlake Mall, the major shopping centers in the City.

In 2015, the City Council approved construction of 329,000 square feet of retail, entertainment, and restaurant space; a 65,000-square-foot medical building; and a 75,000-square-foot hotel at Serramonte Shopping Center. In 2016, the center owner completed a significant portion of the construction approved for the center, including the following:

1. Realignment of the shopping center driveway from the Gellert/Serramonte intersection to better allocation parking spaces between the center's southeast quadrant and Target parking areas, improved pedestrian access from Serramonte Boulevard, and a refresh to the shopping center entrance.
2. Construction of a parking structure at the northwest quadrant of Serramonte Shopping Center. The structure will provide parking spaces for 1,283 vehicles and would be 396,095 square feet.
3. Construction of a new, two-story retail and restaurant building adjacent to Target that accommodates a relocated Daiso store (previously located in the center's southeast quadrant) at the first floor and a Dave and Buster's restaurant at the second floor.
4. Demolition of two existing retail buildings and construction of three new buildings, including one two-story building and two single-story retail buildings, totaling 89,600 retail square feet, at the southeast quadrant of shopping. These retail buildings will be occupied by Party City, TJ Maxx, and Nordstrom Rack.
5. Construction of approximately 78,415 square feet of retail space in two retail buildings. These retail buildings will be occupied by Ross, Buy Buy Baby, and Cost Plus World Market.

All of the above projects are presently under construction and have expected completion dates in 2017.

In addition to work on Serramonte Shopping Center, staff completed preliminary reviews of plans by Kimco to demolish an existing 49,827 square foot retail and medical office building at the center and replace it with a six-story, 276,634 square foot mixed use building including 230 basement level residential parking spaces, 33,069 square feet of ground floor retail and 176 upper story residential dwelling units.

Objective 6 – Maintain a pattern of residential land use which provides for a variety and balance of densities, and offer opportunities for a mix of dwelling and tenure type.

Several significant residential projects remained under construction in 2016, including Annie Street Residential Lots (Warmington Homes), Accacia Velasco (SIA Consulting), Crestview Estates (Lennar), Wellington Heights (KB Homes), Garden Valley (KB Homes), and 6800 Mission (Mid-Peninsula Housing Coalition). In addition to units under construction, the City Council approved the preliminary plan for a zone change to allow development of a 115-lot residential subdivision on a 7.93-acre vacant site situated on the west side of Carter Street and Steve Courter Way, between the Summit Ridge neighborhood and Saddleback Condominiums (sometimes referred to as "Point Martin II"). Ultimately 117 lots were proposed.

In 2016, the City staff also presented entitlement requests to the Planning Commission and City Council for the following projects:

1. The subdivision of a 0.26-acre property at 221 South Parkview into four parcels for the purpose of constructing single-family detached homes.
2. The subdivision of a 6.96-acre property (formerly Robertson Intermediate School) for the purpose of construction 71 detached homes. The redevelopment of Robertson Intermediate School advanced a proposal by the Bayshore Elementary School District use the sale proceeds from the 71-lot subdivision to construct a new school on the existing Bayshore Elementary School site located at 155 Oriente Street.

The current mix of units presently either proposed or under construction offers a unique blend of housing typologies, affordability levels, and services to residents.

Objective 7 – Promote residential land use types and densities which respect the capabilities and limitations of the natural and built environment.

As a largely built-out community, remaining vacant parcels in Daly City are those which, in many cases, possess significant development limitations such as challenging access, steep topography, and limited infrastructure availability. During 2016, the City continued to process residential development applications for several such sites, including the development of a 115-lot residential subdivision on a 7.93-acre vacant site situated on the west side of Carter Street and Steve Courter Way, between the Summit Ridge neighborhood and Saddleback Condominiums.

Housing Element

The Housing Element provides a comprehensive analysis of the status of housing in Daly City, and sets forth goals, principals, and policies to improve the quality of the City's housing stock and increase housing opportunities. The City Council adopted a new Housing Element in March 2015 as part of the Regional Housing Need Allocation concluding in that year. This APR will therefore report on the City's progress toward meeting the City's 2015-2023 Regional Housing Need Allocation (RHNA).

The following implementation measures were the most significant in 2016:

Principle 1 – Encourage new residential development in suitable locations.

The City continued to encourage new housing development in locations which are well-served by infrastructure and public transit, and where more intensive development is not detrimental to neighborhood character. During 2016, the City continued working with developers of several residential projects, including development of the Annie Street Residential Lots (Warmington Homes), Accacia Velasco (SIA Consulting), Crestview Estates (Lennar), Wellington Heights (KB Homes), Garden Valley (KB Homes), and 6800 Mission (Mid-Peninsula Housing Coalition). In addition to traditional dwelling units, the City initiated compliance with State law with respect to accessory dwelling units (previously "second units"), greatly expanding the number of homes where an owner could potentially install a smaller ancillary dwelling unit in their homes. In 2016, the City issued permits for five accessory dwelling units.

Principle 2 – Increase the supply of housing in a manner compatible with the character, density, and integrity of existing neighborhoods.

As a means of providing a sufficient quantity of housing that will be necessary to accommodate the City's growing population, the 2015-2023 Regional Housing Need Allocation has allocated 1,350 new housing units to Daly City for the eight-year period between 2015 and 2023. This includes 221 units affordable to moderate-income households and 588 units affordable to lower (very-low and low) income households. As of the end of 2016, the City had issued permits for 60 lower-income units, 31 moderate-income units, and 229 above-moderate income units, toward the 2015-2023 RHNA. Daly City's remaining allocation for the RHNA is for 528 lower-income units, 190 moderate-income units, and 312 above-moderate income units. The City's progress toward meeting the RHNA is summarized in the attached Table One.

Principle 3 – Assure the quality of housing is continually maintained or upgraded.

The City continued its Residential Rehabilitation Programs during 2016, distributing grants and loans totaling over \$289,290 to low- and very-low income households to maintain and repair their homes. Funded repairs included plumbing and electrical repairs, energy conservation measures, and door and window replacement. Money for the Residential Rehabilitation Programs came from State Department of Housing and Community Development's CalHome Program and Community and Development Block Grant (CDBG) funds.

Circulation Element

The Circulation Element identifies policies for ensuring that adequate transportation facilities are maintained throughout the planning period, that the facilities in which the City plans to invest reflect the land uses contemplated by the Land Use Element, and that the transportation system provides a range of transportation choices. While the City made an effort to implement all of the objectives of the Circulation Element in 2016, the following implementation measures were the most significant:

Objective 1 – Develop a multimodal transportation system which provides a variety of choices to all members of the community.

In 2016, the Public Works Department commenced construction of streetscape improvements along John Daly Boulevard between the Daly City BART Station and Mission Street. The project is a "Complete Streets" project that will improve the access and connectivity between the Daly City Bay Area Rapid Transit (BART) station at DeLong Street and the SamTrans bus hub at the Top of the Hill (Mission Street). The project will narrow the median island to accommodate the installation of bicycle lanes and transform the underutilized median areas by constructing new pedestrian facilities, bioswales, and landscaping to "Green" this segment of John Daly Boulevard. The project will also include the installation of pedestrian scale lighting along the walking path and new street lights on the north and south medians, as well as traffic signal modifications at Santa Barbara Avenue and updated curb access ramps and stamped crosswalks. Construction is ongoing into 2017.

Objective 7 – Ensure the safe movement of pedestrians throughout the community.

In 2016, the City Council authorized a contract for the installation of a new traffic signal to be installed at the intersection of Serramonte Boulevard and Callan Boulevard. The project includes updating the existing curb ramps to current ADA standards and installing marked crosswalks at the intersection.

Resource Management Element

The General Plan combines the State-mandated Open Space and Conservation Elements into one Resource Management Element. The Resource Management Element addresses open space, visual resources, biological resources, and parks and recreation. Additionally, this element establishes strategies for effectively managing local and natural resources in order to prevent waste, destruction, or neglect.

During 2016, the City completed progress on the following objectives identified by the Resource Management Element:

Objective 1 – Maintain existing potable water quality.

The City continued to perform all regulatory testing of water throughout 2016 and water quality delivered to water customers continued to meet and exceed minimum quality mandates.

Objective 2 – Reduce water consumption.

The City continued to experience reduced water consumption by all City water customers. Since 2000, overall water consumption by all City water customers has decreased from 8.45 million gallons of water per day (MGD) to 5.98 MGD in 2016. Recent consumption reductions have been attributed to wetter winters, increased conservation efforts (e.g., washing machine and retrofit toilet rebates), and reduced population.

Objective 3 – Increase existing water supply.

During 2016, the City continued to explore additional sources of groundwater production and also continued its participation in the development of a regional groundwater storage and recovery system.

Safety Element

The Safety Element identifies the natural and man-made hazards that the City needs to consider when making land use decisions or when preparing plans and policies for control and respond to potential danger (i.e. emergency response plans, evacuation plans, etc.). The City undertook no major initiatives to implement the Safety Element in 2016.

Noise Element

The Noise Element provides an overview of how much noise is already in the environment, a framework for how sound will be measured and regulated, and policy direction to guide decision makers in regulating new uses that either produce excessive noise or expose persons or institutions to unacceptable noise levels. While the City undertook no major initiatives to implement the existing Noise Element, it did work with the Airport Land Use Commission staff to ensure that the Serramonte Vistas condominium and hotel project proposed at 585 Serramonte Boulevard was consistent with the recently-adopted Comprehensive Airport Land Use Compatibility Plan for San Francisco International Airport.

Coastal Element

The Coastal Element implements the policies of the California Coastal Act, assuring an orderly, balanced utilization and conservation of coastal zone resources, while protecting, maintaining, and where feasible, enhancing and restoring the overall quality of the coastal zone. As a requirement of a California Coastal Commission permit issued to the City to perform repairs to the existing revetment wall at Mussel Rock Park, the City commenced construction of the Mussel Rock Public Access and Amenities Improvements. The project includes installation of concrete viewing area benches, picnic tables, bike rack, fencing, interpretive signs (site history, site geology and site flora and fauna), informational kiosk, directional signs, accessible parking and pilot testing of gabion wall screening with planting. Construction is ongoing into 2017.

Conclusion

The General Plan continues to direct all land use decisions and remains an effective guide for future development. The City continues to pursue economic development to increase City revenue, address traffic related issues and preserve open space.

Table One

Regional Housing Needs Allocation Progress

Permitted Units Issued by Affordability

Enter Calendar Year starting with the first year of the RHNA allocation period. See Example.												Total Units to Date (all years)	Total Remaining RHNA by Income Level
Income Level		RHNA Allocation by Income Level	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9		
Very Low	Deed Restricted	400	38	0	0	0	0	0	0	0	0	38	362
	Non-Restricted		0	0	0	0	0	0	0	0	0		
Low	Deed Restricted	188	15	7	0	0	0	0	0	0	0	22	166
	Non-Restricted		0	0	0	0	0	0	0	0	0		
Moderate		221	14	17	0	0	0	0	0	0	0	31	190
Above Moderate		541	89	140	0	0	0	0	0	0	-	229	312
Total RHNA by COG. Enter allocation number:		1350	156	164	0	0	0	0	0	0	0	320	1030
Total Units ▶▶▶													
Remaining Need for RHNA Period ▶▶▶▶▶													

Note: units serving extremely low-income households are included in the very low-income permitted units totals.



City Council Meeting Agenda Report

Item # _____

Meeting Date: May 22, 2017

Subject: Acceptance of San Mateo County Narcotics Task Force DARE Funds for the Purchase of Promotional Items for Children

Recommended Action

Staff requests the acceptance of DARE funds in the amount of \$1,351.00 from the San Mateo County Narcotics Task Force to purchase promotional items for our community's youth.

Background

The Daly City Police Department requested and received DARE funds disbursed by the Governing Board of the San Mateo County Narcotics Task Force. The funds are used to purchase promotional items that will assist us in our mission of keeping our youth away from gangs and drugs.

Discussion

State Asset Forfeiture laws stipulate that a portion of the seized funds be spent on programs designed to combat drug abuse, divert gang activity, and shall whenever possible, involve educators, parents, community-based organization, local businesses, and uniformed law enforcement officers. As such, the Daly City Police Department currently provides promotional items to children at our schools, and various community events.

Fiscal Impact

Staff requests the acceptance of \$1,351.00 in DARE Funds.

Summary/Conclusions

Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "John Gamez".

John Gamez
Captain

A handwritten signature in cursive script, appearing to read "Manuel Martinez Jr.".

Manuel Martinez Jr.
Chief of Police



City Council Meeting Agenda Report

Item # _____

Meeting Date: May 22, 2017

Subject: Authorizing the City Manager to Execute a License Agreement with Musicart Studio, Inc. for the Use of Certain Portions of the Doelger Art Center (200 Northgate Avenue)

Recommended Action

It is recommended the City Council authorize the City Manager to execute a license agreement with Musicart Studio, Inc. allowing for the use of Room 7 of the Doelger Arts Center in order to provide music and art classes during Fiscal Year 2017-18, with an option to renew for Fiscal Year 2018-19.

Background

The City of Daly City has owned the property at 200 Northgate Avenue since 1981. Through license agreements with both Musicart Studio, Inc. and Westlake School for the Performing Arts, the former Olympia School site serves as a place where Bay Area youth and adults are afforded the opportunity to participate in a variety of music and art classes. Musicart Studio, Inc. seeks to extend its license agreement with the City for the duration of Fiscal Year 2017-18, at an annual rate of \$13,119.75. Prior to 2016, MusicArt used three classrooms at the Doelger Arts Center. Under the terms of the new agreement, MusicArt would continue to use only one room.

Musicart Studio, Inc. is a San Mateo-based company that offers piano, guitar, and drum lessons and a variety visual arts classes, including creative uses of non-traditional media such as scrap and recycled materials. The Daly City location will focus primarily on studio arts, rather than music.

The license agreement provides Musicart Studio, Inc. access to one classroom at the Doelger Arts Center. Building maintenance, custodial service, garbage, water, and sewage treatment is provided by the City of Daly City.

Fiscal Impact

Musicart Studio, Inc. will pay the City a monthly fee of \$1,093.31 for Fiscal Year 2017-18. The fees collected will be credited into revenue account 01-131-154-3520.

Summary/Conclusion

Musicart Studio, Inc. has a 12-year history at the Doelger Arts Center. The CEO of Musicart Studio, Inc., Isaac Soncino, has expressed interest in entering into a one-year license agreement with the City of Daly City. The proposed license agreement would expire on June 30, 2018.

Staff is available to provide any additional information desired by the Mayor or City Council.

Respectfully submitted,

Joseph Curran
Director
Department of Library and Recreation Services

Attachment: License Agreement

LICENSE FOR THE USE OF PROPERTY

This license is entered into by and between the CITY OF DALY CITY ("City") and MUSICART STUDIO Inc. ("Licensee").

This license is made and executed on 22nd day of May, 2017, in Daly City, California.

WHEREAS, the City is the owner of certain real property commonly known as the Doelger Arts Center, 200 Northgate Avenue (hereinafter described as "Doelger Arts Center"), in the City of Daly City; and,

WHEREAS, the Licensee, a duly organized corporation, desires to use **Room 7** (hereinafter described as "Premises") of the Doelger Arts Center in order to provide music and cultural arts classes to the public;

NOW, THEREFORE, the parties agree as follows:

1. The City grants to Licensee a revocable license to use the Premises for the limited purpose of providing music and cultural arts classes for the benefit and convenience of the public. No other dissimilar uses, including childcare and fitness classes, are allowed without prior written consent from the City.
2. License Fee. Licensee shall pay the City the following fees to coincide the City's fiscal year beginning July 1, 2017:

\$13,119.75/year (\$1,093.31/month)

Fee shall be paid monthly in advance for the term of this License, unless terminated as provided herein. Except as otherwise specified herein, all payments required to be made by Licensee under this License shall be made without any set off, deduction or counter claim whatsoever and shall be made payable to and delivered by the fifteenth (15th) of the previous month to the City at the Office of the Daly City Department of Finance, 333-90th Street, Daly City, California, 94015.

3. Term. This License shall commence on July 1, 2017, and shall remain in effect until June 30, 2018 unless terminated by the City upon 30 days written notice to Licensee. Licensee may elect to extend the term by one year at a rate of \$13,775.75 per year (\$1,147.98/month) by providing the City written notice no later than May 1, 2018.
4. Revocable License. Licensee understands that Licensor may revoke this License at any time, with or without cause, by providing Licensee with thirty (30) days written notice. Licensee further understands that any violation of the terms of this License may result in revocation with ten (10) days written notice. Licensee shall vacate the Premises upon revocation of this License.
5. Use of Premises. Licensee shall not use or allow the Premises to be used for any improper, immoral, unlawful or objectionable purpose, or obstruct the sidewalk in front of, within or adjacent to the Doelger Arts Center.

6. Business License. Licensee must maintain a Daly City Business License in good standing for the duration of the term of this License.
7. Smoking Prohibited on Premises. Smoking is prohibited in all areas of the Doelger Arts Center, including the courtyard and parking lot (Daly City Municipal Code – Chapter 8.36).
8. Employee Background Checks. All employees and volunteers of MusicArt Studio who have contact with students must have completed a Department of Justice (DOJ) criminal history clearance. As required by California State Education Code 44237, the DOJ criminal history clearance includes both state and federal criminal record checks.
9. Tuberculosis Testing Requirements. All employees and volunteers of MusicArt Studio must show proof of the absence of Tuberculosis (TB) (California Health and Safety Code sections 121525-121555). TB examination clearance forms are to be retained on site.
10. Hours of Operation. Licensee may provide cultural arts classes Monday through Friday from 8:00 a.m. to 8:00 p.m., and on Saturdays and Sundays from 10:00 a.m. to 8:00 p.m. No classes, rehearsals, or other use of the Premises may take place between the hours of 8:00 p.m. and 8:00 a.m. under any circumstances.
11. Noise. Amplified sound (music and/or voice) is not permitted in outdoor areas, nor shall amplified sound project outside of any building on the Premises (Daly City Municipal Code Chapter 9.32). Non-amplified instruments, including drums, string instruments, brass, and woodwinds, must be used indoors and shall not project outside of any building on the Premises.
12. Subleasing of Premises Prohibited. Licensee is not permitted to sublease or grant third party use of any part of Premises.
13. Licensee shall provide adequate supervisory personnel so that someone may be identified and contacted regarding management of the service at all times when any arts classes are being given.
14. Licensee shall be responsible for maintaining the Premises in a clean and orderly manner, and for removing debris or rubbish after each day's classes. If Licensee fails after notice from the City to maintain and keep the Premises clean and orderly, the City may at the expense of the Licensee cure the deficiency at any time.
15. Licensee understands that as a licensee, it has no property interest in the Premises or the Doelger Arts Center, and the Licensee is a post-acquisition occupant pursuant to this License, that the property subject to this License has been acquired or is being held for a public use and will be available only in the interim, and that the development for such ultimate use may result in the termination of this License. Pursuant to state law, and pursuant to the City of Daly City's Relocation Assistance Rules and Regulations, post-acquisition parties such as the Licensee, are not eligible for relocation assistance and payments even though they may move as a result of revocation of this License. Revocation of this License shall not suffer the City of Daly City to provide relocation assistance or payments to the Licensee.

16. Indemnification. Licensee agrees to indemnify, defend and hold harmless the City from and against any and all claims, losses, damages, expenses, judgments and costs, including attorney's fees and court costs, resulting from Licensee's use of the Premises under this license.
9. Insurance. Licensee shall, at its own expense, maintain in force during the term of this License a policy of comprehensive liability insurance insuring the City against any liability resulting from Licensee's use of the Premises under the license. Primary insurance shall be provided on ISO-CGL form No. CG 00 01 11 85 or 88. Total limits shall be no less than \$500,000.00 dollars per occurrence for all coverages and \$1,000,000.00 dollars general aggregate. City and its employees and agents shall be added as additional insureds using ISO additional insured endorsement form CG 20 10 11 85 (in no event will City accept an endorsement form with an edition date later than 2017). Coverage shall apply on a primary non-contributing basis in relation to any other insurance or self-insurance, primary or excess, available to City or any employee or agent of City. There shall be no cross liability exclusion.

Licensee agrees to provide evidence of the insurance required herein, satisfactory to City, consisting of certificate(s) of insurance evidencing all of the coverages required and an additional insured endorsement to Licensee's general liability and umbrella liability policies (if any) using ISO form CG 20 10 11 85. Certificate(s) are to reflect that the insurer will provide 30 days notice of any cancellation of coverage. Licensee agrees to require its insurer to modify such certificates to delete any exculpatory wording stating that failure of the insurer to mail written notice of cancellation imposes no obligation, and to delete the word "endeavor" with regard to any notice provisions. Licensee agrees to provide complete copies of policies to City upon request.

Licensee shall provide proof that policies of insurance required herein expiring during the term of this Agreement have been renewed or replaced with other policies providing at least the same coverage. Such proof will be furnished at least two weeks prior to the expiration of the coverages.

Any actual or alleged failure on the part of City or any other additional insured under these requirements to obtain proof of insurance required under this License in no way waives any right or remedy of City or any additional insured, in this or any other regard.

10. Assignability. Licensee shall not assign, sublicense or otherwise transfer its rights under this License to any other party.
11. Notices. All notices to the City shall be sent to Patricia E. Martel, City Manager, City of Daly City, 333 90th Street, Daly City, CA 94015. All notices to the Licensee shall be sent to Isaac Soncino, CEO, Musciart Studio, 1528 So. El Camino Real, Suite 201, San Mateo, CA 94402.
12. This License contains the entire understanding between the parties relating to the rights and obligations assumed under it. Any amendments or modifications to this license will not be effective unless contained in a writing issued by the City.
13. This license shall be interpreted and construed under the laws of the State of California.

IN WITNESS WHEREOF, the parties have executed this License as of the date and first above written.

CITY

LICENSEE, hereby accepts the above conditions:

Patricia E. Martel
City Manager

Isaac Soncino
CEO Musciart Studio



City Council Meeting Agenda Report

Item # _____

Meeting Date: May 22, 2017

Subject: Increasing the Price of Food and Beverage Items in the Garden Deli at the Doelger Senior Center

Recommended Action

It is recommended that the City Council increase the price of sandwiches and coffee in the Garden Deli by \$.50 in an effort to keep the deli financially sustainable.

Background

The Westlake Park Garden Deli is located at Westlake Park in the courtyard across from the Administrative offices of the Department of Library and Recreation Services. The Deli operates 9:00 a.m. to 1:30 p.m., Monday through Friday. Volunteers of the Doelger Senior Center and paid City employees manage and operate the Deli. Patrons of the Doelger Senior Center, its volunteers, and City staff, as well as outside visitors frequent the Deli. The space utilized by the Deli houses both the Deli and the fund-raising Boutique of the Supporters of the Doelger Senior Center, Inc.

The Westlake Garden Deli is projected to run without an annual General Fund subsidy; however, in fiscal year 2015-2016, it required a General Fund subsidy of \$12,199.31. Currently, for fiscal year 2016-2017, it is projected that the Deli will require a General Fund subsidy of approximately \$6,000. The cost to operate the Deli includes both the direct costs (materials, supplies, utilities, equipment, and part-time staff hours) and indirect costs (building maintenance and depreciation, and support for City staff of various City departments). As the deli is not a core service of the Department of Library and Recreation Services, staff analyzed deli sales, specifically sandwiches, to capture and evaluate certain costs and believe an increase to sandwiches and coffee by \$.50 would be an amount that would not significantly impact the community and would help alleviate the subsidy.

Fiscal Impact

If approved, the price increase will go into effect at the start of the 2017-18 Fiscal Year. Staff anticipates the increase in Deli prices will generate approximately \$1,000.00

Summary/Conclusion

Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,

Jennifer Der
Recreation Supervisor

Denise Brown
Recreation Services Manager

Joseph Curran
Director of Library
and Recreation Services



City Council Meeting Agenda Report

Item # _____

May 22, 2017

Subject: Use of Federal Asset Forfeiture Funds (DEA) to Upgrade and Rehabilitate the Police Shooting Range Facility

Recommended Action

Staff recommends Council approve the use of Federal Asset Forfeiture Funds (DEA) to upgrade and Rehabilitate the Police Shooting Range Facility.

Background

The Police Shooting Range is nearly 50 years old. In January of 2016, Council approved the use of Federal Asset Forfeiture Funds to upgrade of the targeting system, ceiling baffles, electrical, and wall insulation. The Range Project Contractor, Action Target, was only able to upgrade the firing range system, but did not provide services related to electrical, demolition, engineering, and hazardous material abatement. A construction contract was awarded to Southwest Construction & Property Management by a separate action of the City Council at the January 9, 2017 City Council Meeting to perform those functions.

Discussion

The Action Target Firing Range System has been installed, and inspected. The project plans did not have improvements for non-shooting portions of the Range Facility, which include a lobby, bathroom, and fire control room. Southwest has provided costs to now upgrade the rest of the Range Facility. These costs have been reviewed, and submitted to me by the Daly City Engineering Division. The request is to contract with Southwest Construction & Property Management to install lighting, patch, and paint all walls, demolish, and install flooring, and acoustical ceiling materials as well as plumbing, and installation of an industrial sink.

The project falls under the agreement and conditions set forth in the Police Locker Room Project Contract which was approved by Council.

Fiscal Impact

Funds are available through the Use of Federal Asset Forfeiture (DEA) Funds. Police, and Engineering Staff recommend \$45,933.33 be allocated to the project. An additional 15% contingency of \$6,890.00 is requested to cover any additional expenses. The total requested is \$52,823.33.

A handwritten signature in black ink, appearing to read "John Gamez".

John Gamez
Captain

A handwritten signature in black ink, appearing to read "Manuel Martinez Jr.". The signature is stylized and cursive.

Manuel Martinez Jr.
Chief of Police

Attachments: Police Shooting Range Upgrade Staff Report (01/25/17), Police Locker Room Contract Staff Report (01/09/17)



City Council Agenda Report

Item # _____

Meeting Date: January 9, 2017
(Continued from December 12, 2016)

Subject: Authorize a Budget Augmentation, Conduct Due Process Hearing, and Award a Construction Contract for the Daly City Police Locker Room and Shooting Range Remodel

Recommended Action

Staff recommends that the City Council conduct due process hearing, declare Integra Construction Services, Inc.'s bid non-responsive, accept the one responsive bid, and award a construction contract to Southwest Construction & Property Management of San Bruno, California, in the amount of \$1,207,902.00 for the subject project and authorize the City Manager to execute the contract documents on behalf of the City. Staff further recommends the City Council affirm the California Environmental Quality Act (CEQA) determination of a Categorical Exemption, approve the design documents, authorize a budget augmentation in the amount of \$483,933; and authorize the project funding plan as described in the Fiscal Impact section to construct the project.

Background

The number of Daly City police personnel that utilize the locker room facilities has increased significantly since the building's inception in the mid 1960's. The demographics of the police force have also evolved over time to include an increasing number of female police officers and police assistants. The former janitor's closet was converted to the women's restroom and shower. The locker room used by the female police offices and police assistants was repurposed from a portion of the evidence room. The female locker room does not have the space for the additional lockers needed to accommodate the growing number of female personnel. Because the locker room was originally designed to accommodate only male officers, the layout of the locker room did not consider the flow of staff through the various spaces. Under the current configuration, an officer who has showered must walk through the common area gym before entering his or her respective locker room.

The project will renovate the existing Police Department locker rooms, bathrooms, showers, and exercise area. The existing locker room and workout areas will be reconfigured to better serve the needs of the officers. The project will increase shower and locker room space for female employees. There will be separate, dedicated entrances for the women's and men's facilities. Each facility for male and female officers will be self-contained and include showers, restrooms, and lockers. The new configuration eliminates the potential of having officers of both sexes having to walk through common areas between showering and changing.

The current target retrieval system was last upgraded in 1999 and needs to be upgraded. The current target system is antiquated and expensive to maintain. The current lane shooting system is not configured for contemporary firearms training programs.

The shooting range project will include replacement of all shooting lanes and appurtenances. The project includes electrical and structural coordination with Action Target. The purchase and

installation of the shooting target equipment is under a separate contract with Action Target, which was awarded by a separate action of the City Council at the January 25, 2016 City Council meeting.
Discussion

On November 17, 2016, two (2) bids were received for this project. The following table summarizes the two lowest bids received and the Engineer's Estimate:

Bidder	Base Bid (Locker Room)	Add Alternate (Shooting Range)	Total Bid	Comment on Bidder
1. Integra Construction Services, Inc.	\$1,094,625.00	\$49,000.00	\$1,143,625.00	Non-Responsive Bid
2. Southwest Construction & Property Management	\$1,133,102.00	\$74,800.00	\$1,207,902.00	Responsive Bid
Engineer's Estimate	\$1,170,000.00	\$40,000.00	\$1,210,000.00	

The Public Works Department received a bid protest from the second low bidder Southwest Construction & Property Management. After detailed review of documents submitted by both bidders regarding the protest, the bid documents and relevant State Public Contract Codes, City staff recommends that the bid submitted by Integra Construction Services, Inc. be deemed nonresponsive to the bid solicitation for the following reasons:

1. California Public Contract Code Section 4104 requires all prime contractors to list each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvement in an amount in excess of one-half of 1 percent of the prime. Integra's bid proposal did not list Systems and Space as a subcontractor for the installation of lockers.
2. Integra Construction Services, Inc. has not provided evidence of satisfactory completion of five building projects of similar scope and construction dollar value as required by Special Provisions Section 01010, Paragraph 1.21 - Bidder Qualifications. Integra could only provide information on two prior projects of similar scope and construction dollar value.

A formal bid protest was submitted by Southwest Construction & Property Management on November 21, 2016. The basis for the bid protest was that the apparent low bidder, Integra Construction Services, Inc., did not list a sub-contractor that is the manufacturer's certified dealer and installer for this area.

Although Integra Construction Services, Inc.'s bid is lower, it did not meet the minimum bidder qualifications nor did it meet the requirements for the locker installation. Therefore, with Integra Construction Services, Inc.'s bid being deemed non-responsive, Southwest Construction & Property Management is the lowest responsible and responsive bidder for the project.

Integra Construction Services, Inc.'s attorney, Lanak & Hanna, has requested a due process hearing. The City continued the Award of Contract from the December 12, 2016 City Council meeting to accommodate Integra Construction Services, Inc.'s request. Staff is requesting Council conduct a due process hearing for Integra Construction Services, Inc. and deem their bid as non-responsive. The City Council will receive all material evidence and will hear all interested persons concerning the proposed action, and Lanak & Hanna and Integra Construction, Inc. will have an opportunity to be heard and present testimony regarding the responsiveness of their bid.

Southwest Construction & Property Management of San Bruno, California, has been in business since March 2001 and they did list Systems and Space as a subcontractor for the installation of lockers. They hold the required Class B contractor's license which is current and in good standing. The bidder's references indicate the bidder has successfully completed projects of similar size for Jefferson Elementary School District, General Services Administration - Social Security Administration, Town of Portola Valley, Abraham Lincoln High School, and the Calaska Builders Richland Federal Building.

If the contract is awarded, then construction is anticipated to commence in February 2017 and be substantially completed by June 2017.

Fiscal Impact

The project budget includes \$40,000 for consultant support during construction, a fifteen percent (15%) contingency and nine percent (9%) construction inspection/administration budget on the award amount for a total project budget of \$1,540,000. Staff typically requests ten percent (10%) contingency; however, this project includes an additional 5% as an allowance for unforeseen conditions that are typical for building renovation projects.

Consultant Support During Construction	\$40,000
Construction Contract Award	\$1,207,902
(15%) Contingency	\$182,098
(9%) Construction inspection/administration	\$110,000
Total	\$1,540,000

The Fiscal Year (FY) 2017 Adopted Capital Budget includes \$1,056,067 (31-200-595) for this project. Staff proposes a budget augmentation totaling \$483,933 to fully appropriate \$1,540,000 for this project.

In addition, the FY 2017 Adopted Capital Budget includes a funding source totaling \$270,000 from AB1600 Police Facilities Fees. An additional \$1,270,000 in funding is required. Staff recommends the following funding sources for this project:

**Authorize a Budget Augmentation and Award Construction
Contract for Daly City Police Locker Room and
Shooting Range Remodel
Meeting Date: January 9, 2017
Page 4 of 4**

**FY 2017 Adopted Capital Budget
AB1600 Police Facilities**

\$270,000

Requested Funding

AB1600 Police Facilities	268,000
Civic Center Fund Reserve	501,000
General Fund Reserve	501,000
Total Requested Funding	1,270,000

Total Funding Sources

\$1,540,000

Summary/Conclusion

Staff recommends that the City Council conduct due process hearing, declare Integra Construction Services, Inc.'s bid non-responsive, accept the one responsive bid, and award a construction contract to Southwest Construction & Property Management of San Bruno, California, in the amount of \$1,207,902.00 for the subject project. To construct the project, staff further recommends that the City Council authorize the City Manager to execute the contract; affirm the CEQA determination of Categorical Exemption; authorize a budget augmentation totaling \$483,933; and authorize funding of the project from the following sources: AB1600-Police Facilities, \$268,000; Civic Center Fund, \$501,000; and the General Fund Reserve, \$501,000.

Staff is available to provide any additional information desired by the Mayor or Council members.

Respectfully submitted,



Roland Yip
Civil Engineering Associate



Richard Chiu, Jr.
Assistant Director of Public Works/
City Engineer

Attachments: Project Location Map
Budget Transfer
Southwest Bid Protest
Integra Bid Protest Response
Spacesaver Letter
Lanak & Hanna Bid Protest Response
City Attorney Bid Protest Respons



City Council Meeting Agenda Report

Item # _____

Meeting Date: January 25, 2016

Use of Federal Asset Forfeiture Funds (DEA) to Contract with Action Target to Upgrade the Police Shooting Range.

Recommended Action

Staff recommends Council approve the use of Federal Asset Forfeiture Funds (DEA) to upgrade the police shooting range. The Police Department has worked with Engineering to identify Action Target as the sole source vendor for this project.

Background

The police shooting range is nearly 50 years old. The current target system is antiquated and expensive to maintain. The current lane shooting system is not configured for contemporary firearms training programs. Staff researched companies to overhaul the target systems, wall and ceiling baffles, and demolition, which includes the abatement of hazardous materials.

After reviewing bids from three vendors, the Police Department determined that Action Target was the most responsive bid. The Police Department prepared a sole source justification memo to the Finance Director and obtained approval to proceed with contracting with Action Target for this project. Working with Engineering staff it was determined outside vendors would need to be contracted to complete structural engineering review, electrical upgrades and hazardous materials abatement. A construction bond and contingency budget were also added into the final estimate.

Discussion

Initially three bids were received for this project:

Action Target	September 30, 2015	\$122,120.00 (not including demolition)
Meggitt Systems	October 12, 2015	\$125,861.70 (including demolition)
SP Target	Quote received however cannot provide product requested	NA

The current request for allocation of funds includes an increased cost for contingency, bonds, increased material (ceiling protection), demolition and abatement of hazardous materials, structural engineering and electrical systems upgrade. Once Action Target was identified as the preferred



City Council Meeting Agenda Report

Item # _____

vendor a need for increased protective materials was identified. This included a protective material added to the ceiling of the facility. This increased the cost of the project by approximately \$30,000.00.

- The contract includes a prevailing wage agreement. The project is California Environmental Quality Act since it is an existing facility (15301(d)).
- Action Target is a licensed contractor holding a C-61/D34-Prefabricated Equipment License.
- Action Target is currently building a new shooting range facility for the San Mateo County Sheriff's Office and a range upgrade for the Sunnyvale Department of Public Safety.

Fiscal Impact

Funds are available through the use of Federal Asset Forfeiture Funds (DEA). Police and Engineering Staff recommend \$225,000 be allocated for the project to cover the cost of:

\$152,000	Action Target System, Steel Wall Baffles, Acoustic Material, Computerized-Mobile Targeting System, Protective Barrier for Ceiling, Range Sound System.
\$15,000	Asbestos Abatement
\$3000	Construction Bond
\$6000	Structural Engineer Review
\$25,000	Electrical System Upgrade
\$24,000	Contingency

Summary/Conclusion

Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,

John Gamez
Captain

Manuel Martinez Jr.
Chief of Police



City Council Meeting Agenda Report

Item # _____

Meeting Date: May 22, 2017

Subject: Authorizing the Formation of the Daly City Youth Advisory Committee

Recommended Action

It is recommended that the City Council adopt a resolution establishing the Daly City Youth Advisory Committee.

Background

Members of the City Council have expressed an interest in creating a Youth Advisory Committee. The proposed committee would be comprised of representatives from each middle school and high school in Daly City, including Jefferson High School, Westmoor High School, Summit Shasta High School, Thornton High School, Hilldale School, Benjamin Franklin Intermediate School, Fernando Rivera Intermediate School, Franklin D. Roosevelt Middle School, Garnet J. Robertson Intermediate School, Thomas R. Pollicita Middle School, Our Lady of Mercy School, and Our Lady of Perpetual Help School. Daly City residents who attend schools in neighboring cities, such as Lipman Middle School in Brisbane, Holy Angels School in Colma, El Camino High School and Alta Loma and Westborough Middle Schools in South San Francisco, and Terra Nova and Oceana High Schools in Pacifica, may also be eligible to serve on the committee.

Discussion

The Daly City Youth Advisory Committee (DCYAC) will provide an opportunity for school-aged Daly City residents to serve on a board of their peers to observe and participate in the local government process, thereby gaining valuable insight and experience that will prepare them to become civically engaged and empowered citizens. Committee members will meet monthly to discuss issues affecting their schools, neighborhoods, and the greater-Daly City community. Members will be encouraged to develop an understanding of basic municipal government operations, including budgeting, public safety, water and sanitation, public works, community development, housing, planning and zoning, social services, recreation, libraries, human resources, animal control, public health, solid waste collection, arts, and federal and state regulations.

Members of the DCYAC will include at least one representative from each of Daly City's middle schools and high schools. School principals, or their designees, will be responsible for selecting the student representatives who will be appointed to one-year terms. DYAC members will vote at the September meeting of each year to select officers, consisting of a Chair, Vice Chair and Recording Secretary. The officers will serve from September of the year they are appointed through June of the following year. The Chair will preside over meetings and serve as the primary signatory of any official written communication from the DCYAC. In the event of the absence of the Chair, the Vice Chair will preside over meetings of the DCYAC. If either the Chair or Vice Chair vacates office during the school year, members may vote to select a new Chair and/or Vice Chair to fill the remainder of the term. New officers will be selected every September.

Members of the committee will develop a work plan at the beginning of each school year to establish goals and tangible outcomes measures. Work plans may include organizing or supporting

community events, interacting with youth committees from other jurisdictions, and collaborating with other groups for large-scale community service projects.

Draft Guidelines

Draft guidelines for the DCYAC are attached. The guidelines may be ratified or amended by a simple majority vote the DCYAC.

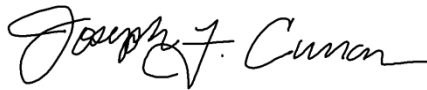
Fiscal Impact

There is no current funding for the Daly City Youth Advisory Committee. The DCYAC will begin as a self-sustaining committee, focusing on no-cost community service activities.

Summary/Conclusion

Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,

A handwritten signature in black ink, reading "Joseph F. Curran". The signature is written in a cursive, flowing style.

Joseph F. Curran
Director of Library and Recreation Services

Proposed Guidelines for the Daly City Youth Advisory Committee

May 22, 2017

Purpose

The Daly City Youth Advisory Committee (DCYAC) shall represent the views and concerns of their peers, school-aged residents between 12 and 18 years old. The Committee shall convene monthly and regularly scheduled meetings.

Membership

The DCYAC shall consist of representatives from each high school and middle school in Daly City. Members shall be appointed by the principals or their designees. All appointees shall be considered voting members of the DCYAC. Appointed members shall serve one year terms, from September 1 to June 30 of the following year. Principals may reappoint members to consecutive terms. Members of the DCYAC must reside within the boundaries of the City of Daly City.

Advisory Committee member may be removed from office at any time by a vote of a super majority of the DCYAC or by the appointing principal. If a committee member leaves prior to completing his or her term, the appointing principal may appoint a new member to serve the remainder of the unexpired term.

Officers

The DCYAC officers shall consist of a Chair, Vice Chair, and Recording Secretary. The officers shall be elected annually, and shall serve for one year terms. All officers are expected to attend all DCYAC meetings.

The Chair shall preside over all meetings of the DCYAC. If the Chair is absent, the Vice Chair shall preside over the meeting. If both the Chair and Vice Chair are absent, the Recording Secretary may preside over the meeting, or appoint a committee member as Acting Chair for the duration of the proceedings.

Meetings

The date, time and place of regular monthly meetings shall be established by staff from the Daly City's Department of Library and Recreation Services. Staff will strive to set a meeting time and location that is convenient for a majority of committee members. Staff will meet with the Chair and Vice Chair to develop agendas and action plans. Agendas will be posted online and distributed to committee members at least 72 hours prior to the scheduled meeting date and time. Meetings of the DCYAC shall be subject to provisions of the Ralph M. Brown Act. All meetings shall be open and public.

A majority of the voting members of the DCYAC must be present to constitute a quorum. No action may be taken if the committee fails to reach a quorum.

The Recording Secretary shall be responsible for keeping action minutes for each meeting. Meeting minutes shall be presented to the full DCYAC at the next regularly scheduled meeting. Committee members may ratify the minutes with a simple majority vote. Agendas, minutes, and written correspondence of the DCYAC shall be considered public records under the California Public Records Act.

Working Groups

Members of the DCYAC may form working groups for specific projects and purposes. If the working groups consist of fewer than half the full committee membership, they may meet informally without posting agendas or recording action minutes.

Budget

The DCYAC shall be self-sustaining. No city funds are allocated for DCYAC expenditures. Staff support of DCYAC shall be considered an in-kind contribution to the overall success for the DCYAC. Charitable contributions to DCYAC shall be collected by the Department of Library and Recreation Services.



City Council Meeting Agenda Report

Item # _____

Meeting Date: May 22, 2017

Subject: Appropriation of Grant Funding from CalRecycle

Recommended Action

Accept and appropriate a \$26,950 grant for FY 2015/16 and a \$27,400 grant for FY 2016/17 from the California Department of Resources Recycling and Recovery (CalRecycle) for implementation of recycling and diversion activities.

Background/Discussion

CalRecycle is the California State agency that promotes recycling, waste reduction, and product reuse. Through the Beverage Container Recycling City/County Payment Program, grant funding is provided to jurisdictions to promote beverage container recycling and litter cleanup activities with a goal to reach and maintain an 80 percent recycling rate for all California refund value beverage containers—aluminum, glass, plastic, and bi-metal. The City of Daly City will use funds to increase recycling opportunities in public and other residential areas, host litter clean-up events, conduct marketing and create advertisements to promote recycling, and provide educational opportunities for elementary and middle schools in the community. The City of Daly City has approximately two years to expend each funding award.

Fiscal Impact

The grant revenue from CalRecycle will be fully expended at the end of Fiscal Year 2018/19.

Summary/Conclusion

Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,

Stephen Stolte
Sustainability Coordinator



City Council Agenda Report

Item # _____

Meeting Date: May 22, 2017

Subject: Resolution of Intent to Adopt Appropriation Limitations

Recommended Action

Approve Resolution of Intent to adopt the City's annual Appropriations Limitation (Gann Limit).

Background

As required by Article XIII B of the State Constitution (Proposition 111 or the Gann Amendment), the City Council is required to adopt an annual appropriations limitation for the Fiscal Year 2017-2018. This resolution establishes the City's intent to adopt the appropriations limitation.

Discussion

Adoption of the Appropriations Limitation will be requested at the Council Meeting at June 26, 2017. At the time, the Department of Finance will provide the calculations of proceeds of taxes and appropriations limit based on our estimates for the coming fiscal year. This information will be available for public inspection in the Department of Finance beginning Friday, June 16, 2017.

Appropriate notice will be posted regarding the availability of the documentation in the Department of Finance during normal business hours.

Staff is available to provide any additional information desired by the Mayor or City Councilmembers.

Respectfully submitted,

Lawrence Chiu

Director of Finance and Administrative Services

cc: City Manager
City Attorney
City Clerk



City Council Meeting Agenda Report

Item # _____

Meeting Date: May 22, 2017

Subject: Acceptance of Daly City Police Athletic League Donation for Kops & Kids

Recommended Action

Staff recommends that the City Council accept a donation from the Daly City Police Athletic League in the amount of \$2,500 to support the upcoming Kops & Kids event.

Background

The Daly City Police Athletic League has offered to donate funds to support the Kops & Kids event on June 17, 2017, to be held at Seal Bowl in Pacifica.

Discussion

The Daly City Police Athletic League will provide a donation of \$2,500 to support the Police Department's Kops & Kids program. This event provides opportunities for the youth of our community to interact with City police and fire personnel in a positive environment.

Fiscal Impact

None.

Summary/Conclusions

Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,

John Gamez
Captain

Manuel Martinez Jr.
Chief of Police



City Council Meeting Agenda Report

Item # _____

Meeting Date: May 22, 2017

Subject: Set Time and Place for a Public Hearing to Consider One-Year HUD Action Plan for Fiscal Year 2017-18

Recommended Action

Set a Public Hearing for June 26, 2017 for the purpose of citizen review and comment on Daly City's One-Year Action Plan under the Community Development Block Grant (CDBG) and HOME programs for FY 2017-18.

Background

The One-Year Action Plan identifies how CDBG and HOME monies will be allocated. Prior to Council allocating these funds for FY 2017-18, the Department of Housing and Urban Development (HUD) requires the City to hold a public hearing to allow for citizen comment on Daly City's proposed One-Year Action Plan for Fiscal Year 2017-18.

Discussion

CDBG funds can be used for various activities including Administration, Economic Development, Capital Projects, Housing and Public Services. HOME funds may be used for activities that expand the supply of decent, affordable housing for lower income families.

Pursuant to the City's Community Participation Plan, the City's HUD Action Plans are usually available for a 30-day public comment period prior to the public hearing and Council consideration. For FY 2017-18, given the delayed timing of Federal appropriations and statutory Action Plan submission dates, HUD has issued a waiver of the regulatory 30-day citizen participation public comment period for states and local jurisdictions, in favor of a minimum 14-day comment period. Therefore, Daly City's draft FY 2017-18 Action Plan will be available at City Hall and all City libraries for a 14-day review period beginning June 9 through June 26. Notice of the availability of this document and a summary of the draft FY 2017-18 Action Plan will be published in *The Examiner* and made available on the City's web site.

Summary/Conclusion

Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,

Betsy ZoBell
Housing and Community Development Supervisor

Tatum Mothershead
Director, Economic & Community Development



City Council Meeting Agenda Report

Item # _____

Meeting Date: May 22, 2017

Subject: Point Martin II Residential Subdivision - General Plan Amendment GPA-9-16-12295, Planned Development PD-10-15-11781, Major Subdivision SUB-9-16-12296, and Environmental Review CEQA-10-15-11782

Recommended Action

Approve the General Plan Amendment, Planned Development zoning, and Major Subdivision, and approve the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program prepared for the project.

Planning Commission Discussion

On May 2, 2017, the Planning Commission voted 5-0 to recommend that the City Council approve the project, subject to the addition of Conditions of Approval related to the use of native plant material in the project landscaping, the development of a native vegetation management plan, and the requirement that only the use propane gas grills be allowed by residents, enforceable by the project CC and R's. Staff has added these requirements as Conditions of Approval #12, #25, and # 26, included in this staff report. Planning Commission discussion topics are identified in bold italics.

Background

The applicant, David Beaumont of CKS Environmental representing Point Martin LLC, has submitted an application to amend the General Plan, rezone to Planned Development, and subdivide the presently-vacant 18-acre site generally situated on the west side of Carter Street and Steve Courter Way, between the Summit Ridge neighborhood and Saddleback Condominiums (see Attachment A – Location Map). The request would allow a 117-lot residential subdivision on an 8.3-acre portion of the site. The 9.7-acre remainder of the site would be devoted to open space (see Attachment B – Project Plans). The site presently consists of 49 separate lots and is owned by 29 different property owners who are cooperating to submit one application with three developers for the General Plan amendment, rezoning, and subdivision.

On February 22, 2016, the City Council reviewed the proposed land use, circulation, and overall site design of the Planned Development rezoning request, and both granted approval of the Preliminary Plan. This approval allowed the application to proceed to the current Precise Plan stage.

In addition to the Preliminary Plan review in February 2016, the applicant received approval of the Master Land Use Plan (MLUP) for the area west of Carter Street. In March 2013, the City Council adopted the 2030 General Plan which identifies the requirement for the MLUP prior to the issuance of any discretionary zoning or land use entitlement for any vacant lands west of Carter Street designated Low Density Residential (R-LD) and Open Space Preservation (OSP). The policy requires that the MLUP be adopted by City Council and that the resulting conceptual land use designations and roadways identified in the MLUP serve to guide future development of the area

encompassed by the MLUP. The proposed subdivision is consistent with the MLUP approved for the property in February 2016.

The following actions by the City are necessary for the project to proceed to the grading and building permit stages:

1. Certification of a Mitigated Negative Declaration for the project;
2. Approval of the General Plan amendment and Planned Development zoning for the project site (see Attachment D – Draft PD-70 Development Standards). The new PD-70 zoning district will replace the current Pre-PD district applicable to the site. Development standards and restrictions will be established through the approval of PD-70; and
3. Approval of a Tentative Subdivision Map to create 117 single family residential lots on the project site.

Because the applicant has not submitted specific architectural designs for the proposed homes, Design Review Committee approval of the project architecture, community design plan, and landscape plan is also necessary.

Discussion

The proposed subdivision layout is largely unchanged from the Preliminary Plan reviewed by the Planning Commission and City Council in February 2016. As identified in the proposed plans, there are two access points into the proposed subdivision. The primary access point would be directly onto existing Carter Street approximately 150 feet south of Saddleback Drive. The applicant would improve Carter Street to incorporate a left-turn lane for traffic turning left off of Carter Street into the subdivision. A second access would be provided by a westerly extension of Farrier Place that would be constructed as part of the Point Martin I subdivision. This street extension would provide a connection to Steve Courter Way and Martin Trail, both which then lead to Carter Street.

From offsite, all but six of the 117 lots would be served by two traditional streets, Streets A and B, and four narrower roads, Lanes A, B, C, and D. All streets and alleys would be privately-maintained. Lots 62 through 67 would be accessed directly from Steve Courter Way. The City Council should note that there is a potential for additional lots to be created in the future off of Steve Courter Way in the area labeled “Not A Part,” but they are not presently part of the proposed site plan.

In terms of internal circulation, the proposed layout reflects a looped street configuration from the end of the Steve Courter Way/Farrier Place intersection to a new street intersection with Carter Street just south of Saddleback Drive. The proposed subdivision design would provide lot sizes ranging between 1,233 and 2,423 square feet in two distinct neighborhoods. Neighborhood One, which constitutes Lots 1 through 67, is characterized by lots with traditional vehicular and pedestrian access, i.e., leading from the adjacent street to the front of the home. Neighborhood Two, which constitutes Lots 68 through 117, would provide alley access for vehicles in Lanes A, B, C, and D, with pedestrian access provided via a system of pedestrian paseos, connected to each other by sidewalks and stairways.

As proposed, Streets A and B would generally be 32 feet wide (curb-to-curb) providing two 12-foot travel lanes and a parking lane eight feet wide, within a 41-foot right of way. Parking would be allowed on one side of the street and, on the side with parking, there would be a four-foot-wide sidewalk set back approximately four feet from the face of curb, allowing for a small planter area between the sidewalk and back of curb on one side of the street. Lanes A, B, C, and D are proposed to be 20 feet wide, curb-to-curb, within a 21-foot wide right of way, and would serve smaller and more compact dwelling units than are proposed on Streets A and B. There would therefore be no on-street parking or sidewalks on the private streets serving these smaller dwelling units. Pedestrian access would instead be provided to homes on Lanes A, B, C, and D by the aforementioned paseo pedestrian accesses.

As is the case in the review of all new subdivisions, resident parking is a paramount concern for site plan review. Although floor plans have not been developed for the homes proposed for construction, staff has required that the project site plan identify preliminary building footprints and driveway/garage dimensions. According to the site plan, there would be 67 detached single family dwelling units which will have a two-car garage and a driveway apron that can accommodate two additional vehicles, for a total of four parking spaces each. In addition, there would be 50 smaller, detached single-family row-type dwelling units (situated on Lanes A, B, C, and D), each also providing a two-car garage, 34 of which will also have a driveway apron capable of accommodating a minimum of one additional vehicle. The total off-street parking count would therefore be 402 parking spaces. In addition to the parking provided off-street, on-street parking on Streets A and B would provide 41 additional parking spaces, for a grand total of 443 total parking spaces.

Although staff is overall satisfied with the subdivision design, the following Conditions of Approval are recommended to ensure the subdivision is a benefit to the surrounding neighborhoods and future residents who will reside within it:

1. The applicant shall install decorative pavers at all private street and lane ends to an extent approved by the Planning Division. The specific paver design shall be approved by the Design Review Committee.
2. All retaining walls in the project visible from any public road and private driveway shall be split face block or other material. The specific material and/or wall colors to be utilized shall be provided with the submittal for Design Review Committee consideration.
3. The applicant shall install decorative street lights throughout the project. The number and location of the lights shall be approved by the Engineering Division and Planning Division.
4. The applicant shall explore, and the Planning Division shall have the right to ultimately require, the provision of a separated sidewalk parallel to Street B between the pedestrian paseo serving Lots 92 through 95 and the paseo serving Lots 96 through 99.

In addition to the above site design requirements, staff is recommending initial Conditions of Approval relating to fencing and the inclusion of areas with the homes' garages to facilitate trash storage, as required by the Zoning Ordinance. Each of these items must be addressed in the subsequent submittal to the Design Review Committee.

- *Commissioner DiGiovanni asked the applicant if there was any consideration given to the provision to a common area where families could take their children and the provision of bicycle path where children could exercise. She also asked if there were any green building materials in the development. The applicant responded that the community plan indicates an extensive network of pedestrian paths. He added that the California Building Code requires a high degree of green building materials be utilized.*
- *Commissioner DiGiovanni asked if there was the potential for a trail system in the subdivision and if the use of native plants had been considered. The applicant responded that the site's steep slopes prevented an extensive trail system and that such a trail system would create the need for high retaining walls with a complex system of gutters, which could prove costly and maintenance intensive.*
- *Commissioner Tallerico asked if, during recent 100-year storm events, the applicant had checked water saturation at the project site. The applicant responded that he had done so.*
- *Commissioner Tallerico asked if the proposed lanes on the tentative map were wide enough for fire apparatus to access. The applicant responded the lanes were wide enough for apparatus to access and that no parking would be allowed in these lanes.*
- *Xenia Gutowski, resident of 708 Red Leaf Court, asked if Daly City still owned property at Carter Street and Martin Street, and if the property could be developed. Staff responded that the property was a housing asset and that it could be developed. Ms. Gutowski expressed concern about the parking situation the project would cause and the amount of existing traffic on Carter Street.*
- *Mae Swanbeck, resident at 708 Red Leaf Court indicated her support for the subdivision.*
- *Howard Edelman, resident of 982 Farrier Place and president of the Summit Ridge Homeowners Association, indicated he would like to see the subdivision move forward and that there was a lot of thought put into the street interface with the Summit Ridge subdivision. He added that he did think increased traffic would be a problem because Carter Street was only a two-lane road and expressed concern about the double-parking that occurs in Carter Street near the intersection with Geneva Avenue. He indicated there should be a plan in place to widen Carter Street for better traffic flow.*
- *Del Shembari, representing San Bruno Mountain Watch, would like to see the project construct a pedestrian trail to the project summit and if there was a way to provide more units in a smaller area. He added that he agreed there should be native plants on the site.*

He added that the project should incorporate photovoltaics and hot water heaters on the roof of the homes to reduce their carbon footprint and that green building materials should be used as much as possible.

- ***Daniel Sun, resident of 203 Oakridge Drive, expressed his support for the project and thought the amount of housing compared to the open space proposed was reasonable.***

General Plan Amendment

The General Plan identifies the land use designations for the subject site as Low Density Residential, which allows between two and 14.5 dwelling units per acre, and Open Space Preservation. Although the 8.3-acre area proposed for the 117 lots would be within the density permitted by the existing Residential - Low Density designation, a General Plan amendment will be required to rectify the boundaries between the Residential - Low Density and Open Space Preservation designations identified on the General Plan Future Land Use Map. If approved, the General Plan boundary for the Low Density Residential and Open Space Preservation designations would be coterminous. Given the density and housing type proposed, i.e., single-family detached homes, the development would be appropriate in context with surrounding uses, which include Low and Medium Density Residential uses to the south, east, and north, and commercially zoned properties further to the east.

In addition to compliance with the General Plan density allowance, the proposed development would serve to implement the General Plan Housing Element, which encourages the development of infill housing on sites that are underutilized, where residential development represents the highest and best use, and where public infrastructure exists to support the intensity of the proposed development. Although the Housing Element does not identify this site as being capable of providing housing opportunities, it would be added to the any subsequent versions of the Housing Element as a significant contribution to the City's fulfillment of its Regional Housing Need Allocation.

- ***Commissioner Satorre asked when the last comprehensive plan was developed. Staff responded that the General Plan was adopted in 2013 and that the General Plan designation for the property was changed to residential at that time.***

Planned Development Zoning

The proposed subdivision represents an extremely compact development pattern, similar to projects under construction in the Wellington Heights and Garden Valley subdivisions, and approved as part of the Robertson Intermediate School site redevelopment. This pattern is a result of clustering development at the lower elevations of the site, in an effort to minimize grading and visual impacts from off-site, and avoid development on the steeper upslope portions of the site. As a result, lot sizes within the subdivision are proposed to range between 1,233 and 2,423 square feet, with maximum lot coverages of up to 65 percent, and building heights limit of up to 35 feet.

Because the proposed lots sizes and building envelopes exceed the allowances otherwise permitted by the traditional R-1 Single Family Residential District regulations, the applicant is requesting the approval of Planned Development zoning. PD zoning allows development standards based upon the precise plan for an established development (in this case, communicated on the Tentative Subdivision Map, which would then constitute the zoning restrictions for the property. Staff has therefore developed the Planned Development zoning for the project to reflect the proposed development pattern communicated in the map (see Attachment C – Draft PD-70 Development Standards)

As indicated previously, the applicant has not submitted specific architectural designs for the proposed homes and Design Review Committee approval of the project architecture will therefore be required at a future time. The applicant has however provided a preliminary architectural concept which effectively communicates the visual nature of the proposed density and potential project architecture (see Attachment D – Conceptual Architecture and Massing). Overall, staff is supportive of the design concepts communicated in the renderings, which proposed modern style homes, with flat roofs similar in style to mid-century homes in Daly City, and varied exterior earth tone colors with brown/orange accents. The City Council should be aware that these are preliminary drawings which will be likely refined further prior to Design Review Committee review.

Project Affordability

The City's Affordable Housing Ordinance requires that developers submit an Affordable Housing Plan (AHP). The Ordinance further requires that 20 percent of all ownership dwelling units within a proposed development be affordable to households at or below 120 percent of the area median income for San Mateo County. The subject development would thus be obligated to provide 23.4 Affordable Units (20 percent of 117 dwelling units). The applicant has submitted an AHP that proposes an alternative to this obligation. It proposes to build 11 Affordable Units within the project area and pay an estimated housing impact fee of \$1,823,094. The proposed 11 Affordable Units represent 47 percent of the affordable unit obligation. The estimated affordable housing impact fee represents 53 percent of the impact fee obligation. This calculation of the estimated housing impact fee is outlined in the attached AHP. The final housing impact fee due to the City will be based on the actual square footage of the living area of all dwelling units in the project and will be determined and paid prior to the issuance of building permits. The City Manager has determined that the affordable housing plan meets the intent of the Ordinance and has accepted the plan. Prior to construction, the applicant will enter into an affordable housing agreement with the City that will provide details on the payment of impact fee and the sale of the Affordable Units.

- ***Commissioner Daus-Magbual asked why only 11 affordable homes were proposed, if the requirement was 20 percent. The applicant responded that he agreed, that he had proposed an alternative plan to the City wherein he would provide a greater number of below market rate units, and that he had expressed an interest in working with Habitat for Humanity to do so. He indicated that he looked forward, with the Planning Commission's recommendation to the City Council, to look at such an alternative. Staff responded that the Affordable Housing Ordinance requires that an Affordable Housing Plan be approved by the City Manager prior to the application moving forward to the***

Planning Commission, and that the City Council can weigh in on the Affordable Housing Plan if there is an appeal of the approved plan. In this case, the City Manager had approved 11 affordable units and the payment of in lieu fees that could fund a variety of projects and incomes levels. Staff added that the approved plan integrates housing in the project and that the payment of the fee could be used to engage with organizations such as Mid-Peninsula Housing Coalition and Habitat for Humanity to construct affordable housing.

Subdivision Requirements

Pursuant to Section 66474 of the Subdivision Map Act, a legislative body of a city or county may approve a subdivision map if it makes the following findings:

1. The proposed subdivision and/or design or improvement must be consistent with applicable general and specific plans.
 - A General Plan amendment has been required to rectify the boundaries between the Residential - Low Density and Open Space Preservation designations identified on the General Plan Future Land Use Map. With the approval of this amendment, the General Plan boundary for the Low Density Residential and Open Space Preservation designations are coterminous and the entire portion of the site devoted to development would be designated as Low Density Residential, which allows between two and 14.5 dwelling units per acre, and Open Space Preservation. Given that the proposed development is 117 units on 8.3 acres of land, the resulting project density would be 14.1 dwelling units per acre. This density is therefore consistent with the General Plan land use designations, as amended. At the proposed density, the development would be appropriate in context with residential surrounding uses which are also Residential – Low Density to the south, east, and west.
2. The site must be physically suitable for the type and density of the proposed subdivision.
 - The subject site is situated at the southerly terminus of Carter Street, in an area of the Bayshore neighborhood characterized primarily by single-family homes to the west and southeast, and condominiums to the northeast. Given the size and shape of the subject property, together with adjacent land uses, a low-density residential development consisting of 117 single-family residences, is the highest and best use of the subject property.
3. The design of the proposed subdivision or improvements must not cause substantial environmental damage or injure fish or wildlife or their habitat.
 - As detailed in the Initial Study prepared for the project, the design of the proposed subdivision or improvements would not cause substantial environmental damage or injure fish or wildlife or their habitat, provided strict compliance with the Mitigation Monitoring and Reporting Program prepared for the project. Staff has therefore determined that there is no substantial evidence, in light of the whole record that the project may have a significant

effect on the environment and therefore a Mitigated Negative Declaration has been prepared in accordance with the California Environmental Quality Act.

4. The design of the proposed subdivision must not cause serious public health problems.
 - The proposed project consists of 117 single family homes, all of which will be subject to Building Code requirements that set forth minimum safety standards for new construction. Other City and State regulations will assure that public health is not at risk.
5. The design of the proposed subdivision or improvements must not conflict with any easements, acquired by the public at large, for access through or use of, property within the proposed subdivision.
 - Although there are no existing easements on the property, there is an implied easement for the PG and E high tension power lines which traverse the site. The applicant is required by the Conditions of Approval to formalize an easement with PG and E for these lines.

Utility Providers

The subject property is located within a fully urbanized area with all public services capable of serving the new lots. The City of Daly City has agreed to service the subject development, upon submittal of modeled water analysis by the applicant, illustrating the existing system can meet the demands of the project. Any upgrades in the system deemed necessary will be the applicant's responsibility. Conditions of approval have been added to address this issue. With regard to sewer service, the Bayshore Sanitary District has indicated it has the capacity to serve the proposed subdivision. Utilities to serve the project are in place or will be in place prior to construction, and will have the capacity to accommodate additional units. These include electrical, water, and sewer services.

<i>Utility</i>	<i>Provider</i>
Water and Storm Drains	City of Daly City
Sanitary Sewers	Bayshore Sanitary District
Gas & Electric	PG&E
Telephone	AT and T
Cable Television	Comcast
Fire/Police Protection	North County Fire Authority

Fiscal Analysis and Impacts

The proposed project consists of a subdivision that would allow 117 new single-family homes. Prior to project completion, the project applicant will be required to pay park in-lieu fees, building permit, plan check, and AB 1600 fees to the City. Upon sale of the residential properties, the future owners will pay property tax to the County, a portion of which is distributed to the City. The addition of the residential project to the subject project would add an incremental demand for City services. Per the Parkland Dedications Ordinance, park in-lieu fees would be required for park or recreational purposes.

- ***Commissioner DiGiovanni asked what portion of the property taxes that would eventually be collected from the homes would actually come to the City. The applicant responded that the answer to this question was complex and that Proposition 13 created a disjointed situation in this regard. Staff responded that once the subdivision was built and homes were sold, the tax assessor assessed a tax of one percent with approximately 20 percent of the collected amount returning to the City. Staff added that this was a very rough estimate.***
- ***Commissioner DiGiovanni asked the applicant to consider that there are 15 fire fighters on duty in the entire city due to Engine 95 being shut down and that the Police Department was also understaffed.***

Environmental Assessment

David J. Powers and Associates, under contract with the Planning Division, has completed an Initial Study for the project and has determined that, pursuant to the requirements of the California Environmental Quality Act (CEQA), a Mitigated Negative Declaration is the appropriate level of environmental review (see Attachment E – Initial Study Point Martin II Residential Development). As indicated in the Initial Study, the project largely would have no significant impacts upon the environment, with the exception of impacts to air quality, biological resources, cultural resources, geology and soils, hazards and hazardous materials, and noise. The mitigation measures for these impacts are included in the Mitigation Monitoring and Reporting Program prepared for the project (see Attachment F – Mitigation Monitoring and Reporting Program).

With regard to traffic impacts, the traffic study prepared for the project evaluated the project's impacts at the following intersections during the weekday AM and PM peak hour periods of traffic:

- 1) Guadalupe Canyon Parkway & Carter Street
- 2) Carter Street & Martin Street/Martin Trail
- 3) Carter Street & Steve Courter Way
- 4) Geneva Avenue & Carter Street
- 5) Geneva Avenue & Schwerin Street
- 6) Geneva Avenue & Bayshore Boulevard

Using trip generation rates from the Institute of Transportation Engineers' (ITE's) Trip Generation Manual for single-family and townhouse uses, the analysis determined that the proposed project would generate 1,078 new vehicle daily trips, with 86 new trips (19 inbound and 67 outbound) occurring during the AM peak hour and 107 new trips (69 inbound and 38 outbound) occurring during the PM peak hour. The level of service analysis showed that, measured against the Cities of Brisbane, Daly City, and San Francisco level of service policies, all intersections would continue to operate at a LOS C or better during the weekday peak traffic hours after the project was built. Therefore, impacts to traffic would be less than significant and no mitigation measures were required. The City Council should be aware however that the project would pay into the City's AB1600 fee program, which provides funding for city-wide transportation improvement projects.

- ***Commissioner Satorre asked about the soil conditions at the site. The applicant, responded that the site has been recognized for over 30 years as challenged in the mid- to upper-slopes of the site, and has been one of principal reasons why there were efforts to have the site's various property owners develop the site together. He explained that the soil on the site would be removed to bedrock, inverted, and reengineered in layers, to make it one cohesive unified mass, consistent with the geologist's recommendation for the project.***

Findings

The Planning Commission has found that the proposed General Plan Amendment GPA-9-16-12295, Planned Development PD-10-15-11781, and Major Subdivision SUB-9-16-12296 are in accordance with Chapter 17 of the Daly City Municipal Code. Approval of the proposed project will not be detrimental to the health, safety, morals, comfort and general welfare of persons residing or working in the vicinity. The proposed project would not be injurious or detrimental to property and improvements in the neighborhood or result in substantial environmental damage or disturbance, given the mitigation measures outlined in the Mitigation Monitoring and Reporting Program. These findings are based in part on the following facts:

1. In accordance with Title 17 of the Daly City Municipal Code, as well as applicable State zoning enabling legislation, the City Council will conduct a public hearing on May 22, 2017; notice of said hearing was by newspaper publication, and posting and first class mailing to property owners within 300 feet of the site, on May 12, 2017.
2. The Planning Commission has reviewed the proposal under the requirements of the California Environmental Quality Act (CEQA) and, based on the Initial Study prepared by a qualified professional consultant, has determined that there is no substantial evidence, in light of the whole record that the project may have a significant impact, given the mitigation measures outlined in the Mitigation Monitoring and Reporting Program prepared for the project. Therefore, a Mitigated Negative Declaration is appropriate for the project.
3. The project will minimize the risk to existing public improvements and adjacent private property by providing controlled stormwater runoff from the site to City facilities in full compliance with Order R-2 NPDES Permit No. CAS612008 and Order No. 2010-0014-DWQ, NPDES No. CAS000002, the statewide National Pollutant Discharge Elimination System (NPDES) General Construction Activity Storm Water Permit.
4. A General Plan amendment has been required to rectify the boundaries between the Residential - Low Density and Open Space Preservation designations identified on the General Plan Future Land Use Map. With the approval of this amendment, the General Plan boundary for the Low Density Residential and Open Space Preservation designations are coterminous and the entire portion of the site devoted to development would be designated as Low Density Residential, which allows between two and 14.5 dwelling units per acre, and Open Space Preservation. Given that the proposed development is 117 units on 8.3 acres of land, the resulting project density would be 14.1 dwelling units per acre. This density is therefore consistent with the General Plan land use designations, as amended. At the proposed density,

the development would be appropriate in context with residential surrounding uses which are also Residential – Low Density to the south, east, and west.

5. The subject site is situated at the southerly terminus of Carter Street, in an area of the Bayshore neighborhood characterized primarily by single-family homes to the west and southeast, and condominiums to the northeast. Given the size and shape of the subject property, together with adjacent land uses, a low-density residential development consisting of 117 single-family residences, is the highest and best use of the subject property.
6. As detailed in the Initial Study prepared for the project, the design of the proposed subdivision or improvements would not cause substantial environmental damage or injure fish or wildlife or their habitat, provided strict compliance with the Mitigation Monitoring and Reporting Program prepared for the project. Staff has therefore determined that there is no substantial evidence, in light of the whole record that the project may have a significant effect on the environment and therefore a Mitigated Negative Declaration has been prepared in accordance with the California Environmental Quality Act.
7. The design of the proposed subdivision would not cause serious public health problems. The proposed project consists of 117 single family homes, all of which will be subject to Building Code requirements that set forth minimum safety standards for new construction. Other City and State regulations will assure that public health is not at risk.
8. The design of the proposed subdivision or improvements would not conflict with any easements, acquired by the public at large, for access through or use of, property within the proposed subdivision. Although there are no existing easements on the property, there is an implied easement for the PG and E high tension power lines which traverse the site. The applicant has been required by the Conditions of Approval to formalize an easement with PG and E for these lines.
9. The proposed development is consistent with Objective 6 of the Land Use Element of the General Plan, which encourages a pattern of residential land use which provides for a variety and balance of densities and offers opportunities for a mix of dwelling and tenure types.
10. The proposed residential project has been designed in accordance with the Daly City Zoning Ordinance. There exists no evidence in the public record to demonstrate that the project would be detrimental to the public health, safety, and general welfare.

Conditions of Approval

The Planning Commission recommends approval of General Plan Amendment GPA-9-16-12295, Planned Development PD-10-15-11781, and Major Subdivision SUB-9-16-12296, based on the following conditions as specified by each Department and Division. The applicant shall comply with these conditions prior to or in conjunction with any building permit issuance for the proposed improvements.

A. DEPARTMENT OF ECONOMIC AND COMMUNITY DEVELOPMENT

General

1. The project shall be valid only in conjunction with detailed plans submitted with this project. Any modifications required, due to the Conditions of Approval and minor changes to the plan, must be approved by the Planning Division. Major site or architectural modifications shall be treated as an amendment and shall be subject to review of the Planning Commission and City Council.
2. The tentative subdivision map approval granted herein shall be valid for a period of two years. If a final map has not been approved within this timeframe, the applicant shall apply for a time extension.
3. The applicant shall apply for and receive Design Review Committee approval for the proposed homes in the subdivision, community design plan elements, and all landscaping associated with the project.
4. The applicant shall be aware that final mapping shall be subject to the completion and recordation of adjusting lot lines which supports the lot and street configurations shown on the approved tentative map.
5. The applicant shall pay park-in-lieu fees, in compliance with DCMC Chapter 16.30 Parkland Dedications. Per DCMC Section 16.30.040.A, the required dedication in the specific case is 0.63 acres. Per DCMC Section 16.30.060, the in-lieu fee shall be based upon said dedication requirement. Per DCMC Section 16.30.090, in-lieu fees are required to be paid to the City of Daly City, prior to approval of the Final Map. The project is subject to full compliance with DCMC Chapter 16.30 Parkland Dedications.
6. Prior to the issuance of a building permit, the applicant shall enter into an Affordable Housing Agreement with the City, identifying the dedication of units or payment of fees consistent with the approved Affordable Housing Plan. The Agreement shall be recorded against the property prior to building permit issuance. The Agreement shall be in effect in perpetuity and the Agreement shall so stipulate. Failure to abide to the Agreement may result in code enforcement action by the City.

Homeowners Association

7. The applicant shall establish a homeowners association (HOA) for the purpose of maintaining all commonly owned private facilities, including, but not limited to, commonly-owned buildings, roads, landscaping, driveways, gates, fencing, retaining walls, stormwater treatment facilities, gates, and other facilities. The HOA shall be responsible for all parking enforcement.

8. The HOA membership shall consist of all residential parcel owners. The HOA shall be professionally managed by a management company acceptable to the City and the HOA by-laws and initial annual operating budget shall be reviewed and approved by the Planning Division prior to submittal to the California Department of Real Estate.
9. The developer shall submit to the City Attorney, for review and approval, a copy of the Covenants, Conditions, and Restrictions (CC&Rs) that will apply to the development prior to recordation of the Final Map.
10. Prior to the recordation of a Final Map, the developer shall submit a maintenance plan, which clearly specifies methods and standards for performance of common responsibilities and maintenance for all common areas and equipment and fees to be assessed for such purposes. The maintenance plan shall include a budget acceptable to the City for major repairs and extraordinary expenses.
11. The area identified in the Tentative Map as “Open Space Preservation” shall be a separate parcel and it shall be owned and maintained by the homeowners association in perpetuity. Regular maintenance of this parcel shall be required for weed abatement and drainage, the budget for which shall appear in the association budget. A maintenance plan shall be approved by the Fire Department for this parcel prior to Final Map approval.
12. **The applicant shall add a restriction to the CC and R’s which prevent the use of fuel sources other than propane gas in firepits or barbeque grills.**

Site Design

13. The applicant shall install decorative pavers at all private street and lane ends to an extent approved by the Planning Division. The specific paver design shall be approved by the Design Review Committee.
14. All retaining walls in the project visible from any public road and private driveway shall be split face block or other material. The specific material and/or wall colors to be utilized shall be provided with the submittal for Design Review Committee consideration.
15. The applicant shall install decorative street lights throughout the project. The number and location of the lights shall be approved by the Engineering Division and Planning Division.
16. The applicant shall explore, and the Planning Division shall have the right to ultimately require, the provision of a separated sidewalk parallel to Street B between the pedestrian paseo serving Lots 92 through 95 and the paseo serving Lots 96 through 99.
17. The applicant shall provide a detail for all fencing that is to be constructed on the project site with the submittal for Design Review Committee consideration. Fencing that is determined by the City to be highly visible from off-site locations shall be subject to Planning Division review and may be required to be open metal fencing. Wood fencing that

will be visible from off-site location shall be stained dark brown. Any chain link permitted by City shall be vinyl-clad black or dark green.

18. All approved wood fencing proposed between the project and adjacent property shall be commercial-grade (e.g., six-by-six nominal heavy-timber, overlapping fence panels, etc.). This requirement shall be reflected in the submittal for Design Review Committee consideration.
19. All homes shall incorporate trash, recycling, and composting storage areas in the interior garage area exclusive of the required parking space dimension, as mandated by the Zoning Ordinance. The provision of this area shall be reflected in the submittal to the Design Review Committee. The Homeowners Association bylaws shall reflect the requirement that this area be used for trash, recycling, and composting receptacles only.

Landscaping

20. A detailed landscape plan shall be submitted for Design Review Committee consideration. The plan shall incorporate box-specimen trees a variety of trees and shrubs to provide an attractive tree canopy and ground cover throughout the subdivision.
21. Disturbed areas of the project site not intended for development shall receive appropriate groundcover or a hydroseed mix approved by the Planning Division.
22. The landscape plan shall identify an excavation plan for all trees that provides a sufficient trench to allow for root expansion, as determined by the City. Tree trenches shall be inspected by the City for size prior to tree installation.
23. The applicant shall provide establishment irrigation, and where necessary, long-term irrigation to all trees, shrubs, and groundcover.
24. The applicant shall triple-stake all trees and this staking shall be subject to initial inspection by the City. Trees shall remain triple-stake through the establishment period and tree staking shall be subject to the annual inspection identified above.
25. **The applicant shall use native plant species in all project landscaping, to the extend practical, as determined by the Planning Division.**
26. **The applicant shall develop and implement a native vegetation management plan, which shall be subject to Planning Division review and approval.**

Stormwater Treatment

27. The applicant shall develop and submit a stormwater management plan that illustrates full compliance with Section C.3 of Order R-2-2009-0074 NPDES Permit No. CAS612008. The project must comply with Order No. 2010-0014-DWQ, NPDES No. CAS000002, the statewide National Pollutant Discharge Elimination System (NPDES) General Construction Activity Storm Water Permit.

28. The applicant shall receive approval of the stormwater management plan from a third-party reviewer appointed by the City prior to building permit approval. The applicant shall pay the entire cost of the third-party reviewer.
29. All stormwater treatment facilities shall be inspected during construction to ensure eventual compliance with the stormwater management plan. The applicant shall pay the entire cost of these inspections.
30. The applicant shall enter into a Maintenance Agreement with the City to ensure long-term maintenance and servicing by the Property Owner of stormwater site design and treatment control measures according the approved Maintenance Plan.
31. The applicant shall arrange and pay for final inspection of installed treatment measure by municipality's Special Inspector within 45 days of installation or project construction completion, whichever comes first.

B. DEPARTMENT OF PUBLIC WORKS

32. The proposed road leading to the subdivision off Farrier Place and Steve Courter Way shall be improved to City standards, offered for dedication as a public road and/or established as a private road, and accepted/approved by the City prior to approval of final map. Utility improvements within this area shall also be completed prior to approval of final map.
33. A Subdivision Improvement Plan which includes an Erosion and Sedimentation Control plan shall be submitted for review and approval by the City Engineer prior to commencement of any improvement work. This plans shall conform to all standards adopted by the City of Daly City and shall comply with all appropriate requirements of the City's NPDES Permit relative to grading and sediment erosion control.
34. All subdivision Conditions of Approval and subdivision improvements shall be satisfied and constructed to the satisfaction of the City Engineer or bonded for prior to approval of the Final Map.
35. Subdivision improvements shall be completed to the satisfaction of the City Engineer prior to issuance of any building permits.
36. The width and location of the Private Storm Drain Easement shall be specified for review and approval by the City Engineer.
37. The width and location of the Bayshore Sanitary District Easement shall be specified for review and approval by the City Engineer
38. The width and location of the Public Easements shall be specified for review and approval by the utility companies and the City Engineer.
39. Private Pedestrian Access Easement shall be located where there are sidewalks.

40. All easement language to be reviewed and approved by the City Engineer.
41. Common improvements shall not be located on private property without appropriate easements.
42. Hydraulic calculations along with a letter from the engineer of record indicating that the proposed storm drain system does not increase runoff above the pre-development condition shall be submitted for review and approval by the City Engineer prior to approval of Subdivision Improvement Plans.
43. Any existing paper streets, public Right-Of-Ways, and/or public easements not needed shall be vacated with the final map.
44. Plans submitted for subdivision improvements and grading permit shall show all existing and proposed utilities, on-site and in the street, including electric, gas, communication, cable, water, sanitary sewer, and storm drain lines. Existing and proposed easements shall also be shown. Improvements shall be installed or bonded for prior to approval of the Final Map.
45. All streets and lanes within the subdivision shall be private.
46. Approval from Department of Water and Wastewater Resources will be required for water service to the properties prior to approval of Subdivision Improvement Plans.
47. Approval from Bayshore Sanitary District will be required for sewer service to the properties prior to approval of Subdivision Improvement Plans.
48. DWR does not object to a Tentative Map submittal at this time, pending final determination of the project's water system improvement requirements. Prior to approval and recordation of the Final Map, and submittal of Subdivision Improvement Plans, a water study to determine the required water supply and fire flow for the proposed sub-division shall be performed by the City's consultant, Brown and Caldwell, and approved by DWR. The applicant shall apply for the City's consultant to perform the analysis through the Public Works Engineering Division. All costs for the analysis and the analysis review shall be borne by the applicant. The applicant shall be aware that failure to obtain final acceptance by the City of the analysis shall be cause for the City to deny approval of the Final Map.
49. All existing and proposed utilities located within the subdivision shall be placed underground. Cable television, gas, electric, and telephone services, to the property lines are included in this requirement.
50. All appropriate fees shall be paid prior to approval of final map.

51. All lots within the subdivision shall have utilities installed to the satisfaction of the utility providers and City. Services shall be installed to the property lines or bonded for prior to approval of the Final Map.
52. An encroachment permit shall be required to be issued by the Public Works Department for all work proposed within the public right of way.
53. A Grading and Construction Operation plan shall be submitted by the subdivider for review and approval by the City Engineer prior to issuance of any permits for subdivision improvements. The Grading/Construction Operation plan shall address truck traffic, issues regarding dust, noise, and vehicular and pedestrian safety, storage of construction materials, placement of sanitary facilities, parking for construction vehicles, and parking for construction personnel.
54. All construction shall meet the latest California Building Code, California Fire Code, Daly City Municipal Code and the City Standard Specifications and Drawings. The applicant shall obtain all required permits before commencing work. All required improvements shall be constructed at no cost to the City.
55. Sidewalks shall be provided for streets that facilitate parking.
56. All project improvements shall be ADA compliant.
57. All storm water compliance and detention facilities shall be located on private property and maintained by the HOA. Storm water compliance measures shall include provisions for full trash capture in the catch basins. A Storm Water Treatment Measures Maintenance Agreement will be required and must be included in the Covenants, Conditions and Restrictions (C.C.R.'s) of the Homeowners Association Agreement.

C. DEPARTMENT OF WATER AND WASTEWATER RESOURCES

58. Prior to the recordation of the Final Map, the applicant's water system analysis shall be reviewed by the City's independent third-party consultant, Brown and Caldwell, to determine the required water supply and fire flow for the proposed sub-division. The applicant shall apply for the City's consultant to perform the analysis through the Public Works Engineering Division. All costs for the analysis and the analysis review shall be borne by the applicant. The applicant shall be aware that failure to obtain final acceptance by the City of the analysis shall be cause for the City to deny approval of the Final Map.
59. The water system within the private property shall be private. The development shall be fed through master water meters located at the property line. The individual units may be individually meter by the HOA.
60. Reduced pressure principle backflow devices shall be placed immediately after each master meter to protect the public water supply.

61. A water system analysis shall be performed to determine adequate water supply and fire flows. The applicant shall apply through the Engineering Department, for the city's third party consultant to perform the analysis. All costs for the analysis shall be borne by the applicant.
62. All water system improvements required by the city, to supply water to this project, shall be borne by the applicant.
63. In consultation with the Fire Department, a looped water system is required on the initial phase. Connections to the public water system shall be made at Carter Street and Steve Courter way, to provide necessary fire flow for construction. The looped system shall be completed prior to the start of any building construction.

D. FIRE DEPARTMENT

64. The project shall comply with 2013 CFC Chapter 5, Section 505.1 and 2 as amended by DCMC 15.32.070.
65. Fire system underground supply mains shall be submitted on a separate permit or in conjunction with fire sprinkler submittal. All fire service back flow devices must be reduced pressure principle detector assemblies (RPDA) that are on the University of Southern California (USC) approved back flow list and be NSF 61 compliant.
66. The project shall comply with 2013 CFC Appendix D for fire apparatus access requirements.
67. The entire water system shall be constructed in its entirety. The water system shall not be phased.
68. The separation requirements set forth in section 02710 of the Daly City Standard Specifications and Drawings shall be followed at all times. No exceptions will be made.
69. The project shall comply with fire flows per 2013 CFC Appendix B for buildings with fire sprinklers and obtain a fire flow report from the local water provider showing a flow of per Table B105.1 for R-3 buildings over 3600 sqft including garage or other attached areas, with fire sprinklers and obtain a fire flow report from the local water provider showing a flow of 750 gpm or more.
70. The project shall comply with Fire Apparatus Access per 2013 CFC Chapter 5 Fire Service Features, 501.4 for Fire Apparatus Access Roads and Water supply. There shall be no framing construction until all fire service features are in place.
71. Fire Sprinklers are required per Municipal Code, and 2013 CFC Chapter 9 Section 903. Per Water, Waste Water the static pressure for calculations shall be system pressure or 65 psi whichever is less. FDC shall be located in the front of the building not in the rear.

72. If the design is to be a Passive Purge/Flow Through system it shall be a completely looped design with no dead-ends except for the vertical sprinkler drops and shall be metered.
73. One set of plans to be submitted to the Water Department and approved by them prior to issuing of a permit.
74. The project shall comply with 2013 CFC section 903.4 to 903.4.2 Alarms as amended by DCMC 15.32.110. – Provide a horn/strobe on the address side of the building.
75. The project shall comply with 2013 CFC section 903.4 to 903.4.2 Alarms as amended by DCMC 15.32.110. – Provide a horn/strobe on the address side of the building.
76. The project shall comply with hydrant location and spacing per 2013 CFC Appendix C and 2013 CFC 507.5.1 as amended by DCMC 15.32.080 – 150 feet from any point of the building.
77. The project shall conform to the 2013 CFC Appendix D section D103.6 through D103.6.
78. The curb shall be painted red for three feet each side of the hydrant and shall be enforced by DCPD.
79. Should the applicant phase the project, each phase must have a complete looped water system and all weather roads prior to construction.

E. BAYSHORE SANITARY DISTRICT

80. The applicant shall satisfy all the requirements for the design and construction of sewer system improvements and for sanitary sewer service outlined in the ordinances, rules, and regulations duly adopted by the District that would impact the proposed development, and pay all applicable fees to the District as may be required by the District.

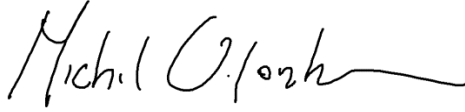
Staff Recommendation

The Planning Commission recommends that the City Council take the following action:

1. Adopt the Findings as outlined herein;
2. Approve Environmental Review CEQA-10-15-11782, adopting the Mitigated Negative Declaration and Mitigation Monitoring and Reporting Program prepared for the project; and
3. Approve General Plan Amendment GPA-9-16-12295, Planned Development PD-10-15-11781, and Major Subdivision SUB-9-16-12296, subject to the Conditions of Approval identified herein.

Staff is available to provide any additional information desired by the Council members.

Respectfully submitted,



Michael Van Lonkhuyzen
Planning Manager



Tatum Mothershead
Director of Economic and Community
Development

Attachments

Attachment A – Site Location

Attachment B – Project Plans

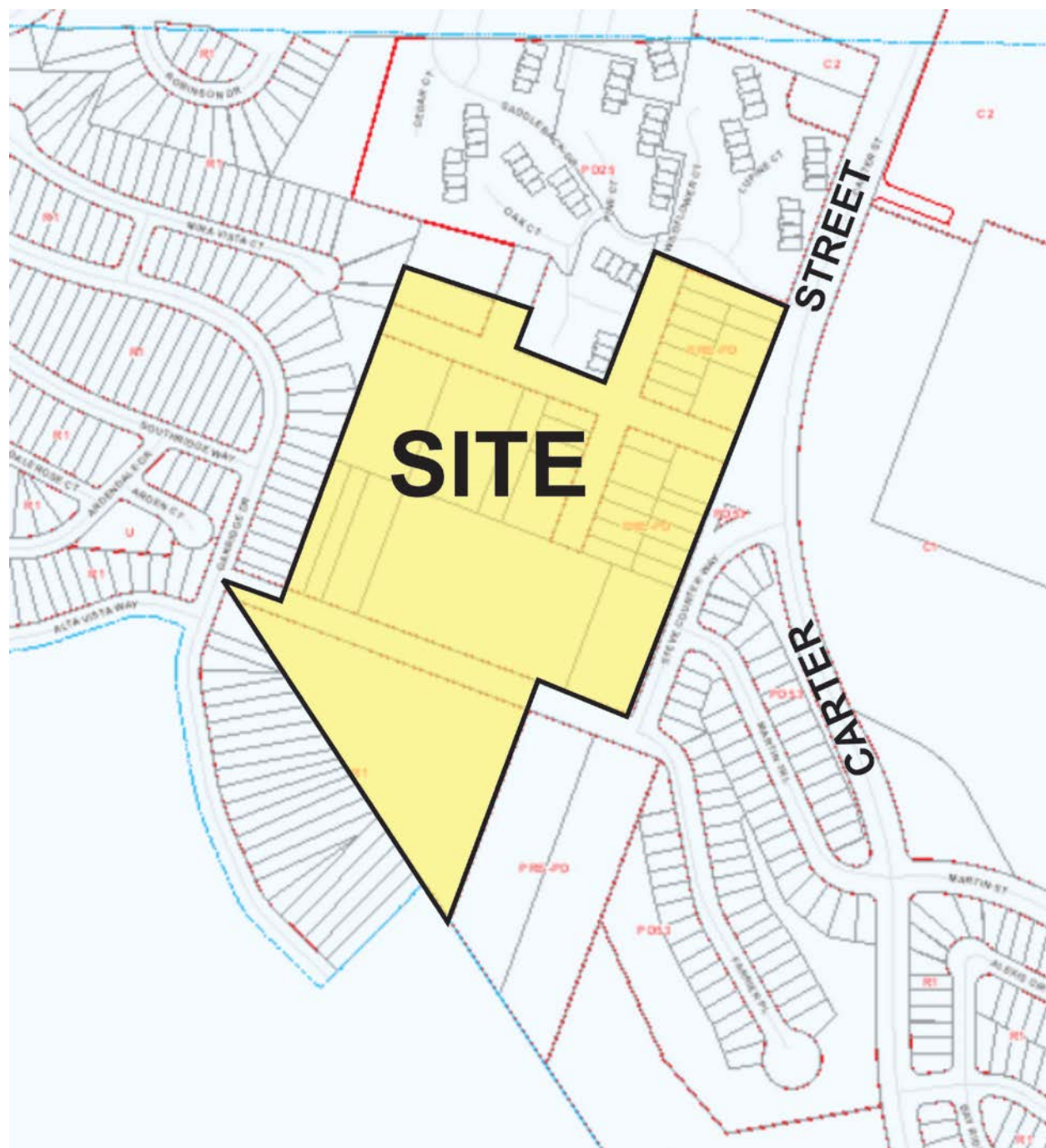
Attachment C – Draft PD-70 Development Standards

Attachment D – Conceptual Architecture and Massing

Attachment E – Affordable Housing Plan

Attachment E – Initial Study - Point Martin II Residential Development

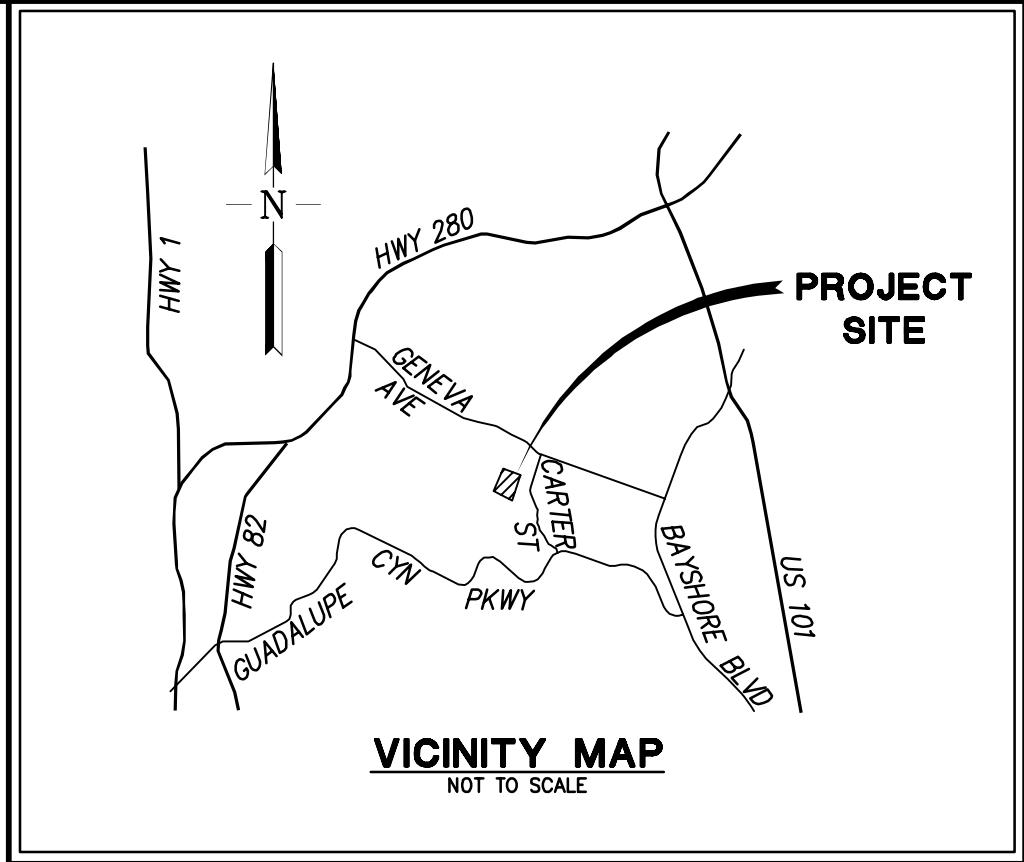
Attachment F – Mitigation Monitoring and Reporting Program



TENTATIVE MAP of RESUBDIVISION and PRECISE PLAN

POINT MARTIN II

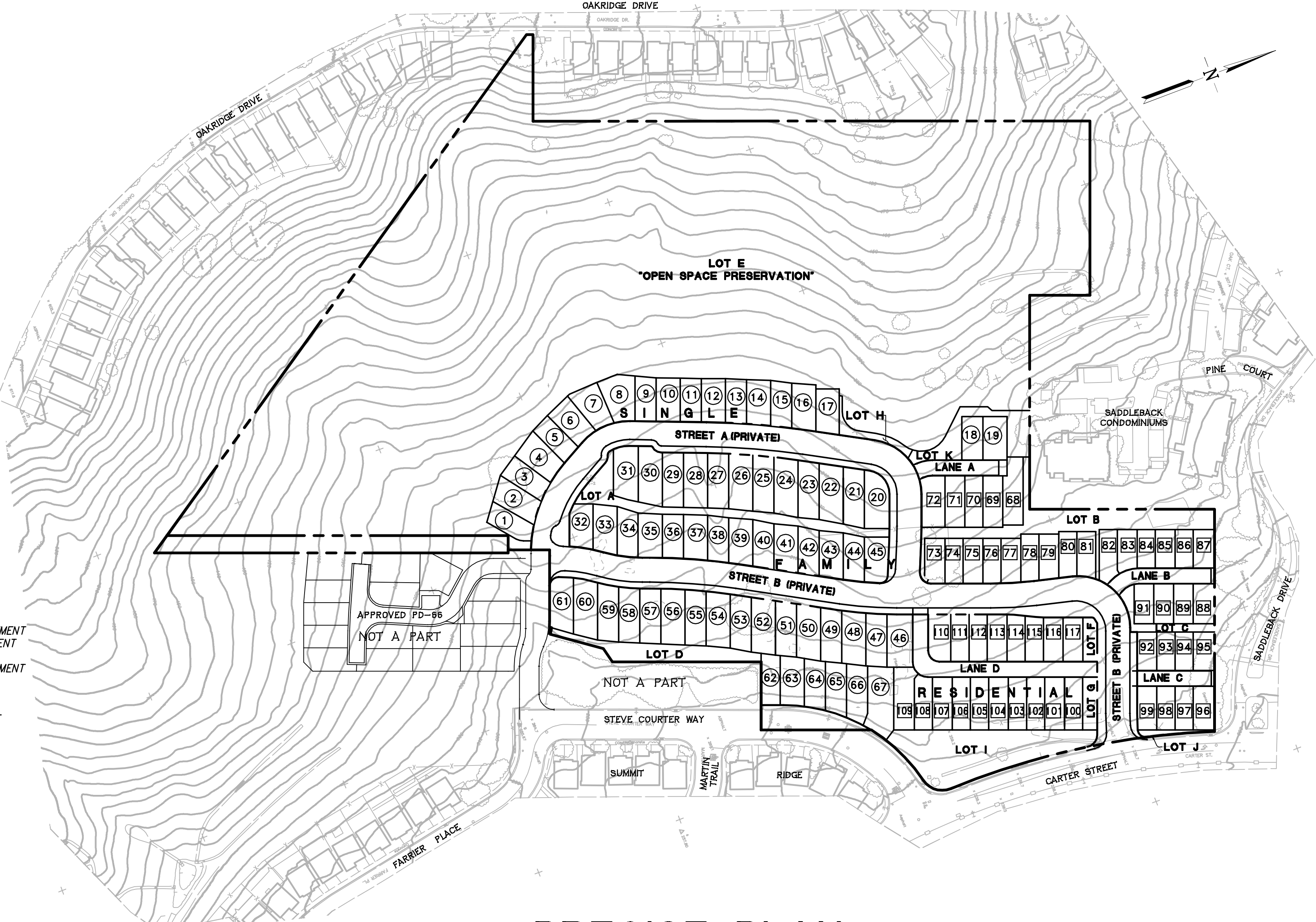
CITY OF DALY CITY, SAN MATEO COUNTY, CALIFORNIA



PROPOSED	DESCRIPTION	EXISTING
---	TRACT BOUNDARY	---
---	LOT LINE	---
---	RIGHT OF WAY	---
---	CENTER LINE	---
---	MATCH LINE	---
---	RETAINING WALL	---
---	EASEMENT LINE	---
---	STORM DRAIN	---
---	SANITARY SEWER	---
---	POTABLE WATER	---
---	RECYCLED WATER	---
---	CURB & GUTTER	---
---	SAWCUT	---
---	SIDEWALK	---
---	STORM WATER INLET	---
---	DROP INLET	---
---	AREA DRAIN	---
---	BUBBLE UP	---
---	MANHOLE	---
---	SANITARY SEWER CLEAN OUT	---
---	SANITARY SEWER LATERAL	---
---	FIRE HYDRANT	---
---	BLOW OFF	---
---	WATER SERVICE WITH METER BOX	---
---	WATER VALVE	---
---	SINGLE ARM STREET LIGHT	---
---	MONUMENT	---
---	TRAFFIC SIGN	---
---	STREET NAME SIGN	---
---	FENCE	---
---	CURB RAMP	---
---	CONTOUR ELEVATIONS	---
---	SPOT ELEVATION	---
---	NEW ASPHALT PAVEMENT	---
---	BIO-RETENTION AREA IN LANDSCAPE AREA	---

BENCHMARK

USGS C571 HT0626, 297 FEET NORTH OF MILEPOST 5, AT THE SOUTH END OF TUNNEL 4, SET VERTICALLY IN THE WEST FACE OF THE EAST WALL OF THE TUNNEL, 6.0 FEET EAST OF THE EAST RAIL OF THE EAST TRACK, 2.6 FEET NORTH OF THE SOUTH PORTAL OF THE TUNNEL, AND 3 FEET HIGHER THAN THE TRACKS (NGVD 29 ELEV 22.54)



PRECISE PLAN

SCALE: 1"=100'

GENERAL NOTES:

- PREPARED BY:
CIVIL ENGINEER:
RUGGERI-JENSEN-AZAR
4690 CHABOT DRIVE, SUITE 200
PLEASANTON, CA 94588
(925) 227-9100
CONTACT: EDDIE SIEU
R.C.E. # 44189
DESIGNER/PLANNER:
CKS ENVIRONMENTAL
POB 927
PACIFICA, CA 94044
(650) 283-0942
CONTACT: DAVID BEAUMONT
- OWNERS:
SEE EXISTING CONDITION PLAN SHEET C-2
- PROPERTY DESCRIPTION:
LOTS 147, 148, 152, 153, 154, AND 155 OF BOOK "A" OF MAPS AT PAGE 46, LOTS 1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 13, AND 14 OF BLOCK 43, AND LOTS 1, 2, 3, 4, 8, 9, 10, 11, 12, 13, 14 OF BLOCK 44, AND LOTS 1, 2, 3, 4, 5, 6, 7, 8, AND 9 OF BLOCK 45, LOTS 1 AND 2 OF BLOCK 46, LOTS 1, 2, 3, AND 4 OF BLOCK 47 AS SHOWN ON THAT CERTAIN MAP ENTITLED "OFFICIAL MAP OF SUNNYVALE HOMESTEAD TRACT" AND "OFFICIAL MAP OF THE SUNNYVALE HOMESTEAD ASSOCIATION" FILED IN THE OFFICE OF THE RECORDER OF THE COUNTY OF SAN MATEO, STATE OF CALIFORNIA.
- GROSS SITE AREA:
18.0± ACRES
- DEVELOPERS:
POINT MARTIN LLC
CARTER DEVELOPMENT
MARTIN PROPERTIES TRUST
ONE BUSH STREET, 16TH FLOOR
SAN FRANCISCO, CA 94104
- TOTAL NO. OF PROPOSED LOTS:
128
- TOTAL NO. OF PROPOSED DWELLINGS:
117
- UTILITIES:
WATER:
SANITARY SEWER:
STORM DRAIN:
FIRE:
GAS & ELECTRIC:
TELEPHONE:
CABLE TV:
CITY OF DALY CITY
BAYSHORE SANITARY DISTRICT
CITY OF DALY CITY
NORTH COUNTY FIRE AUTHORITY
PACIFIC GAS & ELECTRIC
AT&T
COMCAST
- THIS PROPERTY LIES WITHIN FLOOD ZONE X (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AS SHOWN IN FLOOD INSURANCE RATE MAP, COMMUNITY MAP NO. 06081C0035E, DATED OCTOBER 16, 2012).
- BOUNDARY AS SHOWN IS COMPILED FROM RECORD INFORMATION.
- TOPOGRAPHY SHOWN IS BASED ON AN AERIAL TOPOGRAPHIC MAP PREPARED IN JULY 2015.
- THE DEVELOPERS WILL FILE MULTIPLE FINAL MAPS AFTER TENTATIVE MAP APPROVAL, AS SHOWN ON LOTTING AND EASEMENT PLAN.

ABBREVIATIONS

AB	AGGREGATE BASE	PCC	POINT OF COMPOUND CURVATURE
AC	ASPHALT CONCRETE	PL	PROPERTY LINE
AD	AREA DRAIN	PM	PRIVATE MAINTENANCE ACCESS EASEMENT
ARV	AIR RELEASE VALVE	PPAE	PRIVATE PEDESTRIAN ACCESS EASEMENT
BC	BEGINNING OF CURVE	PRC	POINT OF REVERSE CURVE
BO	BLOW OFF	PRUE	PRIVATE SERVICES AND UTILITY EASEMENT
BW	BOTTOM OF WALL	PSDE	PRIVATE STORM DRAIN EASEMENT
CL	CENTER LINE	PSE	PUBLIC SERVICE EASEMENT
COMM	COMMUNICATION	PSSE	PUBLIC SANITARY SEWER EASEMENT
DI	DROP INLET	PSUE	PUBLIC SERVICE & UTILITY EASEMENT
DIP	DUCTILE IRON PIPE	PUE	PUBLIC UTILITY EASEMENT
DW	DOMESTIC WATER	PVAE	PRIVATE VEHICLE ACCESS EASEMENT
EAE	EMERGENCY ACCESS EASEMENT	PVC	POLYVINYL CHLORIDE PIPE
EC	END OF CURVE	PWLE	PUBLIC WATER LINE EASEMENT
EVAE	EMERGENCY VEHICLE ACCESS EASEMENT	ROP	REINFORCED CONCRETE PIPE
EX	EXISTING	RET	CURB RETURN
FC	FACE OF CURB	RW	RIGHT OF WAY
FG	FINISHED GRADE	RWE	RIGHT OF WAY EASEMENT
FH	FIRE HYDRANT	SD	STORM DRAIN
FL	FLOW LINE	SS	SANITARY SEWER
FS	FIRE SERVICE	SNS	STREET NAME SIGN
GE	GARAGE ELEVATION	SL	STREET LIGHT
GB	GRADE BREAK	STA	STATION
HP	HIGH POINT	STD	STANDARD
INV	INVERT ELEVATION	SWI	STORM WATER INLET
LF	LINEAR FOOT	SWK	SIDEWALK
LP	LOW POINT	SSE	SANITARY SEWER EASEMENT
MAX	MAXIMUM	TC	TOP OF CURB
ME	MAINTENANCE EASEMENT	TFC	TOP OF FLUSH CURB
MH	MANHOLE	TG	TOP OF GRATE
MIN	MINIMUM	TMC	TOP OF MOUNTABLE CURB
P	PAV ELEVATION	TRW	TOP OF RETAINING WALL
PAE	PUBLIC ACCESS EASEMENT	TW	TOP OF WALL
PAV	PAVEMENT	TYP	TYPICAL
		W	WATER LINE

SHEET INDEX

SHEET NO. DESCRIPTION

- C-1 TITLE SHEET
- C-2 EXISTING CONDITION PLAN
- C-3 LOTTING AND EASEMENT PLAN (NEIGHBORHOOD 1)
- C-4 LOTTING AND EASEMENT PLAN (NEIGHBORHOOD 2)
- C-5 PRELIMINARY GRADING AND DRAINAGE PLAN (NEIGHBORHOOD 1)
- C-6 PRELIMINARY GRADING AND DRAINAGE PLAN (NEIGHBORHOOD 2)
- C-7 PRELIMINARY UTILITY PLAN (NEIGHBORHOOD 1)
- C-8 PRELIMINARY UTILITY PLAN (NEIGHBORHOOD 2)
- C-9 PRELIMINARY STORM WATER TREATMENT PLAN (NEIGHBORHOOD 1)
- C-10 PRELIMINARY STORM WATER TREATMENT PLAN (NEIGHBORHOOD 2)

PLANNED DEVELOPMENT DISTRICT					
GENERAL PLAN & DENSITY ANALYSIS		ZONING, PARKING & DEVELOPMENT STANDARDS			AMENDMENTS
GEN. PLAN, existing	Residential-Low Density	ZONING		DEVELOPMENT STANDARDS**	Amendments to Precise Plan & Planned Development Standards permitted subject to following : Changes that require revision to a numerical limit specified in a planned development standard shall be made in accordance with procedure for amendment established in DC Code Chapter 17.48 Changes that reflect minor differences between precise plan and construction plans, including modifications in location of off-street parking, changes in phasing of development, distribution of private open space, design of private street systems, and building designs, may be approved by the city planner.
	Open Space Preservation	ZONING, existing	Pre-PD	Rear Setbacks, N-1	12 feet
GEN. PLAN, proposed	Residential-Low Density	ZONING, proposed	Planned Development	Rear Setbacks, N-2	3 feet
	Open Space Preservation	PARKING		Front Setbacks, N-1	6 feet
AREA [gross]	18.0 Acres	Off-street, Garage N-1	134	Front Setbacks, N-2	10 feet
DWELLING UNITS	117 Single-Family Units	Off-street, Drives N-1	134	Side Setbacks	per DCBldg Code
DENSITY [gross]	6.5 d.u./Acre	Off-street, Garage N-2	100	Height Limit	35 feet
RESIDENTIAL G.P.	14.5 d.u./Acre	Off-street, Drives N-2	33	Lot Coverage Ratio, N-1*	60 %
OPEN SPACE	9.7 Acres	Off-street, Total	401	Lot Coverage Ratio, N-2*	65 %
EST. POPULATION*	372	N1 = Neighborhood 1 : Lots 1 - 67; N2 = Neighborhood 2 : Lots 68 - 117			
*Residents per D.C. Muni Code		*Vertical projection of building foundation **And as otherwise shown on plan maps			



CKS
ENVIRONMENTAL
LAND-USE PLANNING
SITE PLANNING & DESIGN

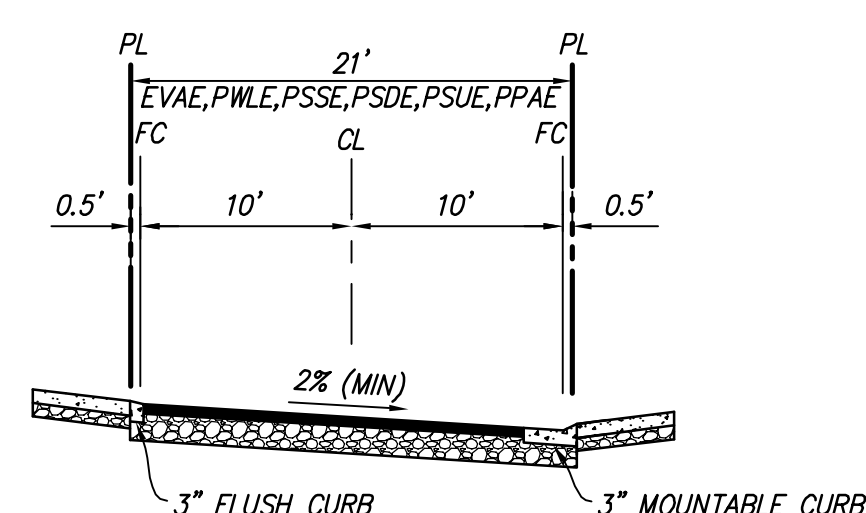
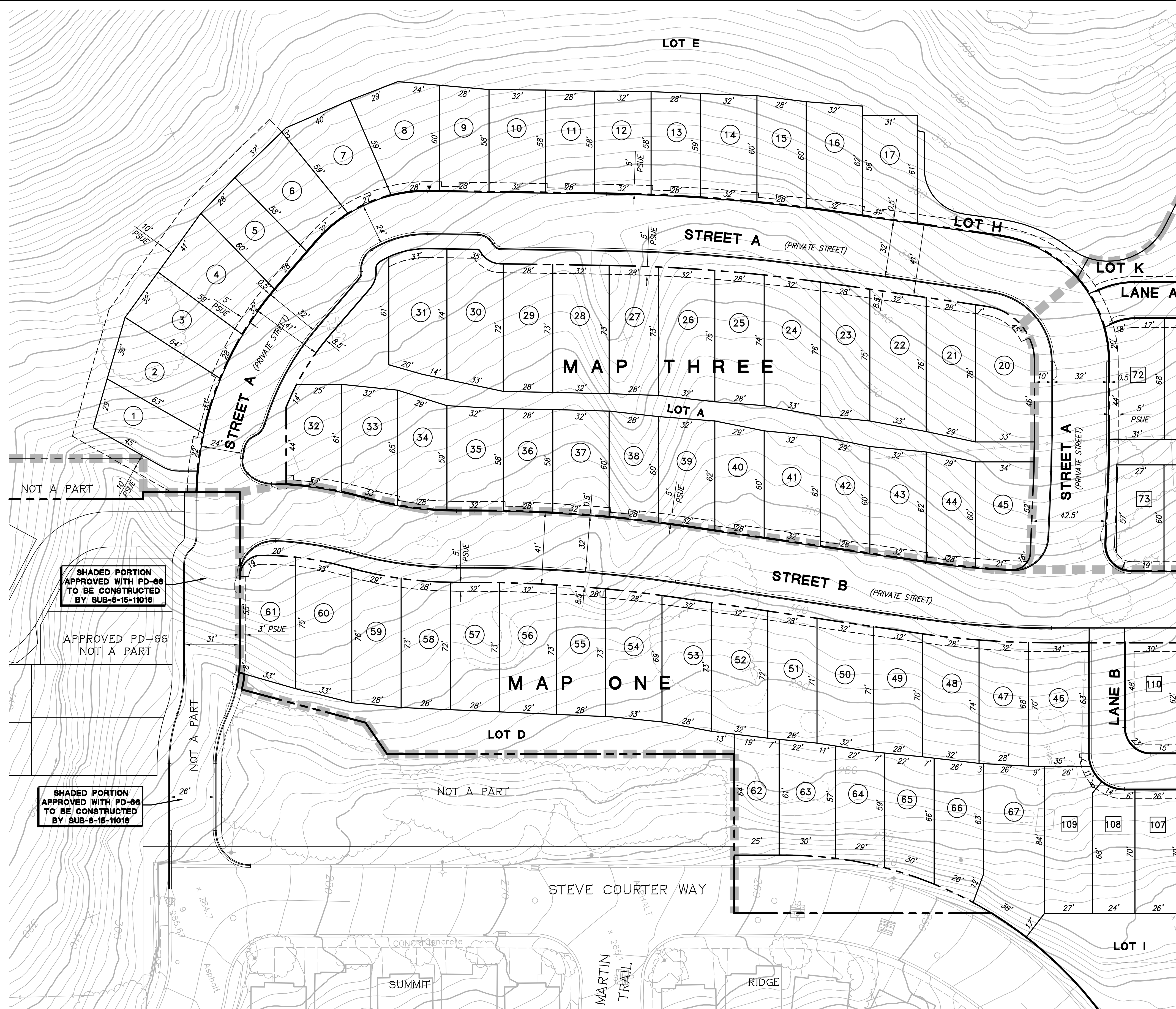
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RUGGERI-JENSEN-AZAR
ENGINEERS • PLANNERS • SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

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RESUBDIVISION
EXISTING CONDITION PLAN
POINT MARTIN II
CITY OF DALY CITY, SAN MATEO COUNTY, CALIFORNIA

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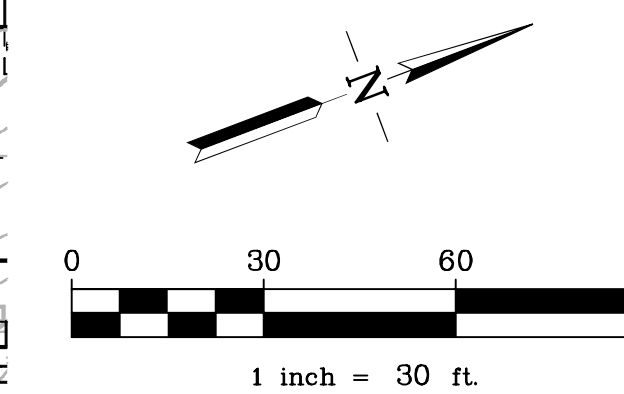
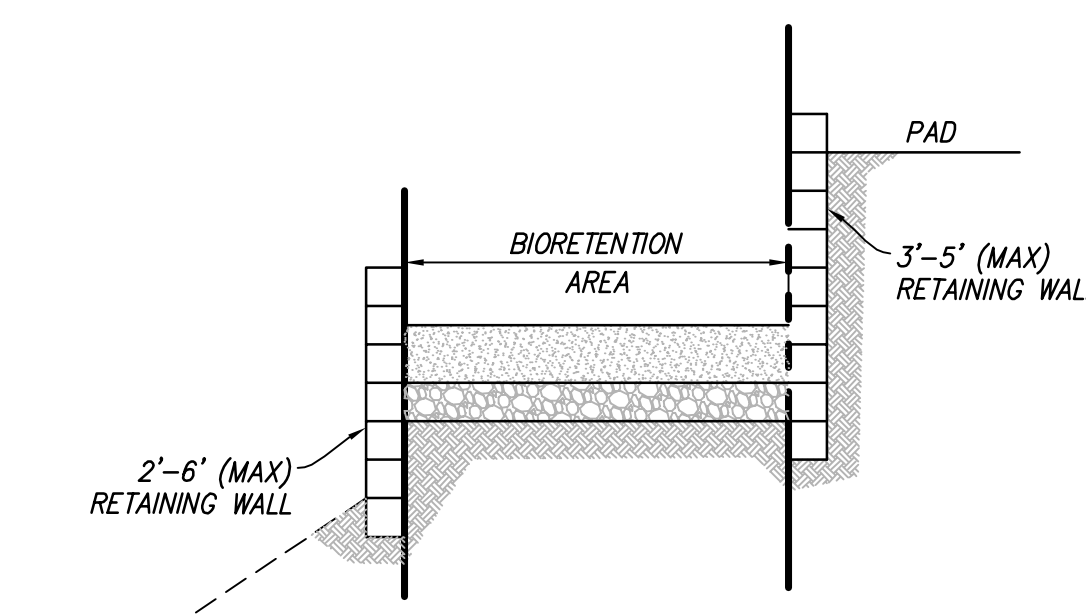
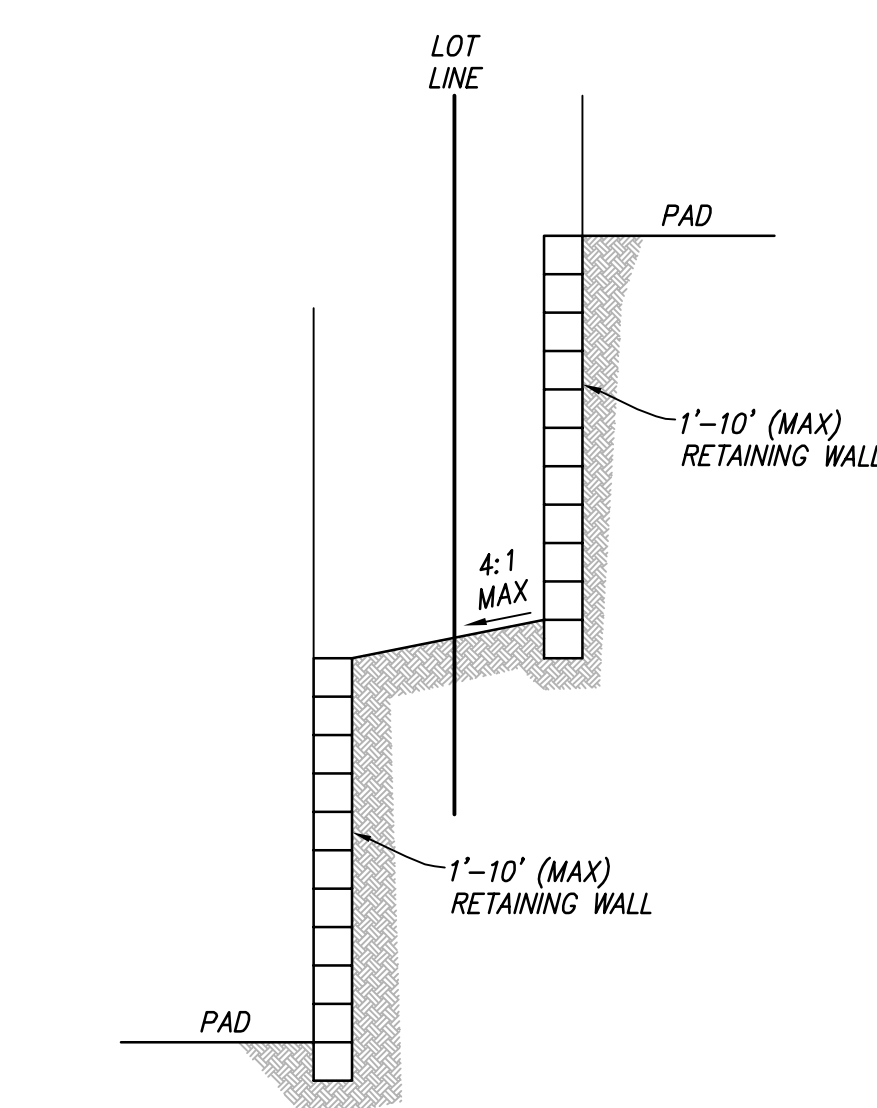
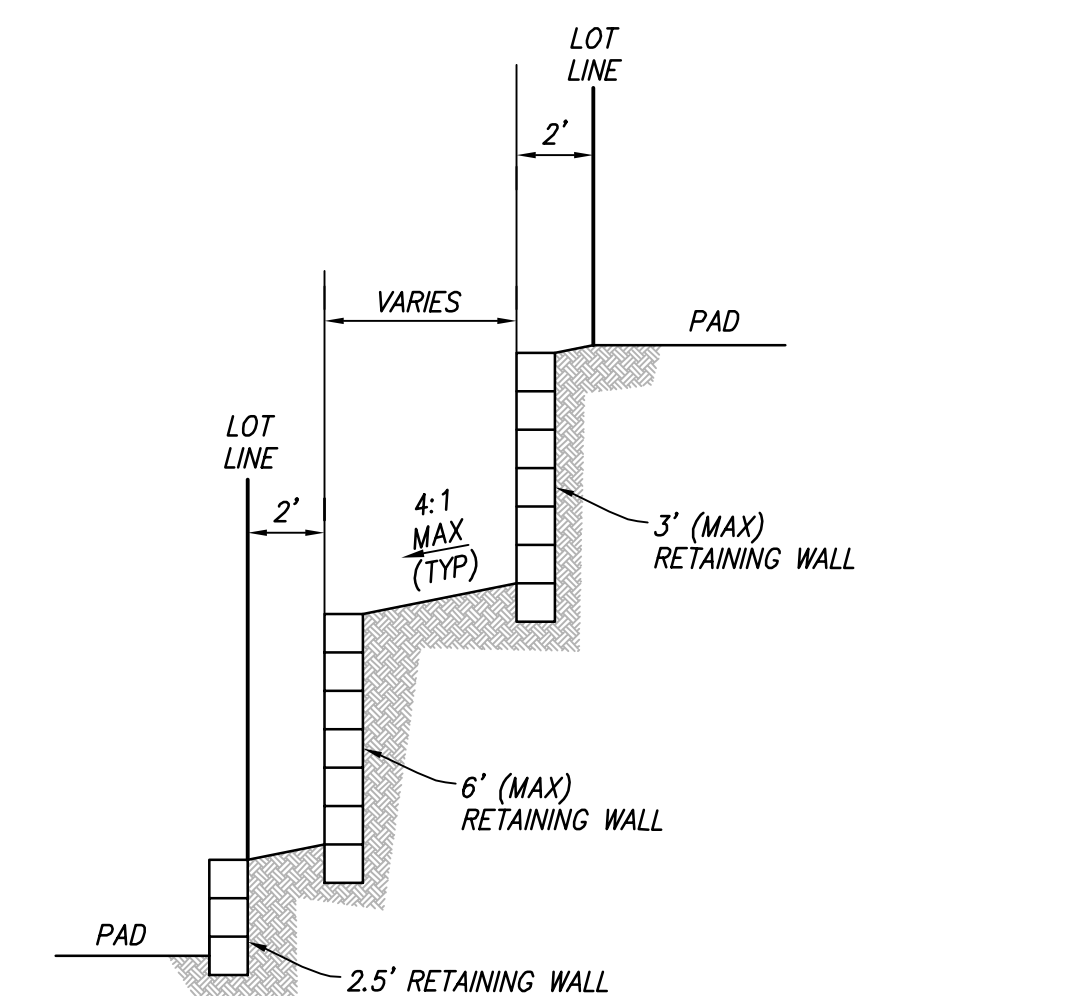
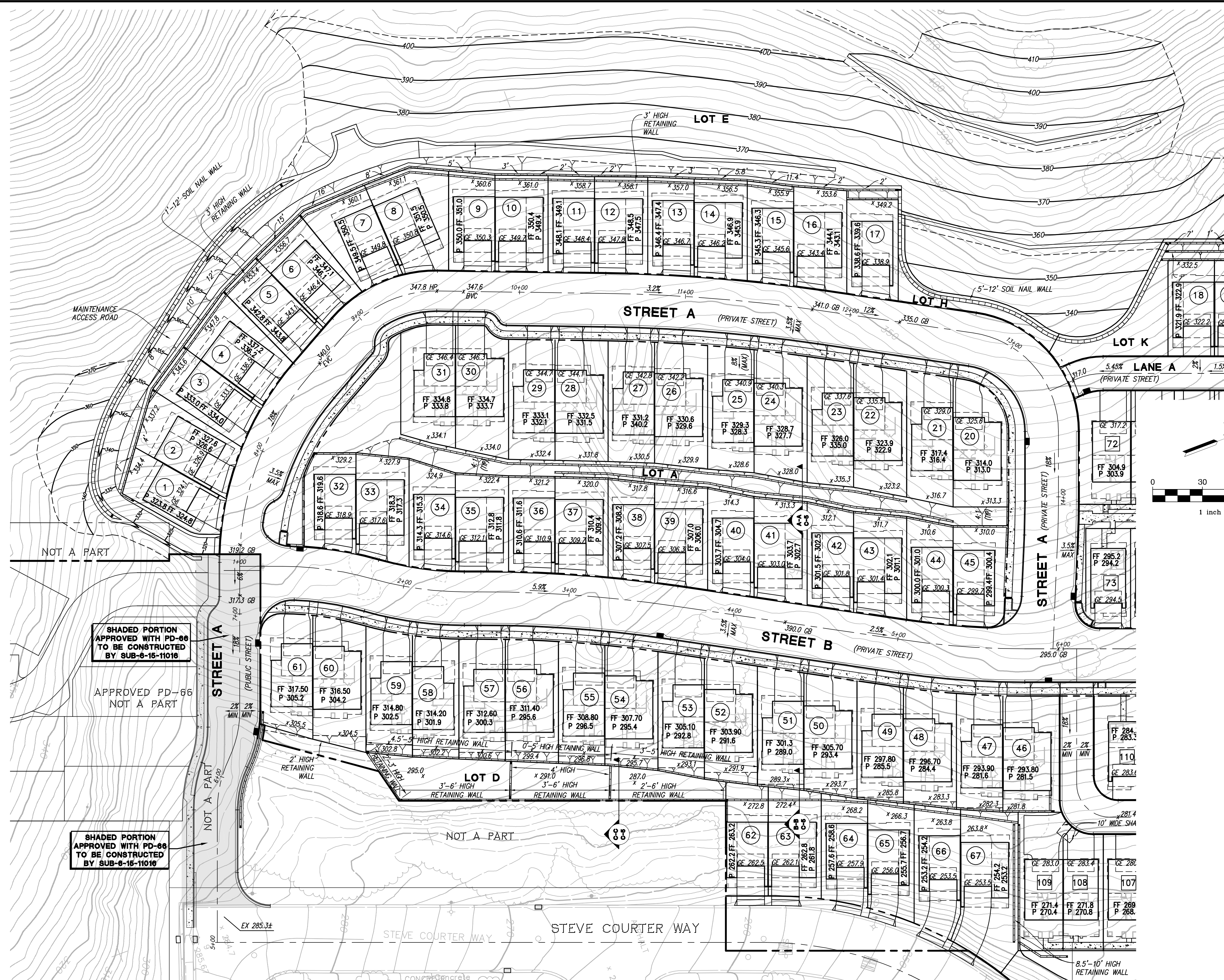


CITY OF DALY CITY, SAN MATEO COUNTY, CALIFORNIA

LOT AREA TABLE	
LOT NUMBER	AREA (SF)
64	1,647
65	1,755
66	1,954
67	2,978
68	2,298
69	1,792
70	1,655
71	1,792
72	2,137
73	1,602
74	1,451
75	1,571
76	1,450
77	1,550
78	1,518
79	1,568
80	1,456
81	1,493
82	1,642
83	1,408
84	1,233
85	1,335
86	1,233
87	1,437
88	1,493
89	1,387
90	1,387
91	1,385
92	1,335
93	1,233
94	1,233
95	1,437
96	1,493
97	1,281
98	1,281
99	1,832
100	1,692
101	1,832
102	1,692
103	1,692
104	1,832
105	1,692
106	1,692
107	1,832
108	1,718
109	2,229
110	1,819
111	1,510
112	1,510
113	1,635
114	1,488
115	1,434
116	1,531
117	1,531
LOT A	6,311
LOT B	10,503
LOT C	1,806
LOT D	5,077
LOT E	433,030
LOT F	1,092
LOT G	1,244
LOT H	1,197
LOT I	12,840
LOT J	522
LOT K	4,494

DATE: DECEMBER 19, 2016 JOB NO. 151074 SHEET C-3

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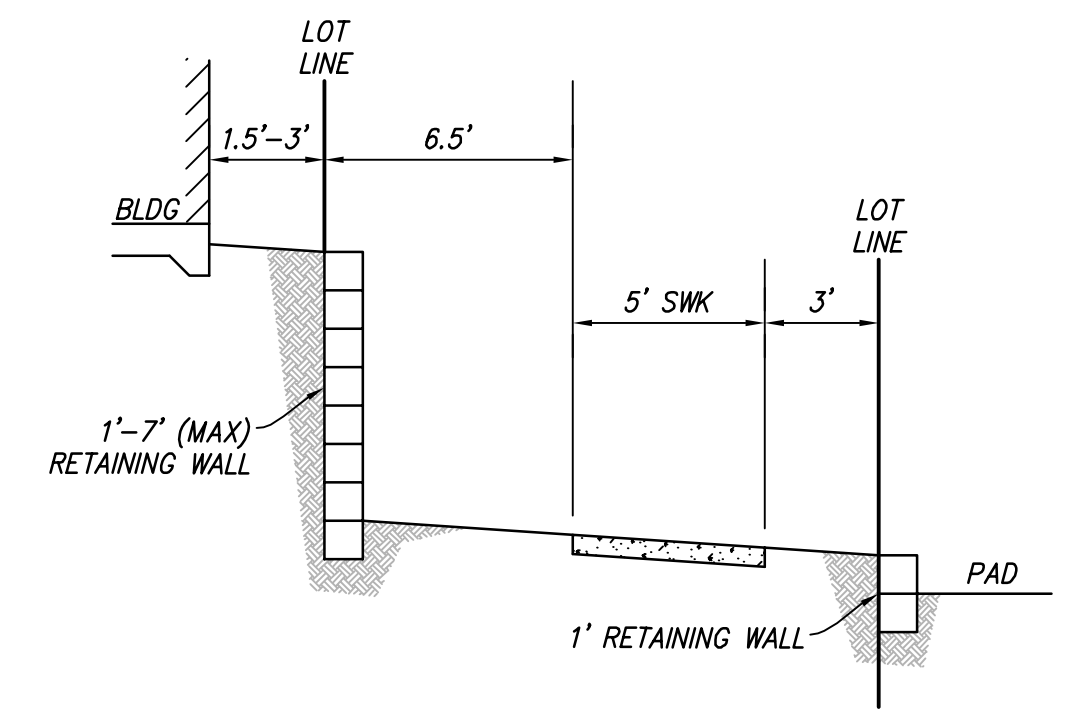
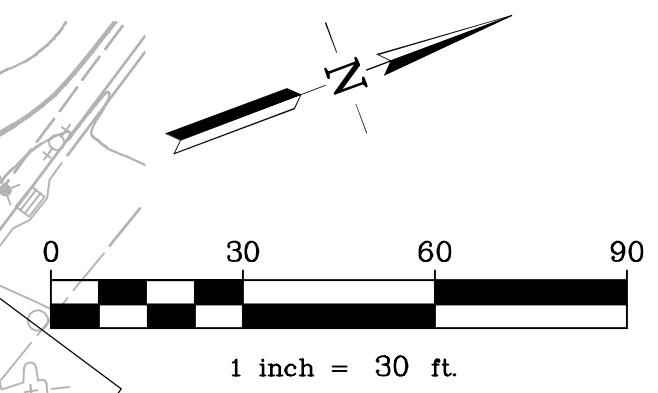
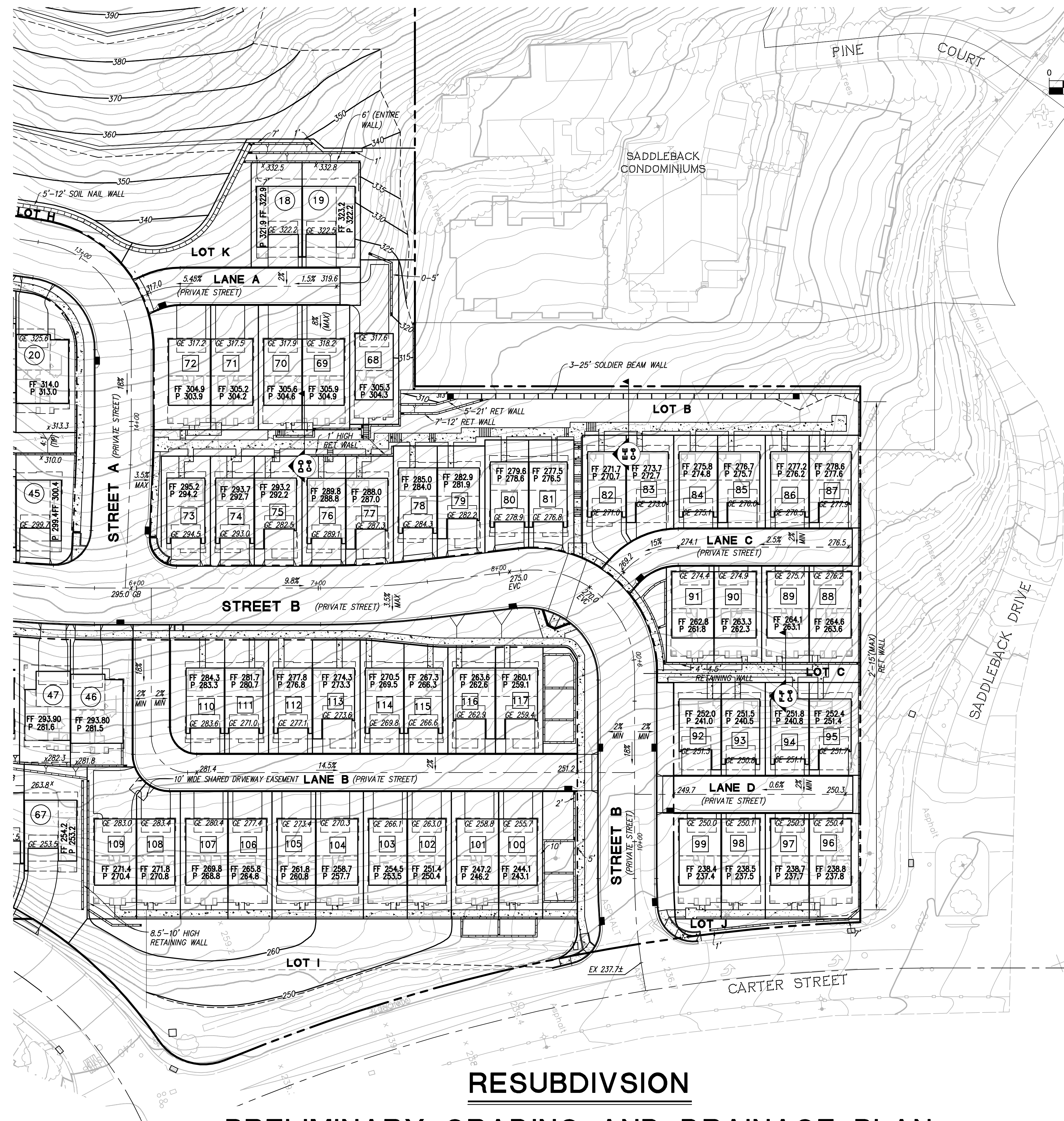
RESUBDIVISION

PRELIMINARY GRADING AND DRAINAGE PLAN

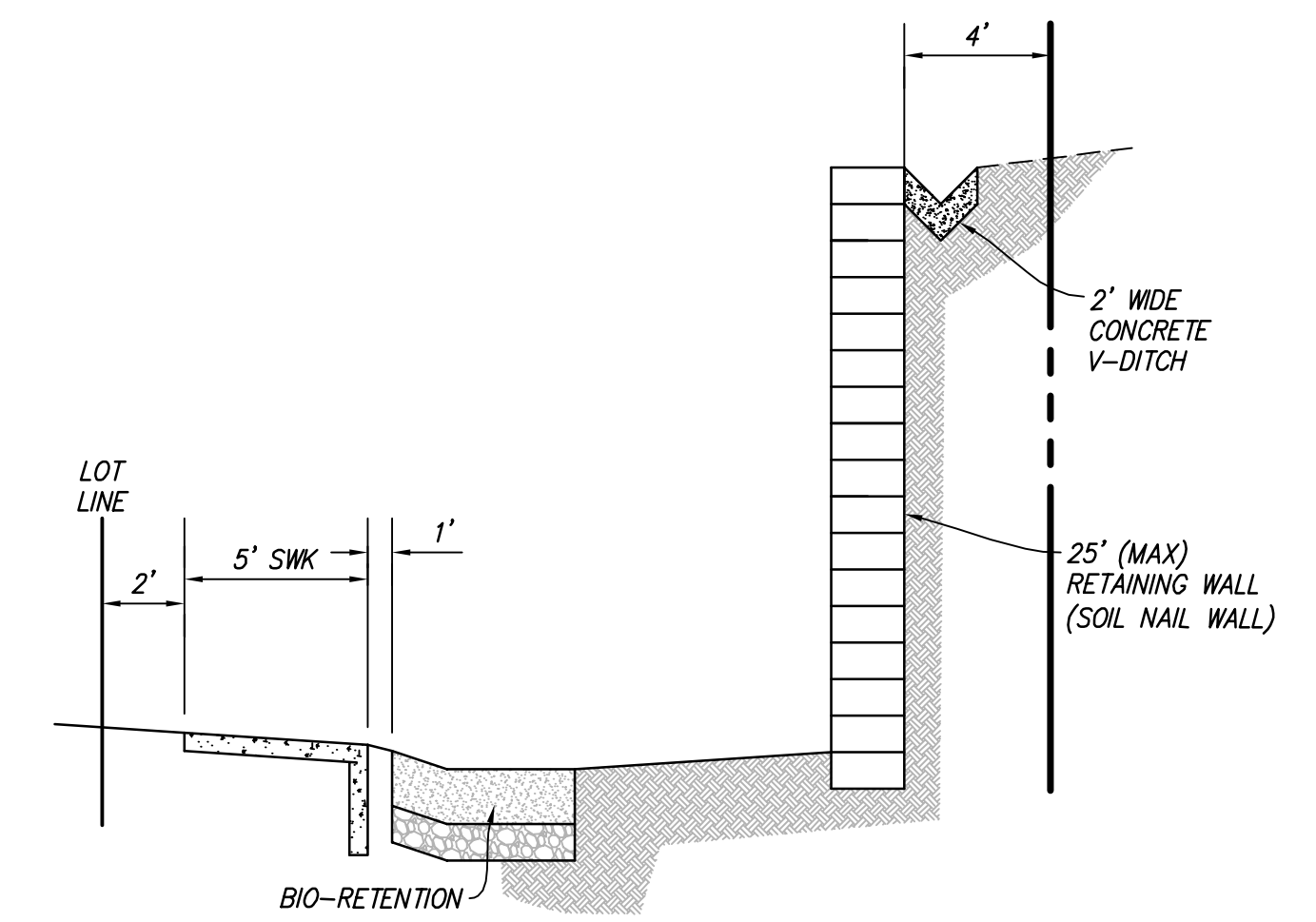
POINT MARTIN II

CITY OF DALY CITY, SAN MATEO COUNTY, CALIFORNIA

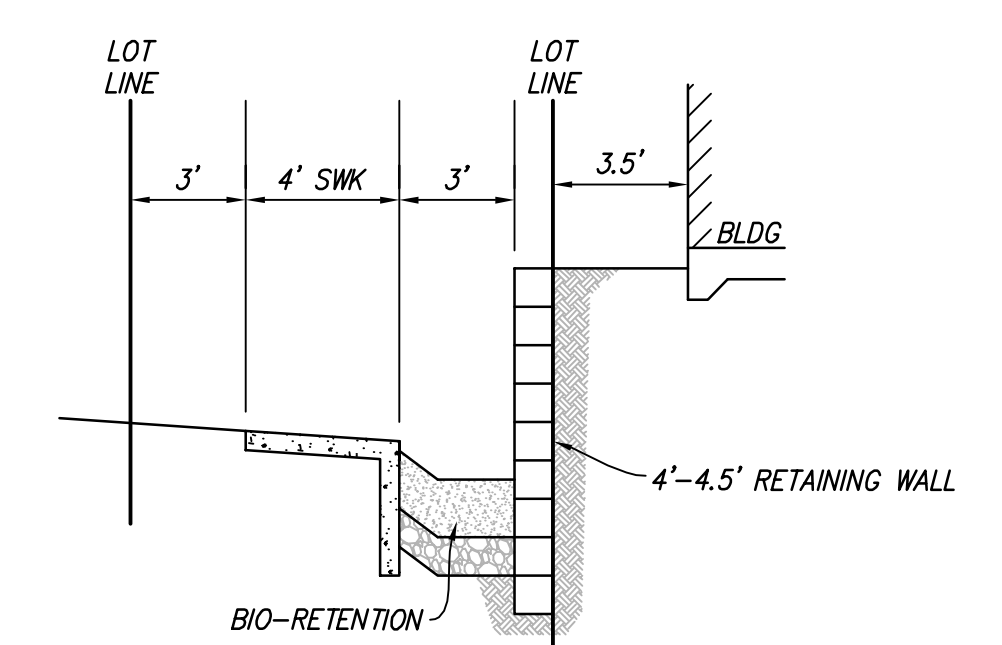
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SECTION D-D
NOT TO SCALE



SECTION E-E
NOT TO SCALE



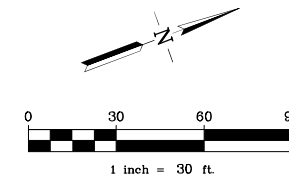
SECTION F-F
NOT TO SCALE

RESUBDIVISION **PRELIMINARY GRADING AND DRAINAGE PLAN** **POINT MARTIN II**

CITY OF DALY CITY, SAN MATEO COUNTY, CALIFORNIA


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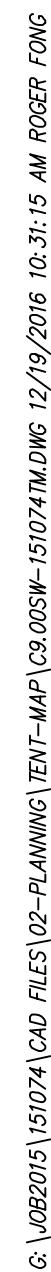


NOTE:

1. SANITARY SEWER SHALL BE PUBLIC AND MAINTAINED BY BAYSHORE SANITARY DISTRICT (BSD). EASEMENTS SHALL BE PURSUANT THERETO.
2. WATER SHALL BE PUBLIC AND MAINTAINED BY CITY OF DALY CITY. EASEMENTS SHALL BE PURSUANT THERETO.
3. STORM DRAIN SHALL BE PRIVATE AND MAINTAINED BY HOA.

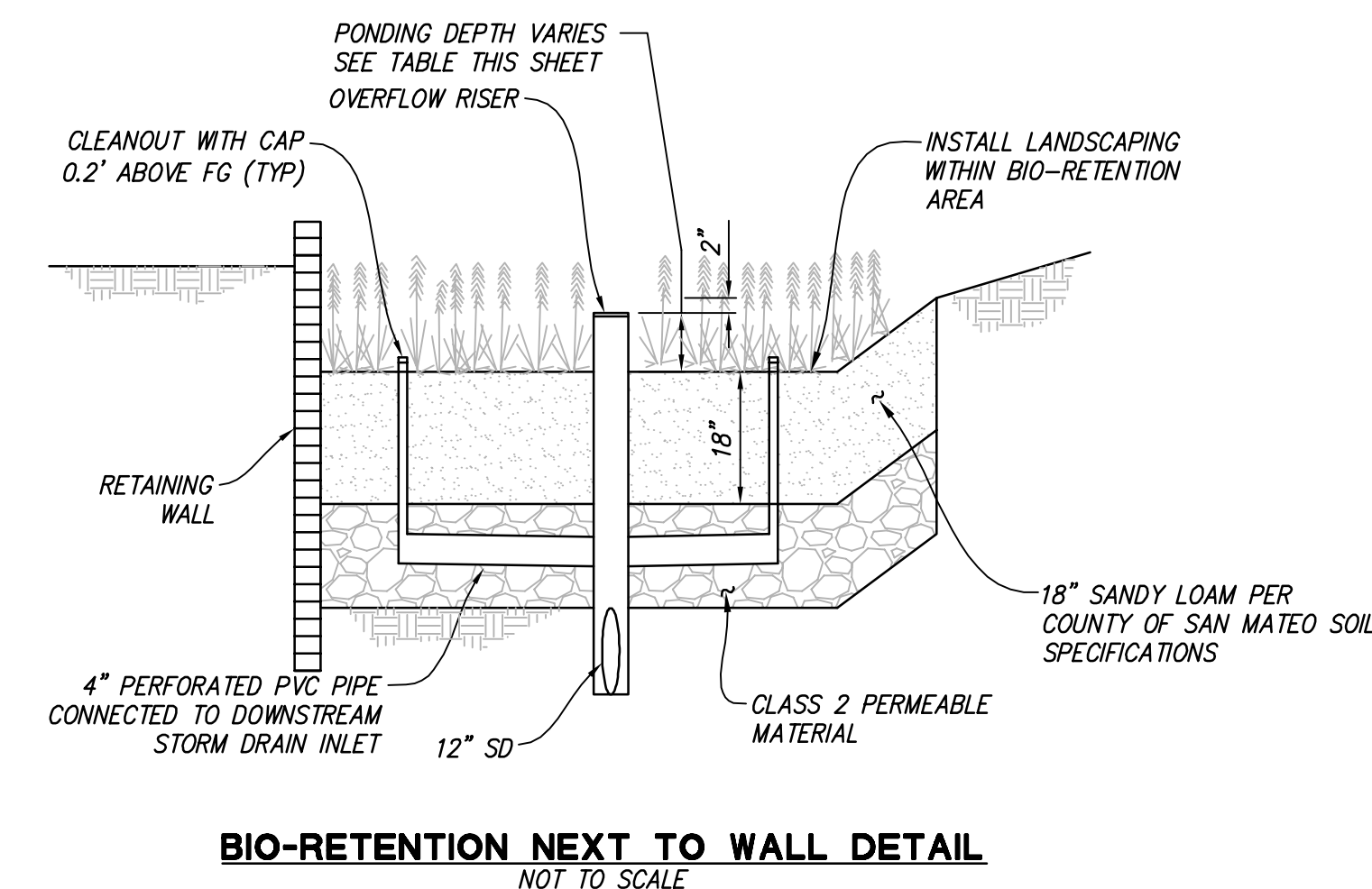
RESUBDIVISION
PRELIMINARY UTILITY PLAN
POINT MARTIN II
DALY CITY, SAN MATEO COUNTY, CALIFORNIA

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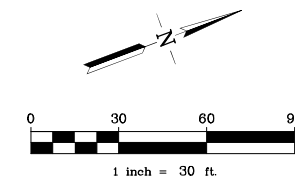
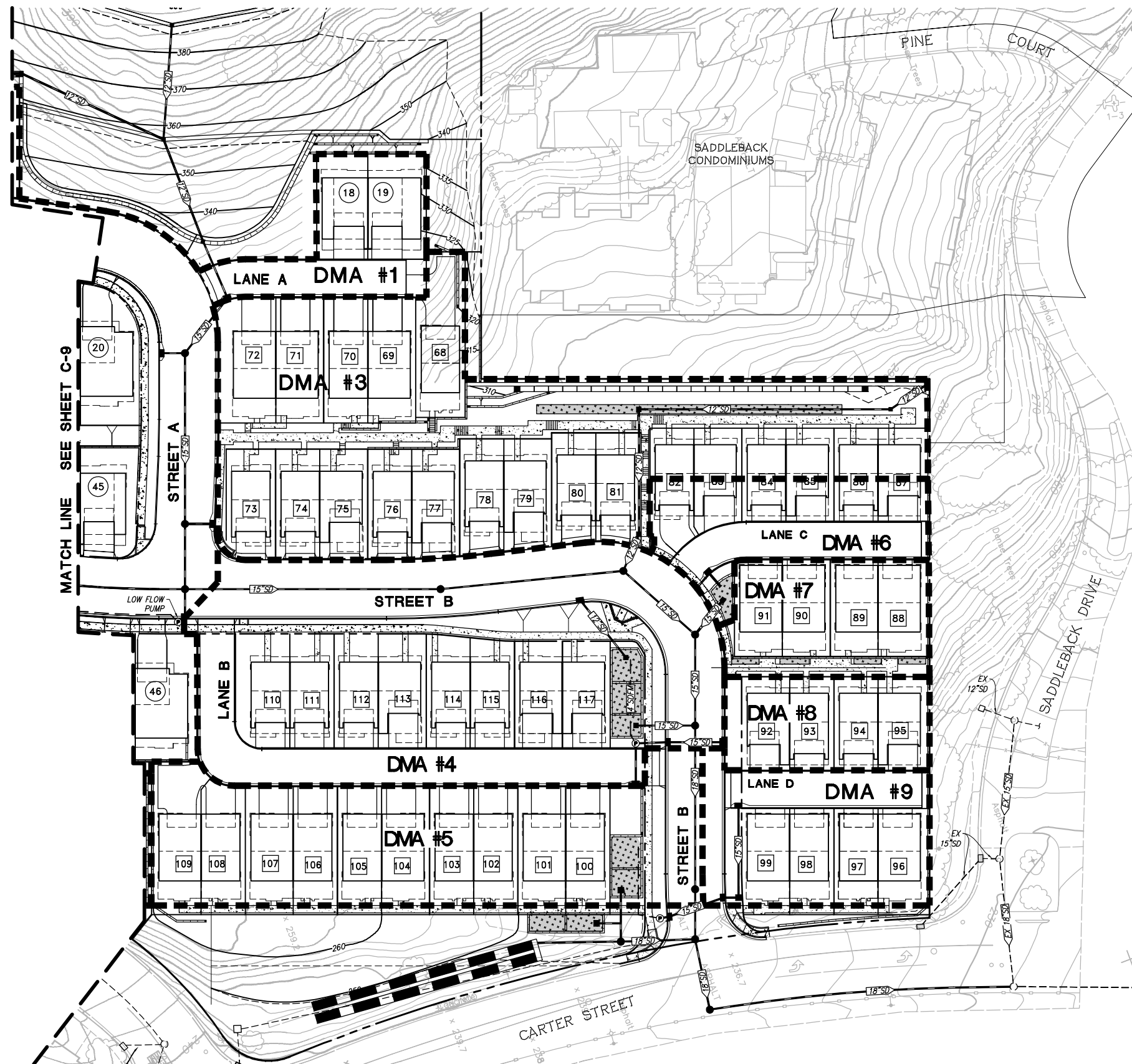


NOTES:

1. THE ABOVE CALCULATIONS ARE BASED ON THE SAN MATEO COUNTYWIDE WATER POLLUTION PREVENTION PROGRAM C.3 STORMWATER TECHNICAL GUIDANCE, DATED OCTOBER, 2014 AND THE FOLLOWING CRITERIA:
 - a. 0.2 INCHES/HOUR RAINFALL INTENSITY ON 100% IMPERVIOUS AREA.
 - b. SOIL FOR TREATMENT MEDIUM WITH A 5 INCHES/HOUR INFILTRATION RATE.
2. SIZING FACTOR BASED ON COMBO FLOW VOLUME METHOD PER SAN MATEO COUNTYWIDE WATER POLLUTION PREVENTION PROGRAM C.3 STORMWATER TECHNICAL GUIDANCE.



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LEGEND

 BIO-RETENTION AREA

RESUBDIVISION **PRELIMINARY STORM WATER TREATMENT PLAN** **POINT MARTIN II** DALY CITY, SAN MATEO COUNTY, CALIFORNIA



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See Sheet 2 for Posseo Enlargements



Planting Legend

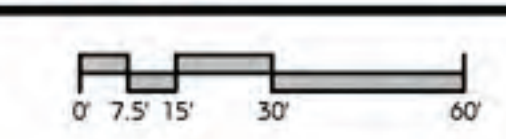
- | | | | |
|---|---|---|---|
| <p>CANOPY TREE (Selection Options):
 <i>Platanus chinensis</i>
 <i>Triplaris conferta</i>
 <i>Ulmus parvifolia</i>
 <i>Quercus ilex</i></p> <p>SMALL SCALE TREE (Selection Options):
 <i>Acer palmatum</i>
 <i>Arbutus 'Marina'</i>
 <i>Prunus caroliniana</i></p> <p>FLOWERING ACCENT TREE (Selection Options):
 <i>Cercia canadensis</i>
 <i>Lagerstroemia x.f.</i></p> <p>VERTICAL ACCENT TREE (Selection Options):
 <i>Acer s. 'Bowhall'</i>
 <i>Prunus s. 'Cloumiana'</i>
 <i>Juniperus s. 'Skyrocket'</i></p> <p>SHRUB AND GROUND COVER AREAS (Selection Options):</p> <p>LARGE SHRUB (Selection Options):
 <i>Cupressus s. 'Tiny Tower'</i>
 <i>Lavatera coccineiflora</i>
 <i>Photinia fraseri</i></p> <p>MEDIUM SHRUB (Selection Options):
 <i>Arctostaphylos 'Pacific Mist'</i>
 <i>Berberis spp.</i>
 <i>Buxus spp.</i></p> | <p>24" Box & 15 Gal
 CHINESE PISTACHE
 BRISBANE BOX
 CHINESE ELM
 HOLLY OAK</p> <p>24" Box & 15 Gal
 JAPANESE MAPLE
 N.C.N.
 CAROLINA CHERRY LAUREL</p> <p>24" Box & 15 Gal
 EASTERN REDBUD
 CRAPE MYRTLE</p> <p>24" Box & 15 Gal
 NCN
 SKYROCKET JUNIPER</p> <p>15 Gal & 5 Gal
 DW. ITALIAN CYPRESS
 TREE MALLOW
 PHOTINIA</p> <p>5 Gal
 NCN
 BARBERRY
 BOXWOOD</p> | <p><i>Coleonema spp.</i>
 <i>Correa spp.</i>
 <i>Dielsia vegeta</i>
 <i>Lantana montevidensis</i>
 <i>Lavandula spp.</i>
 <i>Nandina spp.</i>
 <i>Phormium spp.</i>
 <i>Pittosporum spp.</i>
 <i>Raphiolepis indica</i>
 <i>Teucrium fruticosum</i></p> <p>SUB SHRUB (Selection Options):
 <i>Hemerocallis</i>
 <i>Lavandula a. 'Munstead'</i>
 <i>Teucrium chamaedrys</i></p> <p>VINES (Selection Options):
 <i>Bougainvillea</i>
 <i>Ficus pumila</i>
 <i>Macfadyena unguis-cati</i>
 <i>Parthenocissus tricuspidata</i></p> <p>GROUND COVER (Selection Options):
 <i>Arctostaphylos 'Emerald Carpet'</i>
 <i>Ceanothus g. 'Anchor Bay'</i>
 <i>Eriogon karwinskianus</i></p> <p>BIOSWALE PLANTS (Selection Options):
 <i>Carex divisa</i>
 <i>Chandropetalum</i>
 <i>Ceanothus 'Anchor Bay'</i>
 <i>Tris douglasiana</i>
 <i>Juncea patens</i>
 <i>Muhlenbergia rigens</i>
 <i>Ribes viburnifolium</i></p> | <p>BREATH OF HEAVEN
 AUSTRALIAN FUCHSIA
 FORTNIGHT LILY
 LANTANA
 LAVENDER
 HEAVENLY BAMBOO
 NEW ZEALAND FLAX
 PITTOSPORUM
 INDIA HAWTHORN
 BUSH GERMANDER</p> <p>1-Gal
 DAY LILY
 MUNSTEAD LAVENDER
 GERMANDER</p> <p>5-Gal
 NCN
 CREeping FIG
 CAT'S CLAW VINE
 BOSTON IVY</p> <p>1-Gal
 NCN
 NCN
 MEXICAN DAISY</p> <p>1-Gal
 BERKELEY SEDGE
 CAPE RUSH
 ANCHOR BAY CEANOTHUS
 DOUGLAS IRIS
 CALIFORNIA GRAY SEDGE
 DEER GRASS
 EVERGREEN CURRENT</p> |
|---|---|---|---|

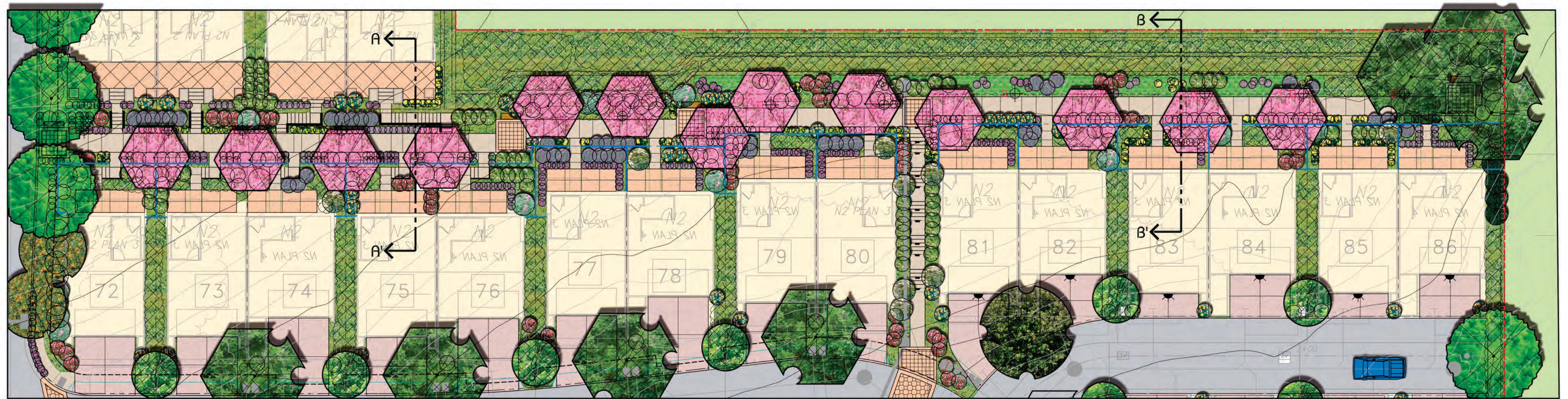
Fencing Legend

- 4' & 6' Wood Fence
 - 4' & 6' Metal Fence
1. SEE FENCE EXAMPLES ON SHEET 3

Notes

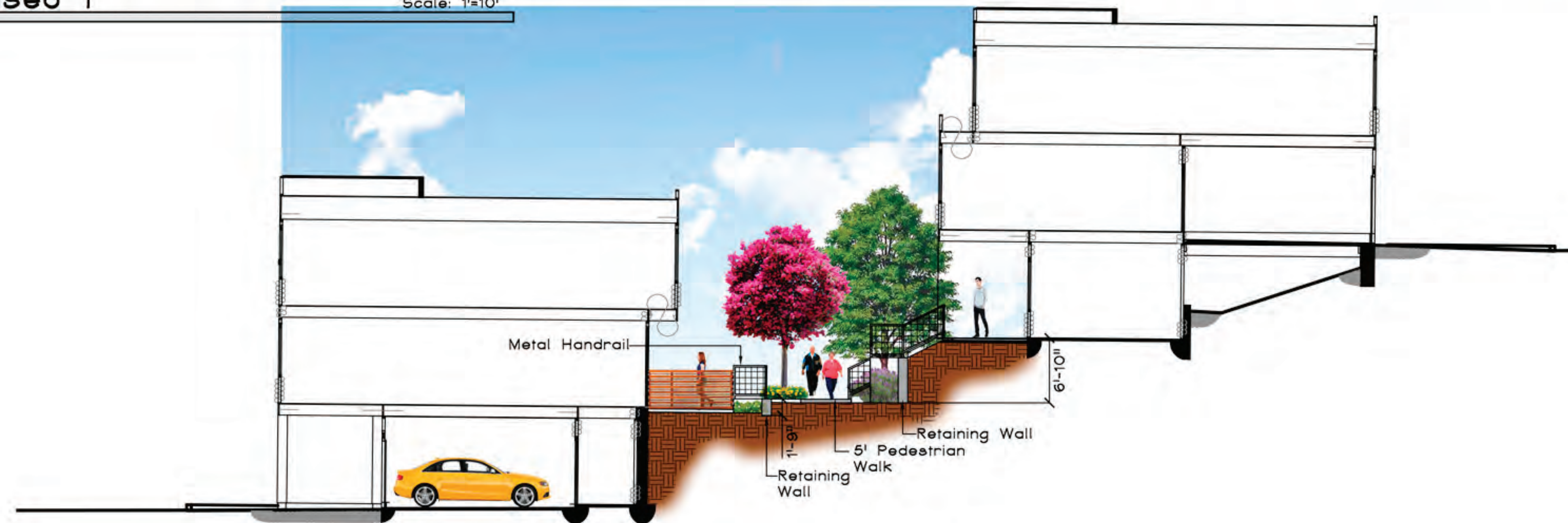
1. All landscape and irrigation shall conform to the standards of the City wide landscape regulations and guidelines and all other Landscape related City and Regional standards.
2. All plant materials have been selected from the following:
 - + San Mateo Stormwater Pollution Guidelines
 - + WULCOS Project "Water-Use Classification of Landscape Species" California Department of Water Resources





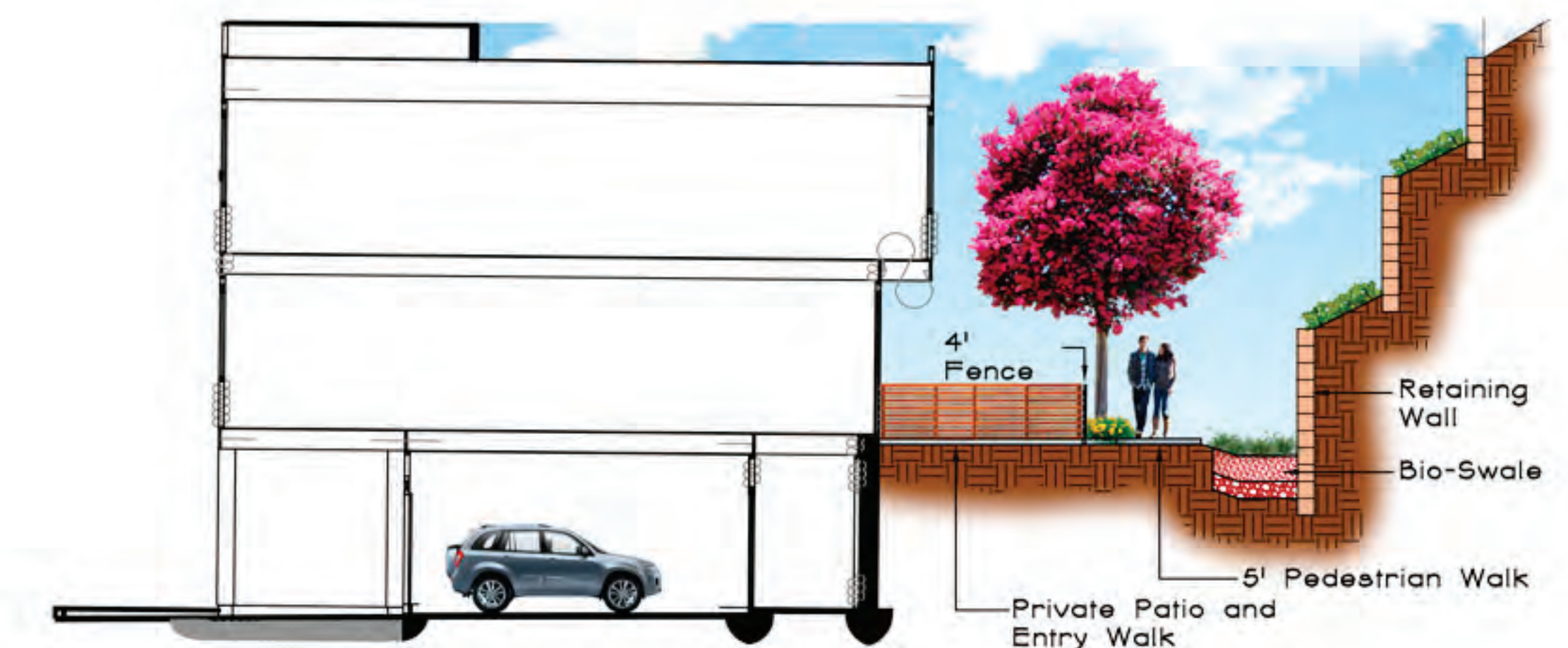
Paseo 1

Scale: 1"=10'



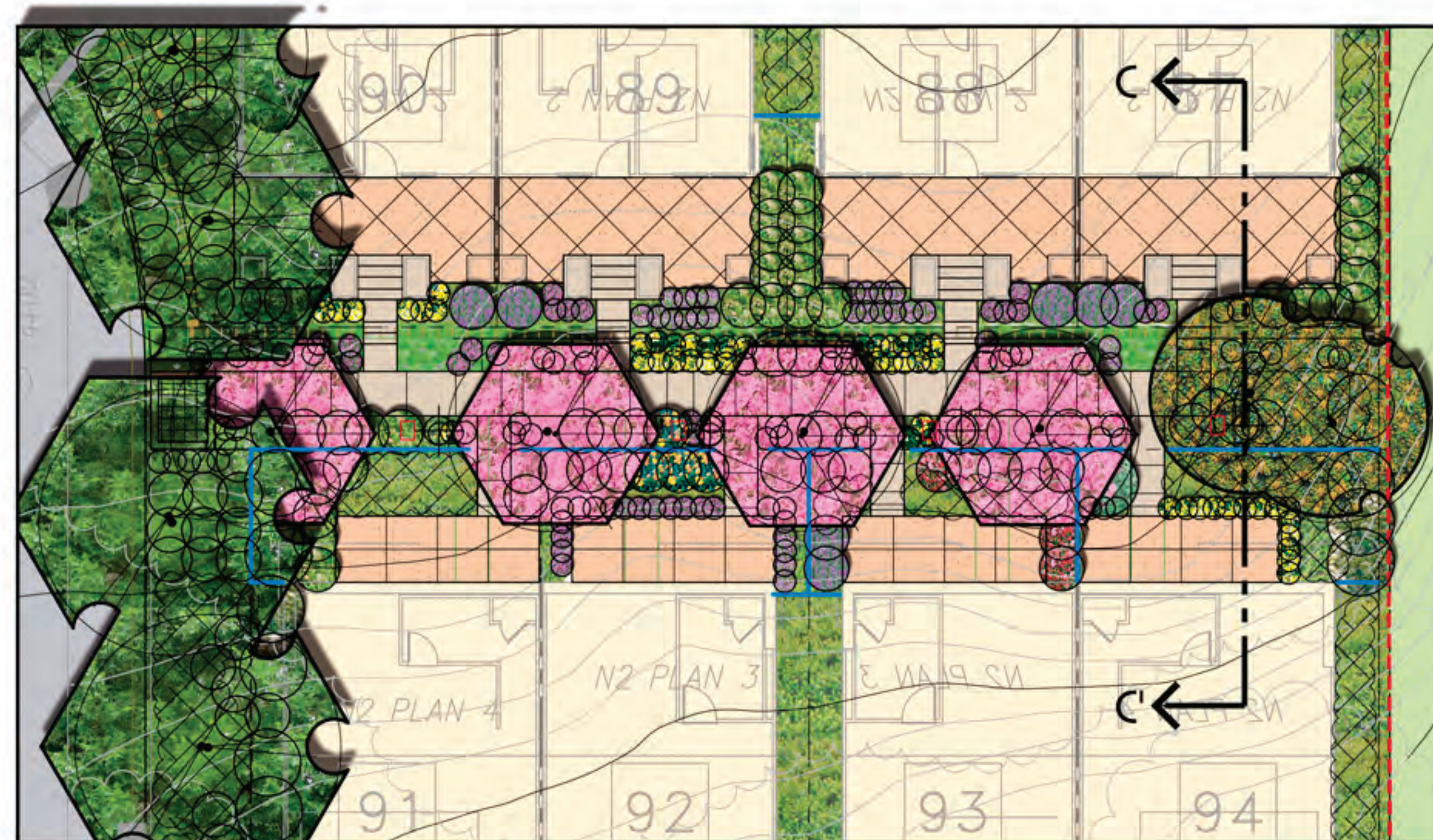
Paseo Section A-A'

Scale: 1/8"=1'-0"



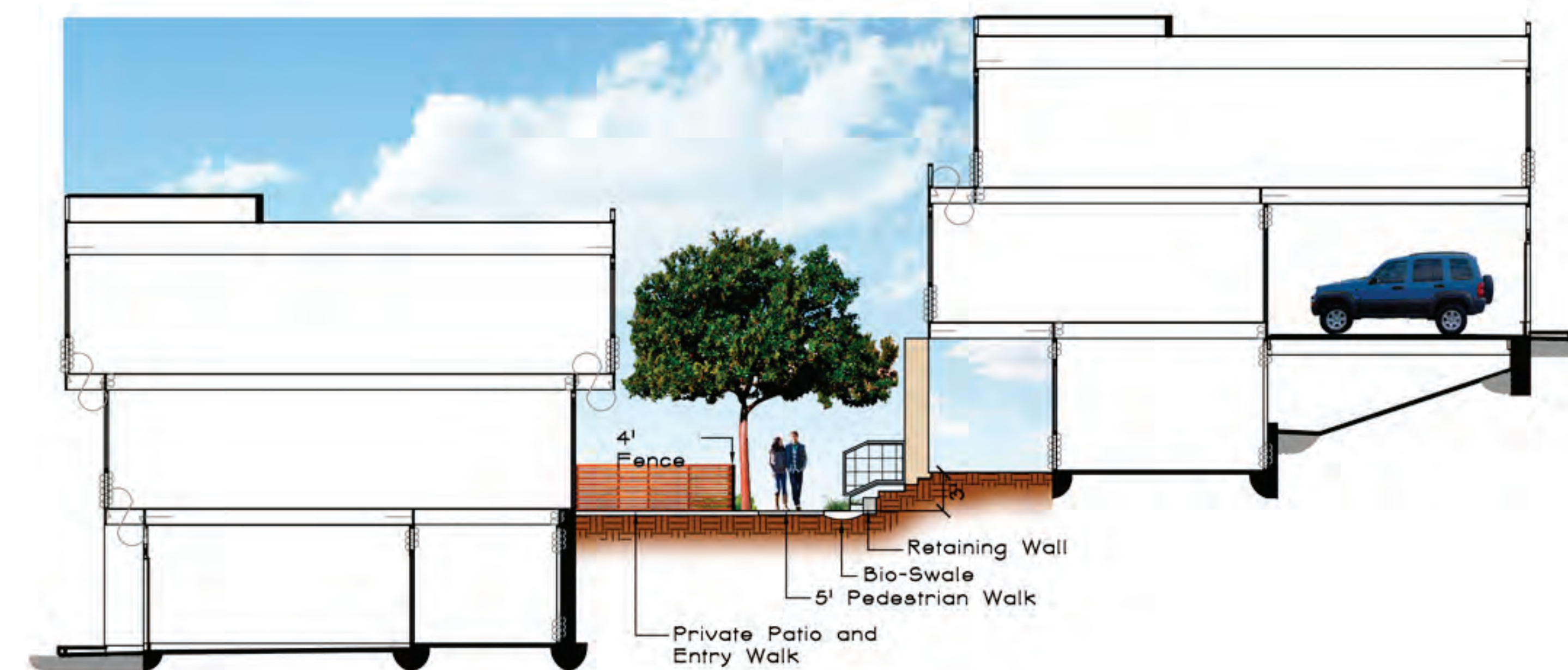
Paseo Section B-B'

Scale: 1/8"=1'-0"



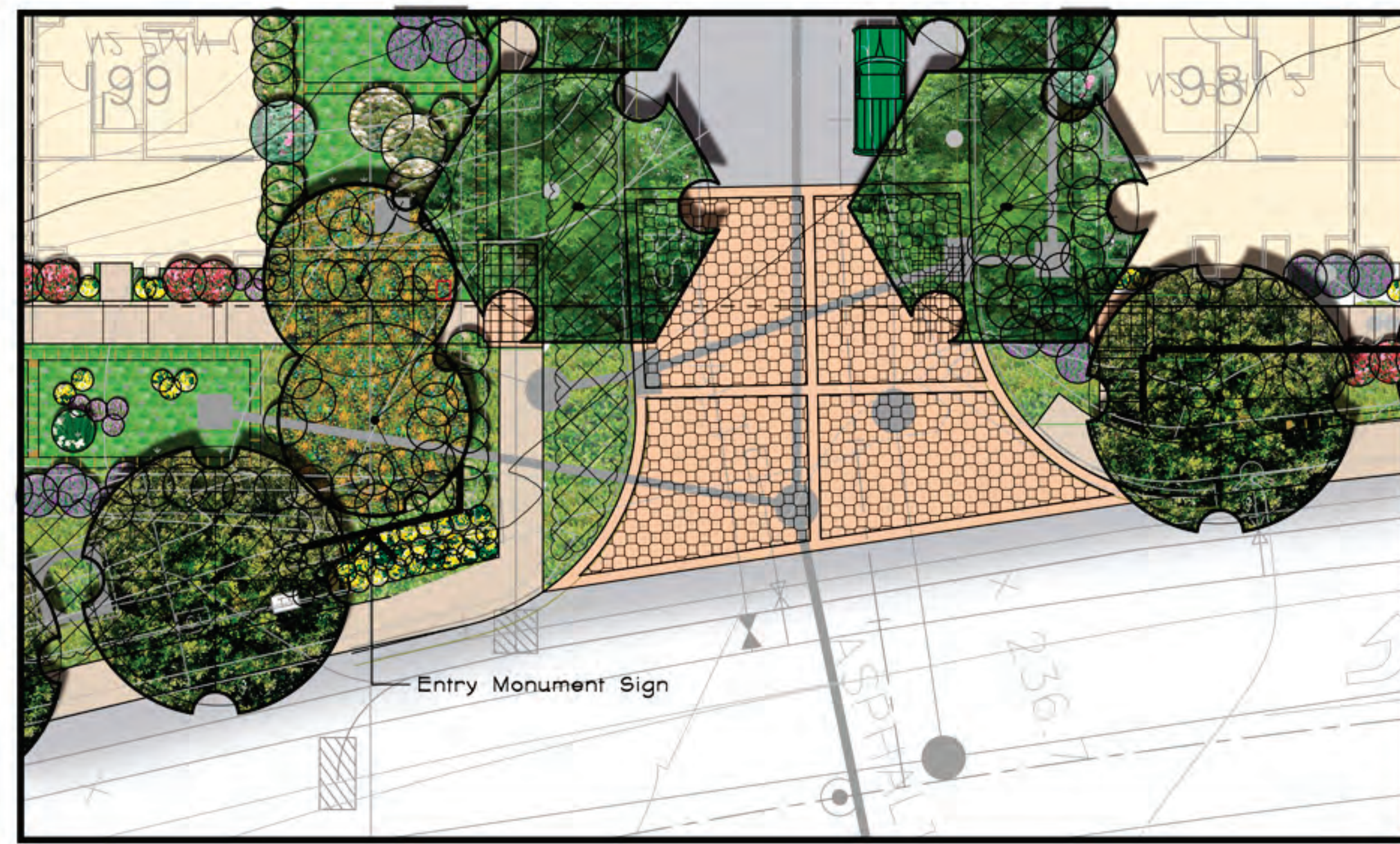
Paseo 2

Scale: 1"=10'



Paseo Section C-C'

Scale: 1/8"=1'-0"



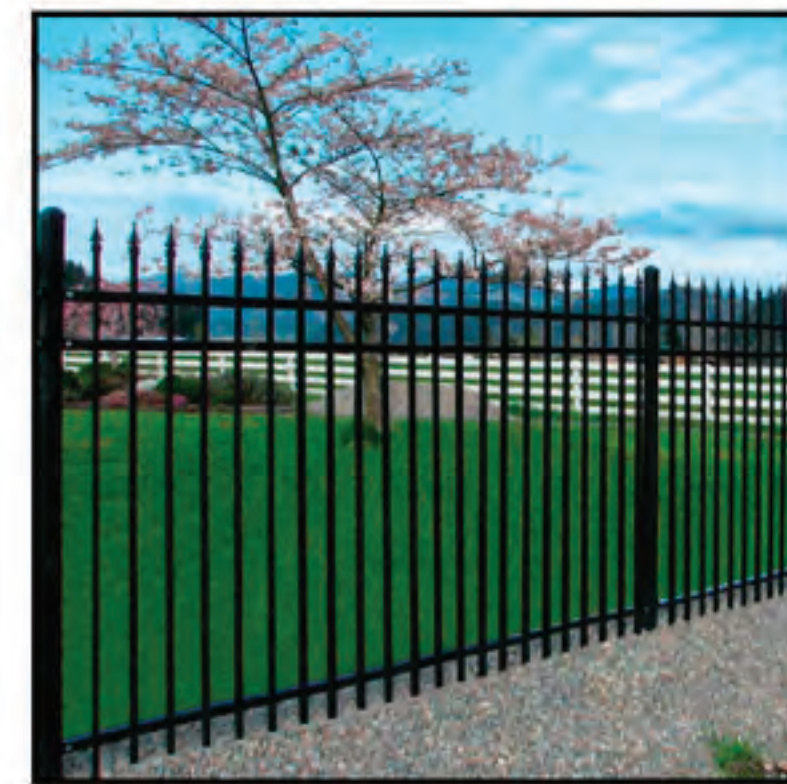
Main Entry Scale: 1"=10'



Monument Sign Scale: 1/2"=1'-0"



4' Horizontal Wood Fence



6' Metal Fence



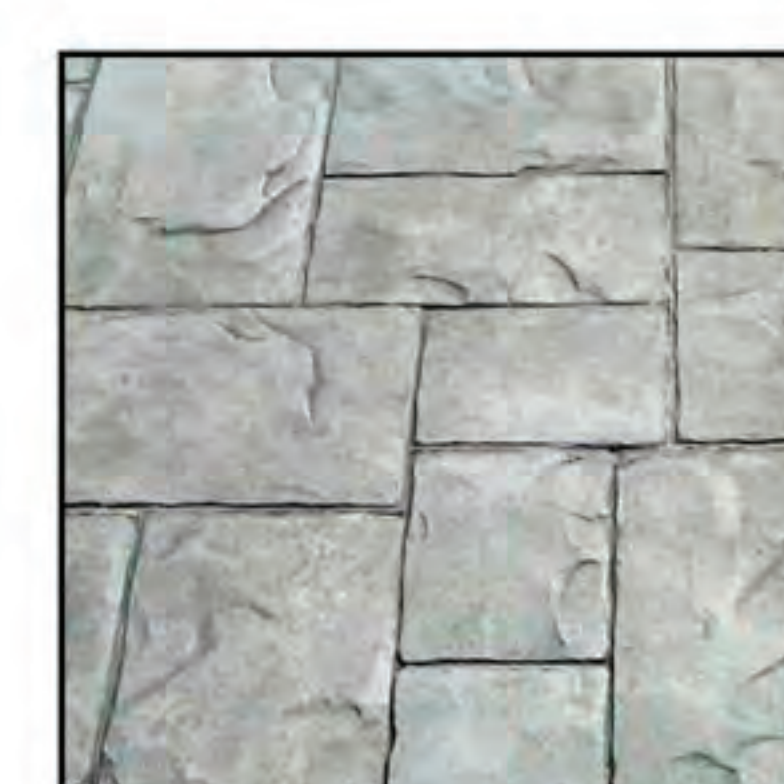
Paseo Bench



Concrete Retaining Wall



Block Retaining Wall



Project Stamped Entry Paving



Pedestrian interlocking Paver Accents



Gang mail Box



Acer s. 'Bowhall'



Juniperus s. 'Skyrocket'



Prunus s. 'Columnaris'

Verticle Tree



Pistacia chinensis
Chinese Pistache



Quercus ilex
Holly Oak



Tristania conferta
Brisbane Box



Ulmus parvifolia
Chinese Elm



Acer palmatum
Japanese Maple



Cercis occidentalis
Eastern Redbud

Trees



Nandina d. 'Fire Power'
Heavenly Bamboo



Arctostaphylos 'Pacific Mist'
Manzanita



Berberis a. 'Cherry Bomb'
Red Leaf Japanese Barberry



Buxus j. 'Winter Gem'
Korean Boxwood



Correa 'Dusky Bells'
Australian Fuchsia



Dietes bicolor
Nightblooming Jasmine



Lavandula angustifolia
English Lavender



Lavatera assurgentiflora
Tree Mallow



Phormium 'Jester'
Flax



Photina fraseri
Photinia



Hemerocallis 'Stella de Oro'
Day Lily



Teucrium x. 'Lucidrys'
NCN

Shrubs



Carex divulsa
Sedge



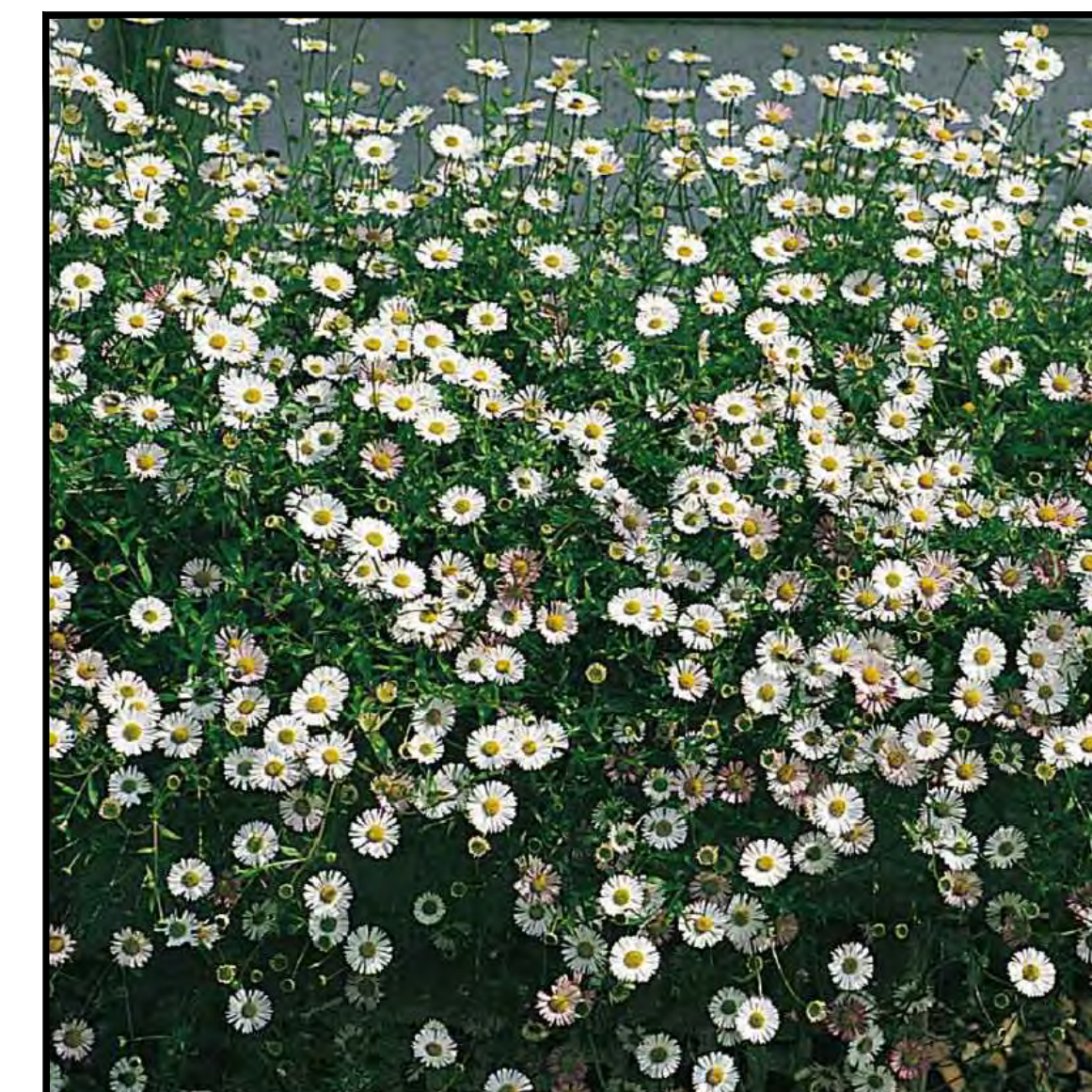
Arctostaphylos 'Emerald Carpet'
Manzanita



Ceanothus hearts desire
NCN



Chondropetalum tectorum
Cape Rush



Erigeron karvinskianus
Mexican Daisy



Rosa californica
California Rose

Ground Cover & Bio-swale Planting

**PLANNED DEVELOPMENT STANDARDS
PLANNED DEVELOPMENT ZONE PD-70
POINT MART II RESIDENTIAL SUBDIVISION**

The purpose and intent of these Planned Development Standards is to establish a Planned Development Zoning District for PD-70, which encompasses the entire project site.

I. GENERAL

- A. When these planned development standards conflict with other sections of the Zoning Ordinance, these standards prevail only to the extent of the conflict. Where these planned development standards do not provide regulations, the Zoning Ordinance shall apply as to the most similar land use or standard.
- B. Any modifications to plans approved by the City Council shall require an amendment of the original PD approval and shall be subject to separate approval by the Planning Commission and City Council. The Planning Division may approve minor changes of the approved plans due to code requirements or conditions of approval.
- C. All structures, landscape areas, required facilities and amenities shall be maintained in a neat, safe, and healthful condition, subject to improvement and upgrading of plans as required by this Planned Development approval.

II. PERMITTED USES

The sole permitted uses of the subject property shall be single-family detached homes.

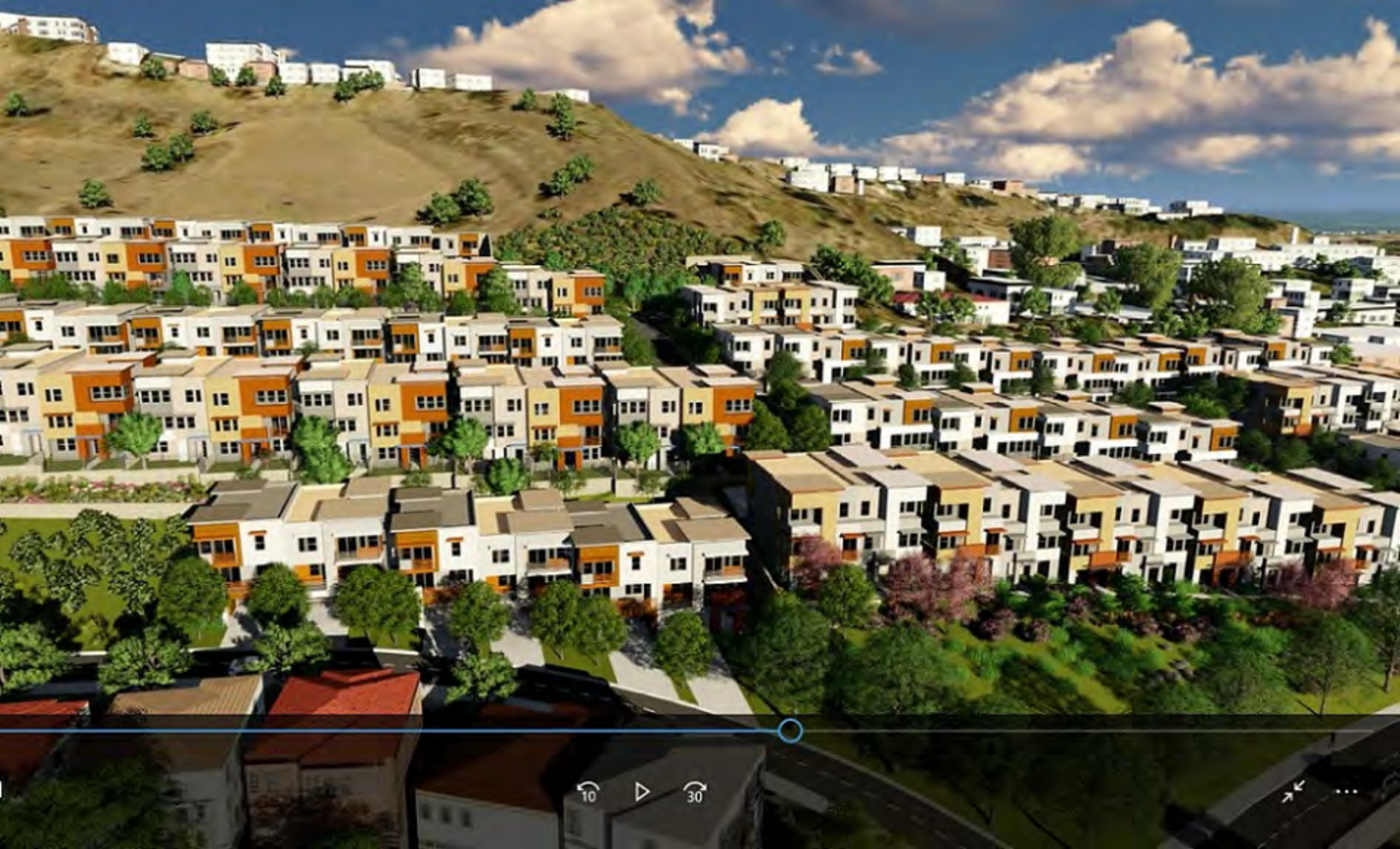
III. DEVELOPMENT STANDARDS

- A. **Unit Maximum:** The number of dwelling units shall not exceed 117.
- B. **Parking:** The project shall continually provide at least 402 off-street parking spaces and not less than 41 on-street parking, as established Tentative Subdivision Map. A parking management plan shall be continually in effect at the site, enforcement by the site homeowners association, and shall be effective to all site occupants.
- C. **Additions to Structures:** No structural expansions or additions shall be permitted;
- D. **Project Affordability:** The project shall be subject to the requirements of the Affordable Housing Agreement entered into between the developer and the City.
- E. **Building Area Limit:** There shall be no additional square footage allowed in PD-70 beyond what is permitted by the Design Review Committee. Prior to construction, the Planning Division is authorized to approve minor additions or alterations to square footage for the proposed project, if such changes are to meet specific code requirements and do not affect the overall mass of the building.

- F. Building Coverage:** For Neighborhood One, the maximum lot coverage shall be not less than 60 percent. For Neighborhood Two, the maximum lot coverage shall be not less than 65 percent.
- G. Building Height Limit:** The maximum height allowed for PD-70 is 35 feet.
- H. Building Setbacks:** For Neighborhood One, the front setback for any home shall be not less than six feet and rear setback for any home shall be not less than 12 feet. For Neighborhood Two, the front setback for any home shall be not less than 10 feet and rear setback for any home shall be not less than three feet. Setbacks shall be measured from each building's principal foundation.













AFFORDABLE HOUSING PLAN

For
Point Martin II, Daly City, CA

Developer: PTMLLC
Contact: David Beaumont
Date Submitted: 4/19/17

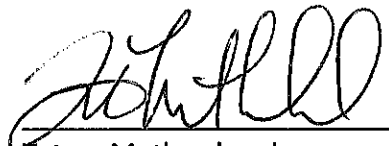
Per 17.47.100 of the City's Affordable Housing Ordinance, the City Manager must approve, conditionally approve, or reject the Affordable Housing Plan within 60 days of the date of a complete application for that approval.

Staff has reviewed this Affordable Housing Plan as attached and recommends approval. The Plan proposes:

- To build 11 Affordable Units at 120% AMI
- Pay a housing impact fee to be calculated as outlined in Plan. This is estimated to be \$1,823, 094.

Staff Review:

 4/25/17
Betsy Zobell Date
HCD Supervisor

 4/25/17
Tatum Mothershead Date
ECD Director

Approved by:

 4/25/2017
Patricia Martel, City Manager Date

AFFORDABLE HOUSING PLAN

Required by Chapter 17.47 of the Daly City Municipal Code

For
Point Martin II, Daly City, CA

Developer: PTMLLC
Contact: David Beaumont
Date Submitted: 4/19/17

- 1) Describe the location, structure (attached, semi-attached, or detached), proposed tenure, and size of the proposed Project.

The proposed project is located in the Bayshore District, along Carter Street. It consists of 117 single family detached homes: 67 units in Community Neighborhood One, and 50 units Community Neighborhood Two.

- 2) Specify which of the following the Affordable Housing Plan proposes, and provide the required information:

This Affordable Housing Plan proposes to provide an alternative per section 17.47.090 of the Ordinance. Specifically, it proposes to provide 11 Affordable Units within Community Neighborhood Two, and pay an estimated housing impact fee of \$1,823,094.

- a) Build Affordable Units [17.47.050 B]

- i) Describe the basis for calculating the number of Affordable Units.

The alternative is a combination of units and housing impact fees. Half of the unit requirement is 10% of 117 which comes to 11.7 units. 11 Affordable Units will be built with the fractional being incorporated in the payment of housing impact fees.

- ii) Provide a floor or site plan depicting the location of the Affordable Units.

See attached map.

- iii) Describe the income levels to which each Affordable Unit will be made affordable.

As per the Ordinance, the 11 Affordable Units will be affordable to households at 120% AMI.

- iv) Describe the mechanisms that will be used to assure that the units remain affordable for the desired term, such as resale and rental restrictions, deeds of trust, and rights of first refusal and other documents

The Affordable Units will remain affordable for the duration of 55 years as required in section 17.47.070 of the Ordinance. Affordability will be secured through a deed restriction whose form will be approved by the City.

- v) For phased Development, provide a phasing plan that provides for the timely development of the number of Affordable Units proportionate to each proposed phase of development as required by Section 17.47.050(B) of ordinance.

Phasing of the Affordable Units in Community Neighborhood Two will be pursuant to reasonably equitable proportion to each of two phases applicable to this community. Community Neighborhood One will be completed after Community Neighborhood Two is completed.

b) Calculation of Impact Fee of \$1,823,094 [17.47.050 B]

- i) Describe the basis for calculating the Impact Fee.

This plan proposes 11 Affordable units which is 47% percent of the total unit requirement of 23.4 units (.20 of 117). The remaining 53% of the unit obligation will be met by the payment of a housing impact fee:

$$.53 \times \$14 \times 117 \times 2,100\text{sqft} = \$1,823,094.$$

housing impact fee per sqft: \$14
total units in the development: 117
Average square feet of unit: 2,100 sqft

This is an estimated housing impact fee. Actual fee will be based on actual total square footage of living space in the development.

- 3) If the Affordable Housing Plan proposes something other than the building of the required Affordable Units, please describe the benefit(s) of your proposal compared to provision of the Affordable Units.

Not applicable.

- 4) Provide any other information reasonably requested by the City Manager to assist with evaluation of the Plan under the standards of the ordinance.

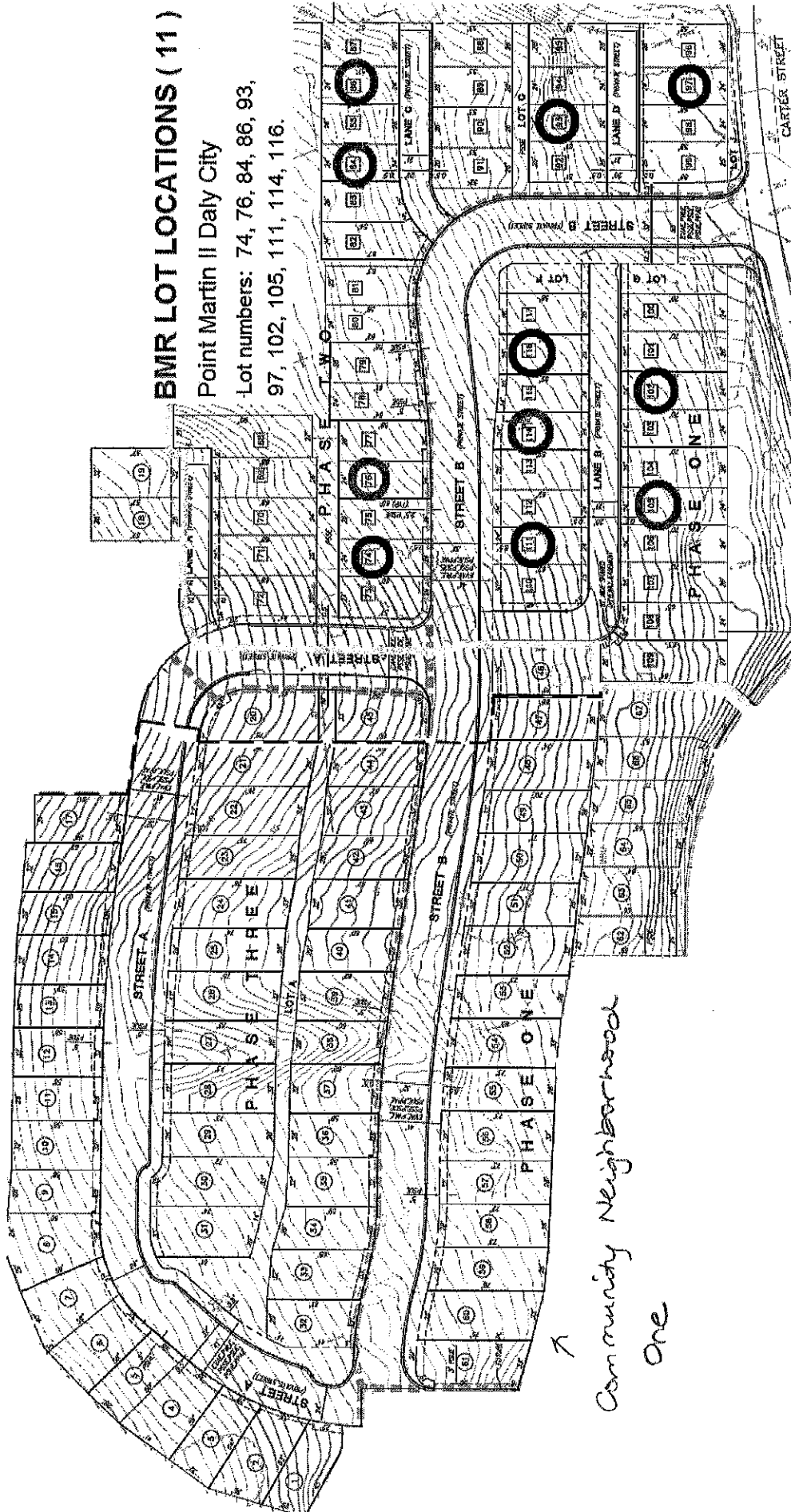
No other information requested.

NOTE: An approved Affordable Housing Plan is required for project approval. An Affordable Housing Agreement executed between City and Developer is required for issuance of building permit. The Affordable Housing Agreement shall stipulate that the City will choose a BMR administrator to administer the sale of BMR units for the project, and the Developer shall cover the cost of the BMR administrator.

BMR LOT LOCATIONS (11)

Point Martin II Daly City

Lot numbers: 74, 76, 84, 86, 93,
97, 102, 105, 111, 114, 116.



Community Neighborhood
One

Community Neighborhood
Two

Initial Study Point Martin II Residential Development

Prepared by:



In Consultation with:



March 2017

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Appendix G	Water Supply Report

ACRONYMS AND ABBREVIATIONS

BAAQMD	Bay Area Air Quality Management District
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
EIR	Environmental Impact Report
HOA	Homeowner Association
MND	Mitigated Negative Declaration
MRP	Municipal Regional Stormwater NPDES Permit
NOD	Notice of Determination
NPDES	National Pollutant Discharge Elimination System
RWQCB	Regional Water Quality Control Board
TAC	Toxic Air Contaminants
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

SECTION 1.0 INTRODUCTION AND PURPOSE

1.1 PURPOSE OF THE INITIAL STUDY

The City of Daly City as the Lead Agency, has prepared this Initial Study for the Point Martin II Residential Development project in compliance with the California Environmental Quality Act (CEQA), the CEQA Guidelines (California Code of Regulations §15000 et. seq.) and the regulations and policies of the City of Daly City, California.

The project proposes to construct a residential development project on an 18-acre project site located on the west side of Carter Street and Steve Courter Way, between Saddleback Drive and Martin Street. The specific project site is comprised of 18 acres of undeveloped land that is currently subdivided into 49 vacant parcels. The applicant, CKS Environmental, proposes to re-subdivide the 49 existing lots into a total of 117 parcels. The rezoning request would allow a 117-lot residential subdivision on an 8.03-acre portion of the site with the remaining approximately 10-acres preserved as open space. This Initial Study evaluates the environmental impacts that might reasonably be anticipated to result from implementation of the proposed project.

1.2 PUBLIC REVIEW PERIOD

Publication of this Initial Study marks the beginning of a 20-day public review and comment period. During this period, the Initial Study will be available to local, state, and federal agencies and to interested organizations and individuals for review. Written comments concerning the environmental review contained in this Initial Study during the 20-day public review period should be sent to:

City of Daly City
Department of Economic and Community Development
333 90th Street
Daly City, CA 94015

Mike Van Lonkhuysen, Planning Manager
(650) 991-8158
mvanlonkhuysen@dalycity.org

1.3 CONSIDERATION OF THE INITIAL STUDY AND PROJECT

Following the conclusion of the public review period, the City of Daly City will consider the adoption of the Initial Study/Mitigated Negative Declaration (MND) for the project at a regularly scheduled meeting. The City shall consider the Initial Study/MND together with any comments received during the public review process. Upon adoption of the MND, the City may proceed with project approval actions.

1.4 NOTICE OF DETERMINATION

If the project is approved, the City of Daly City 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 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 15075(g)).

SECTION 2.0 PROJECT INFORMATION

2.1 PROJECT TITLE

Point Martin II Residential Development (File Nos. GPA-9-16-12295, PD-10-15-11781, SUB-9-16-12296)

2.2 PROJECT LOCATION

The 18-acre project site is located on the west side of Carter Street and Steve Courter Way in Daly City. The project site is bounded by Carter Street to the northeast, Oak Court to the north, and Oakridge Drive to the west. Regional and vicinity maps of the project site are shown in Figures 2.2-1 and 2.2-2. An aerial photograph showing surrounding land uses is shown on Figure 2.2-3.

2.3 LEAD AGENCY CONTACT

City of Daly City
Department of Economic and Community Development
333 90th Street
Daly City, CA 94015

Mike VanLonkhuysen, Planning Manager
(650) 991-8158
mvanlonkhuysen@dalycity.org

2.4 PROJECT APPLICANT

David Beaumont
CKS Environmental
P.O. Box 927
Pacifica, CA 94044
(650) 283-0942

2.5 ASSESSOR'S PARCEL NUMBER

005-031-070, 005-031-080, 005-031-090, 005-031-100, 005-031-110, 005-031-120, 005-031-130, 005-031-140, 005-031-150, 005-041-010, 005-041-020, 005-041-030, 005-041-040, 005-041-050, 005-041-060, 005-041-90, 005-041-100, 005-041-110, 005-041-120, 005-041-130, 005-041-140, 005-041-150, 005-041-160, 005-041-170, 005-041-180, 005-041-190, 005-041-200, 005-041-210, 005-041-220, 005-041-230, 005-041-240, 005-041-250, 005-041-260, 005-042-010

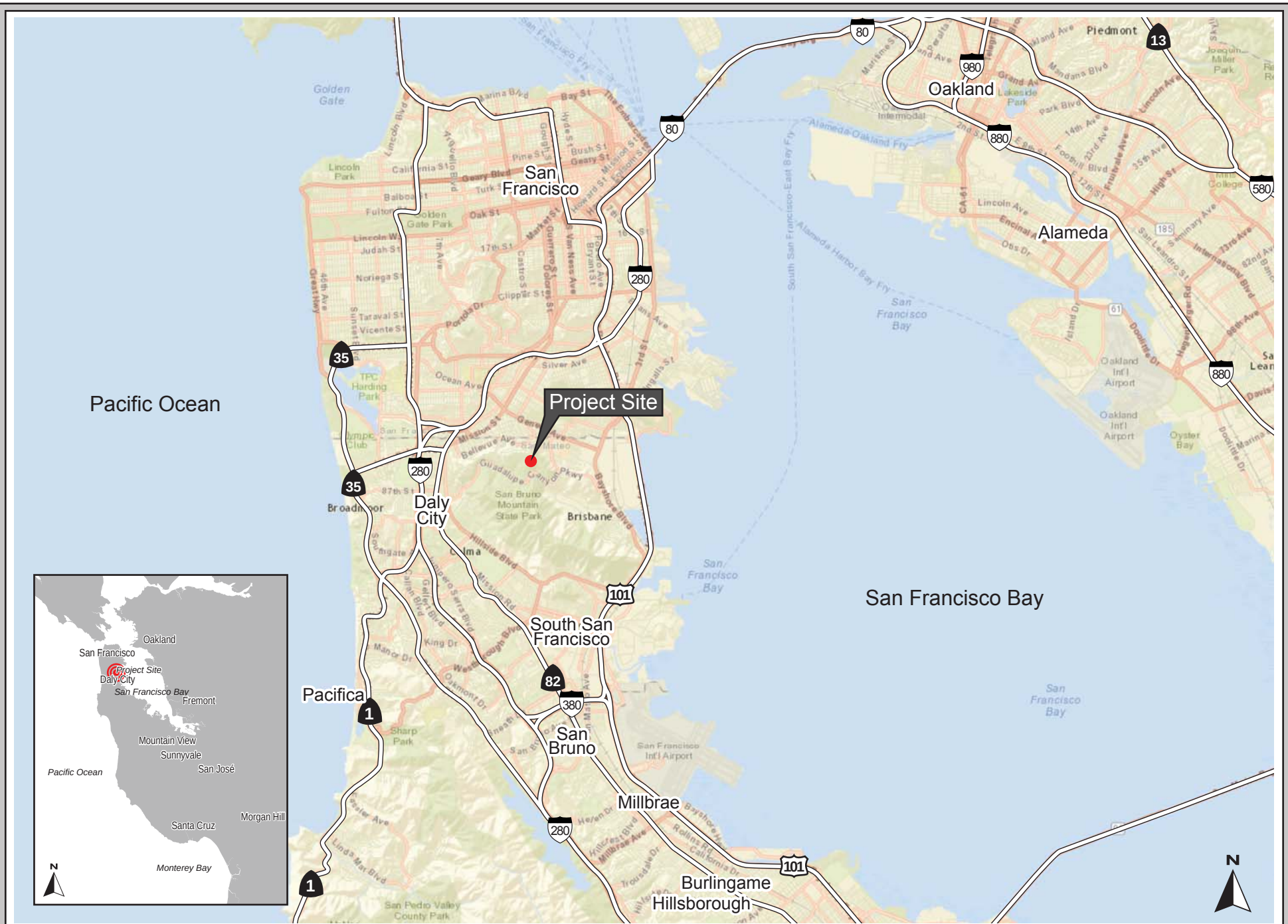
2.6 GENERAL PLAN DESIGNATION AND ZONING DISTRICT

General Plan Designation: *Residential – Low Density; Open Space Preservation*

Zoning District: *Pre – Planned Development*

2.7 PROJECT-RELATED APPROVALS, AGREEMENTS, AND PERMITS

- General Plan Amendment
- Planned Development Zoning Amendment
- Tentative Map and Final Map to subdivide the existing parcels
- Grading Permit
- Building Permit
- Design Review



REGIONAL MAP

FIGURE 2.2-1



VICINITY MAP

FIGURE 2.2-2



AERIAL PHOTOGRAPH AND SURROUNDING LAND USES

FIGURE 2.2-3

SECTION 3.0 PROJECT DESCRIPTION

3.1 PROPOSED GENERAL PLAN AMENDMENT

The project site is generally situated on the west side of Carter Street and Steve Courter Way. The site is currently designated in the General Plan as *Residential – Low Density and Open Space Preservation*. The project applicant, CKS Environmental, proposes a General Plan Amendment to re-designate 0.77 acres of *Open Space Preservation* to *Residential – Low Density* use and 1.44 acres of *Residential – Low Density* to *Open Space Preservation* to accommodate the proposed site plan (refer to Figure 3.0-1). The proposed residential density of 14.5 dwelling units per acre on the 8.03-acre site is consistent with the *Residential – Low Density* land use designation which allows residential densities between two (2) and 14.5 dwelling units per gross acre.

3.2 PROPOSED DEVELOPMENT

The project proposes a residential development project on an 18-acre project site located on the west side of Carter Street and Steve Courter Way (refer to Figure 3.0-2). The specific project site is comprised of 18 acres of undeveloped land that is currently subdivided into 49 vacant parcels. The project proposes to re-subdivide the 49 existing lots into a total of 117 parcels. The rezoning request would allow a 117-lot residential subdivision on an 8.03-acre portion of the site with the remaining approximately 10 acres of the site preserved as open space.

The rezoning application would rezone the entire 18-acre project site from Pre – Planned Development to Planned Development – 70.

3.2.1 Building Heights and Setbacks

The proposed residential structures would be set back approximately six to 10 feet along the front of each lot, and three to 12 feet along the rear of each lot. The overall proposed maximum height of the residences would be approximately 35 feet (see Figures 3.0-3). The proposed lot sizes range from approximately 1,200 square feet to 2,400 square feet.

3.2.2 Site Access and Circulation

Vehicle access to the development would be provided from an entrance off of Carter Street. Pedestrian access would be from a new sidewalk constructed along Carter Street. The project would create an exclusive northbound left-turn into the project driveway on Carter Street. An internal roadway network would include two private roads, Street A and Street B, and four private lanes, Lanes A, B, C, and D.

Each residence would include a two-car garage with 100 of the units allowing for one to two parking spaces on the driveway aprons. Approximately 54 on-street parking spaces would be provided on Streets A and B, and Steve Courter Way.

A second point of vehicle access is via Steve Courter Way from Carter Street to the intersection of an internal private roadway (Street A) and Farrier Place. A third point of vehicle access is via Martin Trail from Carter Street to Steve Courter Way. Pedestrian access would be provided via sidewalks

that would be constructed on the public internal roadways that would connect to the existing sidewalk on Carter Street and Martin Trail.

3.2.3 Grading and Demolition

The steeply sloping project site will require extensive grading to remove areas of artificial fill, shallow landslide deposits, and the remnants of the previously existing residence and dilapidated shed and construct 117 residential dwelling units. The project proposes to construct retaining walls ranging from one to 15 feet throughout the property to accommodate the proposed lots and structures. A 25-foot retaining wall is proposed along the northwestern portion of the site where extensive grading would be necessary. All on-site trees will be removed that are in conflict with the proposed grading and building footprints. The project grading will require 98,000 cubic yards of soil export from the site.

3.2.4 Landscaping

The project proposes to add approximately 260 trees and several landscaped drainage swales on the project site to increase permeability (see Figure 3.0-4). A maintenance access road is located southwest of the proposed residences to provide access to maintain the proposed open space. The proposed open space is located upslope of the proposed residences and would be maintained by the project Homeowners Association (HOA).

3.2.5 Utility Improvements

The project proposes to connect to existing sanitary sewer lines, storm drain lines, and water lines in Carter Street and Steve Courter Way. The project does not propose to improve any of the other existing utilities serving the site. A public services utility easement is located along the southwestern boundary of the project site. A joint utility trench would be constructed to underground the existing overhead electrical lines.

3.2.6 Drainage Improvements

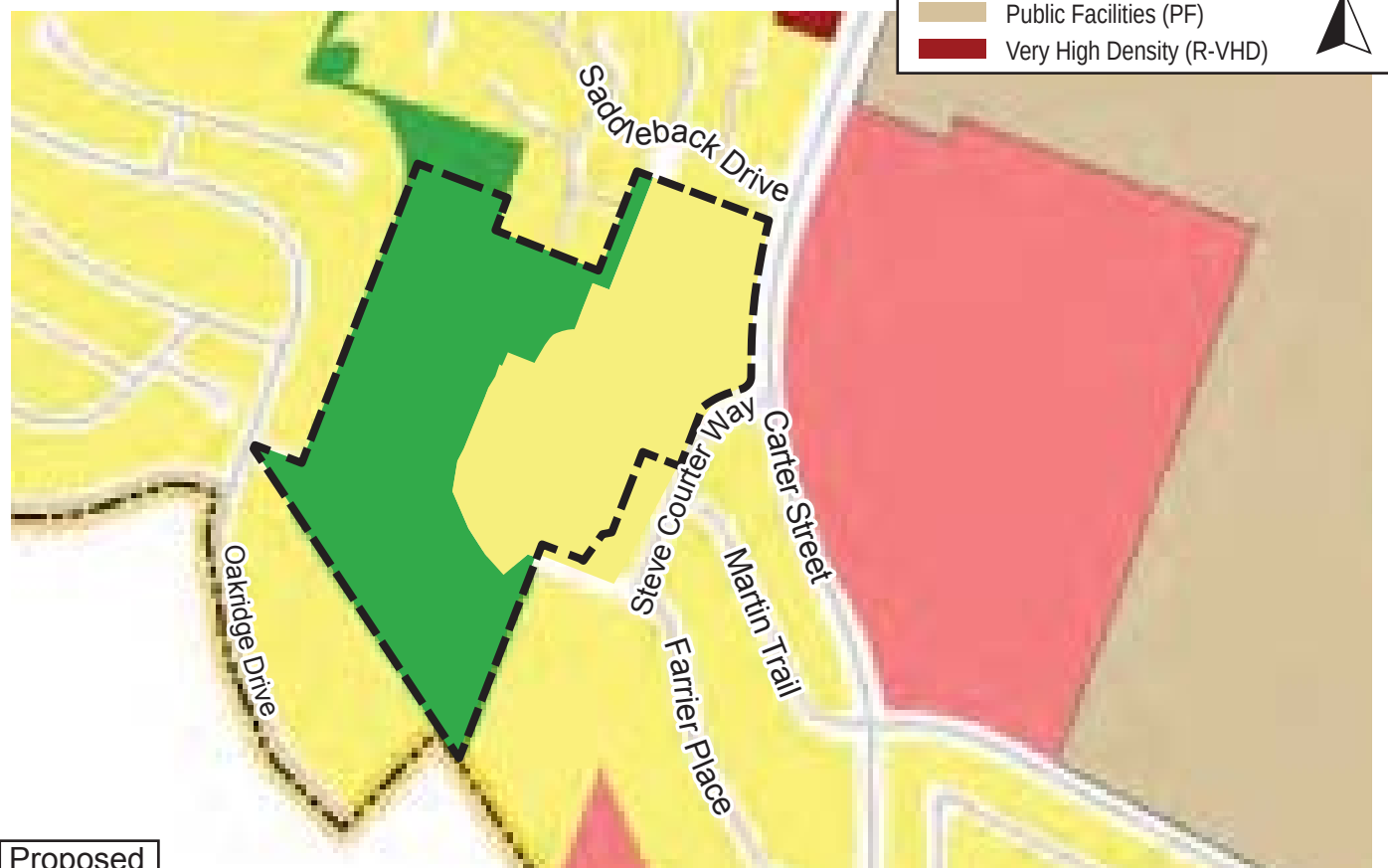
The project proposes to construct storm drain filter mechanisms that are landscaped to retain and minimize stormwater runoff. The stormwater runoff from building roofs and other impervious areas would be directed to bio-retention areas that are located throughout the project site. These bio-retention areas would flow to the storm drains located in Carter Street and Steve Courter Way.

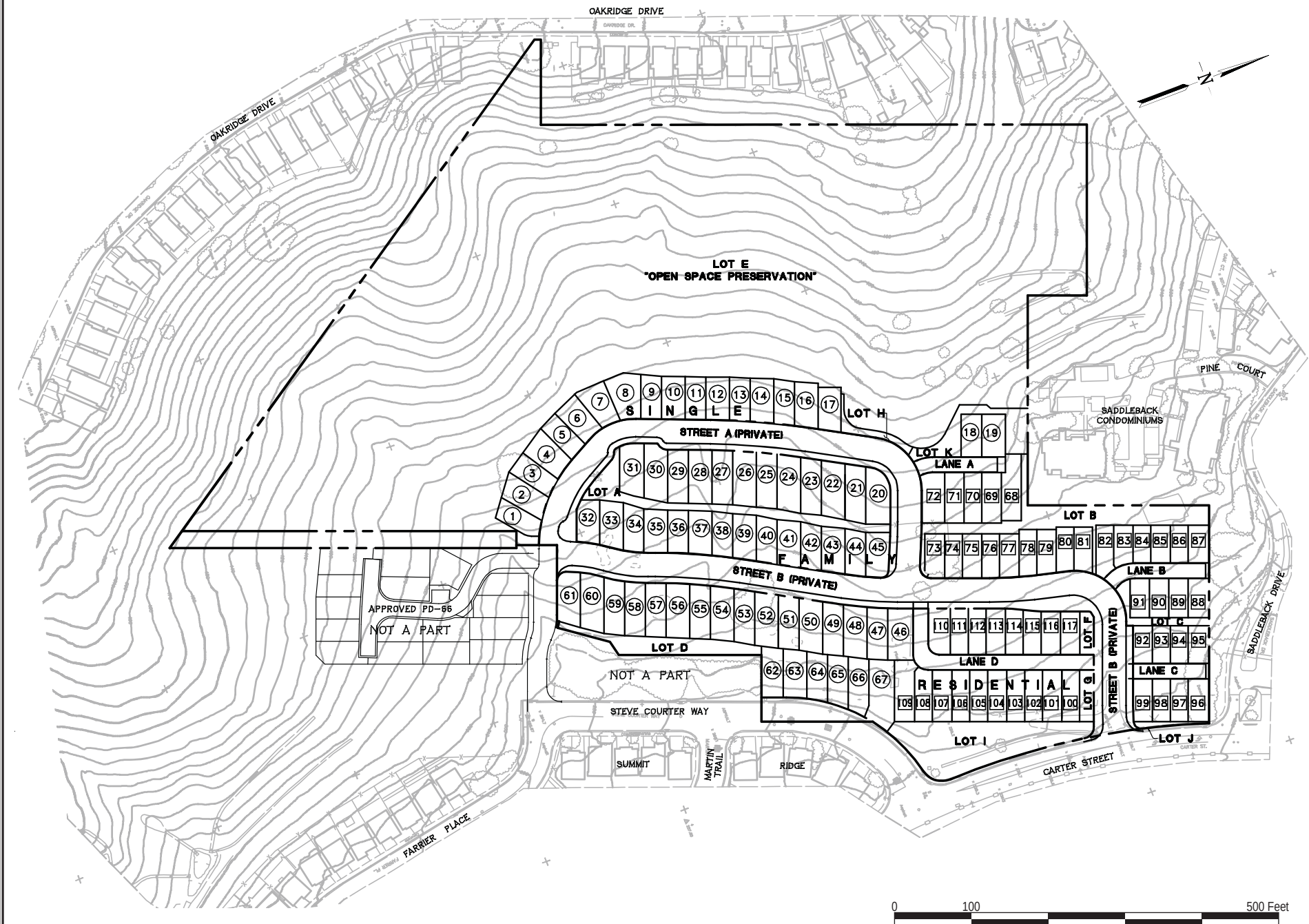
3.2.7 Project Construction

The construction schedule assumes that the project would be built out over a period of approximately 22 months beginning in 2017, or an estimated 462 construction workdays (assuming an average of 22 construction days per month). The site preparation and grading phase would take approximately seven months. The building construction phase would take approximately 15 months.

An approximately 300-foot long portion of new private Street A would be constructed east of the project site to connect the project to Steve Courter Way, shown as a shaded street right-of-way on the tentative map, see Figure 3.0-2 Site Plan. This street segment provides primary street access for the adjacent Point Martin I subdivision, and would be constructed by Point Martin I if that project precedes the current proposed project, Point Martin II. However, if the current project, Point Martin

II is constructed first, agreements have been reached between the developers for the two adjacent projects such that the street segment would be constructed by Point Martin II, as the connection of Street A to Steve Courter Way is an important secondary point of access for the Point Martin II. This off-site street construction has undergone environmental review as part of the Point Martin I project entitlement process, and the cumulative environmental effects of constructing this street segment, as well as the Point Martin I project itself, in combination with the subject project are evaluated in *Section 4.18 Mandatory Findings of Significance*.





Source: RJA. Feb. 27, 2017.

PROPOSED SITE PLAN

FIGURE 3.0-2



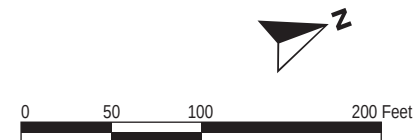
Source: CKS Environmental.

PROPOSED CONCEPTUAL RENDERING

FIGURE 3.0-3



Source: HWA Landscape Architecture Site Planning, May 18, 2016.



PROPOSED LANDSCAPE PLAN

FIGURE 3.0-4

SECTION 4.0 ENVIRONMENTAL SETTING, CHECKLIST, AND IMPACT DISCUSSION

This section presents the discussion of impacts related to the following environmental subjects in their respective subsections:

4.1	Aesthetics	4.10	Land Use and Planning
4.2	Agricultural and Forestry Resources	4.11	Mineral Resources
4.3	Air Quality	4.12	Noise and Vibration
4.4	Biological Resources	4.13	Population and Housing
4.5	Cultural Resources	4.14	Public Services
4.6	Geology and Soils	4.15	Recreation
4.7	Greenhouse Gas Emissions	4.16	Transportation/Traffic
4.8	Hazards and Hazardous Materials	4.17	Utilities and Service Systems
4.9	Hydrology and Water Quality	4.18	Mandatory Findings of Significance

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.
- **Checklist and Discussion of Impacts** – This subsection includes a checklist for determining potential impacts and discusses the project’s environmental impact as it relates to the checklist questions. For significant impacts, feasible mitigation measures are identified. “Mitigation measures” are measures that would minimize, avoid, or eliminate a significant impact (CEQA Guidelines Section 15370). Each impact is numbered using an alphanumeric system that identifies the environmental issue. For example, **Impact BIO-1** denotes the first potentially significant impact discussed in the Biological Resources section. Mitigation measures are also numbered to correspond to the impact they address. For example, **MM AQ-2.3** refers to the third mitigation measure for the second impact in the Air Quality section.
- **Conclusion** – This subsection provides a summary of the project’s impacts on the resource.

Important Note to the Reader

The California Supreme Court in a December 2015 opinion [*California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal. 4th 369 (No. S 213478)] confirmed that CEQA, with several specific exceptions, is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. Therefore, the evaluation of the significance of project impacts under CEQA in the following sections focuses on impacts of the project on the environment, including whether a project may exacerbate existing environmental hazards.

The City of Daly City currently has policies that address existing conditions (e.g., air quality, noise, and hazards) affecting a proposed project, which are also addressed in this section. This is consistent with one of the primary objectives of CEQA and this document, which is to provide objective information to decision-makers and the public regarding a project as a whole. The CEQA Guidelines and the courts are clear that a CEQA document (e.g., EIR or Initial Study) can include information of interest even if such information is not an “environmental impact” as defined by CEQA.

Therefore, where applicable, in addition to describing the impacts of the project on the environment, this chapter will discuss Planning Considerations that relate to policies pertaining to existing conditions. Such examples include, but are not limited to, locating a project near sources of air emissions that can pose a health risk, in a floodplain, in a geologic hazard zone, in a high noise environment, or on/adjacent to sites involving hazardous substances.

4.1 AESTHETICS

4.1.1 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐	1,2
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐	1
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐	1,2
d) Create a new source of substantial light or glare which will adversely affect day or nighttime views in the area?	☐	☐	☒	☐	1

4.1.2 Existing Setting

The 18-acre project site is located in an urban, developed area of Daly City. The project site is bounded by Carter Street to the northeast, and single- and multi-family residences to the southeast, north, northwest, and southwest.

The project is located on an undeveloped hillside and is mostly visible from surrounding roadways including Steve Courter Way, Carter Street, and Guadalupe Canyon Road (see Photos 1 through 4). The site is covered with acres of scrub vegetation and several mature trees.

The General Plan does not identify scenic views on or adjacent to the project site.

Surrounding Visual Character

As described above, the project site is surrounded by development, roadways, and vacant land. A condominium development is located northeast of the site which consists of three-story, stucco-finish multi-family condominium buildings. The residential uses to the southeast of the site consist of two-story, wood-sided single-family homes. San Bruno Mountain State Park is located adjacent to the southwest boundary of the project site.

Scenic Vistas and Resources

San Bruno Mountain reaches approximately 1,000 feet in elevation and is visible from various locations throughout the City, including the project site. Views of the San Francisco Bay are present from the project site. The project site has remained vacant and mostly undeveloped and no scenic resources, such as rock outcroppings or historic buildings (refer to *Section 4.5 Cultural Resources*), are present on the site or in the project area, with the exception of several mature trees (refer to *Section 4.4 Biological Resources*).



PHOTO 1: View from the northwest corner of the project site on Oakridge Drive looking southeast onto the project site.



PHOTO 2: View of the western portion of the property from the approximate location of Lot 7 (see Figure 3.0-2).



PHOTO 3: View of the adjacent residential neighborhood on Steve Courter Way located south-east of the project site from the approximate location of Lot 45.



PHOTO 4: View of the project site looking west from Carter Street.

The California Scenic Highways Program, maintained by the California Department of Transportation (Caltrans), designates scenic highways and routes with the intention of protecting and enhancing the scenic beauty of the highways, routes, and adjacent corridors. Designation ensures that new development projects along recognized scenic corridors are designed to maintain the route's scenic potential. There are three eligible State scenic highways within the City of Daly City, although none are officially designated; Skyline Boulevard (State Route (SR) 35), Cabrillo Highway (SR 1), and Junipero Serra (Interstate 280 (I-280)). Scenic potential along these corridors is related to the views of the coast and San Bruno Mountain. None of these roadways are located near the project site.

Guadalupe Canyon Parkway, approximately 0.4 miles southeast of the site, is identified in the General Plan as a scenic corridor that provides access to visual resources including grasslands and meadows that are colorful with wildflowers in the spring.

The project site is not visible from any state or County designated scenic highways or roadways. The project site is, however, visible from Guadalupe Canyon Parkway, which is designated in the Daly City General Plan as a scenic corridor.

4.1.2.1 *Applicable Plans, Policies, and Regulations*

City of Daly City General Plan

The City of Daly City General Plan includes a Visual Quality section under the Resources Management Element. General Plan policies and tasks relevant to the Project with regards to aesthetics are listed below.

Policy	Description
Task CE-20.7	As a part of all new development, require, where appropriate, the provision of pedestrian-oriented signs, pedestrian-scaled lighting, benches, and other street furniture so as to make non-motorized forms of travel comfortable and attractive alternatives to the automobile. Where necessary in new development, the City may require additional sidewalk and/or right-of-way width to accommodate these amenities.
Policy RME-20	Recognize the physical differences between different parts of the City and regulate land uses within these areas accordingly.
Task RME-20.4	Incorporate design features in new development that reflect the character of the neighborhood, to ensure that new construction is compatible with existing development.
Policy LU-17	Ensure that private development is responsible for providing any on-or off-site improvements related to and/or mitigating the impacts it causes.

4.1.3 Impacts Evaluation

a) *Would the project have a substantial adverse effect on a scenic vista?*

The City's General Plan does not identify any State or County designated scenic highways located in Daly City. However, several roadways have been recognized as having scenic quality. The General Plan identifies Guadalupe Canyon Parkway as a scenic corridor. Oblique views of the project site are visible from the intersection of Carter Street and Guadalupe Canyon Parkway. The proposed residential structures will be constructed into the

hill, thereby not extending above the ridgeline, or blocking views in the vicinity of the site. The proposed project would not obstruct views of the San Francisco skyline, the San Francisco Bay, or San Bruno Mountain from adjacent roadways or properties.

The project will not obscure views of San Bruno Mountain or the coast from either Guadalupe Canyon Road or I-280. The property is not visible from SR-35. **(Less Than Significant Impact)**

- b) *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

There are three eligible State scenic highways within the City of Daly City, though none are officially designated. These highways include Skyline Boulevard (SR 35), Cabrillo Highway (SR 1), and Junipero Serra (I-280).

Scenic resources, such as rock outcroppings or historic buildings (refer to *Section 4.5 Cultural Resources*), are not present on the project site. The trees to be removed as part of the project are common and unremarkable visually. The project site is not located along a state scenic highway or a rural scenic corridor. The proposed project, therefore, would result in a less than significant impact to scenic resources. **(Less Than Significant Impact)**

- c) *Substantially degrade the existing visual character or quality of the site and its surroundings?*

The project site is an undeveloped hillside property. The proposed project is surrounded by residential developments with primarily single-family uses to the southeast and southwest, and multi-family uses (Saddleback Condominiums) to the northwest. The proposed development would be built into the hillside and would maintain the established patterns of development on the lower hillsides of San Bruno Mountain. Given the range of uses, styles, and intensities of development in the project area, the proposed single-family residential development would not significantly degrade the existing visual character of the site or project area. **(Less Than Significant Impact)**

- d) *Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?*

Since the City of Daly City is primarily built out, the light and glare that exists within the city is typical of that in an urban setting. Nighttime lighting impacts are considered significant when they interfere with or intrude into neighboring residences. Light pollution is typically related to the use of high voltage light fixtures with inadequate shields and improper positioning or orientation. Compliance with the Design Review process outlined in the City's Zoning Ordinance, which requires that general architectural considerations such as exterior lighting are compatible with the design and character of other adjacent buildings, and proposed General Plan policies requiring design compatibility would reduce light and glare impacts to less than significant. Furthermore, the project would be constructed with materials such as concrete and stucco, which are generally non-reflective materials and,

therefore, would not create a new source of glare. For these reasons, the proposed project would not result in significant light and glare impacts. **(Less Than Significant Impact)**

4.1.4 Conclusion

Implementation of the proposed project would not result in significant adverse visual or aesthetic impacts. **(Less Than Significant Impact)**

4.2 AGRICULTURAL AND FORESTRY RESOURCES

4.2.1 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) 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?	☐	☐	☐	☒	1,2,4
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒	1
c) 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))?	☐	☐	☐	☒	1,2
d) Result in a loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒	1
e) 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?	☐	☐	☐	☒	1,2,4

4.2.2 Existing Setting

The project site is vacant and undeveloped, with the exception of a dilapidated shed located on the east side of the property. According to the *San Mateo County Important Farmland 2014* map, the project site is designated as *Other Land*, which is land that is not included in any other mapping category, such as low density rural developments, brush, timber, wetland, and riparian areas not suitable for livestock grazing, confined livestock, poultry, or aquaculture facilities, strip mines, borrow pits, and water bodies smaller than 40 acres.¹

¹ California Department of Conservation, Division of Land Resource Protection. *San Mateo County Important Farmland 2014 Map*. 2016.

4.2.3 Impacts Evaluation

- a, b) *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use? Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

The project site is located in an urbanized area in the City of Daly City. The project site does not include active agricultural uses, nor is the site zoned for agricultural uses. Therefore, the proposed project would have no impact on agricultural resources or operations. **(No Impact)**

- c, d) *Would the project 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))? Would the project result in a loss of forest land or conversion of forest land to non-forest use?*

"Forest land" is defined as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. "Timberland" means land, other than land owned by the federal government and land designated by the board as experimental forest land, which is available for, and capable of, growing a crop of trees of a commercial species used to produce lumber and other forest products, including Christmas trees.

The project site is vacant and undeveloped. The site and surrounding area are not used or zoned for timberland or forest land. Therefore, the project would not impact timberland or forest land. **(No Impact)**

- e) *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 proposed project does not involve any changes in the environment that would result in the conversion of farmland or forest land to other uses. **(No Impact)**

4.2.4 Conclusion

Implementation of the proposed project would have no impacts on agricultural or forest resources. **(No Impact)**

4.3 AIR QUALITY

The following discussion is based in part on an Air Quality and Greenhouse Gas Emissions Assessment prepared by *Meridian Consultants* in October 2016. A copy of this report is attached as Appendix A.

4.3.1 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐	1,5
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐	1,6,7
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard including releasing emissions which exceed quantitative thresholds for ozone precursors?	☐	☐	☒	☐	1,6,7
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐	1,6,7
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐	1,6,7

4.3.2 Existing Setting

Air quality and the amount of a given pollutant in the atmosphere are determined by the amount of a pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain and for photochemical pollutants, sunshine.

The U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for what are commonly referred to as "criteria pollutants," because they set the criteria for attainment of good air quality. Criteria pollutants include carbon monoxide, ozone, nitrogen dioxide, sulfur dioxide, and particulate matter (PM).

4.3.2.1 *Climate and Topography*

The project site is located in San Mateo County, which is part of the San Francisco Bay Area Air Basin. The project area's proximity to both the Pacific Ocean and the San Francisco Bay has a moderating influence on its climate.

4.3.2.2 *Regional and Local Criteria Pollutants*

Major criteria pollutants, listed in “criteria” documents by the USEPA and CARB include ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and suspended particulate matter. These pollutants can have health effects such as respiratory impairment and heart/lung disease symptoms. Ambient air quality standards have been established at both the state and federal level. Violations of ambient air quality standards are based on air pollutant monitoring data and are judged for each air pollutant. Areas with air quality that exceed adopted air quality standards are designated as “nonattainment” areas for the relevant air pollutants. Nonattainment areas are sometimes further classified by degree (marginal, moderate, serious, severe, and extreme for ozone, and moderate and serious for carbon monoxide and PM₁₀) or status (“nonattainment-transitional”). Areas that comply with air quality standards are designated as “attainment” areas for the relevant air pollutants. “Unclassified” areas are those with insufficient air quality monitoring data to support a designation of attainment or nonattainment, but are generally presumed to comply with the ambient air quality standard. State Implementation Plans must be prepared by states for areas designated as federal ambient air quality standard.

The Bay Area is considered a non-attainment area for ground-level ozone and fine particulate matter (PM_{2.5}) under both the federal Clean Air Act and the California Clean Air Act. The area is also considered non-attainment for respirable particulates or particulate matter with a diameter of less than 10 micrometers (PM₁₀) under the California Clean Air Act, but not the federal act. 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 emissions of these precursor pollutants is the focus of the Bay Area’s attempts to reduce ozone levels. High ozone levels aggravate respiratory and cardiovascular diseases, reduced lung function, and increase coughing and chest discomfort. Elevated concentrations of PM₁₀ and PM_{2.5} are the result of both region-wide (i.e. 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.

4.3.2.3 *BAAQMD Guidelines*

The BAAQMD is the regional agency tasked with managing air quality in the region. The BAAQMD is primarily responsible for assuring that the federal and state ambient air quality standards are maintained in the San Francisco Bay Area. Air quality standards are set by the federal government (the 1970 Clean Air Act and its subsequent amendments) and the state (California Clean Air Act and its subsequent amendments). Regional air quality management districts such as BAAQMD must prepare air quality plans specifying how state standards would be met. The BAAQMD’s most recently adopted Clean Air Plan is the 2010 Clean Air Plan (2010 CAP). The 2010 CAP provides an updated comprehensive plan to improve the Bay Area’s air quality and protect public health, taking into account future growth projections to 2035. The BAAQMD has published CEQA Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects. The thresholds of significance for construction- and operation-related pollutant emissions are shown in Table 4.3-1.

Table 4.3-1 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	54	54	10
NO _x	54	54	10
PM ₁₀	82	82	15
PM _{2.5}	54	54	10
CO	Not Applicable	9.0 ppm (8-hour avg.) or 20.0 ppm (1-hour avg.)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Health Risks and Hazards for New Sources			
Excess Cancer Risk	10 per one million	10 per one million	
Chronic or Acute Hazard Index	1.0	1.0	
Incremental Annual Average PM _{2.5}	0.3 µg/m ³	0.3 µg/m ³	
Health Risks and Hazards for Sensitive Receptors and Cumulative Thresholds for New Sources			
Excess Cancer Risk	100 per one million		
Chronic Hazard Index	10.0		
Annual Average PM _{2.5}	0.8 µg/m ³		
Greenhouse Gas Emissions			
GHG Annual Emissions	1,100 metric tons or 4.6 metric tons per capita		
Notes: ROG = reactive organic gases, NO _x = nitrogen oxides, PM ₁₀ = coarse 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 2.5 (µm) or less, and GHG = greenhouse gas.			

4.3.2.4 *Local Community Risks/Toxic Air Contaminants and Fine Particulate Matter*

Besides criteria air pollutants, there is another group of substances found in ambient air referred to as Toxic Air Contaminants (TACs). These contaminants tend to be localized and are found in relatively low concentrations in ambient air. Exposure to low concentrations over long periods, however, can result in adverse chronic health effects. Diesel exhaust is a 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).

Fine Particulate Matter (PM_{2.5}) is a complex mixture of substances that includes elements such as carbon and metals; compounds such as nitrates, organics, and sulfates; and complex mixtures such as diesel exhaust and wood smoke. Long-term and short-term exposure to PM_{2.5} can cause a wide range of health effects. Common stationary sources of TACs and PM_{2.5} include gasoline stations, dry

cleaners, diesel backup generators, and motor vehicles. The other, more significant, common source is motor vehicles on roadways and freeways.

4.3.2.5 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 14, 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, elementary schools, and parks. For cancer risk assessments, 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.

4.3.2.6 Construction TAC and PM_{2.5} Health Risks

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 issues 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. The closest sensitive receptors to the project site are the residences located immediately south and east of the site, as well as residences further to the north/northeast/northwest of the site.

4.3.3 Impacts Evaluation

- a) *Would the project conflict with or obstruct implementation of the applicable air quality plan?*

The proposed project will not conflict with the latest Clean Air planning efforts since; (1) the project's operational emissions would be well below the BAAQMD thresholds of significance for air pollutants as discussed below in Section 4.3.3(b) and development of the project site would be considered urban infill. **(Less Than Significant Impact)**

- b) *Violate any air quality standard or contribute substantially to an existing or projected air quality violation?*

The 2011 BAAQMD *CEQA Air Quality Guidelines* contain a screening table that lists the minimum unit count for single-family projects, below which the project would not result in the generation of operational criteria air pollutants that exceed the threshold of significance. The project proposes 117 homes on the project site which does not exceed the screening threshold for operational criteria pollutants of 325 units.

However, the project exceeds the operational greenhouse gas (GHG) screening level (56 dwelling units), and construction criteria pollutant screening level (114 dwelling units). Impacts related to operational GHG are discussed in *Section 4.5, Greenhouse Gas Emissions*, and construction criteria pollutants are discussed below.

Construction-Related Emissions

Construction emissions would occur as exhaust emissions from construction equipment, truck travel and worker traffic, and from fugitive dust emission associated with demolition and ground disturbance. These two types of emissions (fugitive dust and criteria air pollutant emissions) are discussed below.

Construction Criteria Pollutant Emissions

Construction of the project is anticipated to begin in 2017 and last 21 months through 2018. Construction of the project would occur in phases and include: site preparation, grading/excavation, trenching, building (exterior), building (interior)/architectural coating, and paving. It is estimated that approximately 98,000 cubic yards of soil would be exported from the project site during grading. The project's estimated average daily emissions are summarized in Table 4.3-2 below. Average daily emissions were computed by dividing the total construction period emissions by the number of anticipated construction days.

As shown in Table 4.3-2, construction exhaust emissions would not exceed BAAQMD thresholds for significance for ROG, NO_x emissions, PM₁₀, or PM_{2.5}. The construction of the project, would not contribute to existing or projected violations of construction criteria pollutants for which the region is non-attainment under a federal and/or state standard. **(Less Than Significant Impact)**

Table 4.3-2				
Project Average Daily Construction Emissions				
	Reactive Organic Gases (ROG)	Nitrogen Oxides (NO_x)	PM₁₀ Exhaust	PM_{2.5} Exhaust
Average Daily Emissions (pounds per day)	19.49	19.14	7.9	4.62
BAAQMD Thresholds (pounds per day)	54	54	82	54
Exceeds Threshold?	No	No	No	No

- c) *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment under an applicable federal or state ambient air quality standard including releasing emissions which exceed quantitative thresholds for ozone precursors?*

Non-attainment pollutants of concern for the San Francisco Bay Air Basin are ozone, PM₁₀ and PM_{2.5}. 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 exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Based on the above-described screening levels and the model results shown in Table 4.3-2, the project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is classified as non-attainment. **(Less Than Significant Impact)**

- d) *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Construction Fugitive Dust

Construction activities, particularly site preparation and grading, would temporarily generate fugitive dust in the form of PM₁₀ and PM_{2.5}. Sources of fugitive dust would include disturbed soils at the construction site and trucks carrying uncovered loads of soil. Fugitive dust emissions would vary depending on the nature and magnitude of construction activity, soil conditions and properties, and local meteorological conditions. Large dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site. Nearby residents could be adversely affected by dust generated during construction activities. The BAAQMD considers construction fugitive dust impacts to be less than significant if best management practices are employed to reduce these emissions.

Impact AQ – 1: The project would generate significant dust during construction activities that would affect nearby sensitive receptors, if best management practices are not implemented. **(Significant Impact)**

Mitigation Measure: The project proposes to implement the following best management practices identified by the BAAQMD to reduce fugitive dust emissions impacts to a less than significant level:

- MM AQ – 1.1:** The project shall implement the following standard BAAQMD dust control measures during all phases of construction on the project site:
- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
 - All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
 - 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.
 - All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
 - 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.
 - Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five 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.

- 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.
- A publicly visible sign shall be posted with the telephone number and person to contact at the City of Daly City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Bay Area Air Quality Management Air District's phone number shall also be visible to ensure compliance with applicable regulations.

With the implementation of the aforementioned mitigation measures, fugitive dust emission impacts would be reduced to a less than significant level. **(Less Than Significant Impact with Mitigation)**

Construction TACs

Construction equipment and associated heavy-duty truck traffic generates diesel exhaust (DPM), which is a known TAC. Diesel exhaust could pose both a health and nuisance impact to nearby receptors, including the existing residences in the vicinity of the site.

A health risk assessment of the project construction activities was completed to evaluate potential health effects to nearby sensitive receptors from construction emissions of DPM. The CalEEMod model was used to predict annual construction emissions and a dispersion model was used to predict the off-site DPM concentrations at nearby residences from project construction. The models, data input, and assumptions are described in detail in Appendix A.

Results of the health risk assessment indicate that the incremental residential cancer risk at the maximally exposed individual receptor would be approximately 18.9 cases in one million. This exceeds the BAAQMD significance threshold of 10 in one million or greater for infant exposure. The maximum modeled annual residential concentration of DPM (i.e. from construction exhaust) was 0.056 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). The maximum computed hazard index (HI) based on this DPM concentration is 0.01, which is much lower than the BAAQMD significance criterion of a HI greater than 1.0.

The maximum modeled annual $\text{PM}_{2.5}$ concentration was $0.19 \mu\text{g}/\text{m}^3$. This $\text{PM}_{2.5}$ concentration does not exceed the BAAQMD significance threshold of $0.3 \mu\text{g}/\text{m}^3$ and is, therefore, considered a less than significant impact.

Impact AQ – 2: Project construction could result in excess residential cancer risks of 18.9 cases in one million for infant exposure. **(Significant Impact)**

Mitigation Measures: With the implementation of MM AQ – 1.1 (above) and AQ – 2.1 and AQ-2.2 (below), residential cancer risks would be reduced to a less than significant level.

MM AQ – 2.1: All off-road construction equipment greater than 50 horsepower shall meet US EPA Tier 3 emission standards, where available, to reduce NO_x, PM₁₀, and PM_{2.5} emissions at the project site. In addition, all construction equipment shall be outfitted with Best Available Control Technology devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 1 diesel emissions control strategy for a similar sized engine as defined by CARB regulations.

MM AQ – 2.2: At the time of mobilization of each applicable unit of equipment, a copy of each unit's certified tier specification, BACT documentation, and CARB or BAAQMD operating permit shall be provided to the City Planning Manager.

Implementation of MM AQ – 1.1, MM AQ – 2.1 and MM AQ – 2.2 would reduce on-site diesel exhaust emissions, and accordingly would reduce the cancer risk to 7.3 cases in one million, which is below the 10 cases per million threshold. After implementation of these mitigation measures, the project would have a less than significant impact with respect to community risk caused by construction activities. **(Less Than Significant Impact With Mitigation)**

e) *Create objectionable odors affecting a substantial number of people?*

Construction and ongoing occupancy of the proposed project would not create objectionable odors affecting a substantial number of people near the site. No new stationary odor sources are anticipated as part of the project and there are no odor sources in the vicinity of the site that would emit substantial odors with the potential to impact future residents. **(Less Than Significant Impact)**

4.3.4 **Conclusion**

The proposed project, with the implementation of MM AQ – 1.1, MM AQ – 2.1, and MM AQ – 2.2, would result in less than significant air quality impacts. **(Less Than Significant Impact With Mitigation)**

4.4 BIOLOGICAL RESOURCES

The following discussion is based on a Biological Letter Report prepared by *Dudek* in March 2017. The report is included in Appendix B of this Initial Study.

4.4.1 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) 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)?	☐	☒	☐	☐	1,8
b) 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?	☐	☐	☒	☐	1,8
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐	1,8
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, impede the use of native wildlife nursery sites?	☐	☐	☒	☐	1,8
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒	1,2,8
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐	1,8

4.4.2 Existing Setting

4.4.2.1 *Existing Conditions*

The project site is located in a developed urban area of Daly City. The project site is located on an undeveloped hillside and consists primarily of nonnative grassland habitat and gorse scrubland.² Several mature willow trees are present along the southeasterly perimeter of the project site.

The animal species observed or likely to occur on the project are common species that are well-adapted to living in proximity to human activity and disturbed conditions. A field survey conducted by *Dudek* determined that potential common wildlife that may inhabit the site include striped skunk (*Mephitis mephitis*), Raccoon (*Procyon lotor*), Virginia opossum (*Dipdelphis virginiana*), and coyote (*Canis latrans*).

Bird species were not observed during the field survey, but it is expected that bird species using the area would be those that typically occur in urban and suburban settings with disturbed and managed vegetation.

The project site is not located within the San Bruno Mountain Habitat Conservation Plan (HCP) that was adopted by the City in 1982 (refer to *Section 4.4.2.2*, below). The property is separated from the northern most boundary of the HCP by two developments, Summit Ridge subdivision to the southeast and Point Martin I to the south, and another intervening vacant property to the south.

Trees

The project site contains several mature trees on-site and along the site perimeter. However, since the project site is located on private property, and the City of Daly City does not regulate the removal of trees on private property, therefore the removal of trees on the site is not a discretionary action based on the City's current regulations and policies.

4.4.2.2 *Applicable Plans, Policies, and Regulations*

Federal Endangered Species Act and California Endangered Species Act

The federal Endangered Species Act and California Endangered Species Act protect listed wildlife species from harm or "take," which can include habitat modification or degradation that directly results in death or injury to a listed wildlife species. The long-term purpose of these laws is to ultimately restore their numbers to where they are no longer threatened or endangered.

Federal Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act (FMBTA: 16 U.S.C., scc. 703, Supp. I, 1989) is part of a coordinated effort between the United States, Canada, Mexico, Japan, and Russia to help protect migratory birds in this part of the world. It prohibits killing, taking, selling, possessing, or trading in migratory birds, except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs.

² Gorse scrubland is dominated by the highly invasive shrub gorse (*Ulex europaeus*).

State Fish and Game Code

Birds of prey, such as owls and hawks, are protected in California under provisions of the State Fish and Game Code, Section 3503.5 (1992), which states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “taking” by the California Department of Fish and Wildlife.

San Bruno Mountain Habitat Conservation Plan

The San Bruno Mountain Area Habitat Conservation Plan (HCP) was executed as an Agreement in November 1982 with the US Fish and Wildlife Service, California Department of Fish and Wildlife, County of San Mateo, the cities of Brisbane, Daly City and South San Francisco, and several private property owners. The HCP was created to provide for the indefinite perpetuation of the Mission blue butterfly and to protect habitat of the other Species of Concern. It includes the establishment of public ownership of sufficient habitat area to support the species as well as funding for the ongoing maintenance of the habitat. Funding is provided by limited development that was excluded from such habitat area and devoted to urban uses, including, among others, residential, community service, commercial and recreational uses.

Given that the San Bruno Mountain encompasses approximately 3,600 acres, with various ownerships and within various cities, the HCP presents a single unifying and coordinating document to provide protection, enhancement and funding for the entire San Bruno Mountain ecological community. The HCP provides for the perpetuation of conserved habitat areas through eradication of exotic species; re-vegetation with grassland species; effective yearly monitoring of the species of concern to control reintroduction of exotics; and patrol of the area to discourage destructive human activities.

Portions of three of the four HCP planning areas are located within the jurisdiction of Daly City (Saddle, Radio Ridge, and Guadalupe Hills). Within those areas, all designated development has been completed including Point Pacific, Village in the Park, South Hills Estates, Linda Vista, and Bay Ridge. All of this development resulted in a net gain of available habitat either through dedication, easements, or on-site restoration. Furthermore, all of these projects continue to contribute to a trust fund that is used to maintain and monitor the habitat in perpetuity.

The project site is approximately 400 feet north of the San Bruno HCP boundary.

City of Daly City Municipal Code

Chapter 12.40 – Urban Forestry

This chapter provides regulations to optimize the use of trees and other landscaping within the city. This chapter requires plans submitted to the City for the construction, repair, or alteration of any building, housing, or structure to include provisions for sufficient guards or protectors to prevent injury to any existing publicly owned trees, shrubs, flowers, or vines. It also imposes conditions

regarding the displacement of public trees, where a comparable size tree shall be planted or a fee is paid to the City to cover the cost of replacing a removed tree.

City of Daly City General Plan Policies

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to biological resources and are applicable to the proposed project.

City of Daly City Relevant Biological Resource Policies

Policies	Description
Policy LU-17:	Ensure that private development is responsible for providing any on- or off-site improvements related to and/or mitigating the impacts it causes.
Policy LU-18:	Development activities shall not be allowed to significantly disrupt the natural or urban environment and all reasonable measures shall be taken to identify and prevent or mitigate potentially significant effects.
Policy RME-16:	The City shall continue to recognize the importance of the San Bruno Mountain Habitat Conservation Plan (HCP), uphold the integrity of the concepts behind the plan, and respect the agreements that serve to implement it.

4.4.3 Impacts Evaluation

- a) *Would the project 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 (CDFW) and Wildlife or US Fish and Wildlife Service?*

The project site is located on an undeveloped hillside on human-disturbed land. Based on a review of soils reports a California Natural Diversity Database (CNDDDB) search, and a field survey, no sensitive habitats or habitats suitable for special-status plants or wildlife species occur within or adjacent to the project site. The project, therefore, would not directly result in impacts to special-status species.

The mature trees on and adjacent to the project site could provide nesting habitat for birds, including migratory birds and raptors. Nesting birds are among the species protected under provisions of the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503, 3503.5, and 2800.

Construction of the project during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes abandonment and/or loss of reproductive effort is considered a taking by the CDFW. Any loss of fertile eggs, nesting raptors, or any activities resulting in nest abandonment would constitute an impact. Construction activities such as tree removal and site grading that disturb a nesting bird or raptor on-site or immediately adjacent to the construction zone would also constitute an impact.

Impact BIO – 1: The project may disturb nesting birds on and adjacent to the site during construction. **(Significant Impact)**

Mitigation Measures: The project will be required to implement the following mitigation measure to reduce impacts to raptors and migratory birds to a less than significant level:

MM BIO – 1.1: In order to protect nesting birds on and adjacent to the project site the following measures would be implemented:

- Pre-construction nesting bird surveys shall be completed prior to tree removal if removal or construction is proposed to commence during the breeding season (February 1 to August 31) in order to avoid impacts to nesting birds. Surveys shall be completed by a qualified biologist no more than seven days before construction begins. During this survey, the biologist or ornithologist shall inspect all trees and other possible nesting habitats in and within 250 feet of the project boundary.
- If an active nest is found in an area that would be disturbed by construction, the ornithologist shall designate an adequate buffer zone (~250 feet) to be established around the nest, in consultation with the California Department of Fish and Wildlife (CDFW). The buffer would ensure that nests shall not be disturbed until the young have fledged (left the nest), the nest is vacated, and there is no evidence of second nesting attempts.
- The applicant shall submit a report indicating the results of the survey and any designated buffer zones to the satisfaction of the Director of Community Development, prior to the issuance of a grading permit or demolition permit.

Off-Site Trees

A cluster of willow trees is present directly southeast of the site, and would be preserved with the implementation of MM BIO – 2.1, discussed below.

Impact BIO – 2: Development of the proposed project may impact off-site willow trees located at the southeastern perimeter of the project site.
(Significant Impact)

MM BIO – 2.1: Development at the southeastern perimeter of the project, along the rear of proposed Lots 55 through 59, shall limit mass grading to within 20 feet of the dripline of the willows located across the property line at this location, to minimize interaction with the trees' root systems. Subsequent planned activities of a lesser nature, such as landscaping, utilities and creation of drainage basins are permissible so long as they do not encroach beyond said dripline. A permeable buffer fence shall be established alongside this location at the start of mass grading activity to guide workers as they conduct their

activities. The buffer fence shall be maintained until mass grading activities have concluded, and then re-established at the dripline to guide subsequent workers in the latter activities.

With the implementation of MM BIO – 2.1, impacts to the off-site willows along the southeastern boundary of the site would be reduced to a less than significant level. **(Less Than Significant With Mitigation Incorporated)**

- b) *Would the project 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 California Department of Fish and Wildlife or US Fish and Wildlife Service?*

The project site is located on an undeveloped hillside and does not contain any riparian habitats or other sensitive natural communities. Adjacent to the southeast of the site, a small area of disturbed central coast riparian scrub and freshwater marsh occurs in a manmade detention basin. Several willow trees, nonnative grasses and weeds, and wetland plants such as nutsedge species (*Cyperus eragrostis*) are present. However, the project has been designed and planned to avoid impacts to this adjacent vegetation community by implementing project design measures that are compliant with Daly City General Plan Resource Management Element Policy 12.1, which includes consideration for preservation of habitat identified as environmentally sensitive. Although environmentally sensitive habitats, as defined in the element, have not been identified on the project site, the San Bruno Mountain HCP Preserve is near to the southern-most boundary of the property. The project's design has taken this into consideration, clustering development towards the northern and central portions of the site and preserving the southern portion nearest the HCP as open-space. The project's incorporation of this large open-space buffer allows for reintroduction of native vegetative species, a goal of the Resource Management element. **(Less Than Significant Impact)**

- c) *Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

The project site is undeveloped hillside and devoid of wetlands, marshes, or vernal pools. The project would not impact any federally protected wetlands under the Clean Water Act. **(No Impact)**

- d) *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, impede the use of native wildlife nursery sites?*

The project site is located in an urban area and does not support any watercourse, river, or provide substantial habitat that facilitates the movement of any native resident or migratory fish or wildlife species, other than birds which are discussed in Section 4.4.3(a) above.

The project site is not part of a regional wildlife corridor, though the area south of the site is connected to the San Bruno Mountain HCP preserve. However, the area of the property closest to the HCP boundary is dominated by highly invasive gorse scrubland, preventing its use by most common and special status wildlife species. Therefore, the project would not interfere with migratory wildlife corridors or nursery sites. **(Less Than Significant Impact)**

- e) *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

On-Site Trees

The project site contains several mature trees on-site and along the southeast perimeter. The project proposes to add approximately 260 trees on the project site. Since the project site is located on private property, and the City of Daly City does not regulate the removal of trees on private land, therefore the removal of trees on the site is not a discretionary action based on the City's current regulations and policies. Based on City policy, the project would not result in a significant impact due to the removal of on-site trees. As noted above, tree removal during bird nesting season could disturb nesting activity, and will be mitigated through pre-construction surveys required by MM BIO – 1.1. **(Less Than Significant Impact)**

- f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

The project site is located 400 feet north of the San Bruno Mountain Habitat Conservation Plan boundary. The site is separated from the northern most boundary of the HCP by two developments, Summit Ridge subdivision to the southeast and Point Martin I to the south, and another intervening vacant property to the south.

Additionally, since the San Bruno Mountain HCP Preserve is near to the southern-most boundary of the project site, project's design has taken this into consideration, clustering development towards the northern and central portions of the site and preserving the southern portion nearest the HCP as open-space. Therefore, the proposed project would not conflict with the San Bruno Mountain HCP. **(Less Than Significant Impact)**

4.4.4 Conclusion

With implementation of the identified mitigation measures (MM BIO – 1.1, MM – BIO 2.1, and MM BIO – 2.1), the project would have a less than significant impact on biological resources. **(Less Than Significant Impact With Mitigation)**

4.5 CULTURAL RESOURCES

The following discussion is based on an archaeological report prepared by *Tom Origer & Associates*. in October 2016. A copy of this report is on file with the City of Daly City.

4.5.1 Cultural Resources Environmental Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Cause a substantial adverse change in the significance of an historical resource as defined in CEQA Guidelines Section 15064.5?	☐	☐	☒	☐	1,9
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5?	☐	☒	☐	☐	1,9
c) Directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?	☐	☒	☐	☐	1,9
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐	1,9
e) 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); or (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 (c) of Public Resources Code Section 5024.1.	☐	☐	☐	☒	1,9

4.5.2 Existing Setting

Cultural resources are evidence of past human occupation and activity and include both historical and archaeological resources. These resources may be located above ground or underground and have significance in the history, prehistory, architecture, or culture of the nation, State of California, or local or tribal communities.

Paleontological resources are fossils, the remains or traces of prehistoric life preserved in the geologic record. They range from the well-known and well publicized (such as mammoth and dinosaur bones) to scientifically important fossils.

The project site is located on an undeveloped hillside in an urban region of the city. The project site is not considered an historic resource under CEQA Guidelines Section 15064(c), nor are any properties in the vicinity listed in the National Register of Historic Places. The Cow Palace is located approximately 1,400 feet northeast of the site and is listed on the California Register of Historic Resources. There are no archaeological or paleontological sites that have been recorded on or immediately adjacent to the project site.

4.5.2.1 *Prehistoric Context and Resources*

At the time of European settlement, the project site was included in the territory controlled by the Ohlone, who are also referred to as Costanoans. The Ohlone were hunter-gatherers who lived in rich environments that allowed for dense populations with complex social structures. They settled in large, permanent villages about which were distributed seasonal camps and task-specific sites. Primary village sites were occupied throughout the year and other sites were visited in order to procure particular resources that were especially abundant or available only during certain seasons. Sites often were situated near fresh water sources and in ecotones where plant life and animal life were diverse and abundant. There are no reported ethnographic sites within or near the project site.³

4.5.2.2 *Historic Resources*

Review of late 19th and early 20th century historical maps and aerial photos show at least two buildings that were located in the southeast portion of the property in 1938. Additional buildings were shown on the 1968 photorevised topographic map in both the southeast and northeast portions of the project site. Review of mid-century aerial photographs shows two larger buildings and two smaller buildings (likely outbuildings) that were located the southeast portion of the project site.

Modern aerial photos show that the building at the northeast end of the study area and the two larger buildings at the southeast end of the project site have been removed; however, at least one outbuilding was still present on the site as recently as 2015. Based on examination of the various aerial photographs and older maps described above, a 700 square foot dwelling (abandoned in the 1970s and abated in 1987), has potential to be marked by subsurface historical features such as trash pits that could yield information about early to mid-20th century life on marginal land in this part of the San Francisco Bay Area.

³ Tom Origer & Associates Archival Research Results. October 2016.

4.5.3 Impacts Evaluation

- a) *Would the project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?*

The project site was previously developed with four residential structures and associated outbuildings since circa 1938. One of the outbuildings still remains on the site, however, according to a historic reconnaissance survey, the outbuilding does not appear to have exemplary characteristics in design or be associated with any patterns of development or significant events contributing to the history of the City that would make it eligible for the California or National Registers.

The project site and adjacent properties do not contain listed historic resources as defined in Section 21084.1 of the California Environmental Quality Act. The Cow Palace, however, is located approximately one-quarter-mile from the project site and would not be affected by the proposed development. The project, therefore, would not result in impacts to historic resources. **(Less Than Significant Impact)**

- b) *Would the project cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?*

The Northwest Information Center search revealed that the project area has not been surveyed for the presence of cultural resources and there are no known resources on the project site. Similar sites adjacent to and within the vicinity of the site have been surveyed with no resources identified on those sites.

The site has a moderate potential for containing historic buried archaeological resources in the eastern portion of the project site near Carter Street and Steve Courter Way. Archival research depicts that the existing outbuilding has potential to be marked by subsurface historical features such as trash pits that could yield information about early to mid-20th century life on marginal land in this part of the San Francisco Bay Area. Therefore, the proposed project may encounter buried historic archaeological resources during grading and trenching for the project.

Impact CUL-1: Construction activities could disturb unknown buried archaeological resources associated with early twentieth-century development.
(Significant Impact)

Mitigation Measures: The following mitigation measure would reduce impacts to archaeological resources to a less than significant level:

MM CUL – 1.1: Any ground disturbing activities (for example, vegetation removal, grading, excavation, trenching) in the portion of the project area adjacent to Carter Street and Steve Courter Way shall be monitored by an archaeologist who meets the Secretary of the Interior standards. Specifically, monitoring should take place at the location of the old house and for a distance of 25 feet to the north, 50 feet to the west, 130 feet to the south, and from the house location east to the point

where the slope drops down to the old road. This area represents a rectangle oriented roughly magnetic north and approximately 155 feet north to south by 50 to 70 feet east to west. Based on the soils description by ENGEO, monitoring shall terminate at a depth of three feet (or less) unless there is localized evidence that archaeological specimens might be deeper (for example, the outline of a pit is found that extends deeper into the ground).

MM CUL – 1.2: *Undiscovered Archaeological Resources.* If evidence of an archaeological site or other suspected cultural resource as defined by CEQA Guideline Section 15064.5, including darkened soil representing past human activity (“midden”), that could conceal material remains (e.g., worked stone, worked bone, fired clay vessels, faunal bone, hearths, storage pits, or burials) is discovered during construction related earth-moving activities, all ground-disturbing activity within 100 feet of the resources shall be halted and the City Planning Manager shall be notified. The project sponsor shall hire a qualified archaeologist to conduct a field investigation. The City Planning Manager shall consult with the archaeologist to assess the significance of the find. Impacts to any significant resources shall be mitigated to a less-than-significant level through data recovery or other methods determined adequate by a qualified archaeologist and that are consistent with the Secretary of the Interior’s Standards for Archaeological documentation. Any identified cultural resources shall be recorded on the appropriate DPR 523 (A-J) form and filed with the NWIC.

MM CUL – 1.3: *Report of Archaeological Resources.* If archaeological resources are identified, a final report summarizing the discovery of cultural materials shall be submitted to the City’s Planning Manager prior to issuance of building permits. This report shall contain a description of the mitigation program that was implemented and its results, including a description of the monitoring and testing program, a list of the resources found and conclusion, and a description of the disposition/curation of the resources. **(Less Than Significant Impact With Mitigation)**

With the implementation of the mitigation measure above, impacts to archaeological resources would be less than significant. **(Less Than Significant Impact With Mitigation)**

c, d) *Would the project disturb any human remains, including those interred outside of formal cemeteries? Would the project directly or indirectly destroy a unique paleontological resource or site, or unique geologic feature?*

As described above, the site has no known archaeological resources, including human remains. The site has no known human remains, including those interred outside of formal cemeteries.

Paleontological resources are the fossilized remains and/or traces of prehistoric plant and animal life exclusive of human remains or artifacts. Fossil remains, such as bones, teeth, shells, and wood, are found in geologic deposits (rock formations). Because the proposed project includes excavation into bedrock, discovery is possible of significant fossils even in areas of assumed low sensitivity.

Impact CUL – 2: The project may encounter buried remains and/or paleontological resources during site grading. **(Significant Impact)**

MM CUL – 2.1: *Unique Paleontological and/or Geologic Features and Reporting.* Should a unique paleontological resource or site or unique geological feature be identified at the project site during any phase of construction, all ground disturbing activities within 25 feet shall cease and the City Planning Manager notified immediately. A qualified paleontologist shall evaluate the find and prescribe mitigation measures to reduce impacts to a less than significant level. Mitigation measures could include collection, recordation and analysis of any significant materials. The identified mitigation measures shall be implemented. Work may proceed on other parts of the project site while mitigation for paleontological resources or geologic features is carried out. Upon completion of the paleontological assessment, a report shall be submitted to the City and, if paleontological materials are recovered, a paleontological repository, such as the University of California Museum of Paleontology.

MM CUL – 2.2: *Human Remains.* If human remains are discovered at any project construction site during any phase of construction, all ground-disturbing activity within 100 feet of the resources shall be halted and the City Planning Manager and the San Mateo County coroner shall be notified immediately, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code. If the remains are determined by the County coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The project sponsor shall also retain a professional archaeologist with Native American burial experience to conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. As necessary, the archaeologist may provide professional assistance to the Most Likely Descendant, including the excavation and removal of the human remains. The City of Daly City shall be responsible for approval of recommended mitigation as it deems appropriate, taking account of the provisions of State law, as set forth in CEQA Guidelines section 15064.5(e) and Public Resources Code section 5097.98. The project sponsor shall implement approved mitigation,

to be verified by the City of Daly City, before the resumption of ground-disturbing activities within 100 feet of where the remains were discovered.

- e) *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); or (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 (c) of Public Resources Code Section 5024.1.*

No tribes have requested notice under AB 52 of projects within the geographic area encompassing the project site. No known tribal cultural resources are located at the project site. For these reasons, the project would result in no impact to tribal cultural resources. **(No Impact)**

4.5.4 Conclusion

Construction of the proposed development, with the implementation of mitigation measures CUL – 1.1 through CUL – 1.3, and CUL – 2.1 and CUL – 2.2 would not result in a significant impact to buried cultural or paleontological resources. **(Less Than Significant Impact With Mitigation)**

The project would not result in a significant impact to historic resources, nor tribal cultural resources. **(Less Than Significant Impact)**

4.6 GEOLOGY AND SOILS

The following is based on a Preliminary Geotechnical Investigation prepared by *ENGEO, Inc.* in September 2015. The report is included in Appendix C of this Initial Study.

4.6.1 Geology and Soils Environmental Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
1. Rupture of a known earthquake fault, as described 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.)?	☐	☐	☒	☐	1,2,10
2. Strong seismic ground shaking?	☐	☐	☒	☐	1,2,10
3. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐	1,2,10
4. Landslides?	☐	☒	☐	☐	1,2,10
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐	1,2,10
c) Be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐	1,2,9
d) Be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property?	☐	☒	☐	☐	1,2,9
e) 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?	☐	☐	☐	☒	1,2,9

4.6.2 Existing Setting

4.6.2.1 *Soil Conditions*

The project site is underlain by bedrock consisting of moderately weathered, medium strong to strong sandstone and shale units. Soils identified as colluvium⁴ have accumulated in swale and valley areas of the site. The colluvium encountered in subsurface explorations consists of interlayered dense silty to clayey sands and very stiff to hard lean clays. At most locations where colluvium is present, the upper three to four feet consists stiff, dark brown sandy silt. Areas mapped as colluvium are potentially future landslide and debris flow hazards (see Figure 4.6-1).

Landslides

Shallow landslides within the southern portion of the site were observed to range between 6.5 and eight feet thick and appear to be contained within colluvial soils (i.e. do not extend into underlying bedrock). The northern portion of the site contains larger landslide deposits overlying sandstone bedrock at a depth of approximately 15 to 30 feet below ground surface (bgs).

Landslide deposits and thick deposits of colluvium could be subject to slope instability. Additionally, it is likely that debris flows will continue to be shed from the steep slopes on and above the proposed project into lower-lying areas.

Existing Fill

Existing fill was encountered within the stockpile located in the central portion of the site. Where encountered, the fill material consisted of sandy silt with abundant rootlets and small angular sandstone rock fragments to the maximum explored depth of approximately seven feet bgs. A previous geotechnical report encountered existing fill to a depth of approximately 9 feet bgs.

Artificial fill was placed adjacent to the project site since circa 1960 as part of the residential development on Oakridge Drive and has an approximate height of up to 160 feet amsl.

4.6.2.2 *Groundwater*

According to groundwater data on-site and in the area, it is estimated that the groundwater surface ranges from 15 and 25 feet bgs. Fluctuations in the level of subsurface water can occur due to variations in rainfall, temperature, and other factors.

4.6.2.3 *Seismicity and Seismic-Related Hazards*

The San Francisco Bay Area is one of the most seismically active regions in the United States. Several major fault zones pass through the Bay Area in a northwest direction which have produced approximately 12 earthquakes per century strong enough to cause structural damage. The faults causing such earthquakes are part of the San Andreas Fault System, a major rift in the earth's crust that extends for at least 700 miles along western California. The San Andreas Fault System includes the San Andreas, San Gregorio, Hayward, Calaveras Fault Zones, and other faults.

⁴ Material that accumulates at the foot of a steep slope.



EXISTING SOIL CHARACTERISTICS

FIGURE 4.6-1

The major active faults in the project area are the San Andreas, Hayward, and Calaveras faults located approximately 4.5 miles southwest, 14.5 miles northeast, and 24 miles east of the project site, respectively. An earthquake of moderate to high magnitude generated within the San Francisco Bay region could cause considerable ground shaking at the project site. Strong shaking during an earthquake can result in ground failure such as that associated with soil liquefaction, lateral spreading, and differential compaction. These seismic-related hazards are discussed below. The site is not within an Earthquake Fault Zone, as defined by the Alquist-Priolo Earthquake Fault Zoning Act, and no known active or potentially active faults exist on the site.

Liquefaction

Liquefaction is the result of seismic activity and is characterized as the transformation of loose water saturated soils from a solid state to a liquid state during ground shaking. Based on existing conditions and considering perched groundwater conditions, there is potential for liquefaction of some colluvial deposits.

Lateral Spreading

Lateral spreading is a type of ground failure related to liquefaction. It consists of the horizontal displacement of flat-lying alluvial material toward an open face, such as the steep bank of a stream channel. Considering the depth and relative thickness of the potentially liquefiable layers, the risk of lateral spreading on the site is low.

4.6.2.4 *Applicable Plans, Policies, and Regulations*

Alquist-Priolo Earthquake Fault Zone

The Alquist-Priolo Earthquake Fault Zoning Act regulates development in California near known active faults due to hazards associated with surface fault ruptures. The Earthquake Fault Zones indicate areas with potential surface fault-rupture hazards. Areas within the 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. The project site is not located in an Alquist-Priolo Earthquake Fault Zone.

California Building Code

The State of California provides minimum standards for structural design and site development through the California Building Code [CBC – California Code of Regulations (CCR), Title 24, part 2]. Local codes are permitted to be more stringent than Title 24 but, at minimum, are required to meet all state standards and enforce the regulations of the 2013 CBC. The City's enforcement of its Building Code ensures the project would be consistent with the CBC.

Chapter 16 of the CBC deals with structural design requirements governing seismically resistant construction. Chapter 18 of the CBC includes the requirements for foundation and soil investigations; excavation, grading, and fill; allowable load-bearing values of soils; and design of foundation walls, retaining walls, embedded post and poles. Chapter 33 of the CBC includes requirements for safeguards at work sites to ensure stable excavations and cut or fill slopes and the protection of pedestrians and adjoining properties from damage caused by such work. Appendix J of the CBC includes grading requirements for design of excavation of fills and for erosion control.

City of Daly City General Plan

The Seismic Safety Element, as well as the Safety Element of the City's General Plan contains policies, recommendations, and actions to avoid or mitigate geology and soils impacts resulting from development within the City. The proposed development allowed by the project would be subject to conformance with applicable General Plan policies, including those listed below.

Policies	Description
Policy SE-1.1	Continue to investigate the potential for seismic and geologic hazards as part of the development review process and maintain this information for the public record. Update Safety Element maps as appropriate.
Policy SE-1.2	Require site specific geotechnical, soils, and foundation reports for development proposed on sites identified in the Safety Element and its Geologic and Hazard Maps as having moderate or high potential for ground failure.
Policy SE-1.3	Permit development in areas of potential geologic hazards only where it can be demonstrated that the project will not be endangered by, nor contribute to, the hazardous condition on the site or on adjacent properties. All proposed development is subject to the City's Zoning Ordinance and Building Codes.
Policy SE-1.4	Prohibit development—including any land alteration, grading for roads and structural development—in areas of slope instability or other geologic concerns unless mitigation measures are taken to limit potential damage to levels of acceptable risk.

4.6.3 Impacts Evaluation

- a, c) *Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i) rupture of a known earthquake fault, ii) strong seismic ground shaking, iii) seismic-related ground failure, or iv) landslides? Would the project be located on a geologic unit or soil that is unstable, or that will become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?*

Seismic Shaking and Liquefaction

An earthquake of moderate to high magnitude generated within the San Francisco Bay Region could cause considerable ground shaking at the site. Therefore, the project would conform to the standard engineering and building practices and techniques specified in the CBC. The proposed buildings, streets, and utilities would be designed and constructed in accordance with the recommendations of a geotechnical report prepared for the site (refer to Appendix C), which identifies the specific design features related to geologic and seismic conditions.

According to the geotechnical report, existing on-site conditions and perched groundwater conditions suggests that there is potential for liquefaction of some colluvial deposits. However, proposed remedial grading, as described below in MM GEO – 1.1, would reduce impacts to a less than significant level.

The structures would meet the requirements of appropriate Building and Fire Codes, as adopted by the City of Daly City. The project, in conformance to applicable regulations and

with the implementation of the recommendations in the geotechnical report, would not result in significant impacts from seismicity and seismic-related hazards including ground shaking and liquefaction. **(Less Than Significant Impact)**

Landslides

Several landslide deposits have been identified across the site as well as thick deposits of colluvium which could cause slope instability. Additionally, it is likely that debris flows will continue to be shed from the steep slopes on and above the proposed project into lower-lying areas. The project would require both temporary and permanent retaining walls to avoid landsliding from adjacent properties as a result of the proposed grading and excavation on the site.

Impact GEO – 1: The proposed project site could be subject to slope instability due to existing landslide deposits and thick deposits of colluvium and grading activity during construction. **(Significant Impact)**

Mitigation Measures: In conformance with standard practices in the City of Daly City, the proposed project shall implement the following measures to reduce adverse effects associated with landslides and colluvium deposits:

MM GEO – 1.1: The proposed grading shall be completed in accordance with a final design-level geotechnical investigation. Landslide debris and colluvium will be completely removed and replaced as drained engineering fill, both under the development footprint and in potential debris flow source areas underlain by colluvium above the development limits.

Implementation of these measures would substantially reduce adverse effects associated with slope instability, landslides, and colluvium deposits on the site. The proposed mitigation would ensure no off-site landslide impacts would result from the project. **(Less Than Significant With Mitigation)**

b, d, e) *Would the project result in substantial soil erosion or the loss of topsoil? Would the project be located on expansive soil, as defined in Section 1802.3.2 of the California Building Code (2007), creating substantial risks to life or property? Would the project 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?*

Soil and Groundwater Impacts

The project does not propose the use of septic tanks or alternative wastewater disposal systems and, therefore, the last threshold is not discussed further.

Soil Erosion

Project excavation and grading would expose soils to wind and rain. Graded slopes on the site would have the potential for erosion over the life of the project. Thus, there is potential for soil erosion on the project site.

Impact GEO – 2: The proposed project could result in soil erosion or the loss of topsoil. **(Significant Impact)**

Mitigation Measures: In conformance with standard practices in the City of Daly City, the proposed project shall implement the following measures to reduce adverse effects associated with soil erosion:

MM GEO – 2.1: Buildings shall be designed and constructed in accordance with a final design-level geotechnical investigation to be completed for the project by a qualified professional and submitted to the City of Daly City Planning Manager. The final design-level geotechnical investigation shall identify requirement for the placement of engineered fill on the project site and building foundations.

MM GEO – 2.2: A comprehensive erosion control plan to account for seasonal rainfall during and following construction shall be developed as part of the final design-level geotechnical investigation. Erosion control measures may include, but are not limited to, the use of hydroseeding, track-walked moistened strippings, and erosion control blankets. The project engineering geologist shall make periodic inspections of the site drainage and erosion control features for a period of two years. The erosion control plan and final design-level geotechnical investigation shall be submitted to the City of Daly City Planning Manager prior to the issuance of a grading permit.

Implementation of MM GEO – 2.1 and MM GEO – 2.2 would substantially reduce adverse effects associated with soil erosion on the site. **(Less Than Significant With Mitigation)**

Expansive Soils

According to the geotechnical report, colluvial site soils are expected to be moderately expansive. Deeper soils appear to be of low to moderate expansion potential. Expansive soils shrink and swell as a result of moisture changes which could impact building foundations on the site. Implementation of MM GEO – 1.1 would ensure expansive soils are addressed by the project design.

Groundwater

Groundwater at the project site has been encountered from 15 to 25 feet bgs. The retaining walls required on the northern portion of the property would require soil excavation to approximately 30 feet bgs. As noted in the geotechnical investigation, groundwater levels on the site may exist at shallower depths than noted in borings on the site with seasonal

fluctuations. If groundwater is encountered during construction, dewatering and special soil preparation may be necessary to allow construction in a dry condition and on a stable subgrade. Dewatering activities that lower groundwater levels could increase the effective stress on underlying sediments, potentially resulting in ground settlements and damage to structures, roadways, and/or utilities.

The local, shallow groundwater is not used as a local water supply; water supply in the City of Daly City is from surface water resources. Potential impacts of depleting groundwater supplies or reducing groundwater recharge, therefore, would be less than significant.

The proposed project will require the project sponsor to prepare a final design-level Geotechnical Study and implement mitigation measures (MM GEO – 1.1) to ensure any temporary or permanent groundwater dewatering would not result in any impact to adjacent development. **(Less Than Significant Impact With Mitigation)**

4.6.4 Conclusion

The proposed project, with the implementation of MM GEO – 1.1, MM GEO – 2.1, and MM GEO – 2.2, would have a less than significant impact on geology and soils. **(Less Than Significant With Mitigation)**

4.7 GREENHOUSE GAS EMISSIONS

4.7.1 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐	1,7
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐	1,2,7

4.7.2 Existing Setting

The project site is currently vacant and undeveloped. The site is covered with dense vegetation, grassland, and mature trees. Therefore, there are no GHG emissions from existing uses on-site.

4.7.2.1 Background

Unlike emissions of criteria and toxic air pollutants, which are discussed in *Section 4.3* and have local or regional impacts, emissions of Greenhouse Gases (GHGs) have a broader, global impact. Global warming associated with the “greenhouse effect” is a process whereby GHGs accumulating in the atmosphere contribute to an increase in the temperature of the earth’s atmosphere over time. The principal GHGs contributing to global warming and associated climate change are carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and fluorinated compounds. Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, utility, residential, commercial, and agricultural sectors.

The Bay Area Air Quality Management District’s (BAAQMD) approach to developing a Threshold of Significance for GHG emissions is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions needed to move us towards climate stabilization. If a project would generate GHG emissions above the threshold level, it would contribute substantially to a cumulative impact, and would be significant.

The Thresholds of Significance for operational-related GHG emissions are as follows:

- For land use development projects, the threshold is compliance with a qualified GHG reduction Strategy; or annual emissions less than 1,100 metric tons per year (MT/yr) of CO₂e; or 4.6 MT CO₂e/SP/yr (residents + employees). Land use development projects include residential, commercial, industrial, and public land uses and facilities.
- For stationary-source projects, the threshold is 10,000 metric tons per year (MT/yr) of CO₂e. Stationary source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require an Air District permit to operate. If

annual emissions of operational-related GHGs exceed these levels, the proposed project would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change.

The BAAQMD has established project level screening criteria to assist in the evaluation of impacts. If a project meets the screening criteria and is consistent with the methodology used to develop the screening criteria, then the project's GHG impacts would be considered less than significant. For single-family development, the BAAQMD CEQA Air Quality Guidelines set a screening threshold of 56 dwelling units.

4.7.2.2 *Applicable Plans, Policies, and Regulations*

State of California

Assembly Bill 32 and Executive Order S-3-05

Assembly Bill 32 (AB 32), also known as the Global Warming Solutions Act, was passed in 2006 and established a goal to reduce GHG emissions to 1990 levels by 2020. Prior to the adoption of AB 32, the Governor of California also signed Executive Order S-3-05 into law, which set a long term objective to reduce GHG emissions to 90 percent below 1990 levels by 2050. The CalEPA is the state agency in charge of coordinating the GHG emissions reduction effort and establishing targets along the way.

In December 2008, CARB approved the Climate Change Scoping Plan, which proposes a comprehensive set of actions designed to reduce California's dependence on oil, diversify energy sources, save energy, and enhance public health, among other goals. Per AB 32, the Scoping Plan must be updated every five years to evaluate the mix of AB 32 policies to ensure that California is on track to achieve the 2020 greenhouse gas reduction goal. The First Update to the Scoping Plan was approved on May 22, 2014 and builds upon the Scoping Plan with new strategies and recommendations. The First Update defines CARB's priorities over the next five years and lays the groundwork to reach long-term goals set forth in Executive Order S-3-05.

Senate Bill 375

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 on AB 32 by requiring CARB to develop regional GHG reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035 in comparison to 2005 emissions. The per capita 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. The four major requirements of SB 375 are:

1. Metropolitan Planning Organizations (MPOs) must meet greenhouse gas emission reduction targets for automobiles and light trucks through land use and transportation strategies.
2. MPOs must create a Sustainable Communities Strategy (SCS), to provide an integrated land use/transportation plan for meeting regional targets, consistent with the Regional Transportation Plan (RTP).

3. Regional housing elements and transportation plans must be synchronized on eight-year schedules, with Regional Housing Needs Assessment (RHNA) allocation numbers conforming to the SCS.
4. MPOs must use transportation and air emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission (CTC).

MTC and ABAG adopted *Plan Bay Area* in July 2013 in response to SB 375. The strategies in the plan are intended to promote compact, mixed-use development close to public transit, jobs, schools, shopping, parks, recreation, and other amenities, particularly within Priority Development Areas (PDAs) identified by local jurisdictions. The project site is located within a PDA.

Regional and Local

Bay Area 2010 Clean Air Plan

The Bay Area 2010 Clean Air Plan (2010 CAP) addresses air emissions in the San Francisco Bay Area Air Basin. One of the key objectives in the CAP is climate protection. The 2010 CAP includes emission control measures and performance objectives, consistent with the state's climate protection goals under AB 32 and SB 375, designed to reduce emissions of GHGs to 1990 levels by 2020 and 40 percent below 1990 levels by 2035.

City of Daly City

General Plan

The Housing Element of the City's General Plan contains policies, recommendations, and actions to promote energy conservation. Through energy conservation, GHG emissions are reduced. All future development allowed by the project would be subject to conformance with applicable General Plan policies, including the policy listed below.

Policy	Description
Policy HE-23	Gradually increase energy and water efficiency standards for all new and existing housing while minimizing the costs of such standards.
Policy HE-24	Mandate the inclusion of green building techniques into most new construction.
Policy HE-28	Promote alternative sources of energy in all homes.

Daly City's Green Vision

Daly City's Green Vision, A Climate Action Plan (CAP) for 2011-2020 and Beyond, was adopted in December 2010. Daly City's Green Vision guides the City towards a sustainable future that reduces GHG emissions from current levels, while promoting economic prosperity for present and future generations. The Green Vision identifies ten goals and seeks to achieve these goals through cost-effective strategies by the year 2020. The GHG reduction goals include adopting a general plan with measurable policies for sustainable development, reducing energy use in buildings, reducing transportation emissions, reducing solid waste disposal, and GHG emissions reductions from municipal operations. Daly City recently completed an update to the General Plan which incorporated these goals in March 2013.

Daly City's Ordinances

The following ordinances consistent with the goals of Daly City's Green Vision were adopted by the City Council in order to protect the environment and health of the community:

Green Building Standards Code (Municipal Code 15.22): The purpose of the ordinance is to adopt and incorporate the California Green Building Standards Code, 2013 edition, for the protection of the public health and safety of its inhabitants.

Recycling and Diversion of Construction and Demolition (Municipal Code 15.64): This ordinance requires that construction and demolition projects recycle or reuse 60 percent of the waste generated from the project. This ordinance is consistent with the requirements for construction and demolition debris diversion in CALGreen. Many of the construction materials, such as concrete, asphalt, asphalt singles, gypsum wallboard, wood and metals, can be reused or recycled, thus prolonging our supply of natural resources and potentially saving money in the process.

4.7.3 Impacts Evaluation

- a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

As recommended by the BAAQMD, the CalEEMod model was used to predict GHG emissions from project construction and operation. Details regarding the model and assumptions are included in Appendix A of this Initial Study.

Construction Emissions

GHG emissions associated with project construction activities (including operation of construction equipment, hauling truck trips, vendor truck trips, and worker trips) were estimated to be 594 MT of carbon dioxide equivalents (CO₂e) annually. The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions, though total construction period emissions would not exceed the BAAQMD operational threshold of 1,100 MT CO₂e per year. The BAAQMD recommends quantifying emissions and disclosing that GHG emissions would occur during construction.

The BAAQMD also encourages the incorporation of best management practices, including recycling and reusing construction waste or demolition materials, and using local building materials of at least 10 percent. The project, in compliance with the City's Recycling and Diversion of Construction and Demolition Debris Ordinance, would recycle at least 60 percent of construction waste or demolition materials. **(Less Than Significant Impact)**

Operational Emissions

Project operation would generate GHGs primarily through electricity generation/use and generation of vehicle trips. At full buildout and occupancy, operational GHG emissions from the project are estimated to be 1,310 MT of CO₂e per year, which exceeds the BAAQMD threshold of 1,100 MT/yr of CO₂e. As discussed in *Section 4.7.2.1* above, land use projects with emissions above the 1,100 MT/yr threshold are then subject to the GHG efficiency

threshold of 4.6 metric tons of CO₂e per year per capita (MT/year/capita) to determine impact significance.

Based on the latest Department of Finance data for the City of Daly City, the average residents per household is 3.4, and therefore for the project's annual emissions of 1,310 would be spread among approximately 398 residents. The project's annual GHG emissions per capita, therefore, is 3.29 MT of CO₂e. The project's emissions per capita is below the BAAQMD efficiency threshold for CO₂e of 4.6 MT/year/capita and, therefore, would result in a less than significant impact. **(Less Than Significant Impact)**

- b) *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

The project would be consistent with the City's General Plan [specifically Policy HE-23 of increasing energy efficiency standards in new and existing housing developments], Green Vision, and Green Building Ordinance because the project proposes to be constructed in compliance with the current California Green Building Standards Code (Title 24), which requires efficient windows, insulation, lighting, ventilation systems, and other features that reduce water and energy consumption.

The project would comply with the requirements of the Green Building Ordinance and the Title 24 Building Code, which requires proposed buildings to be constructed with various measures that would reduce GHG emissions from the project. For this reason, the project would be consistent with the City's General Plan, Green Vision, and Green Building Ordinance. **(Less Than Significant Impact)**

4.7.4 Conclusion

The proposed project would not result in significant GHG emission impacts. **(Less Than Significant Impact)**

4.8 HAZARDS AND HAZARDOUS MATERIALS

The following discussion is based on a Phase I Environmental Site Assessment prepared by *Environmental Investigation Services, Inc.* in April 2016. A copy of this report is included as Appendix D in this Initial Study.

4.8.1 Hazards and Hazardous Materials Environmental Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐	1,11
b) 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?	☐	☐	☒	☐	1,11
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒	1,11
d) 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, will it create a significant hazard to the public or the environment?	☐	☐	☒	☐	1,11
e) 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, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐	1,12
f) For a project within the vicinity of a private airstrip, will the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒	1,12
g) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒	1,11
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☒	☐	☐	1,11

4.8.2 Existing Setting

4.8.2.1 *Background*

Hazardous materials encompass a wide range of substances, some of which are naturally-occurring and some of which are man-made. Examples include motor oil and fuel, metals (e.g., lead, mercury, arsenic), asbestos, pesticides, herbicides, and chemical compounds used in manufacturing and other activities. A substance may be considered hazardous if, due to its chemical and/or physical properties, it poses a substantial hazard when it is improperly treated, stored, transported, disposed of, or released into the atmosphere in the event of an accident. Determining if such substances are present on or near project sites is important because exposure to hazardous materials above regulatory thresholds can result in adverse health effects on humans, as well as harm to plant and wildlife ecology.

4.8.2.2 *Site Conditions*

Current Uses

The 18-acre site is a vacant hillside site with a small, abandoned structure and accompanying debris. A graded soil stockpile roughly 50 feet in width and 225 feet in length exists on the eastern portion of the site. The stockpile originated from the construction of an adjacent residential subdivision.

Historic Uses and Known Contamination

The 18-acre project site has been vacant since the early 2000s. A residence and several small sheds were built on the site prior to the 1940s, and were demolished in approximately 2001. The graded stockpile observed at the site also first appeared in the early 2000s. The site was used residentially from at least the 1940s to early 2000s, with some livestock storage. Review of building and planning department records indicated that some of the previous structures were used as hay barn and for trailer storage. No known contamination has been recorded on the property.

4.8.2.3 *Off-site Sources of Contamination*

According to a Phase I Environmental Site Assessment, a Leaking Underground Storage Tank (LUST) documentation is listed at the Cow Palace, located approximately 0.21 miles to the northeast of the site. The case was opened in 1988 upon discovery of gasoline impacts in the soil. The site was granted regulatory closure status by the San Francisco Bay (SFB) Regional Water Quality Control Board (RWQCB) in 1995.

A closed Spills, Leaks, Investigations, and Cleanup (SLIC) site is located 0.14 miles southeast of the project site. The case was opened in January 1993 due to motor, hydraulic, lubricating, and waste oil contaminant leakages. The SLIC site was granted regulatory closure by the RWQCB in March 1993.

4.8.2.4 *Other Hazards*

Airports

The San Francisco International Airport is located approximately nine miles southeast of the project site. Federal Aviation Regulations, Part 77, “Objects Affecting Navigable Airspace” (referred to as FAR Part 77), requires 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 ground. For the project site, any structure exceeding 150 feet in height above ground would require submittal to the FAA for airspace safety review. As the proposed project has a maximum not-to-exceed height of 35 feet, notification to the FAA would not be required.

Any proposed land use policy actions, including the proposed rezoning, that affect properties within the ALUCP Area B boundary in Daly City, must be referred to the C/CAG Board for an ALUCP consistency review and determination. The Plan would first go to the C/CAG Airport Land Use Committee for review and a recommendation to the C/CAG Board. The Board will consider the ALUC recommendation and evaluate the project’s consistency with the relevant airport/land use compatibility policies and criteria contained in the adopted ALUCP. The C/CAG Board consistency determination must occur before the Daly City Council can approve the proposed project.

Wildland Fire Hazards

The project is located directly adjacent to San Bruno Mountain State Park which is designated as a high fire hazard severity zone.

Daly City has adopted ABAG’s 2010 Local Hazard Mitigation Plan (LHMP) which would maintain and enhance a disaster-resistant region by reducing the potential for loss of life, property damage, and environmental degradation from natural disasters, while accelerating economic recovery from those disasters. The LHMP identifies future mitigation actions and priorities for achieving this goal.

As part of the project, the future Homeowners Association will be required to adopt a vegetation management plan to reduce the probability of wildfires.

4.8.2.5 *Applicable Hazardous Materials and Hazardous Regulations and Policies*

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA), initially authorized in 1976, gives the U.S. EPA the authority to control hazardous waste from “cradle-to-grave.” This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also set forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled the U.S. EPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) regulates hazardous waste, remediation of existing contamination, and evaluates procedures to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of the federal RCRA and the California Health and Safety Code. Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning. From these laws and regulations, DTSC develops guidelines and regulations that define what those who handle hazardous waste must do to comply with the laws. These rulemakings are subject to public review and comment.

Government Code §65962.5 (Cortese List)

Section 65962.5 of the Government Code requires the California Environmental Protection Agency (Cal EPA) to develop and update (at least annually) a list of hazardous waste and substances sites, known as the Cortese List. The Cortese List is used by the State, 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), State Water Resources Control Board (SWRCB), and the Department of Resources Recycling and Recovery (CalRecycle).

Based on a Phase I report prepared by *Environmental Investigation Services, Inc.*, the project site is not included on the hazardous materials sites list compiled per Government Code (Section 65962.5).

City of Daly City General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to hazards and hazardous materials and are applicable to the proposed project.

City of Daly City Relevant Hazardous Material Policies

Policy	Description
Policy LU-18	Development activities shall not be allowed to significantly disrupt the natural or urban environment and all reasonable measures shall be taken to identify and prevent or mitigate potentially significant effects.
Task LU-18.1	Ensure that potentially significant environmental impacts associated with development proposals are properly mitigated through conditions of approval, mitigation measures, project design, or project denial. In cases where the impacts may not be completely preventable but will not significantly disrupt the community, the City may recognize that the benefits of a project may outweigh the environmental consequences. In no case shall the City approve a project that endangers the health, safety, or welfare of the public.
Policy SE-4.2	Cooperate with the County of San Mateo in the regulation of hazardous materials and transportation in the Fire Prevention Services Bureau within the City.
Policy SE-4.6	Require the preparation of a risk assessment to determine site suitability for applications for hazardous materials waste management facilities. Establish the distance requirements for these facilities from public assembly, residential or immobile population and recreation areas and structures. Access impacts from seismic, geologic, and flood hazards, impacts on

City of Daly City Relevant Hazardous Material Policies

Policy	Description
	wetlands, endangered species, air quality and emergency response capabilities; and proximity to major transport routes.

4.8.3 Impacts Evaluation

- a, b) *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? Would the project 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?*

The proposed single-family development would not involve the transport, use, storage or disposal of reportable quantities of hazardous materials. Residents would likely use and store small quantities of household hazardous wastes (i.e., ammonia, paints, oils) which would not be considered significant. During construction, the project may store fuels and chemicals used in the construction of the proposed buildings. Temporary use of fuels and other chemicals associated with construction on the site and residential use of small quantities of hazardous materials would not result in a significant hazard to the public or environment.

(Less Than Significant Impact)

- c) *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

There are no schools located within one-quarter mile of the proposed project. **(No Impact)**

- d) *Would the project 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?*

The project is not located on a site which is included on a list of hazardous materials sites and there is no known hazardous materials contamination associated with the site. The project, therefore, is not anticipated to have any impact on adjacent uses from existing conditions on the site. **(Less Than Significant Impact)**

- e, f) *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, would the project result in a safety hazard for people residing or working in the project area? For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?*

The project site is located within the Airport Influence Area (AIA) of the San Francisco International Airport (SFO). According to an aeronautical map published in the Initial Study and Negative Declaration for the Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport, the project site cannot exceed maximum

building heights ranging between 525 feet and 600 feet above mean sea level (amsl).⁵ The height of the proposed structures would not exceed 35 feet. Therefore, the total maximum allowable building height on the property would be approximately 377 feet⁶ amsl, which would not exceed the maximum allowable height of 525 feet according to the aeronautical map designation. Therefore, the project complies with the airport land use plan maximum allowable height limitations and would not result in any hazard associated with airport operations. **(Less Than Significant Impact)**

The project is not located in the vicinity of a private airstrip. Therefore, private airstrip uses would not be a hazard to people working or residing on the project site. **(No Impact)**

g, h) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan? Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Compliance with the California Building and Fire Code requirements as amended by the City of Daly City would ensure that project residents are not exposed to health hazards or potential health hazards. **(No Impact)**

Daly City has adopted ABAG's 2010 Local Hazard Mitigation Plan (LHMP) which would maintain and enhance a disaster-resistant region by reducing the potential for loss of life, property damage, and environmental degradation from natural disasters, while accelerating economic recovery from those disasters. The LHMP identifies future mitigation actions and priorities for achieving this goal.

Impact HAZ – 1: The proposed project is located in a high fire hazard severity zone and therefore may be subject to adverse impacts from wildfires.
(Significant Impact)

Mitigation Measures: The following mitigation measures would reduce impacts induced by wildfires to a less than significant level:

MM HAZ – 1.1: The Homeowners Association shall be required to adopt a vegetation management plan that provides for the ongoing clearance of flammable vegetation including but not limited to gorse, grass, weeds, and brush in the open space areas of the site. The vegetation management plan shall be reviewed and approved by the North County Fire Authority prior to the issuance of occupancy permits for the proposed residences.

⁵ San Francisco International Airport Land Use Commission. *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport*. Page 42. July 2012.
(pg. 42). C/CAG of San Mateo County, California. Accessed June 24, 2016.

⁶ 342 feet (amsl) + 35 feet (height of the proposed condominium building) = 377 feet.

Therefore, with the implementation of the policies identified in the LHMP and MM HAZ – 1.1, potential hazards due to wildland fires would be reduced to a less than significant level.
(Less Than Significant Impact with Mitigation)

4.8.4 Conclusion

The project is not proposing new hazardous materials uses and is not located on a site contaminated with hazardous materials. The proposed project would also not represent a hazard to airport operations. The project would comply with all Fire, Building, and Municipal Code requirements to minimize fire risks to the project including implementation of a vegetation management plan as detailed in MM HAZ – 1.1. **(Less Than Significant Impact with Mitigation)**

4.9 HYDROLOGY AND WATER QUALITY

The following discussion is based in part on Hydraulic Calculations prepared by *RJA* in February 2017. A copy of this report is included in Appendix E of this Initial Study.

4.9.1 Hydrology and Water Quality Environmental Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐	1,2
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells will drop to a level which will not support existing land uses or planned uses for which permits have been granted)?	☐	☒	☐	☐	1,2
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which will result in substantial erosion or siltation on-or off-site?	☐	☐	☒	☐	1,2
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which will result in flooding on-or off-site?	☐	☐	☒	☐	1,2
e) Create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐	1,13
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐	1,14
g) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒	1,2,15
h) Place within a 100-year flood hazard area structures which will impede or redirect flood flows?	☐	☐	☐	☒	1,2,15

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒	1,2,15
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒	1

4.9.2 Existing Setting

4.9.2.1 *Hydrology and Water Quality*

Surface Water

The project site is located within the Sunnydale watershed which drains to the San Francisco Bay via Brisbane. The project site is located on undeveloped hillside and contains vegetation and mature trees. Storm drain lines adjacent to the site are present in Steve Courter Way and Carter Street.

Groundwater

The aquifer that underlies most of Daly City is within the Westside Groundwater Basin (Westside Basin). The Westside Basin underlies parts of San Francisco and northern San Mateo counties. The basin extends from Golden Gate Park in the north and past the San Francisco Airport in the south. The basin extends to the west beneath the Pacific Ocean at least as far as the San Andreas Fault and to the east an unknown distance beneath San Francisco Bay. The Westside Basin is a buried valley, where the walls and floor of the valley are formed by rock with a mixture of coarse and fine-grained sediments as much as 3,700 feet thick in parts of the basin fill. The coarse-grained sediments consist of sand and gravel and the fine-grained sediments consist of silt and clay. Sand and gravel can transmit substantial quantities of water to wells, whereas silt and clay impede the movement of groundwater. Where silt and clay deposit form semi-continuous beds, they can effectively isolate the water table from underlying aquifer. Groundwater in the shallow water table aquifer is referred to as “unconfined” and the underlying aquifer separated from the water table by continuous and semi-continuous fine-grained silt and clay strata are referred to as “confined.” Both unconfined and confined conditions occur in the Westside Basin. The project site is not located within a natural or facility groundwater recharge area.⁷

4.9.2.2 *Flooding*

The Federal Emergency Management Agency (FEMA) has developed a Flood Hazard Boundary Map (FHBM) and has designated Daly City as a Non-Special Flood Hazard Area (NSFHA). The project site, therefore, is not located in a 100-year floodplain.

⁷ City of Daly City. *General Plan Environmental Impact Report, Hydrology*. 2012.

4.9.2.3 *Dam Inundation, Seiches, Tsunamis, and Mudflow Hazards*

No areas in the city are subject to dam inundation. There are no water bodies in Daly City so there is no threat of seiches. A tsunami inundation map prepared by the California Department of Conservation shows a portion of the Pacific coast in Daly City as a tsunami inundation area. However, the project site, which faces San Francisco Bay and is 342 feet amsl, is outside of the tsunami inundation area.

4.9.2.4 *Water Quality*

The water quality of streams, creeks, ponds, and other surface water bodies 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. Surface runoff from roads are collected by storm drains and discharged into the San Francisco Bay. The runoff often contains contaminants such as oil and grease, plant and animal debris (e.g., leaves, dust, and animal feces), pesticides, litter, and heavy metals. In sufficient concentration, these pollutants have been found to adversely affect the aquatic habitats to which they drain. Under existing conditions, the project site is undeveloped and site runoff is generally uncontrolled. A small gully collects runoff along the site’s southerly boundary.

4.9.2.5 *Applicable Plans, Policies, and Regulations*

Federal Emergency Management Agency

In 1968, Congress created the National Flood Insurance Program (NFIP) in response to the rising cost of taxpayer funded disaster relief for flood victims and the increasing amount of damage caused by floods. The NFIP makes federally-backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.

The Federal Emergency Management Agency (FEMA) manages the NFIP and creates Flood Insurance Rate Maps (FIRMs) that designate 100-year floodplain zones and delineate other flood hazard areas. A 100-year floodplain zone is the area that has a one in one hundred (one percent) chance of being flooded in any one year based on historical data. FEMA has designated Daly City as a non-special Flood Hazard Area.

Federal and State Laws and Programs Regarding Water Quality

The Federal Clean Water Act (CWA) and California’s Porter-Cologne Water Quality Control Act are the primary laws related to water quality. The CWA governs discharges to the “Waters of the United States,” which includes oceans, bays, rivers, streams, lakes, ponds, and wetlands. The Porter-Cologne Act established the State Water Resources Control Board (SWRCB).

Regulations set forth by the EPA and the SWRCB have been developed to fulfill the requirements of this legislation. EPA’s regulations include the National Pollutant Discharge Elimination System (NPDES) permit program, which controls sources that discharge pollutants into Waters of the United States. These regulations are implemented at the regional level by water quality control boards. For the City of Daly City, the water board is the San Francisco Bay RWQCB. Regional Boards are

responsible for developing and enforcing water quality objectives and implementation plans, known as Basin Plans. The San Francisco region's Basin Plan was last updated in 2010.

CWA Section 303(d) lists polluted water bodies which require further attention to support future beneficial uses. The San Francisco Bay is on the Section 303(d) list as an impaired water body for several pollutants.

State Water Quality Control Board Nonpoint Source Pollution Program

In 1988, the SWRCB adopted the Nonpoint Source Management Program in an effort to control nonpoint source pollution in California. The Nonpoint Source Management Program requires individual permits to control discharge associated with construction activities. The Nonpoint Source Program is administered by RWQCB under the National Pollutant Discharge Elimination System (NPDES) General Permit for Construction Activities. Projects must comply with the requirements of the Nonpoint Source Program if:

- They disturb one acre or more of soil; or
- They disturb less than one acre of soil but are part of a larger development that, in total, disturbs one acre or more of soil.

The NPDES General Permit for Construction Activities requires the developer to submit a Notice of Intent (NOI) to the RWQCB and to develop a Stormwater Pollution Prevention Plan (SWPPP) to control discharge associated with construction activities.

Municipal Regional Stormwater NPDES Permit (MRP)/C.3 Requirements

The San Francisco Bay RWQCB also has issued a Municipal Regional Stormwater NPDES Permit (Permit Number CAS612008) (MRP). In an effort to standardize stormwater management requirements throughout the region, this permit replaces the formerly separate countywide municipal stormwater permits with a regional permit for 77 Bay Area municipalities, including the City of Daly City. Under provisions of the NPDES Municipal Permit, redevelopment projects that add and/or replace more than 10,000 square feet of impervious surface, or 5,000 square feet of uncovered parking area, are required to design and construct stormwater treatment controls to treat post-construction stormwater runoff. Amendments to the MRP require all of the post-construction runoff to be treated by using Low Impact Development (LID) treatment controls, such as biotreatment facilities, unless the project qualifies for Special Project credit reduction, which would allow the project to implement non-LID measures for all or a portion of the site depending on the project characteristics. This would also require a narrative discussion as to why the implementation of 100 percent LID measures is not feasible per the MRP.

Daly City General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from flood hazards. The following policies are specific to noise and vibration and are applicable to the proposed project.

Policy	Description
Policy SE-2.1	Protect the City of Daly City from unreasonable risk to life and property caused by flood hazards by designing and constructing drainage facilities to improve the flow capacity of the City's water system in order to accommodate the storm water runoff generated by a 100-year storm.
Policy SE-2.2	Reduce localized flooding through City funded drainage system improvements; seek alternate funding where possible.
Policy SE-2.3	Continue to require the habitable portions of new structures to have a finished floor elevation 1.5 feet above the projected 100-year water surface or to be adequately protected from flooding.
Policy SE-5.3	Continue to analyze the significant seismic, geologic and community-wide hazards as part of the environmental review process; require that mitigation measures be made as conditions of project approval.
Policy SE-5.7	Support the adoption and full implementation of the Local Hazard Mitigation Plan (LHMP) which was adopted by the City Council on March 12, 2012 under resolution 12-33 and accepted by FEMA and posted by ABAG June 5, 2012.

Daly City Municipal Code

Title 14 – Stormwater Management and Discharge Control

Chapter 14.04 of the Daly City Municipal Code, also known as the Daly City Stormwater Management and Discharge Control Ordinance prohibits nonstormwater discharges to the City storm drain system. The purpose of the Ordinance is to eliminate nonstormwater discharges to the municipal separate storm drain system, control the discharge of spills, dumping or disposal of materials other than stormwater, and reduce pollutants in stormwater discharges into the storm drain system to the maximum extent practicable. Chapter 14.12 gives the City to authority to make an inspection of projects to enforce any of the provisions of Title 14.

Chapter 15.62 – Grading, Erosion and Sediment Control

Chapter 15.62 of the Daly City Municipal Code, also known as the City of Daly City Grading, Erosion and Sediment Control Ordinance sets forth rules and regulations to control site clearing, vegetation disturbances, land-fills, land excavations, soil storage, and other such activities which may cause sediments and other pollutants to enter the public drainage facilities. The chapter establishes the regulations, permit requirements, procedures for administration and enforcement of permits to properly control the aforementioned activities to preserve and enhance public health, safety and environment. Section 15.62.230 requires the permittee to maintain a copy of the permit, approved plans and reports and make these available for city inspection. Section 15.62.270 gives the City engineer authority to suspend or revoke a permit for violation or non-compliance with Chapter 15.62.

4.9.3 Impact Evaluation

- a, f) *Would the project violate any water quality standards or waste discharge requirements?
Would the project otherwise substantially degrade water quality?*

Potential negative impacts related to water quality are constrained by existing regulatory systems from the federal to the local level. The Clean Water Act sets minimum water quality standards for all surface waters in the U.S. and requires that industrial, municipal, and construction-related sources of pollution are regulated through the NPDES. The City requires project applicants to submit a stormwater management plan that illustrates full compliance with the Municipal Regional Stormwater NPDES Permit (MRP). The plan would require the project to control stormwater through site design measures, source controls, treatment measures, low impact development, hydromodification management, and construction best management practices, including sediment controls for any required dewatering. The City also requires that the project shall comply with the Statewide NPDES General Permit. The Stormwater Management Plan provides programs that commit the City to attaining water quality standards, prevent disposal of hazardous materials, and minimize discharge of sediments into creeks. These policies are reinforced by the discharge prohibitions and requirements for reducing pollutants in storm water in Title 14 and Title 15 of the Municipal Code. Adherence to regulations, policies and standards will ensure that impacts to water quality will be less than significant. **(Less Than Significant Impact)**

Post-Construction Water Quality Impacts

The project would include stormwater treatment measures implemented in order to reduce and/or mitigate the potential for polluted runoff. All roof runoff would be directed away from sidewalks and walkways to vegetated areas. Efficiently planned and operated irrigation systems are included in the project to minimize runoff. All discharge for fire sprinkler testing would be designed to discharge to landscaped areas or the sanitary sewer system. With the implementation of stormwater treatment measures, the project would result in less than significant impacts to water quality. **(Less Than Significant Impact)**

- b) *Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge?*

The local, shallow groundwater is not used as a local water supply; water supply in the City of Daly City is from surface water resources. Groundwater encountered on the site is not part of the actual groundwater table. Potential impacts of depleting groundwater supplies or reducing groundwater recharge, therefore, would be less than significant. **(Less Than Significant Impact)**

- c) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which will result in substantial erosion or siltation on-or off-site?*

There are no waterways on the project site and, therefore, development on the project site would not alter the course of a stream or river. Construction on the site will comply with the City's stormwater regulations to ensure construction activities on the site do not result in increased soil erosion or siltation off-site. **(Less Than Significant Impact)**

- d, e) *Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which will result in flooding on-or off-site? Would the project create or contribute runoff water which will exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

The project site is currently undeveloped. As shown in Table 4.9-1, the project would increase impervious surfaces on the project site.

Table 4.9-1 Pervious and Impervious Surfaces On-Site						
Site Surface	Existing/Pre-Construction (S.F.)	%	Project/Post-Construction (SF)	%	Difference (S.F.)	%
Impervious	0	0	232,444	30	+232,444	+30
Pervious	784,080	100	551,636	70	-232,444	-30
<i>Total</i>	784,080	100	784,080	100		

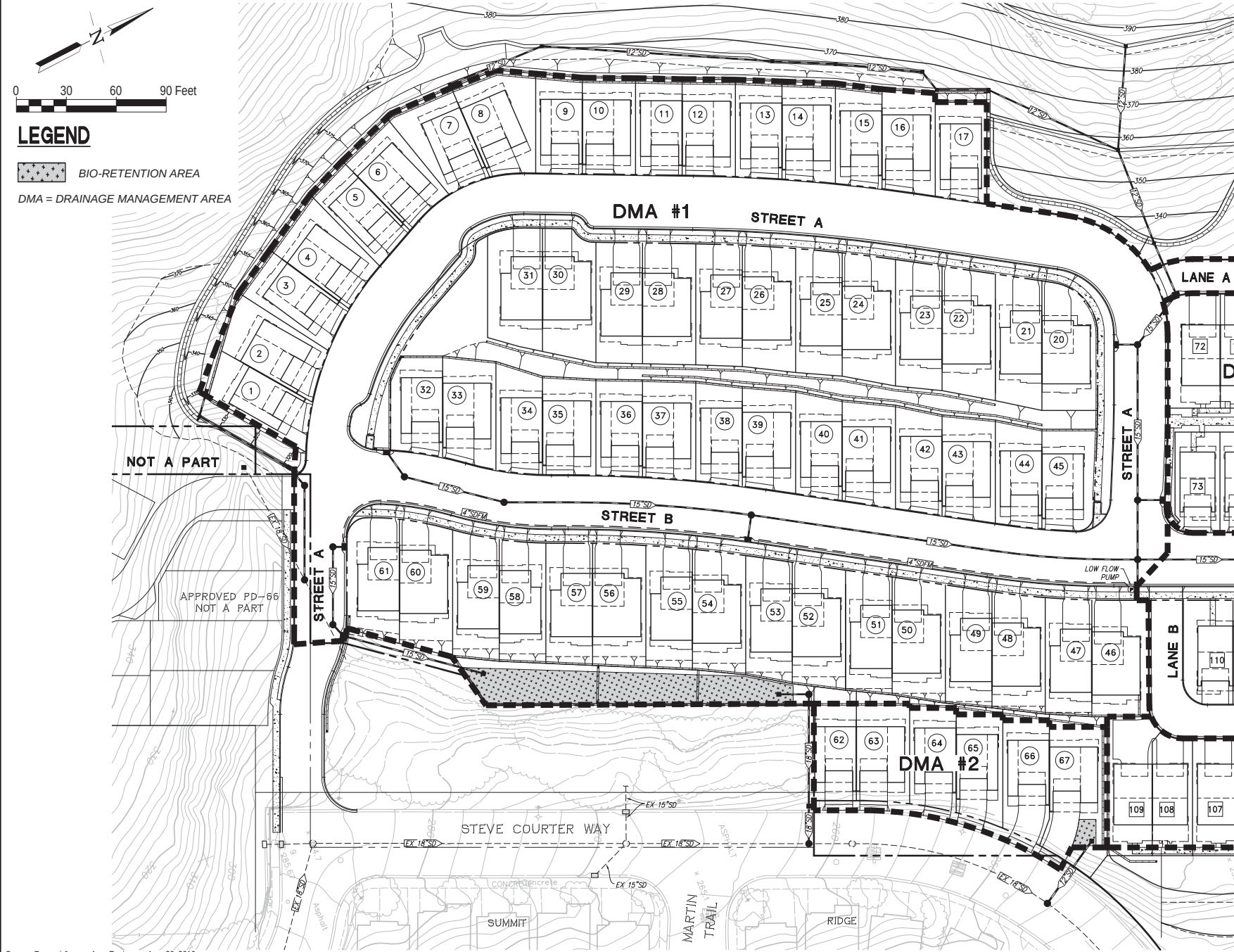
Under existing conditions, the 18-acre site is entirely pervious as it is undeveloped. The proposed project would increase the amount of impervious surfaces on-site by 232,444 square feet, an increase of 30 percent of the project site. The result of this change would be an increase in the volume and rate of stormwater runoff from the project site.

The roof impervious areas would direct stormwater flows to bio-retention areas that are located in nine locations throughout the project site area. These bio-retention areas are designed to filter contaminants in stormwater runoff that result from impervious surfaces (see Figures 4.9-1 and 4.9-2). After the stormwater runoff has been filtered, the remaining stormwater flows would be directed to stormdrain lines located in Carter Street and Steve Courter Way.

According to hydraulic calculations using a 10-year design storm model prepared by *RJA*, the existing stormwater runoff flows from the undeveloped project site are approximately 11.13 cubic square feet (cfs). With the installation of bio-retention features as proposed by the project, the post-construction stormwater runoff would be incrementally reduced to approximately 11.11 cfs.⁸ Therefore, post-construction stormwater runoff would be less than pre-construction stormwater runoff which would not exceed the City's storm drainage system.⁹ For more information on stormwater runoff flows, refer to Appendix E of this Initial Study. **(Less Than Significant Impact)**

⁸ *Hydraulic Calculations for Point Martin II*. Ruggeri Jensen Azar (RJA). February 1, 2017.

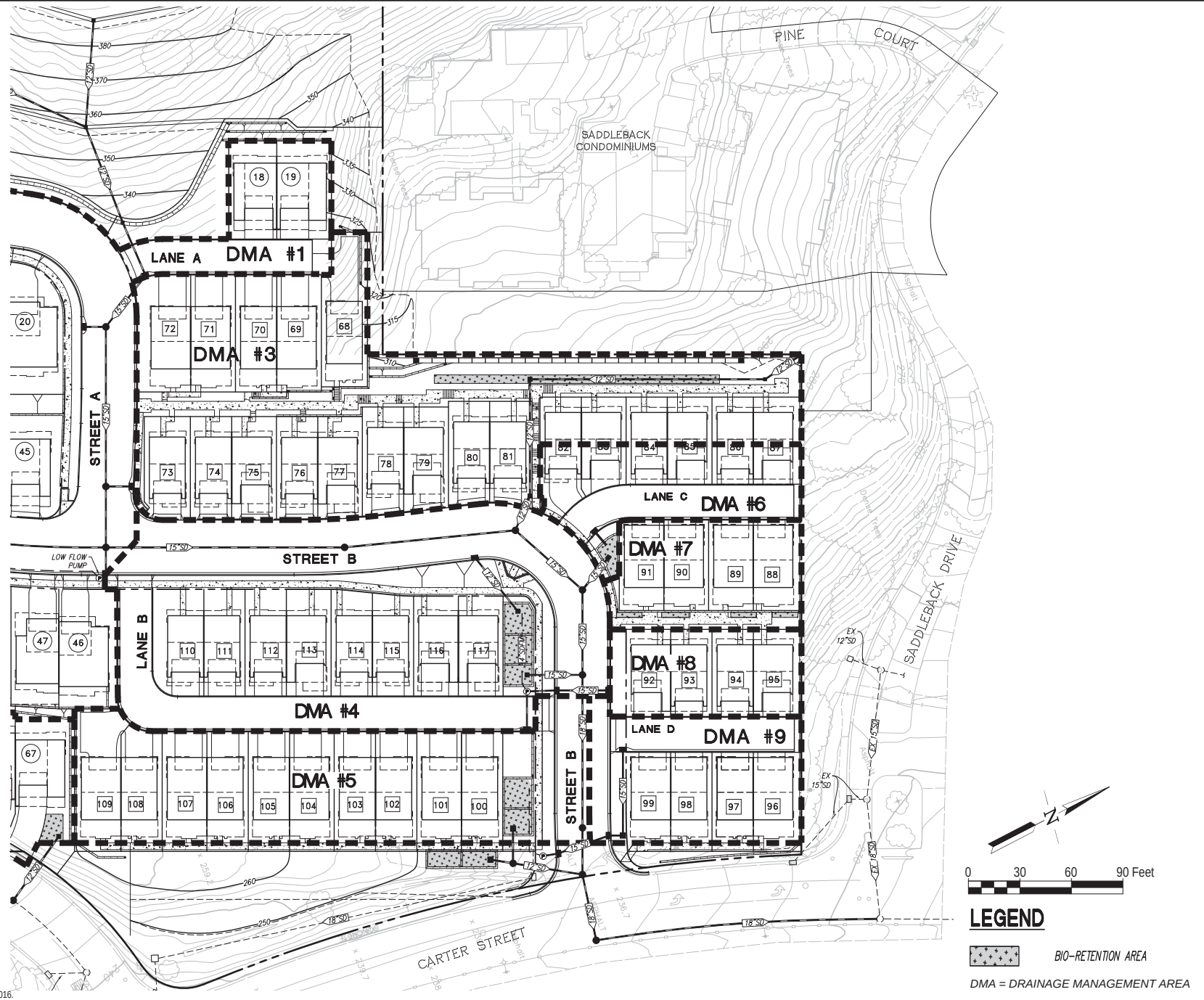
⁹ *Stormdrain Technical Memo*. Ruggeri Jensen Azar (RJA). January 4, 2017.



Source: Ruggeri-Jensen-Azar Engineers, Aug. 26, 2016.

STORMWATER TREATMENT PLAN

FIGURE 4.9-1



STORMWATER TREATMENT PLAN

FIGURE 4.9-2

- g – i) Would the project place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? Would the project place within a 100-year flood hazard area structures which will impede or redirect flood flows? Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?*

The project site is not located in a 100-year floodplain and, therefore, would not place housing within a 100-year flood hazard area or impede or redirect flood flows within a 100-year flood hazard area.

There are no dams within Daly City. Therefore, the project site would not be exposed to risks involving the failure of a levee or dam. **(No Impact)**

- j) Would the project expose people or structures to inundation by seiche, tsunami, or mudflow?*

The project site, due to its topography, is not subject to seiche, tsunami, or mudslide hazards. **(No Impact)**

4.9.4 Conclusion

The proposed project, in compliance with applicable water quality regulations and mitigation measures identified elsewhere in this Initial Study (see MM GEO – 1.1), would not result in significant impacts to hydrology and water quality. **(Less Than Significant Impact With Mitigation)**

4.10 LAND USE AND PLANNING

4.10.1 Land Use Environmental Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Physically divide an established community?	☐	☐	☒	☐	1
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐	1
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐	1

4.10.2 Existing Setting

The project site is located in an urban area developed with primarily single-family residential uses (refer to Figure 2.2-3). The project site is bounded by Carter Street and Steve Courter Way to the east, vacant land and open space to the south, single-family residential uses to the west, and multi-family residential uses to the north.

The project site is currently an undeveloped, vegetated hillside. A dilapidated outbuilding from prior residential development is centrally located on the site near Steve Courter Way. The site is not located within an adopted habitat conservation plan or natural communities conservation plan.

4.10.2.1 *Applicable Plans, Policies, and Regulations*

General Plan Designation and Zoning

The project site is designated in the General Plan as *Residential – Low Density* on approximately 8.03 acres and *Open Space Preservation* on the remaining approximately 10 acres. The *Residential – Low Density* designation generally applies to single-family residences located on parcels of 3,000 square feet or greater, and allows between 2 and 14.5 dwelling units per gross acre.

The *Open Space Preservation* designation includes all vacant lands which because of environmental factors, such as slope, soils, and topography, and/or prohibitive development costs, such as nonexistent access or lack of infrastructure, effectively render the land unusable except for permanent open space.¹⁰

¹⁰ Daly City 2030 General Plan Land Use Element (pg. 20)

The project site is located in the Planned Development – 70 (PD-70) Zoning District. This district is designated to accommodate various types of development such as neighborhood and district shopping centers, professional and administrative areas, single-family and multiple-family residential development, commercial service centers and industrial parks or any other use or combination of uses which can appropriate be made a part of a planned development. Height limitations proposed under PD-70 are 35 feet.

4.10.3 Impacts Evaluation

a) Would the project physically divide an established community?

The project site is located in a developed urban area with residential uses to the north, southeast, and west. Implementation of the proposed project would result in the construction of 117 single-family homes on a currently undeveloped site. The layout and design of the project does not include any features that would physically divide the community (e.g., impeding roadways or infrastructure). Therefore, the project would not physically divide an established community. **(Less Than Significant Impact)**

b) Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect?

As described in *Section 4.10.2.1* above, uses in a Planned Development district shall be permitted according to the general category of uses submitted with the precise plan. A use proposed which is not similar in character to an identified use by general category may be permitted in a planned development district upon first securing a use permit.

A General Plan amendment is proposed to re-designate 0.77 acres of *Open Space Preservation* to *Residential – Low Density* use and 1.44 acres of *Residential – Low Density* to *Open Space Preservation* to accommodate the proposed site plan. The proposed residential density of 14.5 dwelling units per acre on the 8.03-acre site is consistent with the *Residential – Low Density* land use designation which allows residential densities between 2 and 14.5 dwelling units per gross acre. The project is located within the Bayshore Planning Area of the Daly City General Plan.

The rezoning application would rezone the entire 18-acre project site from Pre – Planned Development to Planned Development – 70. The proposed single-family development is a permitted use in the Planned Development zoning district. The proposed project would be consistent with the PD-70 zoning requirements by adhering to the 35-foot height limits and appropriate building setbacks (refer to *Section 3.0 Project Description*).

The project would not result in a fundamental conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. The project, therefore, would result in a less than significant land use impact. **(Less Than Significant Impact)**

- c) *Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?*

The project site is not located within an adopted habitat conservation plan or natural community conservation plan. As described in *Section 4.4 Biological Resources*, the project site is, however, 400 feet from San Bruno Mountain Habitat Conservation Plan. The proposed uses are compatible with the HCP and would have no effect on implementation of the plan. **(Less Than Significant Impact)**

4.10.4 Conclusion

The proposed project would not result in a significant land use impact. **(Less Than Significant Impact)**

4.11 MINERAL RESOURCES

4.11.1 Mineral Resources Environmental Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state?	☐	☐	☐	☒	1
b) 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?	☐	☐	☐	☒	1

4.11.2 Existing Setting

The project site is not located in an area containing known mineral resources.

4.11.3 Impacts Evaluation

a, b) *Would the project result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state or 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 San Mateo County General Plan identifies 13 mineral resources found in San Mateo County and classifies these resources into four categories. Seven of these minerals: chromite, clay, expansible shale, mercury, sand and gravel, sands (specialty), and stone (dimension), are not likely to be used primarily because of limited quantities, urbanization or economic infeasibility.

The project site is located on urban land in the City of Daly City and there are no significant mineral resources on or in the vicinity of the project site. The project, therefore, would not result in any impact to mineral resources. **(No Impact)**

4.11.4 Conclusion

The project would not result in an environmental impact due to the loss of availability of known mineral resources. **(No Impact)**

4.12 NOISE AND VIBRATION

4.12.1 Noise Environmental Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project result in:					
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐	1,2
b) Exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐	1,2
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐	1,2
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐	1,2
e) 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, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒	1,2
f) For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐	1,2

4.12.2 Existing Setting

4.12.2.1 *Overview of Noise Principles*

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound can be caused by its pitch or its loudness. 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. There are several methods of characterizing sound. The most common in California is the A-weighted sound level or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive.

In determining the daily level of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises. During the nighttime, exterior background noises are generally lower than daytime levels. Most household noise, however, also decreases at night and exterior noises become more noticeable. Further, most people sleep at night and are very

sensitive to noise intrusion. To account for human sensitivity to nighttime noise levels, a descriptor, DNL (day/night average sound level), was developed. The DNL, or L_{dn} divides the 24-hour day into the daytime of 7:00 AM to 10:00 PM and the nighttime of 10:00 PM to 7:00 AM. The nighttime noise level is weighted to 10 dB higher than the daytime noise level. The Community Noise Equivalent Level (CNEL) is another 24-hour average which includes both an evening and nighttime weighting.

Construction Noise

Construction is a temporary source of noise impacting residences and businesses located near construction sites. Construction noise can be significant for short periods of time at any particular location and generates the highest noise levels during grading and excavation, with lower noise levels occurring during building construction. Large pieces of earth-moving equipment, such as graders, scrapers, and bulldozers, generate maximum noise levels of 90 to 95 dBA L_{max} at a distance of 50 feet. Typical hourly average construction-generated noise levels are approximately 81 to 88 dBA L_{eq} measured at a distance of 50 feet from the site during busy construction periods. Construction generated noise levels drop off at a rate of about six dBA per doubling of distance between the source and receptor. Shielding by buildings or terrain often result in lower construction noise levels at distant receptors.

4.12.2.2 *Existing Noise Conditions*

The project site is bounded by Carter Street and Steve Courter Way to the northeast, vacant land and open space to the south, and residential uses to the southeast, east, and west. The noise environment on the project site results primarily from vehicular traffic along Carter Street. According to the General Plan EIR noise contours, the existing roadway noise along Carter Street is up to 60 decibels (dB).

The project site is located outside of the 65 dB CNEL noise contours for SFO International Airport.

4.12.2.3 *Sensitive Receptors*

The nearest noise sensitive land uses include single-family residences approximately 150 feet southeast of the project site on Steve Courter Way.

4.12.2.4 *Applicable Plans, Policies, and Regulations*

2013 State Building Code, Title 24, Part 2

The State Building Code, Title 24, Part 2¹¹ of the State of California Code of Regulations establishes uniform minimum noise insulation performance standards to protect persons within new buildings which house people, including hotels, motels, dormitories, apartment houses and dwellings other than single-family dwellings. Title 24 mandates that interior noise levels attributable to exterior sources shall not exceed 45 dB DNL or CNEL in any habitable room.

¹¹ The July 1, 2015 Supplement to the 2013 California Building Code (CBC) reinstated limits on interior noise levels attributable to exterior environmental noise sources which had been contained in all prior versions of the CBC dating back to 1974.

City of Daly City General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to noise and vibration and are applicable to the proposed project.

City of Daly City Relevant Noise and Vibration Policies

Policies	Description
Policy NE-1	Use the future noise contour map to identify existing and potential noise impact areas.
Policy NE-2	Use the State Office of Noise Control Guidelines as a guide to assess development that will need additional noise study and mitigations.
Task NE-2.1	Use the Noise Control Guidelines to assess the suitability of a site for new development in combination with the noise contours to accurately identify areas that may need additional noise study and mitigation. Noise mitigations include additional insulation, double glazing of windows and increasing building setbacks from the noise source. Mitigations should also be creative and attractive whenever possible and appropriate. Creative noise mitigation measures can include incorporation of fountains using water to mask freeway noise and noise walls of an appropriate scale painted with decorative murals.
Task NE-3.1	Continue to enforce the environmental noise requirements of the State Building Code (Title 24).
Task NE-5.1	Additional noise studies should be conducted in “Conditionally Acceptable” noise environments to ensure adequate mitigation features are employed. Usually conventional construction with closed windows and fresh air supply systems will maintain a healthy noise environment.
Task NE-9.1	Depending upon the hours of operation, intensity of use, and the location of sensitive receptors in the area, the expansion or change of use could cause noise impacts. Acoustical studies should be performed, at the applicants’ expense, during the discretionary and environmental review processes and conditions should be placed on the project accordingly.

The project site is located in the Normally Acceptable 60 dBA DNL as shown in Table 3.10-1 Noise and Land Use Compatibility Matrix of the General Plan.¹²

City of Daly City Municipal Code

Title 9 – Public Peace, Morals and Welfare

Chapter 9.22 of the Daly City Municipal Code contains language to protect residents from excessive noise exposure. Section 9.22.010 prohibits an individual from causing a disturbance such that it disturbs the public peace off-site. Section 9.22.020 states that no person shall maintain, operate, or conduct any loudspeaker or amplifier in such a manner as to cause the sound to be projected outside any building or out of doors in any part of the City without first obtaining a permit to do so. Section 9.22.030 deals more specifically with noise and states that between the hours of 10:00 p.m. and 6:00 a.m. no person shall cause, create, or permit any noise which may be heard beyond the confines of the property of origin. The Police Department enforces Chapter 9.22 of the Municipal Code.

¹² General Plan Draft Environmental Impact Report. *Noise*. 2012.

Title 15 – Buildings and Construction

Section 15.00.130 requires any home, constructed after January 1, 1993 or renovated at a cost equal to twenty-five percent or more of the value of the home and located within the 65 CNEL (FAA approved) contour map that is illustrated on the Aircraft Noise Soundproofing Project Area Map, must be insulated to meet standards applied in noise insulation programs supported by the Federal Aviation Administration.

Title 17 – Zoning

Title 17 of the Daly City Municipal Code provides for discretionary review of projects through the use permit and variance process. An application for development is analyzed in light of many concerns including comparing the proposed use against the noise contours and Noise Compatibility Guidelines. The Planning Division attaches conditions of project approval to reduce noise impacts to future occupants of proposed development as well as conditioning times construction activities may occur in order to reduce noise impacts to surrounding land uses.

4.12.3 Impact Evaluation

- a) *Would the project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

The Noise Element of the General Plan establishes 70 dBA CNEL as the maximum suggested outdoor noise level for land uses that include single-family residences. Based on the General Plan noise contours, noise levels on the project site are expected to be within the 60 dBA due to traffic levels along Carter Street. Occasional aircrafts flying from SFO may also contribute to noise on the project site.

Assuming typical construction methods, interior noise levels are approximately 15 dBA lower than exterior levels within residential units with the windows partially open and approximately 20 to 25 decibels lower than exterior noise levels with the windows closed. Based on the General Plan noise contours for Carter Street and the City's noise compatibility standards, typical construction methods would ensure interior noise levels in the proposed residences would be maintained at or below 45 dBA DNL. **(Less Than Significant Impact)**

- b) *Would the project result in exposure of persons to, or generation of, excessive groundborne vibration or groundborne noise levels?*

Construction of the proposed development would involve temporary construction including installation of large (25 foot) retaining walls on the site. The project is assumed to use non-vibratory methods for the placement of piles associated with the proposed retaining walls. Other heavy construction equipment required for grading and excavation would not result in perceptible vibration at adjacent residential development. The proposed residences once occupied would not generate excessive or perceptible vibration. **(Less Than Significant Impact)**

- c) *Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

The proposed single-family residences may include mechanical equipment such as air conditioning units that would generate noise. The proposed project air conditioning units will be designed to meet the City's 60 dBA L_{eq} noise levels at adjacent residential property lines approximately 150 feet away from the project site.

Typically, a 3 dBA noise increase would be perceivable by sensitive receptors. In order for traffic noise to increase by 3 dBA, traffic volumes would need to double along a local roadway. As discussed in *Section 4.16 Transportation/Traffic*, the proposed project would not substantially increase (i.e. double existing daily) traffic volumes along roadways serving the site such that significant traffic related noise would result at any sensitive receptor in the vicinity of the site. **(Less Than Significant Impact)**

- d) *Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Project implementation would result in intermittent short-term noise from construction-related activities. This temporary impact would be reduced through the implementation of Best Management Practices (BMPs). BMPs are required at the time of building permit issuance for all development and would reduce any impacts of additional noise level exposure to insignificance. Such BMPs include requirements for construction vehicles and equipment to be properly muffled. Construction hours would be limited to 8:00 AM to 5:00 PM, Mondays through Saturdays and prohibited Sundays and holidays.

The construction schedule assumes that the project would be built out over a period of approximately 21 months beginning in 2017, or an estimated 462 construction workdays (assuming an average of 22 construction days per month). The project would be constructed in six different phases: demolition, site preparation, grading, building construction, paving, architectural coating. The site demolition and grading phase would take approximately four months. The building construction phase would take approximately six months.

Impact NV – 1: The project would construct single-family residences adjacent to noise sensitive, residential uses which could result in temporary disturbances during construction. **(Significant Impact)**

Mitigation Measure: The following mitigation measures will be implemented by the project to ensure impacts from construction noise are reduced to a less than significant level:

MM NV – 1.1: The project applicant shall incorporate the following practices into the construction documents to be implemented by the project contractor:

- Maximize the physical separation between noise generators and noise receptors. Such separation includes, but is not limited to, the following measures:

- Use heavy-duty mufflers for stationary equipment and barriers around particularly noisy areas of the site or around the entire site;
- Use shields, impervious fences, or other physical sound barriers to inhibit transmission of noise to sensitive receptors;
- Locate stationary equipment to minimize noise impacts on the community;
- Minimize backing movements of equipment;
- Use quiet construction equipment whenever possible;
- Impact equipment (e.g., jack hammers and pavement breakers) shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically-powered tools. Compressed air exhaust silencers shall be used on other equipment. Other quieter procedures, such as drilling rather than using impact equipment, shall be used whenever feasible;
- Prohibit unnecessary idling of internal combustion engines; and
- Select routes for movement of construction-related vehicles and equipment in conjunction with the Daly City Community Development Department so that noise-sensitive areas, including residences and schools, are avoided as much as possible.
- The project sponsor shall designate a “disturbance coordinator” for construction activities. The coordinator would be responsible for responding to any local complaints regarding construction noise and vibration. The coordinator would determine the cause of the noise or vibration complaint and would implement reasonable measures to correct the problem.
- The construction contractor shall send advance notice to neighborhood residents within 300 feet of the project site regarding the construction schedule and including the telephone number for the disturbance coordinator at the construction site.

With the implementation of the following mitigation measures, the proposed project would reduce noise impacts to a less than significant level. **(Less Than Significant Impact With Mitigation)**

e, f) For a project located within an airport land use plan or, where such a plan has not yet been adopted, within 2 miles of a public use airport, would the project expose people residing or working in the project area to excessive noise levels? For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

The project site is located within the Airport Influence Area A (AIA) for the San Francisco International Airport, which requires notification of residents that airport operations may affect their property. The project site is located outside the 65 dBA DNL noise contour for SFO and, therefore, would not be subject to excessive airport noise. The project is not located within the vicinity of a private airstrip. **(Less Than Significant Impact)**

4.12.4 Conclusion

Implementation of the proposed mitigation measures (MM NV – 1.1), General Plan policies, and Municipal Code, would reduce noise and vibration impacts to a less than significant level. **(Less Than Significant With Mitigation)**

4.13 POPULATION AND HOUSING

4.13.1 Population and Housing Environmental Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Induce substantial 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)?	☐	☐	☒	☐	1,2
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	1,2
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒	1,2

4.13.2 Existing Setting

According to California Department of Finance 2016 Census data, Daly City's population for 2016 was 109,139 persons.¹³ In 2016, there were 31,873 households with an average of 3.4 persons per household.¹⁴

The jobs/housing balance is the relationship between the number of housing units required as a result of local jobs and the number of residential units available in the City. This relationship is quantified by the jobs/employed resident ratio. When the ratio reaches 1.0, a balance is struck between the supply of local housing and local jobs. The jobs/employed resident ratio is determined by dividing the number of local jobs by the number of employed residents that can be housed in local housing. The jobs/employed residents' ratio for Daly City in 2010 was 0.41, which means that there were 0.41 jobs for every employed resident in the City.

4.13.3 Impacts Evaluation

- a) *Would the project induce substantial 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)?*

Implementation of the project will create more housing by adding a net increase of 117 single-family dwelling units. This increase in housing would result in a net increase in local

¹³ State of California, Department of Finance. E-1 Population Estimates for Cities, Counties, and the State—January 1, 2015 and 2016. January 2016. Available at: <http://www.dof.ca.gov/Forecasting/Demographics/Estimates/e-1/>

¹⁴ State of California, Department of Finance. E-5 Population and Housing Estimates for Cities, Counties, and the State—January 1, 2016. January 2016. Available at: <http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php>

population by approximately 398 residents.¹⁵ The number of additional residents will be part of the planned growth in the General Plan, which accommodates an increase of approximately 2,157 new dwelling units. The project proposes a General Plan Amendment that will result in a net decrease (0.67 acres) in the land area designated *Residential – Low Density* and a corresponding increase in land area designated *Open Space Preservation* on site, therefore, the project will not result in additional housing than currently anticipated in the General Plan. The impact from the project would therefore be less than significant. **(Less Than Significant Impact)**

b, c) *Would the project displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere?*

The project site is currently undeveloped and vacant. Therefore, the City would not require replacement housing to be constructed as there is no existing housing on the property. **(No Impact)**

4.13.4 Conclusion

Implementation of the proposed project would result in a less than significant impact on the City's population and housing supply. **(Less Than Significant Impact)**

¹⁵ Based on the latest Department of Finance data, the average residents per household is 3.4. 3.4 residents per household x 117 net new units = 398 residents.

4.14 PUBLIC SERVICES

4.14.1 Public Services Environmental Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project					
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the 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:					
- Fire Protection?	☐	☐	☒	☐	1,2
- Police Protection?	☐	☐	☒	☐	1,2
- Schools?	☐	☐	☒	☐	1,2
- Parks?	☐	☐	☒	☐	1,2
- Other Public Facilities?	☐	☐	☒	☐	1,2

4.14.2 Existing Setting

4.14.2.1 *Fire Service*

The City of Daly City is served by the North County Fire Authority (NCFA), a Joint Powers Authority (JPA) which currently serves the communities of Brisbane, Daly City, and Pacifica. The NCFA responds to all fires, hazardous materials spills, and medical emergencies in the City. The closest station to the project site is Station No. 93, located at 464 Martin Street, approximately 0.4 miles southeast of the project site.

4.14.2.2 *Police Protection Service*

Police protection services for the project site are provided by the Daly City Police Department, which is headquartered at 333 90th Street, approximately five miles southwest of the project site. The Daly City Police Department employs 111 sworn and 43 non-sworn personnel.

4.14.2.3 *Schools*

The project site is located within the Bayshore Elementary Unified School District, and the Jefferson Union High School District. Students in the project area would attend the reconstructed Bayshore Elementary School serving K-8 students. The school is located approximately one mile northeast of the project site.

Students would attend one of the four high schools, Terra Nova High School, Oceana High School, Westmoor High School, or Jefferson High School, depending on the capacity of each facility. The

closest high school to the project site is Jefferson High School, approximately 3.8 miles from the project site.

4.14.2.4 *Parks*

The City currently has a number of public and private recreational open spaces. Public recreational open space consists of City parks and related facilities, and State and County parks. Private recreational open space consists of private golf and country clubs which limit access only to members.

Thirteen municipal parks and twelve tot lots are located in Daly City, resulting in a total of 82.95 acres of developed public recreational open space. The City has 27 recreational facilities dispersed throughout the various City neighborhoods to serve residents.

Bayshore Heights Park is located approximately 0.4 miles southeast of the project site.

4.14.2.5 *Applicable Plans, Policies, and Regulations*

Government Code Section 65996

State law (Government Code Section 65996) specifies an acceptable method of offsetting a project's effect on the adequacy of school facilities as the payment of a school impact fee prior to issuance of a building permit. California Government Code Sections 65995-65998, sets forth provisions for the payment of school impact fees by new development as exclusive means of "considering and mitigating impacts on school facilities that occur or might occur as a result of any legislative or adjudicative act, or both, by any state or local agency involving, but not limited to, the planning, use, or development of real property" [§65996(a)]. The legislation goes on to say that the payment of school impact fees "are hereby deemed to provide full and complete school facilities mitigation" under CEQA [§65996(b)]. The school district is responsible for implementing the specific methods for mitigating school impacts under the Government Code. The school impact fees and the school districts' methods of implementing measures specified by Government Code 65996 would mitigate project-related increases in student enrollment.

Quimby Act

The 1975 Quimby Act (California Government Code section 66477) authorized cities and counties to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. The Act states that the dedication requirement of parkland can be a minimum of three (3) acres per thousand residents or more, up to five (5) acres per thousand residents if the existing ratio is greater than the minimum standard. Revenues generated through in lieu fees collected and the Quimby Act cannot be used for the operation and maintenance of park facilities. In 1982, the Act was substantially amended. The amendments further defined acceptable uses of or restrictions on Quimby funds, provided acreage/population standards and formulas for determining the exaction, and indicated that the exactions must be closely tied (nexus) to a project's impacts as identified through studies required by CEQA.

City of Daly City Capital Plan

In 2008, the City expanded its Capital Plan to identify the capital improvements which would be needed to provide City services to all areas over the next 20 years. It was estimated that 2.8 million square feet of commercial space and 2,641 residential units would be added to the City, which is slightly more than projected with the 2013 General Plan. The study also projected the extent of capital improvements for public facilities which would be needed in the City over the same time period. The relationship between the additional projected commercial and residential development and the need for improvements in public facilities were analyzed. The City formulated impact fees that are based on the extent to which any need for new public facilities is attributed to new development.

City of Daly City General Plan

Daly City General Plan Relevant Public Service Policies	
Policies	Description
SE-3.1	Support and maintain the City's Insurance Service Office (ISO) rating of a Class 2, which establishes the fire insurance rates for the City.
SE-3.2	Provide for a seven (7) minute total reflex time for arrival of a first due company to 90 percent of all emergency incidents.
SE-3.3	Provide for an eleven (11) minute total reflex time for arrival of multiple fire companies to 90 percent of all structure fires.
SE-3.4	Maintain fire company reliability, whereby 90 percent of all incidents are handled by the district fire company.

4.14.3 Impacts Evaluation

4.14.3.1 *Impacts to Fire Protection Services*

The project is located within an urban area of Daly City that is currently served by the North County Fire Authority. The project site is located a few minutes driving time from Station No. 93 and would be adequately served based on the City's response time policies.

As part of the permitting process, the North County Fire Authority would review the vegetation management plan that would be required as part of the project (refer to MM HAZ – 1.1). Because the proposed project would generate incremental additional demand for fire protection services, and is proximate to an existing fire station, it would not result in the need for new or expanded facilities. The impact of the project on fire protection services, therefore, would be less than significant. **(Less Than Significant Impact)**

4.14.3.2 *Impacts to Police Protection Services*

The project area is currently served by the Daly City Police Department. The proposed project would result in an incremental increase demand for police services but would not require the expansion or construction of additional police facilities. The impact of the project on police services would be, therefore, less than significant. **(Less Than Significant Impact)**

4.14.3.3 *School Impacts*

According to historic enrollment rates for school districts in Daly City (2012), enrollment in Bayshore Elementary Unified School District has incrementally increased, and enrollment in Jefferson Union High School District has slightly declined within the last decade.

The Bayshore Elementary School District does not have district-specific student generation factors. In the absence of a district-specific student generation factor, generation factors used for the Jefferson Elementary School District were applied to estimate the number of elementary and middle school students that would be generated by the proposed project. The state-wide student generation factor which identifies the number of students per housing unit is 0.5 for grades K-8.¹⁶ Therefore, using this rate, the proposed project would generate approximately 59 new students that would attend the reconstructed Bayshore Elementary School.¹⁷

The planned school which is currently under construction has capacity for 544 students which could accommodate 164 more students than currently enrolled. The new Bayshore Elementary School would have adequate capacity to serve the project site.

The Jefferson Union High School District has a student yield factor of 0.2 high school students per single-family dwelling unit.¹⁸ Therefore, the condominium development would result in approximately 23 new students attending Terra Nova High School, Oceana High School, Westmoor High School, or Jefferson High School depending on the capacity at each facility¹⁹. Under Section 65996 of the State Government Code, payment of school impact fees established by SB 50 is deemed to constitute full and complete mitigation for school impacts from development. Fulfillment of this requirement would mitigate project impacts to schools to a less than significant level. **(Less Than Significant Impact)**

4.14.3.4 *Park Impacts*

The City of Daly City is served by several parks and recreational facilities, including 13 municipal parks and 12 tot lots, resulting in a total of 82.95 acres of developed public recreational open space which equals approximately 0.82 acres per 1,000 residents. However, according to the General Plan EIR, this parkland to population ratio does not take into account the numerous regional park facilities accessible to residents.

San Bruno Mountain State and County Park, a 2,063-acre park located in the Hillside Planning Area, includes multiple recreational facilities and trails. At the coastline, Thornton Beach State Park includes a panoramic overlook and parking lot adjacent to Highway 1, at the end of John Daly Boulevard. Lake Merced, which is adjacent to the city limits, north of the Westlake Planning Area, is a freshwater lake located in San Francisco but utilized by many Daly City residents due to its proximity. Lake Merced includes a circuit path all the way around as well as facilities such as picnic areas and barbecues. Additionally, the Fort Funston/Golden Gate National Recreation Area is also adjacent to the city limits, north of the Westlake Planning Area, and includes multiple trails. The

¹⁶ Jefferson Elementary School District. *Level I Developer Fee Study for Jefferson Union High School District*. October 5, 2016. Accessed January 22, 2017.

¹⁷ $0.5 \text{ (State-wide student generation rate)} \times 117 \text{ (Total number of dwelling units)} = 59 \text{ students}$.

¹⁸ Ibid.

¹⁹ $0.2 \text{ (Jefferson Union High School District generation rate)} \times 117 \text{ (Total number of dwelling units)} = 23 \text{ students}$.

abundance of regional open space around Daly City indicates that residents have access to more open space than shown in the above ratio, although these facilities are trail-oriented, rather than active facilities (such as those that include playfields).

Based on the City's current parkland dedication ratio of three acres per 1,000 residents in the Municipal Code, the City will need to provide 15.8 acres of parkland to meet future need resulting from the additional population (without ameliorating existing deficiencies). To meet this demand, the General Plan proposes a task to develop part of the 140-acre undeveloped Mussel Rock area into a park for community use. The program for the park will be further developed through Program RME-3 which calls for the preparation of a Parks and Recreation Analysis and Master Plan. The Parks and Recreation Analysis and Master Plan will address existing and future opportunities for parks and recreational services for the city and guide the planning, selection, dedication and funding of future park land in the city. The Master Plan would allow priorities to be adopted and identify park site locations and development plans be determined at the time the acquisition and development process begins. The General Plan includes policies and programs to help parkland development to meet additional need which would reduce impact to a less than significant level.

In addition, the City of Daly City Municipal Code currently has parkland dedication standards within Title 16 – Subdivisions. Section 16.30.400 of the Municipal Code has a standard for parks of three acres per 1,000 people. In order to meet this requirement, the project would be required to allot 1.12²⁰ acres of land as parkland or pay an in-lieu fee equal to the value of the land (plus ten percent toward costs of off-site improvements) according to the Municipal Code parkland dedication standard. Since the project is a sloping hillside parcel not suited for public parkland, the project proposes to pay in-lieu fees to offer recreational demand for parkland. **(Less Than Significant Impact)**

4.14.4 Conclusion

The proposed project would result in a less than significant impact to public services. **(Less Than Significant Impact)**

²⁰ 3.18 x 3 acres x 117 New Dwelling Units/ 1,000 residents = 1.12 acres of parkland

4.15 RECREATION

4.15.1 Recreation Environmental Checklist

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated?	☐	☐	☒	☐	1,2
b) 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?	☐	☐	☒	☐	1,2

4.15.2 Existing Setting

Thirteen municipal parks and twelve tot lots are located in Daly City, resulting in a total of 82.95 acres of developed public recreational open space. School playgrounds also provide recreational open space opportunities in the City. The City has twenty-seven recreational facilities dispersed throughout the various City neighborhoods to serve city residents.

As discussed in *Section 4.14 Public Services*, Bayshore Heights Park is located approximately 0.4 miles southeast of the project site.

4.15.2.1 *Applicable Plans, Policies, and Regulations*

Parkland Dedication

The City of Daly City Municipal Code currently has parkland dedication standards within Title 16 – Subdivisions. Section 16.30.040 of the Municipal Code has a standard for parks of three acres per 1,000 people. This requirement may be satisfied through either on-site park construction, land dedication, or an in-lieu fee equal to the land value plus ten percent towards costs of off-site improvements.²¹

City of Daly City General Plan Policies

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to recreational resources and are applicable to the proposed project.

City of Daly City Relevant Recreation Policies

Policy	Description
Program RME-3	The preparation of a Parks and Recreation Analysis and Master Plan is proposed to address existing and future opportunities for parks and recreational services for the City.

²¹ City of Daly City. *Municipal Code 16.30.050*. Accessed September 8, 2016.

	Envisioned as a ten-year plan, the Master Plan is to be a comprehensive document that will include a format for the planning, selection, dedication and funding of future park land in the City. A park system analysis would inventory existing park sites and outline future needs of the current park space. The proposed Master Plan will focus on the planning for new sites or expanding and/or improving existing sites. In addition, the Master Plan would allow priorities to be adopted and individual park site locations and development plans.
Task RME-12.1	Program for and undertake improvements to develop Mussel Rock Park as a passive recreational area for community use (see also Task CST-1.4). All improvements within the park shall be in substantial conformance with a Public Access Management Plan prepared for the site which shall include the following: 1. Public access paths provided in such a way as to ensure connectivity, maximize utility, and provide access along the entirety of the park site. 2. Public access amenities (such as benches, table and chairs, bicycle racks, trash and recycling receptacles, etc.), including benches in the public view overlook at appropriate locations. 3. Public access signs to facilitate, manage, and provide public access to the park, including the provision of directional signs. 4. At a minimum, two interpretive panels relevant to the site shall be provided at locations that maximize their utility.
Program RME-14	Prioritize the dispersal of park in-lieu fees collected from the development of new subdivisions to ensure that the fees are spent in the appropriate areas (see Program RME-3).

4.15.3 **Impacts Evaluation**

- a, b) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated? 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 City of Daly City is served by several parks and recreational facilities, including 13 municipal parks and 12 tot lots, resulting in a total of 82.95 acres of developed public recreational open space which equals approximately 0.82 acres per 1,000 residents. However, according to the General Plan EIR, this parkland to population ratio does not take into account the numerous regional park facilities accessible to residents.

San Bruno Mountain State and County Park, a 2,063-acre park located in the Hillside Planning Area, includes multiple recreational facilities and trails. At the coastline, Thornton Beach State Park includes a panoramic overlook and parking lot adjacent to Highway 1, at the end of John Daly Boulevard. Lake Merced, which is adjacent to the city limits, north of the Westlake Planning Area, is a freshwater lake located in San Francisco but utilized by many Daly City residents due to its proximity. Lake Merced includes a circuit path all the way around as well as facilities such as picnic areas and barbeques. Additionally, the Fort Funston/Golden Gate National Recreation Area is also adjacent to the city limits, north of the Westlake Planning Area, and includes multiple trails. The abundance of regional open space around Daly City indicates that residents have access to more open space than shown in the

above ratio, although these facilities are trail-oriented, rather than active facilities (such as those that include playfields).

Based on the City's current parkland dedication ratio of three acres per 1,000 residents in the Municipal Code, the City will need to provide 15.8 acres of parkland to meet future need resulting from the additional population (without ameliorating existing deficiencies). To meet this demand, the General Plan proposes a task to develop part of the 140-acre undeveloped Mussel Rock area into a park for community use. The program for the park will be further developed through Program RME-3 which calls for the preparation of a Parks and Recreation Analysis and Master Plan. The Parks and Recreation Analysis and Master Plan will address existing and future opportunities for parks and recreational services for the city and guide the planning, selection, dedication and funding of future park land in the city. The Master Plan would allow priorities to be adopted and identify park site locations and development plans be determined at the time the acquisition and development process begins. The General Plan includes policies and programs to help parkland development to meet additional need which would reduce impact to a less than significant level.

In addition, the City of Daly City Municipal Code currently has parkland dedication standards within Title 16 – Subdivisions. Section 16.30.040 of the Municipal Code has a standard for parks of three acres per 1,000 people. In order to meet this requirement, the project would be required to allot 1.12²² acres of land as parkland or pay an in-lieu fee equal to the value of the land (plus ten percent toward costs of off-site improvements) according to the Municipal Code parkland dedication standard. Since the project is a sloping hillside parcel not suited for public parkland, the project proposes to pay in-lieu fees to offer recreational demand for parkland. **(Less Than Significant Impact)**

4.15.4 Conclusion

With the payment of parkland dedication fees, the proposed project would result in a less than significant impact to recreational facilities. **(Less Than Significant Impact)**

²² 3.18 x 3 acres x 117 New Dwelling Units/ 1,000 residents = 1.12 acres of parkland

4.16 TRANSPORTATION/TRAFFIC

The following discussion is based upon a Transportation Impact Analysis prepared for the project by *RKH, Inc.* in December 2016. A copy of this report is included in Appendix F of this Initial Study.

4.16.1 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐	1,16
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐	1,16
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒	1,16
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)?	☐	☐	☒	☐	1,16
e) Result in inadequate emergency access?	☐	☐	☐	☒	1,16
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒	1,16

4.16.2 Existing Setting

4.16.2.1 *Existing Conditions*

Roadway Network

Regional Access

Guadalupe Canyon Parkway is a four-lane, divided collector street connecting westerly areas of the city with Bayshore Boulevard to the east. The street runs generally east/west through the project area.

Geneva Avenue is a four-lane, divided arterial street running generally east/west through the project area with parking allowed in some areas on both sides of the street.

Bayshore Boulevard is a four-lane, divided arterial street that runs generally north/south through the project area.

Local Access

Carter Street is a local two-lane street running generally north/south through the project area with no parking allowed on the street adjacent to the site. Parking is allowed on the west side of the street north of Saddleback Drive.

Steve Courter Way is a two-lane residential street with parking allowed on both sides of the street and connects Carter Street to Farrier Place.

Martin Trail is a two-lane residential street with parking allowed on both sides of the street between Steve Courter Way and Carter Street.

Pedestrian and Bicycle Facilities

In the project vicinity, pedestrian facilities include sidewalks on one side of both Steve Courter Way and Carter Street, and on both sides of Martin Trail.

There are no designated bike lanes on Carter Street. However, there are designated Class II bike lanes on Geneva Avenue (between Brookdale Avenue and Bayshore Boulevard) approximately 0.2 miles north of the project site.

Transit Service

A wide variety of public transit services are available at or near the project site. A summary of each service is provided below.

SamTrans

SamTrans provides scheduled shuttle service on Carter Street to its system network including direct service to the two nearest BART stations. Caltrain, in conjunction with SamTrans, provides

scheduled daytime senior service to Caltrain's Bayshore Station as well as to the Brisbane Park, and to a South San Francisco transit node serving several SamTrans countywide bus routes. SamTrans also provides an on-call booking service on Carter Street for shuttle service to both the Serramonte and Tanforan Shopping Centers, and to BART stations for seniors Mondays through Fridays.

SamTrans provides school day bus service on Routes 24 and 29 along Geneva Avenue. Route 24 operates between Brisbane and Westmoor High School in Daly City. Route 29 also operates on school days only and connects Lipmann Middle School in Brisbane to Brunswick Street and Templeton Avenue in Daly City.

San Francisco Municipal Transportation Agency (MUNI)

MUNI provides local, express and overnight bus service on Geneva Avenue approximately 0.2 miles north of the project entrance off of Carter Street. The MUNI service operates seven days per week and 24 hours each day.

The MUNI Metro Sunnydale-Visitation Valley Station on Bayshore Boulevard is approximately 1.4 miles from the project site. The Balboa Park BART Station on Geneva Avenue is approximately 1.8 miles from the project site.

Commute.Org

Commute.Org, in partnership with Caltrain, SamTrans and Bayshore area employers, provides frequent morning and evening commuter shuttle services serving the Crocker-Brisbane Business Park and its many employers as well as afternoon commuter service to Caltrain's Bayshore Station.

4.16.2.2 *Methodology*

Level of Service

Traffic conditions were evaluated using level of service (LOS). LOS is a qualitative description of operating conditions ranging from LOS A (free-flow conditions with little or no delay) to LOS F (jammed conditions with excessive delays). The analysis methods for signalized and unsignalized intersections are described below.

Signalized Intersections

The signalized intersections have been analyzed according to the methodologies contained in the 2000 edition of the *Highway Capacity Manual*. This method evaluates signalized intersection operations on the basis of average control delay time for all vehicles at the intersection. The City's General Plan has established that if the addition of project traffic degrades an intersection LOS to below LOS D during weekday morning and evening peak traffic periods, the project would have a significant impact on traffic. For intersections operating at LOS E or F, any increase in delay is considered a significant impact.

The intersection of Guadalupe Canyon Parkway and Carter Street is owned and maintained by the City of Brisbane. The intersection of Geneva Avenue and Bayshore Boulevard is owned and

maintained by the City of Daly City. The City of Brisbane's LOS standard for arterial streets was applied in conjunction with Daly City's standard, which is also LOS D.

The intersection of Carter Street and Geneva Avenue is located in the City of San Francisco. However, the City of San Francisco is changing its standards as they relate to environmental impact metrics from LOS to VMT (vehicle miles traveled). The old standard, still in effect until the new metric is adopted, is LOS D. Therefore, if a project degrades the intersection LOS to LOS E or F, it is considered a significant impact. The correlation between the levels of service and average control delay for signalized intersections is shown in Table 4.16-1 below.

Table 4.16-1 Signalized Intersection Level of Service Standards		
Level of Service	Description	Average Control Delay Per Vehicle (seconds)
A	Signal progression is extremely favorable. Most vehicles arrive during the green phase and do not stop at all. Short cycle lengths may also contribute to the very low vehicle delay	10.0 or less
B	Operations characterized by good signal progression and/or short cycle lengths. More vehicles stop compared to LOS A, causing high levels of average vehicle delay.	10.1 to 20.0
C	Higher delays may result from fair signal progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, though may still pass through the intersection without stopping.	20.1 to 35.0
D	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable signal progression, long cycle lengths, or high volume-to-capacity (V/C) ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	This is considered to be the limit of acceptable delay. These high delay values generally indicate poor signal progression, long cycle lengths, and high V/C ratios. Individual cycle failures occur frequently.	55.1 to 80.0
F	This level of delay is considered unacceptable by most drivers. This condition often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes of such delay levels	Greater than 80.0

Unsignalized Intersection

According to Daly City's General Plan, the minimum acceptable standard for unsignalized intersection operations is LOS D. The correlation between the levels of service and average control delay for unsignalized intersections is provided in Table 4.16-2.

Table 4.16-2 Unsignalized Intersection Level of Service Standards		
Level of Service	Description	Average Control Delay Per Vehicle (seconds)
A	Little or no traffic delay	10.0 or less
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays	Greater than 50.0

Study Intersections

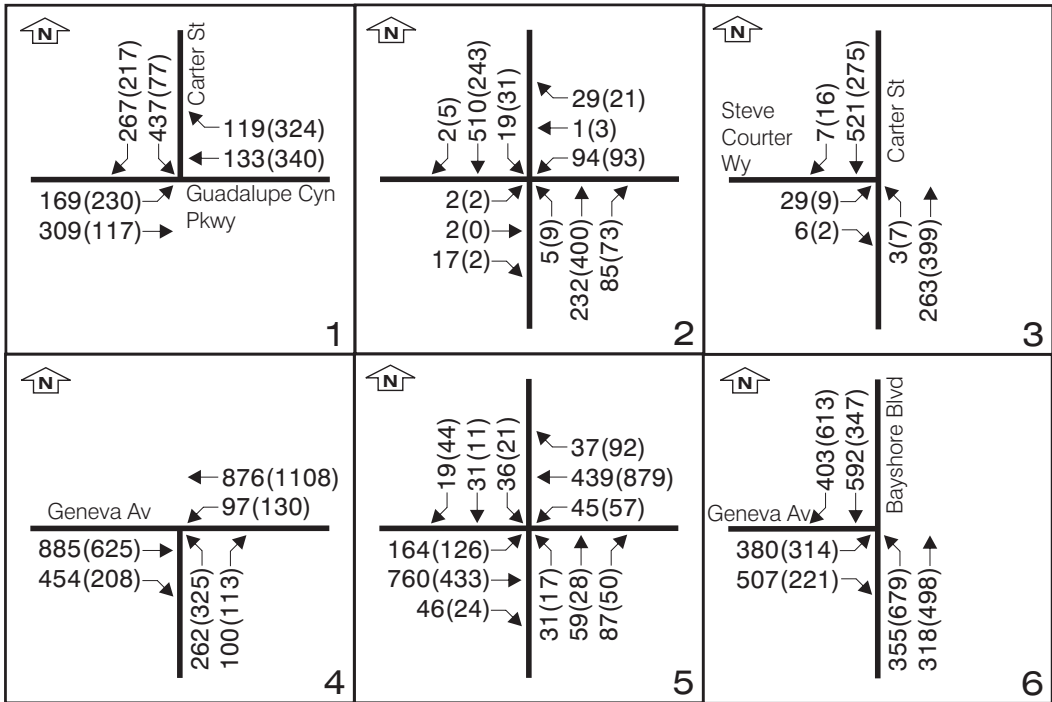
The traffic analysis evaluated the impacts of the proposed project at five signalized intersections and one unsignalized intersection during the weekday AM and PM peak hour periods of traffic. The AM peak hour is between 7:00 AM and 9:00 AM and the PM peak hour period is between 4:00 PM and 6:00 PM. The study intersections are listed below and shown on Figure 4.16-1.

- 1) Guadalupe Canyon Parkway & Carter Street
- 2) Carter Street & Martin Street/Martin Trail
- 3) Carter Street & Steve Courter Way
- 4) Geneva Avenue & Carter Street
- 5) Geneva Avenue & Schwerin Street
- 6) Geneva Avenue & Bayshore Boulevard

None of the study intersections are Congestion Management Program (CMP) intersections.

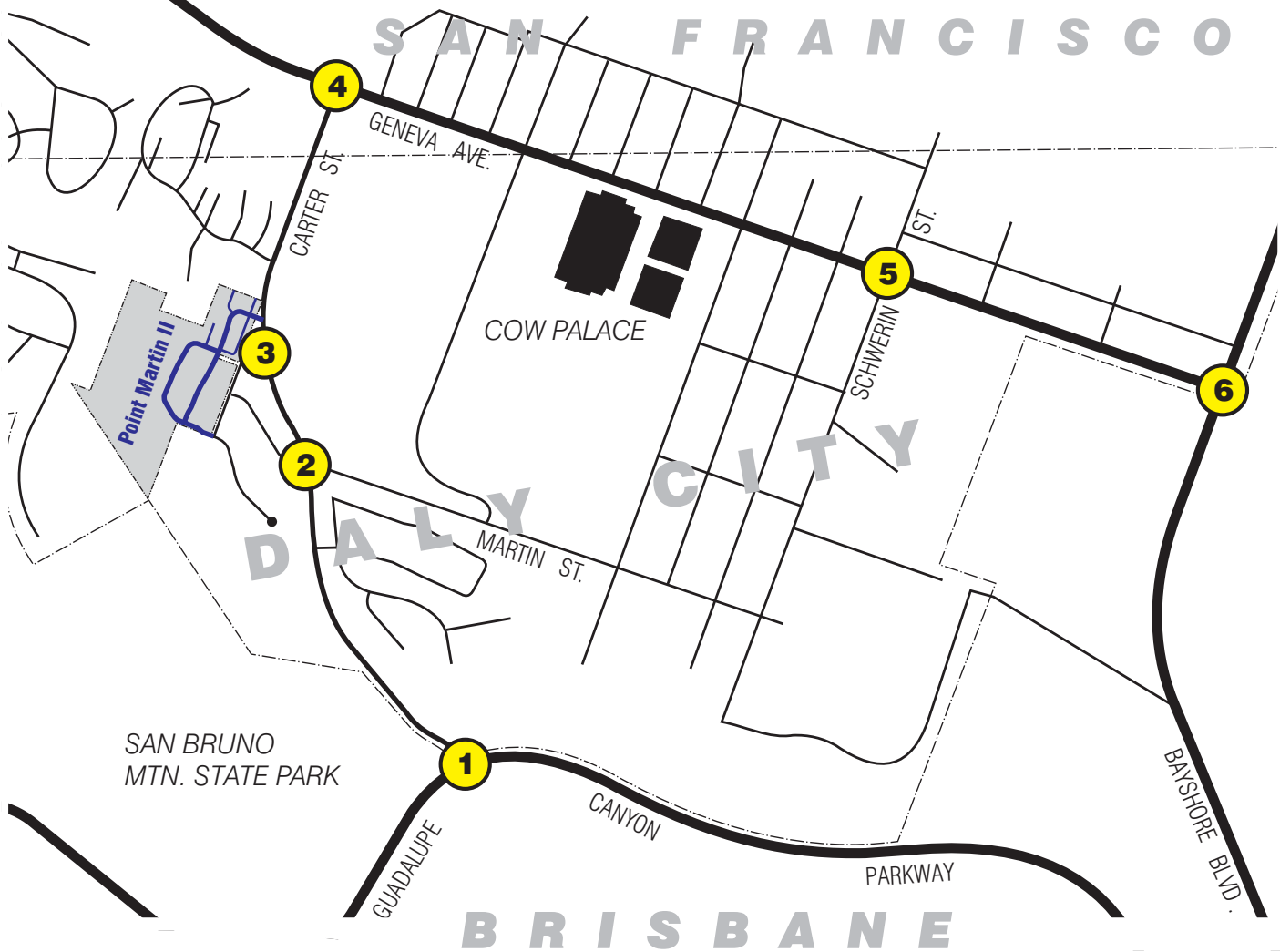
Freeways

Freeways in the vicinity of the project site are Interstate 280 (I-280) and U.S. 101. No freeway segments were analyzed in the traffic study since the proposed project would not increase the amount of trips on freeways by more than one percent.



KEY:
 000(000) = AM(PM) Peak Hour Traffic Volumes
 AM Peak Hour Between 7 and 9 AM
 PM Peak Hour Between 4 and 6 PM

Intersections are oriented to reference north.



STUDY INTERSECTION AND EXISTING TRAFFIC VOLUMES

FIGURE 4.16-1

Traffic Scenarios Analyzed

Traffic conditions at study intersections were evaluated for two scenarios: existing conditions and existing plus project. Table 4.16-3 below describes each scenario.

Table 4.16-3 Traffic Scenarios Analyzed	
Scenario	Description
Existing Conditions	Existing conditions are represented by existing peak hour traffic volumes on the existing roadway network.
Existing Plus Project Conditions	Existing plus project conditions were estimated by adding projected project peak hour trips generated by the proposed residential project to the existing condition. Project generated traffic was estimated using the vehicular trip generation rates recommended by the Institute of Transportation Engineers manual entitled <i>Trip Generation</i> , 9 th Edition.

4.16.3 Impacts Analysis

- a, b) *Would the project conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?*

Project Trip Generation Estimates

The 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, traffic entering and exiting the site is estimated for the AM and PM peak hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets. These procedures are described further in the following sections.

Project trip estimates for the proposed project are based on trip generation rates obtained from the *Institute of Transportation Engineers' (ITE's) Trip Generation Manual, Ninth Edition, 2012*. Based on the recommended ITE trip generation rates for single-family and townhouse uses, the proposed project would generate 1,078 new vehicle daily trips, with 86 new trips (19 inbound and 67 outbound) occurring during the AM peak hour and 107 new trips (69 inbound and 38 outbound) occurring during the PM peak hour. The project generation estimates are shown in Table 4.16-4.

Table 4.16-4									
Project Trip Generation Estimates									
	Dwelling Units/Rooms	AWDT ¹	AM Peak Hour			PM Peak Hour			Weekday Daily Total
			In	Out	Total	In	Out	Total	
Proposed Uses									
Single-Family Home	67	10.84	14	42	57	46	27	73	727
Condo/Townhouse	50	7.04	5	25	30	23	11	34	352
Total Project Trips			19	67	66	69	38	107	1,078
Sources/Notes:									
¹Average Weekday Daily Trip									
ITE Trip Generation, 9 th Edition, fitted curve equations.									

Existing Plus Project Conditions

The project trips, as represented in the project trip assignment discussed above, were added to existing traffic volumes to obtain existing plus project traffic volumes. Intersection levels of service were evaluated against City of Daly City, City of Brisbane, and City of San Francisco LOS standards. The results of the intersection LOS analysis under existing plus project conditions are summarized in Table 4.16-5 below.

Table 4.16-5 Existing and Existing Plus Project Intersection Levels of Service						
Study Intersection		Peak Hour	Existing Condition		Existing Plus Project Condition	
			Average Delay (sec.) ¹	LOS	Average Delay (sec.) ¹	LOS
1	Guadalupe Canyon	AM	10.4	B	11.0	B
	Parkway & Carter Street ²	PM	12.8	B	12.9	B
2	Carter Street & Martin	AM	6.3	A	6.4	A
	Street/Martin Trail	PM	6.0	A	6.0	A
3	Carter Street & Steve	AM	15.5	B	16.1	C
	Courter Way ³	PM	13.3	B	13.8	B
4	Geneva Avenue & Carter	AM	21.1	C	21.2	C
	Street ⁴	PM	19.8	B	20.4	C
5	Geneva Avenue &	AM	8.0	A	8.0	A
	Schwerin Street	PM	7.3	A	7.4	A
6	Geneva Avenue &	AM	14.6	B	14.7	B
	Bayshore Boulevard	PM	14.6	B	14.7	B
Notes: ¹ Delay shown for the signalized intersections is the weighted average control delay for all turning movements approaching the intersection. ² Intersection under City of Brisbane Jurisdiction ³ Unsignalized intersection ⁴ Intersection under City of San Francisco Jurisdiction						

The level of service analysis shows that, measured against the Cities of Brisbane, Daly City, and San Francisco level of service policies, all intersections will operate at a LOS C or better during the weekday peak traffic hours. Therefore, impacts to traffic would be less than significant. **(Less Than Significant Impact)**

Construction Traffic

The project will generate an off-haul of approximately 98,000 CY (cubic yards) of excavated material. The planned restriction of the haul hours from 9 AM to 4 PM weekdays will keep the earth haul trucks out of the peak commute traffic hours of the day. This is also an economic measure because the earth haul trucks are paid by the hour and the time to complete a round trip during the peak traffic hours will be longer than during the non-peak hours, and, thus more expensive to haul during peak traffic hours.

The earth haul trucks to be used will have a capacity of 22 CY, which is greater than the average haul truck size (12 to 15 CY), thereby reducing the overall number of off-haul trips. The headway between trucks is expected to be three minutes, or 20 vehicles per hour entering and 20 vehicles per hour exiting the site. The export is estimated to be 3,080 CY per day to a site(s) in San Francisco (Hunters Point) with a haul distance of approximately 3.65 miles. The trucks will travel on local roadways (e.g. Carter Street, Geneva Avenue, Bayshore Boulevard) through Daly City and San Francisco until accessing U.S. 101 in order to reach Hunters Point. The off-haul is estimated to take 32 days, distributed across two periods of grading activity.

The construction traffic generated will be less than half of the trip ends per hour expected to be generated by the completed project, and AM and PM peak commute hours, therefore, should not create an impact at any of the study area intersections. **(Less Than Significant Impact)**

Freeways

Interstate 280 at Geneva Avenue is eight lanes. Assuming a lane capacity of 2,200 vph (vehicles per hour), the freeway has a capacity of 17,600 vph. U.S. 101 at Third Street in San Francisco is also an 8-lane freeway. The project is estimated to generate a total of 86 vehicle trip ends in the morning peak hour and 107 vehicle trip ends in the afternoon peak hour of which only a lesser percentage of these trip ends would use a portion of the freeway system. According to County CMP standards, projects which add trips that represent less than one percent to a freeway segment's capacity are considered to result in a less than significant impact. A one percent addition to either freeway based on capacity would be 176 vehicle trip ends. As only a portion of the project's total generated vehicle trip ends is expected to use the freeway system it can be concluded that the project will not have a significant impact on either of the two freeways near the project site. **(Less Than Significant Impact)**

- c) *Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?*

The project would not affect air traffic patterns in the vicinity of the site, refer to discussion in Section 4.8 Hazards and Hazardous Materials. **(No Impact)**

- d) *Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible land uses (e.g., farm equipment)?*

The project provides adequate site access and circulation for the proposed residential development. The project does not propose any design features that would increase hazards on or adjacent to the project site. The City may require restriping along Carter Street as recommended in the traffic study (refer to Appendix F) to provide an exclusive left-turn pocket from northbound traffic on Carter Street heading to the site. Additionally, adherence to the City's design standards would ensure that the project design would not result in any substantial hazards. **(Less Than Significant Impact)**

- e) *Would the project result in inadequate emergency access?*

The residential development proposed on the site would provide adequate access for emergency vehicles in that the subdivision street layout includes multiple points to access the subdivision and streets are adequate width to accommodate emergency vehicles. The project would be reviewed and approved by the Daly City Fire Department to ensure adequate emergency access prior to issuance of a building permit. **(No Impact)**

- f) *Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?*

The proposed project would not conflict with existing or planned multimodal transportation facilities or conflict with the City of Daly City's General Plan policies and regulations. The proposed project does not include any features that would conflict with the City of Daly City's Bicycle and Pedestrian Master Plan. **(Less Than Significant Impact)**

4.16.4 Conclusion

The proposed project would not result in significant traffic impacts. **(Less Than Significant Impact)**

4.17 UTILITIES AND SERVICE SYSTEMS

This discussion is based in part on a Water Supply Report prepared by *ESH Consultants* in October 2015. A copy of this report is attached as Appendix G of this Initial Study.

4.17.1 Checklist and Discussion of Impacts

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
Would the project:					
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐	1,2
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	1,2
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐	1,2
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐	1,15
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐	1,2,15
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐	1,2

4.17.2 Existing Setting

4.17.2.1 Water

Water service to the project site is provided by the Daly City Department of Water and Wastewater Resources. The City relies on local groundwater pumping from six municipal wells and water supply purchases from the San Francisco Public Utilities Commission (SFPUC).²³ The City also uses tertiary recycled water from the North San Mateo County Sanitation District wastewater treatment plant, to offset potable/aquifer water demands. Recycled water is currently not accessible at the project site.

²³ City of Daly City General Plan Environmental Impact Report. *Utilities and Service Systems*. 2012.

The project would connect to an existing 10-inch water line in Steve Courter Way, which increases in size to a 12-inch line in Carter Street.

4.17.2.2 Storm Drainage

As discussed in *Section 4.9 Hydrology and Water Quality*, an 18-inch storm drain lines are located in Steve Courter Way and Carter Street. Storm drain lines in the project area are provided and maintained by the City of Daly City Department of Water and Wastewater Resources. Runoff from the site is conveyed to the San Francisco Bay via Brisbane.

4.17.2.3 Wastewater/Sanitary Sewer System

Wastewater collection and treatment for the Bayshore area of Daly City and the northern portion of Brisbane is managed by the Bayshore Sanitary District (BSD). An eight-inch sanitary sewer line is located in Steve Courter Way and Carter Street. Wastewater produced within the District is treated at the Southeast Wastewater Treatment Plant (WWTP), which is located at 750 Phelps Street, San Francisco, operated by San Francisco Public Utilities Commission (SFPUC).

The WWTP has a daily average design capacity of 85.4 million gallons per day (mgd), a peak hour design capacity of 142 mgd, and can treat up to 250 mgd (100 mgd of primary treatment and 150 mgd of secondary treatment) of wet weather flows. Dry-weather flow averages approximately 63 mgd. BSD has an agreement with San Francisco that sets out the terms and conditions for the wastewater treatment and associated fees. This current agreement is in effect until July 31, 2025.

The Carlyle Pump Station (CPS), a principal asset of the BSD, was constructed in 1972. Currently the dry weather flow (July, August, and September) is approximately 260,000 gallons per day. As is typical with nearby older wastewater collection systems, the wet weather flow increases during rainfall events. Typically, the wet weather flow increases to 300,000 to 400,000 gallons per day. On rare occasions, the maximum daily flow can exceed 2,000,000 gallons per day. The CPS is capable of handling this peak flow.²⁴

4.17.2.4 Solid Waste

Solid waste is collected from Daly City homes and businesses and is processed by Allied Waste Services of Daly City at its Mussel Rock Transfer Station. Materials that cannot be recycled or composted are transferred to the Ox Mountain Sanitary Landfill near Half Moon Bay. In 2001, Browning-Ferris Industries, owner of the Ox Mountain Landfill, obtained a revised solid waste facility permit for Ox Mountain to increase the permitted disposal acreage from 173 acres to 191 acres and to change the closure date of the facility from 2018 to 2023, with a longer period of operation allowed pending renewal of the landfill's permit. According to Allied Waste, owner and operator of the Ox Mountain Landfill, the landfill is expected to reach capacity in 2028.²⁵ The evaluation on volumetric capacity is ongoing at Ox Mountain. Capacity may change based on such factors such as amount of waste landfilled, compaction rates, waste settlement, and cover soil use, and therefore the closure date may also change.

²⁴ Bayshore Sanitation District, About Us. Found at: <http://www.bayshoresanitary.org/about/index.html>. Date accessed: January 12, 2017.

²⁵ City of Daly City General Plan Environmental Impact Report. *Utilities and Service Systems*. 2012.

4.17.2.5 *Applicable Plans, Policies, and Regulations*

Assembly Bill 939

Assembly Bill 939 (AB 939) established the California Integrated Waste Management Board (now CalRecycle) and required all California counties to prepare integrated waste management plans. AB 939 required all municipalities to divert 50 percent of the waste stream by the year 2000.

California Green Building Standards Code

In January 2010, the State of California adopted the California Green Building Standards Code that establishes 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 resource efficiency, and indoor environmental quality. These standards include a mandatory set of guidelines, as well as more rigorous voluntary measures, 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 occupant.

City of Daly City General Plan

The General Plan includes policies for the purpose of avoiding or mitigating impacts resulting from planned development projects with the City. The following policies are specific to utilities and service systems and are applicable to the proposed project.

City of Daly City Relevant Utilities and Service System Policies

Policy	Description
Policy RME-1	Reduce average per capita demand by implementing cost effective water conservation programs that address all applicable methods of water conservation.
Task RME-1.1	Enforce the provisions of the Indoor Water Use Efficiency Ordinance through an extensive public outreach campaign to residents and contractors, to be completed by 2014.
Policy RME-2	Require drought resistant landscaping and water conserving irrigation methods in new development, and encourage the replacement of existing water-intensive landscaping.
Task RME-2.1	Enforce the provisions of the Water Conservation in Landscaping Ordinance and conduct a public education effort to ensure that residents, businesses, and contractors are aware of the Ordinance provisions.
Policy RME-3	Continue to use recycled wastewater for irrigating and explore opportunities to expand capacity to accommodate its use in development projects, landscaped medians, golf courses, cemeteries, parks, and school playgrounds.

City of Daly City Relevant Utilities and Service System Policies

Policy	Description
Policy RME-4	For development projects which will create water demand exceeding a pre-defined amount, require that developers provide a water supply analysis for the project to demonstrate water availability to adequately serve the proposed project.
Policy RME-8	Through the development of a Stormwater Management Program, ensure that all new development complies with applicable municipal stormwater Municipal Regional Stormwater NPDES Permit by incorporating controls that reduce water quality impacts over the life of the project in way that is both technically and economically feasible, and reduces pollutants in stormwater discharges to the maximum extent practicable.
Task RME-8.4	Assess projected stormwater impacts from new development in conformance with the San Mateo County Water Pollution Prevention Program, CEQA Guidelines and relative to state and federal standards.
Task RME-8.2	Evaluate acceptable development standards for stormwater treatment mechanisms and publish such standards for distribution to developers. Such standards shall be based on a thorough evaluation of modern stormwater control mechanisms and shall, to the extent feasible, consider soil conditions in various parts of Daly City.
Policy RME-9	Balance stormwater mitigation measures with the other inherent benefits of higher density development that is in close proximity to public transit, i.e., reduction of Vehicle Miles Traveled (VMT) on local and regional roadways, to the extent permitted under the Municipal Regional Stormwater Permit.
Policy CST-7	Through the development of a Stormwater Management Program, ensure that all new development complies with applicable Municipal Regional Stormwater NPDES Permit requirements by incorporating controls that reduce water quality impacts over the life of the project in way that is both technically and economically feasible, and reduces pollutants in stormwater discharges to the maximum extent practicable.
Policy IN-3.7	Design new projects to minimize potential damage due to stormwaters and flooding to the site and other properties.

Daly City Urban Water Management Plan (2015)

The Urban Water Management Plan (UWMP) is a long range plan that assesses the city's water supply over a 25-year planning horizon (2040) to ensure adequate water supplies to meet existing and future demands for water. The UWMP presents forecasted supplies and demands, describes conservation programs, and includes a water shortage contingency analysis. The City's Urban Water Management Plan continues to show adequate infrastructure to support the proposed project.

Daly City Municipal Code

Chapter 17.41, Water Conservation, establishes regulations to implement water conservation practices on existing and new landscapes. For projects containing more than 1,000 square feet of irrigated landscape, a landscape permit is required which requires irrigation design review. Further, this Chapter mandates that any owner of landscape of over one acre in size shall comply with local agency programs that may be instituted relating to irrigation audits, surveys and water use analysis, and shall maintain landscape irrigation facilities to prevent water waste and runoff.

4.17.3 Impacts Evaluation

- a, b, e) *Would the project exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? Would the project require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

Pursuant to the Federal Clean Water Act and California's Porter-Cologne Water Quality Control Act, the RWQCB regulates wastewater discharges to surface waters, such as San Francisco Bay, through the NPDES program. Wastewater permits contain specific requirements that limit the pollutants it discharges. As required by the RWQCB, the WWTP monitors its wastewater to ensure that it meets all requirements. The RWQCB routinely inspects treatment facilities to ensure permit requirements are met.

Sewage from development on the project site would be treated at the WWTP in accordance with the existing NPDES permit. The development would contribute an estimated additional average base wastewater flow of 25,658 GPD.²⁶

The flow from the Point Martin II Development would load to the existing eight-inch sanitary sewer line located in Steve Courter Way and Carter Street. According to the Brisbane Sanitary District, there is capacity at the WWTP to serve the project site. **(Less Than Significant Impact)**

- c) *Would the project require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?*

Under existing conditions, the 18-acre site is entirely pervious as it is undeveloped. The proposed project would increase the amount of impervious surfaces on-site by 232,444 square feet, an increase of 30 percent of the project site. The result of this change would cause an increase in the volume and rate of stormwater runoff from the project site.

According to hydraulic calculations using a 10-year design storm model prepared by RJA, the existing stormwater runoff flows from the undeveloped project site are approximately 11.13 cubic square feet (cfs). With the installation of bio-retention features as proposed by the project, the post-construction stormwater runoff would be incrementally reduced to approximately 11.11 cfs.²⁷ Therefore, post-construction stormwater runoff would be less than pre-construction stormwater runoff which would not exceed the City's storm drainage system.²⁸ For more information on stormwater runoff flows, refer to Appendix E of this Initial Study. **(Less Than Significant Impact)**

²⁶ Estimated sewage demand for 117 residential units is 25,658 GPD. Source: Wastewater Collection System Flow Study, RMC Water and Environment, May 2016.

²⁷ *Hydraulic Calculations for Point Martin II*. Ruggeri Jensen Azar (RJA). February 1, 2017.

²⁸ *Stormdrain Technical Memo*. Ruggeri Jensen Azar (RJA). January 4, 2017.

- d) *Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?*

The City of Daly City purchases water from the San Francisco Public Utilities Commission (SFPUC). According to the Urban Water Management Plan, water is supplied to the City by several SFPUC pipelines that are connected to six municipal wells at various locations throughout the City. Although the project proposes an increased population on the project site, the project water demand has been accounted for in the City's Urban Water Management Plan. Based on water usage rates of approximately 258 gallons per unit per day (GPD) for residences, the project would require approximately 30,186 GPD.²⁹

Based on the presence of an existing water line on Carter Street that is sized to meet fire flow requirements that are greater than potable water flows, there is adequate capacity in the system adjacent to the site to accommodate the proposed project. **(Less Than Significant Impact)**

- f, g) *Would the project be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? Would the project comply with federal, state and local statutes and regulations related to solid waste?*

Waste generation and disposal data for Daly City is maintained by CalRecycle. According to the CalRecycle, the total amount of solid waste landfilled in 2015 was 59,861 tons, which equals a solid waste generation rate of approximately 3.0 pounds per resident per day. Assuming this rate remains stable, the additional 398 residents projected under the proposed project would generate approximately 1,194 pounds (0.54 tons) of landfilled solid waste per day.³⁰ The project would increase solid waste generation in the City by less than one percent and therefore would not significantly impact landfill capacity. **(Less Than Significant Impact)**

4.17.4 Conclusion

The project would not result in any utility or service facility exceeding its current capacity or require the construction of new infrastructure or service facilities. **(Less Than Significant Impact)**

²⁹ Sewage demand is typically 85 percent of a project's residential water demand. Project water demand for the proposed residential uses is based on the residential sewage generation of 25,658 GPD and, therefore, is estimated to be 30,186 GPD.

³⁰ CalRecycle Disposal Reporting System, available at www.calrecycle.ca.gov/LGCentral/Reports/DRS/Destination/JurDspFa.aspx. Accessed October 12, 2016.

4.18

MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact	Checklist Source(s)
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒	☐	☐	Pgs. 16-111
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐	Pgs. 16-111
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐	Pgs. 16-111

4.18.1 Project Impacts

As discussed in the individual sections, the proposed project would not degrade the quality of the environment with the implementation of identified standard permit conditions and mitigation measures. As discussed in *Section 2.4 Biological Resources*, the project would not impact sensitive habitat or species but requires the implementation of appropriate mitigation measures for nesting preconstruction bird surveys. There are no historic buildings on-site or in the immediate project vicinity as discussed in *Section 2.5 Cultural Resources*. However, the project requires implementation of appropriate mitigation measures if project construction encounters buried archaeological resources. **(Less Than Significant Impact with Mitigation)**

4.18.2 Cumulative Impacts

Under Section 15065(a)(3) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has potential environmental effects "that are individually limited, but cumulatively considerable." As defined in Section 15065(a)(3) of the CEQA Guidelines, cumulatively considerable means "that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

Because criteria air pollutant and GHG emissions would contribute to regional and global emissions of such pollutants, the identified thresholds developed by BAAQMD and used by the City of Daly City were developed such that a project-level impact would also be a cumulatively considerable impact. The project would not result in a significant emissions of criteria air pollutants or GHG emissions and, therefore, would not make a substantial contribution to cumulative air quality or GHG emissions impacts.

With the implementation of mitigation measures and standard permit conditions, residential development on the site would not result in significant geology and soils or hydrology and water quality impacts and would not contribute to cumulative impacts to these resources. Also, the project would not impact agricultural and forest resources or mineral resources and, therefore, the project would not contribute to a significant cumulative impact on these resources.

In addition to the Point Martin II development, a 16-unit residential project (Point Martin I) has been approved for construction on a 1.84-acre site adjacent to the project site. Given that Point Martin I is a small project that has no significant environmental impacts that cannot be mitigated to a less than significant level, the construction of Point Martin I in conjunction with Point Martin II would not result in any cumulatively significant impacts.

Additionally, several projects (listed in Table 4.18-1 below) are undergoing approval or are likely to be constructed during the time that the proposed project would be constructed. As a result, since the proposed project is 117 units, it would incrementally contribute to the increased traffic, air quality, and noise impacts because it comprises less than two percent of the total number of units proposed to be constructed in the project vicinity.

Table 4.18-1 Cumulative Projects		
Project Name	Description	Location
Northeast Ridge Residential Development	71 residential units on 16.67 acres	Brisbane
Brisbane Baylands	4,400 residential units and 7 million square feet of commercial use	Brisbane
Executive Park	Demolition of three office buildings and conversion into 1,600 residential units	San Francisco
Visitacion Valley Redevelopment Mixed-Use Project	1,585 residential units and 120,000 square feet of commercial and community uses	San Francisco
Sunnydale Housing Redevelopment	1,000 residential units	San Francisco
Cow Palace	1,700 residential units	Daly City
Robertson Intermediate School Redevelopment	71 residential units	Daly City

Biology

The proposed project, in conjunction with cumulative projects, would not result in the loss of sensitive habitat. The project does not propose the removal of significant numbers of trees. Pre-construction nesting bird surveys are required as mitigation, therefore, the project would have a less than significant impact on migratory birds. **(Less Than Significant Cumulative Impact)**

Noise

Typically, a three (3) dBA noise increase would be perceivable by sensitive receptors. In order for traffic noise to increase by 3 dBA, traffic volumes would need to double along a local roadway. Under the cumulative condition, the proposed project would not double existing daily traffic volumes along Geneva Avenue such that sensitive receptors would be affected by significant traffic related noise from cumulative projects. **(Less Than Significant Cumulative Impact)**

Public Services

As described in *Section 4.14.3.1*, the project is served by the North County Fire Authority (NCFA) which also provides fire service to Brisbane and Pacifica residents. The Brisbane Baylands project includes construction of additional fire service facilities within the boundaries of that project site. The Point Martin II project would be served by another NCFA station (No. 93) which is located on Martin Street within one-half mile of the project site. The project, therefore, would not contribute to any cumulative impacts to fire service in combination with the cumulative projects.

As described in *Section 4.14.3.2*, the project is located within the service area of the Daly City Police Department. None of the cumulative projects served by Daly City would result in the expansion of the service area and, therefore, the incremental increase in demand would not result in the need for additional police facilities.

The Brisbane Baylands project includes construction of an elementary school and charter high school, which could accommodate students from the cumulative projects within the Bayshore Elementary School District and Jefferson Union High School District. In addition, Point Martin II project would mitigate the need for school facilities through the payment of school mitigation impact fees which would ensure the project's contribution to cumulative school impacts is less than significant. **(Less Than Significant Cumulative Impact)**

Traffic

Based on the City's LOS standard defined in the General Plan, there would be a significant impact at the intersection of Geneva Avenue and Bayshore Boulevard under cumulative conditions in the year 2035, as projected in the City's cumulative growth model. The intersection is expected to operate at LOS E without the Point Martin II project in 2035, primarily due to the Cow Palace and Brisbane Baylands project which, if approved, would add a fourth leg to the intersection and additional turn lanes to Bayshore Boulevard. The proposed project would not substantially increase V/C or delay under the cumulative scenario and, therefore, the proposed project would not result in a considerable contribution to this cumulative traffic impact. **(Less Than Significant Cumulative Impact)**

4.18.3 Direct or Indirect Adverse Effects on Human Beings

Consistent with Section 15065(a)(4) of the CEQA Guidelines, a lead agency shall find that a project may have a significant effect on the environment where there is substantial evidence that the project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Under this standard, a change to the physical environment that might otherwise be minor must be treated as significant if people would be significantly affected. This factor relates to adverse changes to the environment of human beings generally, and not to effects on particular individuals. While changes to the environment that could indirectly affect human beings would be represented by all of the designated CEQA issue areas, those that could directly affect human beings include Construction TACs, hazardous materials, and noise. However, implementation of mitigation measures and General Plan policies would reduce these impacts to a less than significant level. No other direct or indirect adverse effects on human beings have been identified.

Checklist Information Sources

1. Professional judgment and expertise of the environmental specialist preparing this assessment, based upon a review of the site and surrounding conditions, as well as a review of the project plans.
2. City of Daly City. *Daly City 2030 General Plan EIR*. 2012.
3. City of Daly City. *Zoning Ordinance*.
4. California Department of Conservation. *San Mateo County Important Farmland 2014*. Map.
5. Bay Area Air Quality Management District. *Bay Area 2010 Clean Air Plan*. September 15, 2010.
6. Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2011.
7. Meridian Consultants. *Technical Construction TAC & Greenhouse Gas Analysis for Point Martin II Project in Daly City*. October 7, 2016.
8. Dudek, Inc. *Biological Letter Report for Subdivision/Planned Development Daly City (Point Martin II)*. March 2017.
9. Tom Origer & Associates. *Archival Research Results*. October 11, 2016.
10. ENGEO, Inc. *Preliminary Geotechnical Investigation*. September 21, 2015.
11. Environmental Investigation Services, Inc. *Phase I Environmental Site Assessment*. April 26, 2016.
12. San Francisco International Airport Land Use Commission. *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport*. July 2012.
13. RJA. *Hydraulic Calculations Prepared for Point Martin II*. February 1, 2017.
14. ESH Consultants. *Water Supply Evaluation Point Martin II Proposed Residential Development*. October 2015.
15. County of San Mateo. *FEMA Flood Zones*. Available at <http://maps.smcgov.org/planning/>. Accessed September 20, 2016.
16. RKH Civil and Transportation Engineering. *Transportation Impact Analysis*. December 2016.

SECTION 5.0 REFERENCES

Bay Area Air Quality Management District. *Bay Area 2010 Clean Air Plan*. September 15, 2010.

Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. May 2011.

Bay Area Air Quality Management District. *California Environmental Quality Act Air Quality Guidelines*. Updated May 2012.

California Department of Conservation. *San Mateo County Important Farmland 2014*. Map.

California Department of Finance. *Table 2: E-5 City/County Population and Housing Estimates*. January 1, 2015. Available at:
<http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php>.

California Environmental Protection Agency. Air Resources Board. *First Update to the AB 32 Scoping Plan*. Available at:
<<http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>>

City of Daly City. *2015 Urban Water Management Plan*. April 29, 2016. Available at:
[http://www.dalycity.org/Assets/Departments/Water+and+Wastewater/2010+Urban+Water+Management+Plan/Daly+City\\$!27s+2010+Urban+Water+Management+Plan.pdf](http://www.dalycity.org/Assets/Departments/Water+and+Wastewater/2010+Urban+Water+Management+Plan/Daly+City$!27s+2010+Urban+Water+Management+Plan.pdf)

City of Daly City. *Zoning Ordinance*.

County of San Mateo. *FEMA Flood Zones*. Available at <http://maps.smcgov.org/planning/>.
Accessed July 29, 2016.

County of San Mateo. *San Bruno Habitat Conservation Plan 2015 Annual Report*. January 2016.

Dudek, Inc. *Biological Letter Report for Subdivision/Planned Development Daly City (Point Martin II)*. March 2017.

ENGEO, Inc. *Preliminary Geotechnical Investigation*. September 21, 2015.

Environmental Investigation Services, Inc. *Phase I Environmental Site Assessment*. April 26, 2016.

ESH Consultants. *Water Supply Evaluation Point Martin II Proposed Residential Development*. October 2015.

Jefferson Elementary School District. *Level I Developer Fee Study for Jefferson Union High School District*. October 5, 2016. Accessed January 22, 2017.

Meridian Consultants. *Technical Construction TAC & Greenhouse Gas Analysis for Point Martin II Project in Daly City*. October 7, 2016.

Ruggeri Jensen Azar (RJA). *Hydraulic Calculations for Point Martin II*. February 1, 2017.

RKH Civil and Transportation Engineering. *Transportation Impact Analysis*. December 2016.

San Francisco International Airport Land Use Commission. *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport*. July 2012.

Tom Origer & Associates. *Archival Research Results*. October 11, 2016.

U.S. Census Bureau. *2009-2013 American Community Survey 5-Year Estimates, Table S2301 – Employment Status*. Available at:
http://factfinder.census.gov/faces/nav/jsf/pages/download_center.xhtml. Accessed July 18, 2016.

SECTION 6.0 LEAD AGENCY AND CONSULTANTS

6.1 LEAD AGENCY

City of Daly City

Department of Economic and Community Development

Mike VanLonkhuysen, Planning Manager

6.2 CONSULTANTS

David J. Powers & Associates

Environmental Consultants and Planners

Akoni Danielsén, Principal

Will Burns, AICP, Senior Project Manager

Tali Ashurov, Assistant Project Manager

Zach Dill, Graphic Artist

APPENDIX A
AIR QUALITY AND GREENHOUSE GAS
EMISSIONS ASSESSMENT

Date: October 14, 2016

To: Mr. David Beaumont, Project Manager

From: Chris Hampson, Senior Project Manager

Subject: Technical Construction TAC & Greenhouse Gas Analysis for Point Martin II Project in Daly City

This memorandum presents the results of the construction toxic air contaminants (TAC) and greenhouse gas (GHG) analysis conducted for the Point Martin II single-family development (the "Project") proposed in the City of Daly City ("City"), California. The Project will involve the development of 117 single-family residential units (67 single family residences and 50 townhomes) and approximately 10.0 acres of open space on a total of approximately 18.0 acres (see **Figure 1**). The Project site is designated for low-density residential uses and zoned for preplanned development. The Project site is currently vacant and contains minimal vegetation.

Air quality impacts could occur due to temporary construction emissions. The Project site is located near existing residences that would be exposed to construction emissions. The Project would also result in new GHG emissions. This analysis addresses those issues following the guidance provided by the Bay Area Air Quality Management District (BAAQMD).

The Project is located in the City, which is in the San Francisco Bay Area ("Bay Area") Air Basin. 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 near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the regional, State, and federal levels.

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 under either the State's Proposition 65 or federal Hazardous Air Pollutants programs.

The BAAQMD is the regional agency tasked with managing air quality in the region. At the State level, the CARB (a part of the California Environmental Protection Agency [CalEPA]) oversees regional air district activities and regulates air quality at the State level. The BAAQMD has recently published California Environmental Quality Act (CEQA) Air Quality Guidelines that are used in this assessment to evaluate air quality impacts of projects.

Sensitive Receptors

Some groups of people are more affected by air pollution than others. CARB has identified the following persons as most likely to be affected by air pollution: children under 14, 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, schools, and parks. The closest sensitive receptors to the Project site are residences

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located immediately south and east of the site, as well as residences further to the north/northeast/northwest of the site. The Project would include new sensitive receptors.

Significance Thresholds

In June 2010, BAAQMD adopted thresholds of significance to assist in the review of projects under CEQA. These thresholds were designed to establish the level at which BAAQMD believed air pollution emissions would cause significant environmental impacts under CEQA and were posted on BAAQMD's website and included in the air district's updated CEQA Guidelines (updated May 2011). The significance thresholds identified by BAAQMD and used in this analysis are summarized in **Table 1, Air Quality Significance Threshold**.

BAAQMD's adoption of significance thresholds contained in the 2011 CEQA Air Quality Guidelines was called into question by an order issued March 5, 2012, with review granted November 26, 2013, in *California Building Industry Association (CBIA) v. BAAQMD* (Alameda Superior Court Case No. S213478). The order requires BAAQMD to set aside its approval of the thresholds until it has conducted an environmental review under CEQA. The ruling made in the case concerned the environmental impacts of adopting the thresholds and how the thresholds would indirectly affect land use development patterns. In August 2013, the 1st District Court of Appeal struck down the lower court's order to set aside the thresholds. The State Supreme Court granted review, but limited the scope of review to the following issue: under what circumstances, if any, does CEQA require an analysis of how existing environmental conditions will impact future residents or users (receptors) of a proposed project (as contrasted to the effects of a proposed project on the environment)? The Supreme Court held that "agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment—and not the environment's impact on the project—that compels an evaluation of how future residents or users could be affected by exacerbated conditions."¹ The State Supreme Court remanded the case to the 1st District Court of Appeal for reconsideration in light of the Court's holding. Furthermore, the City's General Plan has a policy (Policy RME-5) which indicates that new development be assessed in conformance with the BAAQMD CEQA Guidelines. Therefore, the significance thresholds contained in the 2011 CEQA Air Quality Guidelines are applied to this project.

1 *California Building Industry Association (CBIA) v. BAAQMD* (Alameda Superior Court Case No. S213478), December 17, 2015.

Table 1
Air Quality Significance Threshold

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (lb./day)	Average Daily Emissions (lb./day)	Annual Average Emissions (tons/year)
Health Risks and Hazards for New Sources			
Excess Cancer Risk	> 10 per 1 million		
Chronic or Acute Hazard Index	> 1.0		
Incremental annual average PM2.5	> 0.3 µg/m³		
Health Risks and Hazards for Sensitive Receptors (Cumulative from all sources within 1,000-foot zone of influence)			
Excess Cancer Risk	> 100 per 1 million		
Chronic Hazard Index	> 10.0		
Annual Average PM2.5	> 0.8 µg/m³		
<i>Note: PM2.5 = fine particulate matter or particulates with an aerodynamic diameter of 2.5 µm or less.</i>			

Construction TAC Analysis

Construction equipment and associated heavy-duty truck traffic generate 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 issues associated with construction emissions are cancer risk and exposure to fine particulate matter (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 of sensitive receptors at these nearby residences from construction emissions of DPM and PM_{2.5}.² The closest sensitive receptors to the Project site are located immediately south and east of the site and north-northeast/northwest (see **Figure 2**). Emissions and dispersion modeling was conducted to predict the off-site concentrations resulting from project construction, so that lifetime cancer risks and non-cancer health effects could be evaluated.

The CalEEMod model provided total annual PM_{2.5} 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 within a one-year period of 0.109 tons (218 pounds).³ The on-road emissions are a result of haul truck travel during 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

² DPM is identified by California as a toxic air contaminant due to the potential to cause cancer.

³ For a worst case scenario, the construction year emission totals were summed to account for a single year of construction.

vehicles traveling at or near the site would occur at the construction site. Prior to mitigation, fugitive PM_{2.5} dust emissions were calculated by CalEEMod as 0.298 tons (596 pounds) and with mitigation as less than 0.127 tons (254 pounds) for the overall construction period. **Attachment 1** includes the emissions calculations from the CalEEMod model.

Dispersion Modeling

The AERMOD dispersion model was used to predict concentrations of DPM and PM_{2.5} concentrations at existing sensitive receptors (residences) 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.⁴ The AERMOD modeling utilized one area source and one volume source to represent the on-site construction emissions; area source for exhaust emissions as PM_{2.5} and volume source for PM_{2.5} and DPM fugitive dust emissions. To represent the construction equipment exhaust emissions, an emission release height of 5 meters (16.4 feet) was used for the volume source. No height for fugitive dust was utilized. Emissions from the construction equipment and on-road vehicle travel were distributed throughout the modeled area sources. Construction emissions were modeled as occurring daily between 8:00 AM to 4:00 PM, when the majority of construction activity would occur. **Figure 2** shows the Project site and nearby sensitive-receptor (residences) locations where health impacts were evaluated.

The modeling used 2002 and 2005 ISCST3 300-meter mixing height meteorological data from the San Francisco STP that was prepared for use with the AERMOD model by CARB for use in health risk assessments. Annual DPM and PM_{2.5} concentrations from construction activities during the 2017–2018 were calculated using the model. DPM and PM_{2.5} concentrations were calculated at nearby sensitive receptors. A receptor height of 2.0 meters (6.6 feet) was used to represent the breathing heights of residents of nearby residences.

The maximum-modeled PM_{2.5} concentrations occurred west of the construction site at a residence near the site. The location where the maximum PM_{2.5} concentrations occurred (and maximum cancer risk) is identified on **Figure 2**.

Predicted Cancer Risk and Hazards

Increased cancer risks were calculated using the maximum modeled concentrations for the 2017–2018 period and BAAQMD-recommended risk assessment methods for infant exposure (3rd trimester through 2 years of age), child exposure, and adult exposure. The cancer risk calculations were based on applying the BAAQMD-recommended age-sensitivity factors (ASFs) to the TAC concentrations. ASFs reflect the greater sensitivity of infants and small children to cancer-causing TACs. BAAQMD-recommended exposure parameters were used for the cancer risk calculations.⁵ Infant, child, and adult exposures were assumed to occur at all residences through the entire construction period.

Results of the assessment for Project construction, prior to mitigation, indicate the maximum incremental residential child cancer risk at the maximally exposed residential receptor would be approximately 18.9 in 1 million. With mitigation the maximum incremental residential child cancer risk maximum incremental residential child cancer risk would be approximately 7.3 in 1 million. This is based on the ASFs beginning in the 3rd trimester as recommended by the California Office of Environmental Health Hazard Assessment for a 1-year exposure scenario (most conservative estimate). The maximum-modeled annual PM_{2.5} concentration, which is based on combined exhaust

4 Bay Area Air Quality Management District (BAAQMD), Recommended Methods for Screening and Modeling Local Risks and Hazards, Version 3.0 (May 2012).

5 BAAQMD, Air Toxics NSR Program Health Risk Screening Analysis Guidelines (January 2010).

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and fugitive dust emissions, was $0.450 \mu\text{g}/\text{m}^3$ prior to mitigation. The maximum-modeled annual PM_{2.5} concentration with mitigation was $0.19 \mu\text{g}/\text{m}^3$, which is below the $0.3 \mu\text{g}/\text{m}^3$ threshold for new sources and below the cumulative annual average threshold. The maximum modeled annual residential DPM concentration (i.e., from construction exhaust) was $0.144 \mu\text{g}/\text{m}^3$ prior to mitigation. The maximum modeled annual residential DPM concentration with mitigation would be $0.056 \mu\text{g}/\text{m}^3$, which is lower than the reference exposure level (REL) of $5.0 \mu\text{g}/\text{m}^3$.

The Project would have a less than significant impact with respect to community risk caused by Project construction activities because the cancer risk is below the allowable single-source threshold of 10.0 per million. **Attachment 2** includes the cancer risk calculations.

Project Operation Impacts—TAC Sources Affecting the Project

Operation of this residential Project is not considered a source of TAC or PM_{2.5} emissions. As a result, the Project operation would not cause emissions that expose sensitive receptors to unhealthy air pollutant levels. Because the Project would not be a source of TACs, it would not contribute cumulatively to unhealthy exposure to TACs.

The Project would include new sensitive receptors. Substantial sources of air pollution can adversely affect sensitive receptors proposed as part of new projects. A review of the area indicates that there are no State highways within 1,000 feet of the site that could adversely affect new residences and no listed stationary sources of air pollution. Therefore, potential TAC impacts during operation of the Project would be less than significant.

Regional Emissions Impacts

The regional emissions generated during construction and operation of the Project are assessed against the BAAQMD's regional significance thresholds. As indicated in **Table 2, BAAQMD Regional (Mass Emissions) Criteria Air Pollutant Significance Thresholds**, the Project would generate emissions below the significance thresholds during construction and operation. Accordingly, regional emission impacts would be less than significant.

Table 2
BAAQMD Regional (Mass Emissions) Criteria Air Pollutant Significance Thresholds

	ROG	NO _x	PM ₁₀	PM _{2.5}
Construction Phase (lbs/day)	19.49	19.14	7.90	4.62
BAAQMD Threshold	54	54	82	54
Exceed Threshold?	NO	NO	NO	NO
Operation—Average Daily Emissions (lbs/day)	7.95	6.80	4.89	1.48
BAAQMD Threshold	54	54	82	54
Exceed Threshold?	NO	NO	NO	NO
Operation Max. Annual Emissions (tons per year)	1.23	1.07	0.81	0.24
BAAQMD Threshold	10	10	15	10
Exceed Threshold?	NO	NO	NO	NO

Source: Bay Area Air Quality Management District (BAAQMD), 2010 (Revised 2011).

Abbreviations: ROG = reactive organic gases; NO_x = nitrogen oxides; PM₁₀ = particulate matter 10 microns or less in diameter; PM_{2.5} = particulate matter 2.5 microns or less in diameter.

Conclusion

Cancer risk from construction activities would not exceed the single-source significance threshold at the residence with the maximum impact, assuming there would be an infant at that receptor site. Exposures for either children or adults would be below the significance threshold. Project construction activities would not increase annual PM_{2.5} concentrations or noncancer hazards above the significance thresholds. The combination of construction activities with exposure to other TAC sources in the areas would have cumulative risk, hazards, and annual PM_{2.5} concentrations below the significance thresholds with implementation of mitigation. The following mitigation measures, consistent with BAAQMD Best Management Practices to control fugitive dust emissions, should be incorporated into the Project. Mitigation Measure AQ-1, Mitigation Measure AQ-2, and Mitigation Measure AQ-3 would reduce the cancer risk from construction activities below the significance thresholds at the maximally exposed individual receptor. Accordingly, the impact is considered less than significant with mitigation.

MM AQ-1 During any construction period that causes ground disturbance, the Applicant shall ensure the Project contractor implements measures to control dust and exhaust. The contractor shall implement the following best management practices that are required of all projects:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- As required by state law, all haul trucks transporting soil, sand, or other loose material off site shall be covered when material is not maintained at 6 inches below the transport unit level.
- 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.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- 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.
- 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.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- 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.
- For any earth-moving which results in dust traveling more than 100 feet from all property lines, conduct watering as necessary to prevent visible dust emissions from exceeding 100 feet in length in any direction.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 25 mph.

MM AQ-2 All off-road construction equipment greater than 50 horsepower (hp) shall meet US EPA Tier 3 emission standards, where available, to reduce NO_x, PM₁₀, and PM_{2.5} emissions at the project site. In addition, all construction equipment shall be outfitted with Best Available Control Technology devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 1 diesel emissions control strategy for a similar sized engine as defined by CARB regulations.

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MM AQ-3 At the time of mobilization of each applicable unit of equipment, a copy of each unit's certified tier specification, BACT documentation, and CARB or BAAQMD operating permit shall be provided.

Greenhouse Gas Emissions

Meridian Consultants utilized the California Emissions Estimator Model developed by the California Air Pollution Control Officers Association to quantify atmospheric emissions of GHG emissions based on similar sized site information pertaining to the construction schedule, equipment inventory, energy use, and traffic from the Project. The primary source of GHG emissions from the Project during construction would be from mobile sources, including off-road equipment, construction equipment and trucks, and worker vehicles.

The GHG results of Project construction are presented in **Table 3, Project Construction-Related Greenhouse Gas Emissions**. As shown in **Table 3**, the total GHG emissions from construction activities would be approximately 19.8 metric tons per year of carbon dioxide equivalents (MTCO₂e). One-time, short-term emissions are converted to average annual emissions by amortizing them over the service life of a building. For buildings in general, it is reasonable to look at a 30-year time frame because this is a typical interval before a new building requires its first major renovation.⁶ As shown in **Table 3**, when amortized over an average 30-year Project lifetime, average annual construction emissions from the Project would represent a nominal source of GHG emissions.

Table 3
Project Construction-Related Greenhouse Gas Emissions

Year	CO ₂ e Emissions (metric tons/year) ^a
2017	594.23
Amortized (30-year)	19.8 ^b

Source: California Emissions Estimator Model (CalEEMod) (2016).

^a Construction CO₂ values were derived using CalEEMod Version 2016.3.1.

^b N₂O emissions are negligible.

The GHG emissions resulting from operation of the Project, which involves the usage of on-road mobile vehicles, electricity, natural gas, water, landscape equipment, and generation of solid waste and wastewater, were calculated assuming code compliance with the Daly City Green Standards Code (Municipal Code 15.22). Transportation emissions are based on default trip generation rates and trip types specified by CalEEMod. Trip lengths and haul truck capacity was supplied by a construction contractor. Emissions of operational GHGs are shown in **Table 4, Project Operational Greenhouse Gas Emissions**. As shown, the total increase in GHG emissions generated by the Project would be approximately 1,310.3 MTCO₂e per year.

⁶ International Energy Agency (IEA), Energy Efficiency Requirements in Building Codes, Energy Efficiency Policies for New Buildings (2008).

GHG Emissions Source	Project Emissions (MTCO₂e/year)
Construction (amortized)	19.8
Operational (mobile) sources ^a	809.8
Area sources	4.5
Energy	429.0
Waste	29.4
Water	17.8
Annual Total	1,310.3
Service Population Emissions^b	3.4
BAAQMD Threshold	4.6 MTCO₂e/year/SP

Source: CalEEMod (2016).

Notes: Totals in table may not appear to add exactly due to rounding in the computer model calculations.

MTCO₂e = metric tons of carbon dioxide emissions.

a N₂O emissions account for 0.03 MTCO₂e per year Project emissions.

b Based on a Project service population of 391 future residents.

The City's General Plan Update Final EIR⁷ followed the BAAQMD screening criteria for development projects.⁸ Based on the City's General Plan Update, if a project exceeds the BAAQMD Guidelines GHG screening levels, the Project would be required to conduct a full GHG analysis. The average household size in the City is 3.34 persons per household, which would equate to approximately 391 Project residents. The BAAQMD's significance criterion applicable to the Project is 4.6 MTCO₂e per year per service population. As shown in **Table 4**, operation of the Project would not exceed BAAQMD's screening threshold of 4.6 MTCO₂e per year per service population. The Project would be consistent with the City's Green Standards Code, resulting in a higher energy-efficient building than that currently on site. The Project would reduce construction and operation waste by a minimum of 50 percent; consistent with the City's Green Vision Goal 2—Decrease Landfill Bound Waste. The Project would utilize low-flow indoor fixtures and utilize water-efficient irrigation. In addition, the Project would reduce emissions generated commensurate with Green Vision Goal 10—Seek to Achieve the Emissions Reduction Target of Assembly Bill 32 and the City's General Plan Policy HE-27 to meet the greenhouse gas reduction goals established in AB 32. Accordingly, the Project's GHG emissions would not have a significant effect on the environment.

⁷ City of Daly City General Plan Update, Final Environmental Impact Report (SCH No. 2012032024), sec. 3.6, Greenhouse Gases and Energy (February 2013).

⁸ BAAQMD, CEQA Guidelines, sec. 3.1.2, Screening Criteria Greenhouse Gases (May 2011).

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Figure 1: Project Site Location

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Figure 2: Sensitive Receptor Locations

Attachment 1: CalEEMod Output Files

Attachment 2: Construction TAC Results Tables

ATTACHMENT 1

CalEEMod Output Files

Point Martin II Single Family - Bay Area AQMD Air District, Annual

Point Martin II Single Family
Bay Area AQMD Air District, Annual

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.00	Acre	1.00	43,560.00	0
Condo/Townhouse	50.00	Dwelling Unit	3.13	50,000.00	167
Single Family Housing	67.00	Dwelling Unit	4.30	120,600.00	224

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	5			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	427	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Point Martin II Single Family - Bay Area AQMD Air District, Annual

Project Characteristics - PG&E 2013 historical emission factor

Land Use - Lot acreage per Project Description.

Based on Daly City 3.34 person per house (Ca Dept of Finance)

Construction Phase - Based on construction schedule

Off-road Equipment -

Off-road Equipment - No cranes

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Based on construction assumptions

Trips and VMT - 3.65 miles each way for haul

15 haul trucks per hour at 6 hours per day with 22 cyd each haul load = 1,980 cyd per day (out of 98,000 cyd)

Grading - 98,000 cy of export

Woodstoves - No woodstoves

Energy Use - Based on Project Description

Construction Off-road Equipment Mitigation - Tier 3 Engines Per 13 CCR Section 2420-2427

Grading co will use 2010 year model of equipment (or newer).

Area Mitigation - Architectural Rule

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1

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[illegible]

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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	125.00
tblConstructionPhase	NumDays	230.00	190.00
tblConstructionPhase	NumDays	20.00	109.00
tblConstructionPhase	NumDays	10.00	20.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberWood	8.50	0.00
tblFireplaces	NumberWood	28.81	0.00
tblFleetMix	FleetMixLandUseSubType	Other Non-Asphalt Surfaces	Condo/Townhouse
tblFleetMix	FleetMixLandUseSubType	Condo/Townhouse	Other Non-Asphalt Surfaces
tblGrading	AcresOfGrading	54.50	9.70
tblGrading	MaterialExported	0.00	98,000.00
tblLandUse	LotAcreage	21.75	4.30
tblLandUse	Population	143.00	167.00
tblLandUse	Population	192.00	224.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	427
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30

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tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	12,250.00	4,500.00
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblWoodstoves	NumberCatalytic	1.00	0.00
tblWoodstoves	NumberCatalytic	2.68	0.00
tblWoodstoves	NumberNoncatalytic	1.00	0.00
tblWoodstoves	NumberNoncatalytic	2.68	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveDayYear	21.06	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

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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					
2017	0.4090	3.7375	2.4236	4.2400e-003	0.5831	0.2149	0.7980	0.2982	0.1998	0.4980	0.0000	387.4741	387.4741	0.0881	0.0000	389.6753
2018	1.3459	1.0567	0.9837	1.7600e-003	0.0367	0.0659	0.1026	9.8900e-003	0.0625	0.0724	0.0000	157.0641	157.0641	0.0263	0.0000	157.7203
Maximum	1.3459	3.7375	2.4236	4.2400e-003	0.5831	0.2149	0.7980	0.2982	0.1998	0.4980	0.0000	387.4741	387.4741	0.0881	0.0000	389.6753

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					
2017	0.1244	1.9037	2.4944	4.2400e-003	0.2662	0.0761	0.3423	0.1267	0.0760	0.2027	0.0000	387.4737	387.4737	0.0881	0.0000	389.6750
2018	1.2598	0.7469	1.0004	1.7600e-003	0.0367	0.0326	0.0693	9.8900e-003	0.0325	0.0424	0.0000	157.0640	157.0640	0.0263	0.0000	157.7202
Maximum	1.2598	1.9037	2.4944	4.2400e-003	0.2662	0.0761	0.3423	0.1267	0.0760	0.2027	0.0000	387.4737	387.4737	0.0881	0.0000	389.6750

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	21.13	44.71	-2.57	0.00	51.13	61.31	54.30	55.66	58.64	57.02	0.00	0.00	0.00	0.00	0.00	0.00

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Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	1-9-2017	4-8-2017	1.3918	0.5571
2	4-9-2017	7-8-2017	1.1972	0.5158
3	7-9-2017	10-8-2017	0.7612	0.4718
4	10-9-2017	1-8-2018	0.8424	0.5268
5	1-9-2018	4-8-2018	0.7390	0.5067
6	4-9-2018	7-8-2018	0.6842	0.5821
7	7-9-2018	9-30-2018	0.6533	0.6266
		Highest	1.3918	0.6266

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	0.8171	0.0127	0.8742	6.0000e-005		5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	4.4464	4.4464	1.4500e-003	6.0000e-005	4.4993
Energy	0.0267	0.2279	0.0970	1.4500e-003		0.0184	0.0184		0.0184	0.0184	0.0000	426.4447	426.4447	0.0161	7.1200e-003	428.9695
Mobile	0.4391	0.8310	4.3651	8.9200e-003	0.7800	9.4900e-003	0.7895	0.2085	8.9000e-003	0.2174	0.0000	808.5706	808.5706	0.0510	0.0000	809.8451
Waste						0.0000	0.0000		0.0000	0.0000	23.7662	0.0000	23.7662	1.4045	0.0000	58.8797
Water						0.0000	0.0000		0.0000	0.0000	2.4184	11.2469	13.6654	0.2492	6.0200e-003	21.6893
Total	1.2829	1.0717	5.3362	0.0104	0.7800	0.0329	0.8129	0.2085	0.0323	0.2409	26.1846	1,250.7086	1,276.8933	1.7222	0.0132	1,323.8829

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2.2 Overall Operational**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	0.7673	0.0127	0.8742	6.0000e-005		5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	4.4464	4.4464	1.4500e-003	6.0000e-005	4.4993
Energy	0.0267	0.2279	0.0970	1.4500e-003		0.0184	0.0184		0.0184	0.0184	0.0000	426.4447	426.4447	0.0161	7.1200e-003	428.9695
Mobile	0.4391	0.8310	4.3651	8.9200e-003	0.7800	9.4900e-003	0.7895	0.2085	8.9000e-003	0.2174	0.0000	808.5706	808.5706	0.0510	0.0000	809.8451
Waste						0.0000	0.0000		0.0000	0.0000	11.8831	0.0000	11.8831	0.7023	0.0000	29.4399
Water						0.0000	0.0000		0.0000	0.0000	1.9348	9.4504	11.3851	0.1994	4.8200e-003	17.8069
Total	1.2331	1.0717	5.3362	0.0104	0.7800	0.0329	0.8129	0.2085	0.0323	0.2409	13.8178	1,248.9121	1,262.7299	0.9702	0.0120	1,290.5607

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	3.88	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	47.23	0.14	1.11	43.67	9.09	2.52

3.0 Construction Detail**Construction Phase**

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Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	1/9/2017	2/3/2017	5	20	
2	Grading	Grading	2/4/2017	7/6/2017	5	109	
3	Utilities/Trenching	Trenching	7/7/2017	7/20/2017	5	10	
4	Building Construction	Building Construction	7/21/2017	4/12/2018	5	190	
5	Paving	Paving	4/13/2018	5/10/2018	5	20	
6	Architectural Coating	Architectural Coating	5/11/2018	11/1/2018	5	125	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 9.7

Acres of Paving: 1

Residential Indoor: 345,465; Residential Outdoor: 115,155; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,614 (Architectural Coating – sqft)

OffRoad Equipment

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Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Utilities/Trenching	Excavators	1	8.00	158	0.38
Utilities/Trenching	Skid Steer Loaders	1	8.00	65	0.37
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	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
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Grading	6	15.00	0.00	4,500.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Utilities/Trenching	2	5.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Building Construction	8	78.00	20.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Paving	6	15.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Architectural Coating	1	16.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix

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3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2017**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					0.1807	0.0000	0.1807	0.0993	0.0000	0.0993	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0496	0.5228	0.2346	3.8000e-004		0.0288	0.0288		0.0265	0.0265	0.0000	35.3344	35.3344	0.0108	0.0000	35.6051
Total	0.0496	0.5228	0.2346	3.8000e-004	0.1807	0.0288	0.2095	0.0993	0.0265	0.1258	0.0000	35.3344	35.3344	0.0108	0.0000	35.6051

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3.2 Site Preparation - 2017**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	8.1000e-004	6.4000e-004	6.3600e-003	2.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.3645	1.3645	4.0000e-005	0.0000	1.3656
Total	8.1000e-004	6.4000e-004	6.3600e-003	2.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.3645	1.3645	4.0000e-005	0.0000	1.3656

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					0.0705	0.0000	0.0705	0.0387	0.0000	0.0387	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.3100e-003	0.1907	0.2296	3.8000e-004		7.1000e-003	7.1000e-003		7.1000e-003	7.1000e-003	0.0000	35.3344	35.3344	0.0108	0.0000	35.6050
Total	9.3100e-003	0.1907	0.2296	3.8000e-004	0.0705	7.1000e-003	0.0776	0.0387	7.1000e-003	0.0458	0.0000	35.3344	35.3344	0.0108	0.0000	35.6050

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3.2 Site Preparation - 2017**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	8.1000e-004	6.4000e-004	6.3600e-003	2.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.3645	1.3645	4.0000e-005	0.0000	1.3656
Total	8.1000e-004	6.4000e-004	6.3600e-003	2.0000e-005	1.4200e-003	1.0000e-005	1.4300e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.3645	1.3645	4.0000e-005	0.0000	1.3656

3.3 Grading - 2017**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					0.3389	0.0000	0.3389	0.1818	0.0000	0.1818	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.1673	1.8468	0.9322	1.6200e-003		0.0969	0.0969		0.0891	0.0891	0.0000	150.1991	150.1991	0.0460	0.0000	151.3496
Total	0.1673	1.8468	0.9322	1.6200e-003	0.3389	0.0969	0.4358	0.1818	0.0891	0.2709	0.0000	150.1991	150.1991	0.0460	0.0000	151.3496

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3.3 Grading - 2017**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	0.0106	0.0148	0.0790	1.5000e-004	0.0121	1.7000e-004	0.0123	3.2500e-003	1.6000e-004	3.4100e-003	0.0000	13.3618	13.3618	8.6000e-004	0.0000	13.3833
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	3.7000e-003	2.8900e-003	0.0289	7.0000e-005	6.4600e-003	5.0000e-005	6.5100e-003	1.7200e-003	4.0000e-005	1.7600e-003	0.0000	6.1971	6.1971	2.0000e-004	0.0000	6.2022
Total	0.0143	0.0177	0.1079	2.2000e-004	0.0186	2.2000e-004	0.0188	4.9700e-003	2.0000e-004	5.1700e-003	0.0000	19.5589	19.5589	1.0600e-003	0.0000	19.5855

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					0.1322	0.0000	0.1322	0.0709	0.0000	0.0709	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0396	0.8088	1.0350	1.6200e-003		0.0309	0.0309		0.0309	0.0309	0.0000	150.1989	150.1989	0.0460	0.0000	151.3494
Total	0.0396	0.8088	1.0350	1.6200e-003	0.1322	0.0309	0.1631	0.0709	0.0309	0.1018	0.0000	150.1989	150.1989	0.0460	0.0000	151.3494

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3.3 Grading - 2017**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	0.0106	0.0148	0.0790	1.5000e-004	0.0121	1.7000e-004	0.0123	3.2500e-003	1.6000e-004	3.4100e-003	0.0000	13.3618	13.3618	8.6000e-004	0.0000	13.3833
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	3.7000e-003	2.8900e-003	0.0289	7.0000e-005	6.4600e-003	5.0000e-005	6.5100e-003	1.7200e-003	4.0000e-005	1.7600e-003	0.0000	6.1971	6.1971	2.0000e-004	0.0000	6.2022
Total	0.0143	0.0177	0.1079	2.2000e-004	0.0186	2.2000e-004	0.0188	4.9700e-003	2.0000e-004	5.1700e-003	0.0000	19.5589	19.5589	1.0600e-003	0.0000	19.5855

3.4 Utilities/Trenching - 2017**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	2.3100e-003	0.0266	0.0237	4.0000e-005		1.3400e-003	1.3400e-003		1.2300e-003	1.2300e-003	0.0000	3.3533	3.3533	1.0300e-003	0.0000	3.3790
Total	2.3100e-003	0.0266	0.0237	4.0000e-005		1.3400e-003	1.3400e-003		1.2300e-003	1.2300e-003	0.0000	3.3533	3.3533	1.0300e-003	0.0000	3.3790

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3.4 Utilities/Trenching - 2017**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	1.1000e-004	9.0000e-005	8.8000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1895	0.1895	1.0000e-005	0.0000	0.1897
Total	1.1000e-004	9.0000e-005	8.8000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1895	0.1895	1.0000e-005	0.0000	0.1897

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	8.9000e-004	0.0181	0.0274	4.0000e-005		7.5000e-004	7.5000e-004		7.5000e-004	7.5000e-004	0.0000	3.3533	3.3533	1.0300e-003	0.0000	3.3790
Total	8.9000e-004	0.0181	0.0274	4.0000e-005		7.5000e-004	7.5000e-004		7.5000e-004	7.5000e-004	0.0000	3.3533	3.3533	1.0300e-003	0.0000	3.3790

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3.4 Utilities/Trenching - 2017**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	1.1000e-004	9.0000e-005	8.8000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1895	0.1895	1.0000e-005	0.0000	0.1897
Total	1.1000e-004	9.0000e-005	8.8000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1895	0.1895	1.0000e-005	0.0000	0.1897

3.5 Building Construction - 2017**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	0.1471	1.1411	0.9116	1.2700e-003		0.0859	0.0859		0.0810	0.0810	0.0000	112.3221	112.3221	0.0260	0.0000	112.9731
Total	0.1471	1.1411	0.9116	1.2700e-003		0.0859	0.0859		0.0810	0.0810	0.0000	112.3221	112.3221	0.0260	0.0000	112.9731

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3.5 Building Construction - 2017**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	7.0300e-003	0.1658	0.0465	3.2000e-004	7.6100e-003	1.5100e-003	9.1200e-003	2.2000e-003	1.4400e-003	3.6400e-003	0.0000	30.8580	30.8580	1.8900e-003	0.0000	30.9052
Worker	0.0205	0.0160	0.1599	3.8000e-004	0.0358	2.6000e-004	0.0360	9.5100e-003	2.4000e-004	9.7500e-003	0.0000	34.2944	34.2944	1.1300e-003	0.0000	34.3226
Total	0.0275	0.1818	0.2064	7.0000e-004	0.0434	1.7700e-003	0.0451	0.0117	1.6800e-003	0.0134	0.0000	65.1524	65.1524	3.0200e-003	0.0000	65.2278

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	0.0319	0.6860	0.8808	1.2700e-003		0.0354	0.0354		0.0354	0.0354	0.0000	112.3219	112.3219	0.0260	0.0000	112.9730
Total	0.0319	0.6860	0.8808	1.2700e-003		0.0354	0.0354		0.0354	0.0354	0.0000	112.3219	112.3219	0.0260	0.0000	112.9730

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3.5 Building Construction - 2017**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	7.0300e-003	0.1658	0.0465	3.2000e-004	7.6100e-003	1.5100e-003	9.1200e-003	2.2000e-003	1.4400e-003	3.6400e-003	0.0000	30.8580	30.8580	1.8900e-003	0.0000	30.9052
Worker	0.0205	0.0160	0.1599	3.8000e-004	0.0358	2.6000e-004	0.0360	9.5100e-003	2.4000e-004	9.7500e-003	0.0000	34.2944	34.2944	1.1300e-003	0.0000	34.3226
Total	0.0275	0.1818	0.2064	7.0000e-004	0.0434	1.7700e-003	0.0451	0.0117	1.6800e-003	0.0134	0.0000	65.1524	65.1524	3.0200e-003	0.0000	65.2278

3.5 Building Construction - 2018**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	0.0807	0.6446	0.5688	8.1000e-004		0.0459	0.0459		0.0434	0.0434	0.0000	70.9217	70.9217	0.0162	0.0000	71.3278
Total	0.0807	0.6446	0.5688	8.1000e-004		0.0459	0.0459		0.0434	0.0434	0.0000	70.9217	70.9217	0.0162	0.0000	71.3278

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3.5 Building Construction - 2018**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	3.8900e-003	0.0992	0.0263	2.0000e-004	4.8500e-003	7.6000e-004	5.6100e-003	1.4000e-003	7.3000e-004	2.1300e-003	0.0000	19.6326	19.6326	1.1300e-003	0.0000	19.6608
Worker	0.0116	8.8500e-003	0.0892	2.4000e-004	0.0228	1.6000e-004	0.0230	6.0700e-003	1.5000e-004	6.2100e-003	0.0000	21.2663	21.2663	6.3000e-004	0.0000	21.2820
Total	0.0155	0.1080	0.1155	4.4000e-004	0.0277	9.2000e-004	0.0286	7.4700e-003	8.8000e-004	8.3400e-003	0.0000	40.8989	40.8989	1.7600e-003	0.0000	40.9428

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	0.0203	0.4376	0.5619	8.1000e-004		0.0226	0.0226		0.0226	0.0226	0.0000	70.9216	70.9216	0.0162	0.0000	71.3277
Total	0.0203	0.4376	0.5619	8.1000e-004		0.0226	0.0226		0.0226	0.0226	0.0000	70.9216	70.9216	0.0162	0.0000	71.3277

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3.5 Building Construction - 2018**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	3.8900e-003	0.0992	0.0263	2.0000e-004	4.8500e-003	7.6000e-004	5.6100e-003	1.4000e-003	7.3000e-004	2.1300e-003	0.0000	19.6326	19.6326	1.1300e-003	0.0000	19.6608
Worker	0.0116	8.8500e-003	0.0892	2.4000e-004	0.0228	1.6000e-004	0.0230	6.0700e-003	1.5000e-004	6.2100e-003	0.0000	21.2663	21.2663	6.3000e-004	0.0000	21.2820
Total	0.0155	0.1080	0.1155	4.4000e-004	0.0277	9.2000e-004	0.0286	7.4700e-003	8.8000e-004	8.3400e-003	0.0000	40.8989	40.8989	1.7600e-003	0.0000	40.9428

3.6 Paving - 2018**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	0.0164	0.1752	0.1480	2.3000e-004		9.5600e-003	9.5600e-003		8.8000e-003	8.8000e-003	0.0000	20.8116	20.8116	6.4800e-003	0.0000	20.9736
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0164	0.1752	0.1480	2.3000e-004		9.5600e-003	9.5600e-003		8.8000e-003	8.8000e-003	0.0000	20.8116	20.8116	6.4800e-003	0.0000	20.9736

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3.6 Paving - 2018**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-004	4.6000e-004	4.6300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.1053	1.1053	3.0000e-005	0.0000	1.1061
Total	6.0000e-004	4.6000e-004	4.6300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.1053	1.1053	3.0000e-005	0.0000	1.1061

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	5.6100e-003	0.1130	0.1730	2.3000e-004		4.5700e-003	4.5700e-003		4.5700e-003	4.5700e-003	0.0000	20.8116	20.8116	6.4800e-003	0.0000	20.9736
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	5.6100e-003	0.1130	0.1730	2.3000e-004		4.5700e-003	4.5700e-003		4.5700e-003	4.5700e-003	0.0000	20.8116	20.8116	6.4800e-003	0.0000	20.9736

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3.6 Paving - 2018**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-004	4.6000e-004	4.6300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.1053	1.1053	3.0000e-005	0.0000	1.1061
Total	6.0000e-004	4.6000e-004	4.6300e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.1900e-003	3.2000e-004	1.0000e-005	3.2000e-004	0.0000	1.1053	1.1053	3.0000e-005	0.0000	1.1061

3.7 Architectural Coating - 2018**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	1.2100					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0187	0.1254	0.1159	1.9000e-004		9.4100e-003	9.4100e-003		9.4100e-003	9.4100e-003	0.0000	15.9579	15.9579	1.5200e-003	0.0000	15.9958
Total	1.2287	0.1254	0.1159	1.9000e-004		9.4100e-003	9.4100e-003		9.4100e-003	9.4100e-003	0.0000	15.9579	15.9579	1.5200e-003	0.0000	15.9958

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3.7 Architectural Coating - 2018**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	4.0200e-003	3.0700e-003	0.0309	8.0000e-005	7.9000e-003	6.0000e-005	7.9600e-003	2.1000e-003	5.0000e-005	2.1500e-003	0.0000	7.3688	7.3688	2.2000e-004	0.0000	7.3742
Total	4.0200e-003	3.0700e-003	0.0309	8.0000e-005	7.9000e-003	6.0000e-005	7.9600e-003	2.1000e-003	5.0000e-005	2.1500e-003	0.0000	7.3688	7.3688	2.2000e-004	0.0000	7.3742

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	1.2100					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.7100e-003	0.0848	0.1145	1.9000e-004		4.4600e-003	4.4600e-003		4.4600e-003	4.4600e-003	0.0000	15.9579	15.9579	1.5200e-003	0.0000	15.9958
Total	1.2137	0.0848	0.1145	1.9000e-004		4.4600e-003	4.4600e-003		4.4600e-003	4.4600e-003	0.0000	15.9579	15.9579	1.5200e-003	0.0000	15.9958

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3.7 Architectural Coating - 2018**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	4.0200e-003	3.0700e-003	0.0309	8.0000e-005	7.9000e-003	6.0000e-005	7.9600e-003	2.1000e-003	5.0000e-005	2.1500e-003	0.0000	7.3688	7.3688	2.2000e-004	0.0000	7.3742
Total	4.0200e-003	3.0700e-003	0.0309	8.0000e-005	7.9000e-003	6.0000e-005	7.9600e-003	2.1000e-003	5.0000e-005	2.1500e-003	0.0000	7.3688	7.3688	2.2000e-004	0.0000	7.3742

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

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	ROG	NOx	CO	SO2	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	0.4391	0.8310	4.3651	8.9200e-003	0.7800	9.4900e-003	0.7895	0.2085	8.9000e-003	0.2174	0.0000	808.5706	808.5706	0.0510	0.0000	809.8451
Unmitigated	0.4391	0.8310	4.3651	8.9200e-003	0.7800	9.4900e-003	0.7895	0.2085	8.9000e-003	0.2174	0.0000	808.5706	808.5706	0.0510	0.0000	809.8451

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	290.50	283.50	242.00	652,629	652,629
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	637.84	663.97	577.54	1,461,886	1,461,886
Total	928.34	947.47	819.54	2,114,515	2,114,515

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

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Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.566452	0.045204	0.186626	0.124693	0.020348	0.004929	0.011681	0.006406	0.001296	0.000623	0.027486	0.000775	0.003482
Other Non-Asphalt Surfaces	0.566452	0.045204	0.186626	0.124693	0.020348	0.004929	0.011681	0.006406	0.001296	0.000623	0.027486	0.000775	0.003482
Single Family Housing	0.566452	0.045204	0.186626	0.124693	0.020348	0.004929	0.011681	0.006406	0.001296	0.000623	0.027486	0.000775	0.003482

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	162.5032	162.5032	0.0110	2.2800e-003	163.4595
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	162.5032	162.5032	0.0110	2.2800e-003	163.4595
NaturalGas Mitigated	0.0267	0.2279	0.0970	1.4500e-003		0.0184	0.0184		0.0184	0.0184	0.0000	263.9415	263.9415	5.0600e-003	4.8400e-003	265.5100
NaturalGas Unmitigated	0.0267	0.2279	0.0970	1.4500e-003		0.0184	0.0184		0.0184	0.0184	0.0000	263.9415	263.9415	5.0600e-003	4.8400e-003	265.5100

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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					
Condo/Townhouse	1.40317e+006	7.5700e-003	0.0647	0.0275	4.1000e-004		5.2300e-003	5.2300e-003		5.2300e-003	5.2300e-003	0.0000	74.8784	74.8784	1.4400e-003	1.3700e-003	75.3233
Other Non-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
Single Family Housing	3.54291e+006	0.0191	0.1633	0.0695	1.0400e-003		0.0132	0.0132		0.0132	0.0132	0.0000	189.0632	189.0632	3.6200e-003	3.4700e-003	190.1867
Total		0.0267	0.2279	0.0970	1.4500e-003		0.0184	0.0184		0.0184	0.0184	0.0000	263.9415	263.9415	5.0600e-003	4.8400e-003	265.5100

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					
Condo/Townhouse	1.40317e+006	7.5700e-003	0.0647	0.0275	4.1000e-004		5.2300e-003	5.2300e-003		5.2300e-003	5.2300e-003	0.0000	74.8784	74.8784	1.4400e-003	1.3700e-003	75.3233
Other Non-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
Single Family Housing	3.54291e+006	0.0191	0.1633	0.0695	1.0400e-003		0.0132	0.0132		0.0132	0.0132	0.0000	189.0632	189.0632	3.6200e-003	3.4700e-003	190.1867
Total		0.0267	0.2279	0.0970	1.4500e-003		0.0184	0.0184		0.0184	0.0184	0.0000	263.9415	263.9415	5.0600e-003	4.8400e-003	265.5100

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5.3 Energy by Land Use - Electricity**Unmitigated**

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	267116	51.7360	3.5100e-003	7.3000e-004	52.0405
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	571897	110.7672	7.5200e-003	1.5600e-003	111.4191
Total		162.5032	0.0110	2.2900e-003	163.4595

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Condo/Townhouse	267116	51.7360	3.5100e-003	7.3000e-004	52.0405
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	571897	110.7672	7.5200e-003	1.5600e-003	111.4191
Total		162.5032	0.0110	2.2900e-003	163.4595

6.0 Area Detail

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6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	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	0.7673	0.0127	0.8742	6.0000e-005		5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	4.4464	4.4464	1.4500e-003	6.0000e-005	4.4993
Unmitigated	0.8171	0.0127	0.8742	6.0000e-005		5.0000e-003	5.0000e-003		5.0000e-003	5.0000e-003	0.0000	4.4464	4.4464	1.4500e-003	6.0000e-005	4.4993

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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	0.1210					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6691					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.1000e-004	2.6100e-003	1.1100e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	3.0274	3.0274	6.0000e-005	6.0000e-005	3.0453
Landscaping	0.0267	0.0101	0.8731	5.0000e-005		4.7800e-003	4.7800e-003		4.7800e-003	4.7800e-003	0.0000	1.4191	1.4191	1.3900e-003	0.0000	1.4539
Total	0.8171	0.0127	0.8742	7.0000e-005		4.9900e-003	4.9900e-003		4.9900e-003	4.9900e-003	0.0000	4.4464	4.4464	1.4500e-003	6.0000e-005	4.4993

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6.2 Area by SubCategory**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	0.1210					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6193					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.1000e-004	2.6100e-003	1.1100e-003	2.0000e-005		2.1000e-004	2.1000e-004		2.1000e-004	2.1000e-004	0.0000	3.0274	3.0274	6.0000e-005	6.0000e-005	3.0453
Landscaping	0.0267	0.0101	0.8731	5.0000e-005		4.7800e-003	4.7800e-003		4.7800e-003	4.7800e-003	0.0000	1.4191	1.4191	1.3900e-003	0.0000	1.4539
Total	0.7673	0.0127	0.8742	7.0000e-005		4.9900e-003	4.9900e-003		4.9900e-003	4.9900e-003	0.0000	4.4464	4.4464	1.4500e-003	6.0000e-005	4.4993

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

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	11.3851	0.1994	4.8200e-003	17.8069
Unmitigated	13.6654	0.2492	6.0200e-003	21.6893

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	3.2577 / 2.05377	5.8399	0.1065	2.5700e-003	9.2689
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	4.36532 / 2.75205	7.8255	0.1427	3.4500e-003	12.4204
Total		13.6654	0.2492	6.0200e-003	21.6893

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7.2 Water by Land Use**Mitigated**

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Condo/Townhouse	2.60616 / 1.92849	4.8654	0.0852	2.0600e-003	7.6098
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	3.49226 / 2.58417	6.5197	0.1142	2.7600e-003	10.1971
Total		11.3851	0.1994	4.8200e-003	17.8069

8.0 Waste Detail

8.1 Mitigation Measures Waste

Institute Recycling and Composting Services

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Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	11.8831	0.7023	0.0000	29.4399
Unmitigated	23.7662	1.4045	0.0000	58.8797

8.2 Waste by Land Use**Unmitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	23	4.6688	0.2759	0.0000	11.5667
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	94.08	19.0974	1.1286	0.0000	47.3130
Total		23.7662	1.4045	0.0000	58.8797

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8.2 Waste by Land Use**Mitigated**

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Condo/Townhouse	11.5	2.3344	0.1380	0.0000	5.7834
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Single Family Housing	47.04	9.5487	0.5643	0.0000	23.6565
Total		11.8831	0.7023	0.0000	29.4399

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
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11.0 Vegetation

Point Martin II Single Family - Bay Area AQMD Air District, Summer

Point Martin II Single Family
Bay Area AQMD Air District, Summer

1.0 Project Characteristics**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.00	Acre	1.00	43,560.00	0
Condo/Townhouse	50.00	Dwelling Unit	3.13	50,000.00	167
Single Family Housing	67.00	Dwelling Unit	4.30	120,600.00	224

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	5			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	427	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Point Martin II Single Family - Bay Area AQMD Air District, Summer

Project Characteristics - PG&E 2013 historical emission factor

Land Use - Lot acreage per Project Description.

Based on Daly City 3.34 person per house (Ca Dept of Finance)

Construction Phase - Based on construction schedule

Off-road Equipment -

Off-road Equipment - No cranes

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Based on construction assumptions

Trips and VMT - 3.65 miles each way for haul

15 haul trucks per hour at 6 hours per day with 22 cyd each haul load = 1,980 cyd per day (out of 98,000 cyd)

Grading - 98,000 cy of export

Woodstoves - No woodstoves

Energy Use - Based on Project Description

Construction Off-road Equipment Mitigation - Tier 3 Engines Per 13 CCR Section 2420-2427

Grading co will use 2010 year model of equipment (or newer).

Area Mitigation - Architectural Rule

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1

Point Martin II Single Family - Bay Area AQMD Air District, Summer

[illegible]

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tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	125.00
tblConstructionPhase	NumDays	230.00	190.00
tblConstructionPhase	NumDays	20.00	109.00
tblConstructionPhase	NumDays	10.00	20.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberWood	8.50	0.00
tblFireplaces	NumberWood	28.81	0.00
tblFleetMix	FleetMixLandUseSubType	Other Non-Asphalt Surfaces	Condo/Townhouse
tblFleetMix	FleetMixLandUseSubType	Condo/Townhouse	Other Non-Asphalt Surfaces
tblGrading	AcresOfGrading	54.50	9.70
tblGrading	MaterialExported	0.00	98,000.00
tblLandUse	LotAcreage	21.75	4.30
tblLandUse	Population	143.00	167.00
tblLandUse	Population	192.00	224.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	427
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30

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tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	12,250.00	4,500.00
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblWoodstoves	NumberCatalytic	1.00	0.00
tblWoodstoves	NumberCatalytic	2.68	0.00
tblWoodstoves	NumberNoncatalytic	1.00	0.00
tblWoodstoves	NumberNoncatalytic	2.68	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveDayYear	21.06	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

Point Martin II Single Family - Bay Area AQMD Air District, Summer

2.1 Overall Construction (Maximum Daily Emission)**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	lb/day										lb/day					
2017	5.0459	52.3318	24.1419	0.0397	18.2141	2.8796	21.0937	9.9699	2.6492	12.6191	0.0000	4,056.690 2	4,056.690 2	1.1987	0.0000	4,086.656 4
2018	19.7262	20.2748	18.6559	0.0343	0.7761	1.2663	2.0424	0.2089	1.1958	1.4047	0.0000	3,385.287 2	3,385.287 2	0.7180	0.0000	3,398.695 7
Maximum	19.7262	52.3318	24.1419	0.0397	18.2141	2.8796	21.0937	9.9699	2.6492	12.6191	0.0000	4,056.690 2	4,056.690 2	1.1987	0.0000	4,086.656 4

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	lb/day										lb/day					
2017	1.0378	19.1220	23.6466	0.0397	7.1937	0.7107	7.9044	3.9122	0.7106	4.6228	0.0000	4,056.690 2	4,056.690 2	1.1987	0.0000	4,086.656 4
2018	19.4870	14.6806	18.4679	0.0343	0.7761	0.6342	1.4103	0.2089	0.6330	0.8419	0.0000	3,385.287 2	3,385.287 2	0.7180	0.0000	3,398.695 7
Maximum	19.4870	19.1220	23.6466	0.0397	7.1937	0.7107	7.9044	3.9122	0.7106	4.6228	0.0000	4,056.690 2	4,056.690 2	1.1987	0.0000	4,086.656 4

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	17.15	53.44	1.60	0.00	58.03	67.56	59.74	59.51	65.06	61.03	0.00	0.00	0.00	0.00	0.00	0.00

Point Martin II Single Family - Bay Area AQMD Air District, Summer

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	lb/day										lb/day					
Area	4.6812	0.5817	9.9003	3.5100e-003		0.0911	0.0911		0.0911	0.0911	0.0000	616.4985	616.4985	0.0285	0.0110	620.4853
Energy	0.1461	1.2488	0.5314	7.9700e-003		0.1010	0.1010		0.1010	0.1010		1,594.2231	1,594.2231	0.0306	0.0292	1,603.6968
Mobile	2.8240	4.4709	25.3126	0.0544	4.6436	0.0543	4.6980	1.2375	0.0510	1.2885		5,435.7015	5,435.7015	0.3193		5,443.6830
Total	7.6513	6.3014	35.7443	0.0659	4.6436	0.2464	4.8900	1.2375	0.2430	1.4805	0.0000	7,646.4231	7,646.4231	0.3784	0.0402	7,667.8651

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	lb/day										lb/day					
Area	5.2707	0.5817	9.9003	3.5100e-003		0.0911	0.0911		0.0911	0.0911	0.0000	616.4985	616.4985	0.0285	0.0110	620.4853
Energy	0.1461	1.2488	0.5314	7.9700e-003		0.1010	0.1010		0.1010	0.1010		1,594.2231	1,594.2231	0.0306	0.0292	1,603.6968
Mobile	2.8240	4.4709	25.3126	0.0544	4.6436	0.0543	4.6980	1.2375	0.0510	1.2885		5,435.7015	5,435.7015	0.3193		5,443.6830
Total	8.2408	6.3014	35.7443	0.0659	4.6436	0.2464	4.8900	1.2375	0.2430	1.4805	0.0000	7,646.4231	7,646.4231	0.3784	0.0402	7,667.8651

Point Martin II Single Family - Bay Area AQMD Air District, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	-7.70	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	Site Preparation	Site Preparation	1/9/2017	2/3/2017	5	20	
2	Grading	Grading	2/4/2017	7/6/2017	5	109	
3	Utilities/Trenching	Trenching	7/7/2017	7/20/2017	5	10	
4	Building Construction	Building Construction	7/21/2017	4/12/2018	5	190	
5	Paving	Paving	4/13/2018	5/10/2018	5	20	
6	Architectural Coating	Architectural Coating	5/11/2018	11/1/2018	5	125	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 9.7

Acres of Paving: 1

Residential Indoor: 345,465; Residential Outdoor: 115,155; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,614 (Architectural Coating – sqft)

OffRoad Equipment

Point Martin II Single Family - Bay Area AQMD Air District, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Utilities/Trenching	Excavators	1	8.00	158	0.38
Utilities/Trenching	Skid Steer Loaders	1	8.00	65	0.37
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	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
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Grading	6	15.00	0.00	4,500.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Utilities/Trenching	2	5.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Building Construction	8	78.00	20.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Paving	6	15.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Architectural Coating	1	16.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2017**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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.9608	52.2754	23.4554	0.0380		2.8786	2.8786		2.6483	2.6483		3,894.950 0	3,894.950 0	1.1934		3,924.785 2
Total	4.9608	52.2754	23.4554	0.0380	18.0663	2.8786	20.9448	9.9307	2.6483	12.5790		3,894.950 0	3,894.950 0	1.1934		3,924.785 2

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.2 Site Preparation - 2017**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	lb/day										lb/day					
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
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
Worker	0.0852	0.0564	0.6866	1.6300e-003	0.1479	1.0300e-003	0.1489	0.0392	9.5000e-004	0.0402		161.7402	161.7402	5.2400e-003		161.8713
Total	0.0852	0.0564	0.6866	1.6300e-003	0.1479	1.0300e-003	0.1489	0.0392	9.5000e-004	0.0402		161.7402	161.7402	5.2400e-003		161.8713

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	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.7096	0.7096		0.7096	0.7096	0.0000	3,894.9500	3,894.9500	1.1934		3,924.7852
Total	0.9312	19.0656	22.9600	0.0380	7.0458	0.7096	7.7555	3.8730	0.7096	4.5826	0.0000	3,894.9500	3,894.9500	1.1934		3,924.7852

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.2 Site Preparation - 2017**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	lb/day										lb/day					
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
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
Worker	0.0852	0.0564	0.6866	1.6300e-003	0.1479	1.0300e-003	0.1489	0.0392	9.5000e-004	0.0402		161.7402	161.7402	5.2400e-003		161.8713
Total	0.0852	0.0564	0.6866	1.6300e-003	0.1479	1.0300e-003	0.1489	0.0392	9.5000e-004	0.0402		161.7402	161.7402	5.2400e-003		161.8713

3.3 Grading - 2017**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	lb/day										lb/day					
Fugitive Dust					6.2181	0.0000	6.2181	3.3358	0.0000	3.3358			0.0000			0.0000
Off-Road	3.0705	33.8868	17.1042	0.0297		1.7774	1.7774		1.6352	1.6352		3,037.9107	3,037.9107	0.9308		3,061.1809
Total	3.0705	33.8868	17.1042	0.0297	6.2181	1.7774	7.9956	3.3358	1.6352	4.9711		3,037.9107	3,037.9107	0.9308		3,061.1809

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.3 Grading - 2017**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	lb/day										lb/day					
Hauling	0.2049	0.2535	1.4754	2.8800e-003	0.2316	3.1400e-003	0.2347	0.0618	2.9600e-003	0.0647		287.5356	287.5356	0.0173		287.9685
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
Worker	0.0710	0.0470	0.5721	1.3500e-003	0.1232	8.6000e-004	0.1241	0.0327	7.9000e-004	0.0335		134.7835	134.7835	4.3700e-003		134.8927
Total	0.2759	0.3005	2.0476	4.2300e-003	0.3548	4.0000e-003	0.3588	0.0945	3.7500e-003	0.0982		422.3191	422.3191	0.0217		422.8613

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	lb/day										lb/day					
Fugitive Dust					2.4251	0.0000	2.4251	1.3010	0.0000	1.3010			0.0000			0.0000
Off-Road	0.7263	14.8397	18.9906	0.0297		0.5667	0.5667		0.5667	0.5667	0.0000	3,037.9107	3,037.9107	0.9308		3,061.1809
Total	0.7263	14.8397	18.9906	0.0297	2.4251	0.5667	2.9917	1.3010	0.5667	1.8676	0.0000	3,037.9107	3,037.9107	0.9308		3,061.1809

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.3 Grading - 2017**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	lb/day										lb/day					
Hauling	0.2049	0.2535	1.4754	2.8800e-003	0.2316	3.1400e-003	0.2347	0.0618	2.9600e-003	0.0647		287.5356	287.5356	0.0173		287.9685
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
Worker	0.0710	0.0470	0.5721	1.3500e-003	0.1232	8.6000e-004	0.1241	0.0327	7.9000e-004	0.0335		134.7835	134.7835	4.3700e-003		134.8927
Total	0.2759	0.3005	2.0476	4.2300e-003	0.3548	4.0000e-003	0.3588	0.0945	3.7500e-003	0.0982		422.3191	422.3191	0.0217		422.8613

3.4 Utilities/Trenching - 2017**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	lb/day										lb/day					
Off-Road	0.4615	5.3116	4.7442	7.2300e-003		0.2677	0.2677		0.2463	0.2463		739.2717	739.2717	0.2265		744.9345
Total	0.4615	5.3116	4.7442	7.2300e-003		0.2677	0.2677		0.2463	0.2463		739.2717	739.2717	0.2265		744.9345

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.4 Utilities/Trenching - 2017**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	lb/day										lb/day					
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
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
Worker	0.0237	0.0157	0.1907	4.5000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.6000e-004	0.0112		44.9278	44.9278	1.4600e-003		44.9642
Total	0.0237	0.0157	0.1907	4.5000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.6000e-004	0.0112		44.9278	44.9278	1.4600e-003		44.9642

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	lb/day										lb/day					
Off-Road	0.1780	3.6189	5.4875	7.2300e-003		0.1500	0.1500		0.1500	0.1500	0.0000	739.2717	739.2717	0.2265		744.9345
Total	0.1780	3.6189	5.4875	7.2300e-003		0.1500	0.1500		0.1500	0.1500	0.0000	739.2717	739.2717	0.2265		744.9345

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.4 Utilities/Trenching - 2017**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	lb/day										lb/day					
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
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
Worker	0.0237	0.0157	0.1907	4.5000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.6000e-004	0.0112		44.9278	44.9278	1.4600e-003		44.9642
Total	0.0237	0.0157	0.1907	4.5000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.6000e-004	0.0112		44.9278	44.9278	1.4600e-003		44.9642

3.5 Building Construction - 2017**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	lb/day										lb/day					
Off-Road	2.5354	19.6743	15.7173	0.0219		1.4811	1.4811		1.3969	1.3969		2,134.7221	2,134.7221	0.4949		2,147.0957
Total	2.5354	19.6743	15.7173	0.0219		1.4811	1.4811		1.3969	1.3969		2,134.7221	2,134.7221	0.4949		2,147.0957

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.5 Building Construction - 2017**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	lb/day										lb/day					
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
Vendor	0.1190	2.8140	0.7561	5.6100e-003	0.1354	0.0259	0.1612	0.0390	0.0248	0.0637		592.3647	592.3647	0.0346		593.2294
Worker	0.3690	0.2443	2.9751	7.0400e-003	0.6408	4.4600e-003	0.6452	0.1700	4.1100e-003	0.1741		700.8741	700.8741	0.0227		701.4422
Total	0.4880	3.0584	3.7311	0.0127	0.7761	0.0303	0.8065	0.2089	0.0289	0.2378		1,293.2387	1,293.2387	0.0573		1,294.6716

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	lb/day										lb/day					
Off-Road	0.5498	11.8276	15.1859	0.0219		0.6094	0.6094		0.6094	0.6094	0.0000	2,134.7221	2,134.7221	0.4949		2,147.0957
Total	0.5498	11.8276	15.1859	0.0219		0.6094	0.6094		0.6094	0.6094	0.0000	2,134.7221	2,134.7221	0.4949		2,147.0957

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.5 Building Construction - 2017**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	lb/day										lb/day					
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
Vendor	0.1190	2.8140	0.7561	5.6100e-003	0.1354	0.0259	0.1612	0.0390	0.0248	0.0637		592.3647	592.3647	0.0346		593.2294
Worker	0.3690	0.2443	2.9751	7.0400e-003	0.6408	4.4600e-003	0.6452	0.1700	4.1100e-003	0.1741		700.8741	700.8741	0.0227		701.4422
Total	0.4880	3.0584	3.7311	0.0127	0.7761	0.0303	0.8065	0.2089	0.0289	0.2378		1,293.2387	1,293.2387	0.0573		1,294.6716

3.5 Building Construction - 2018**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	lb/day										lb/day					
Off-Road	2.1801	17.4218	15.3738	0.0219		1.2416	1.2416		1.1723	1.1723		2,112.9119	2,112.9119	0.4840		2,125.0112
Total	2.1801	17.4218	15.3738	0.0219		1.2416	1.2416		1.1723	1.1723		2,112.9119	2,112.9119	0.4840		2,125.0112

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.5 Building Construction - 2018**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	lb/day										lb/day					
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
Vendor	0.1032	2.6408	0.6689	5.5900e-003	0.1354	0.0204	0.1558	0.0390	0.0196	0.0585		590.9955	590.9955	0.0325		591.8072
Worker	0.3286	0.2122	2.6132	6.8400e-003	0.6408	4.3200e-003	0.6451	0.1700	3.9900e-003	0.1739		681.3798	681.3798	0.0199		681.8773
Total	0.4318	2.8530	3.2821	0.0124	0.7761	0.0248	0.8009	0.2089	0.0235	0.2325		1,272.3753	1,272.3753	0.0524		1,273.6845

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	lb/day										lb/day					
Off-Road	0.5498	11.8276	15.1859	0.0219		0.6094	0.6094		0.6094	0.6094	0.0000	2,112.9119	2,112.9119	0.4840		2,125.0112
Total	0.5498	11.8276	15.1859	0.0219		0.6094	0.6094		0.6094	0.6094	0.0000	2,112.9119	2,112.9119	0.4840		2,125.0112

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.5 Building Construction - 2018**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	lb/day										lb/day					
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
Vendor	0.1032	2.6408	0.6689	5.5900e-003	0.1354	0.0204	0.1558	0.0390	0.0196	0.0585		590.9955	590.9955	0.0325		591.8072
Worker	0.3286	0.2122	2.6132	6.8400e-003	0.6408	4.3200e-003	0.6451	0.1700	3.9900e-003	0.1739		681.3798	681.3798	0.0199		681.8773
Total	0.4318	2.8530	3.2821	0.0124	0.7761	0.0248	0.8009	0.2089	0.0235	0.2325		1,272.3753	1,272.3753	0.0524		1,273.6845

3.6 Paving - 2018**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	lb/day										lb/day					
Off-Road	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.6 Paving - 2018**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	lb/day										lb/day					
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
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
Worker	0.0632	0.0408	0.5025	1.3200e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		131.0346	131.0346	3.8300e-003		131.1303
Total	0.0632	0.0408	0.5025	1.3200e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		131.0346	131.0346	3.8300e-003		131.1303

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	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.4570	0.4570		0.4570	0.4570	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.5609	11.2952	17.2957	0.0228		0.4570	0.4570		0.4570	0.4570	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.6 Paving - 2018**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	lb/day										lb/day					
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
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
Worker	0.0632	0.0408	0.5025	1.3200e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		131.0346	131.0346	3.8300e-003		131.1303
Total	0.0632	0.0408	0.5025	1.3200e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		131.0346	131.0346	3.8300e-003		131.1303

3.7 Architectural Coating - 2018**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	lb/day										lb/day					
Archit. Coating	19.3602					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	19.6588	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.7 Architectural Coating - 2018**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	lb/day										lb/day					
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
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
Worker	0.0674	0.0435	0.5360	1.4000e-003	0.1314	8.9000e-004	0.1323	0.0349	8.2000e-004	0.0357		139.7702	139.7702	4.0800e-003		139.8723
Total	0.0674	0.0435	0.5360	1.4000e-003	0.1314	8.9000e-004	0.1323	0.0349	8.2000e-004	0.0357		139.7702	139.7702	4.0800e-003		139.8723

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	lb/day										lb/day					
Archit. Coating	19.3602					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0713	0.0713		0.0713	0.0713	0.0000	281.4485	281.4485	0.0267		282.1171
Total	19.4196	1.3570	1.8324	2.9700e-003		0.0713	0.0713		0.0713	0.0713	0.0000	281.4485	281.4485	0.0267		282.1171

Point Martin II Single Family - Bay Area AQMD Air District, Summer

3.7 Architectural Coating - 2018**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	lb/day										lb/day					
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
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
Worker	0.0674	0.0435	0.5360	1.4000e-003	0.1314	8.9000e-004	0.1323	0.0349	8.2000e-004	0.0357		139.7702	139.7702	4.0800e-003		139.8723
Total	0.0674	0.0435	0.5360	1.4000e-003	0.1314	8.9000e-004	0.1323	0.0349	8.2000e-004	0.0357		139.7702	139.7702	4.0800e-003		139.8723

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Point Martin II Single Family - Bay Area AQMD Air District, Summer

	ROG	NOx	CO	SO2	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	lb/day										lb/day					
Mitigated	2.8240	4.4709	25.3126	0.0544	4.6436	0.0543	4.6980	1.2375	0.0510	1.2885		5,435.7015	5,435.7015	0.3193		5,443.6830
Unmitigated	2.8240	4.4709	25.3126	0.0544	4.6436	0.0543	4.6980	1.2375	0.0510	1.2885		5,435.7015	5,435.7015	0.3193		5,443.6830

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	290.50	283.50	242.00	652,629	652,629
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	637.84	663.97	577.54	1,461,886	1,461,886
Total	928.34	947.47	819.54	2,114,515	2,114,515

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Point Martin II Single Family - Bay Area AQMD Air District, Summer

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.566452	0.045204	0.186626	0.124693	0.020348	0.004929	0.011681	0.006406	0.001296	0.000623	0.027486	0.000775	0.003482
Other Non-Asphalt Surfaces	0.566452	0.045204	0.186626	0.124693	0.020348	0.004929	0.011681	0.006406	0.001296	0.000623	0.027486	0.000775	0.003482
Single Family Housing	0.566452	0.045204	0.186626	0.124693	0.020348	0.004929	0.011681	0.006406	0.001296	0.000623	0.027486	0.000775	0.003482

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	lb/day										lb/day					
NaturalGas Mitigated	0.1461	1.2488	0.5314	7.9700e-003		0.1010	0.1010		0.1010	0.1010		1,594.2231	1,594.2231	0.0306	0.0292	1,603.6968
NaturalGas Unmitigated	0.1461	1.2488	0.5314	7.9700e-003		0.1010	0.1010		0.1010	0.1010		1,594.2231	1,594.2231	0.0306	0.0292	1,603.6968

Point Martin II Single Family - Bay Area AQMD Air District, Summer

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	lb/day										lb/day					
Condo/Townhouse	3844.29	0.0415	0.3543	0.1508	2.2600e-003		0.0286	0.0286		0.0286	0.0286		452.2699	452.2699	8.6700e-003	8.2900e-003	454.9576
Other Non-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
Single Family Housing	9706.6	0.1047	0.8945	0.3807	5.7100e-003		0.0723	0.0723		0.0723	0.0723		1,141.9532	1,141.9532	0.0219	0.0209	1,148.7392
Total		0.1461	1.2488	0.5314	7.9700e-003		0.1010	0.1010		0.1010	0.1010		1,594.2231	1,594.2231	0.0306	0.0292	1,603.6968

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	lb/day										lb/day					
Condo/Townhouse	3.84429	0.0415	0.3543	0.1508	2.2600e-003		0.0286	0.0286		0.0286	0.0286		452.2699	452.2699	8.6700e-003	8.2900e-003	454.9576
Other Non-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
Single Family Housing	9.7066	0.1047	0.8945	0.3807	5.7100e-003		0.0723	0.0723		0.0723	0.0723		1,141.9532	1,141.9532	0.0219	0.0209	1,148.7392
Total		0.1461	1.2488	0.5314	7.9700e-003		0.1010	0.1010		0.1010	0.1010		1,594.2231	1,594.2231	0.0306	0.0292	1,603.6968

6.0 Area Detail

Point Martin II Single Family - Bay Area AQMD Air District, Summer

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	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	lb/day										lb/day					
Mitigated	5.2707	0.5817	9.9003	3.5100e-003		0.0911	0.0911		0.0911	0.0911	0.0000	616.4985	616.4985	0.0285	0.0110	620.4853
Unmitigated	4.6812	0.5817	9.9003	3.5100e-003		0.0911	0.0911		0.0911	0.0911	0.0000	616.4985	616.4985	0.0285	0.0110	620.4853

Point Martin II Single Family - Bay Area AQMD Air District, Summer

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	lb/day										lb/day					
Architectural Coating	0.6630					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.6663					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0549	0.4693	0.1997	3.0000e-003		0.0379	0.0379		0.0379	0.0379	0.0000	599.1177	599.1177	0.0115	0.0110	602.6779
Landscaping	0.2970	0.1124	9.7006	5.1000e-004		0.0532	0.0532		0.0532	0.0532		17.3808	17.3808	0.0171		17.8074
Total	4.6812	0.5817	9.9003	3.5100e-003		0.0911	0.0911		0.0911	0.0911	0.0000	616.4985	616.4985	0.0285	0.0110	620.4853

Point Martin II Single Family - Bay Area AQMD Air District, Summer

6.2 Area by SubCategory**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	lb/day										lb/day					
Architectural Coating	0.6630					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.2558					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0549	0.4693	0.1997	3.0000e-003		0.0379	0.0379		0.0379	0.0379	0.0000	599.1177	599.1177	0.0115	0.0110	602.6779
Landscaping	0.2970	0.1124	9.7006	5.1000e-004		0.0532	0.0532		0.0532	0.0532		17.3808	17.3808	0.0171		17.8074
Total	5.2707	0.5817	9.9003	3.5100e-003		0.0911	0.0911		0.0911	0.0911	0.0000	616.4985	616.4985	0.0285	0.0110	620.4853

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

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

Point Martin II Single Family - Bay Area AQMD Air District, Summer

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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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
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Point Martin II Single Family - Bay Area AQMD Air District, Winter

Point Martin II Single Family
Bay Area AQMD Air District, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	1.00	Acre	1.00	43,560.00	0
Condo/Townhouse	50.00	Dwelling Unit	3.13	50,000.00	167
Single Family Housing	67.00	Dwelling Unit	4.30	120,600.00	224

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	64
Climate Zone	5			Operational Year	2019
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	427	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Point Martin II Single Family - Bay Area AQMD Air District, Winter

Project Characteristics - PG&E 2013 historical emission factor

Land Use - Lot acreage per Project Description.
Based on Daly City 3.34 person per house (Ca Dept of Finance)

Construction Phase - Based on construction schedule

Off-road Equipment -

Off-road Equipment - No cranes

Off-road Equipment -

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Based on construction assumptions

Trips and VMT - 3.65 miles each way for haul
15 haul trucks per hour at 6 hours per day with 22 cyd each haul load = 1,980 cyd per day (out of 98,000 cyd)

Grading - 98,000 cy of export

Woodstoves - No woodstoves

Energy Use - Based on Project Description

Construction Off-road Equipment Mitigation - Tier 3 Engines Per 13 CCR Section 2420-2427
Grading co will use 2010 year model of equipment (or newer).

Area Mitigation - Architectural Rule

Water Mitigation -

Waste Mitigation -

Table Name	Column Name	Default Value	New Value
tblAreaMitigation	UseLowVOCPaintParkingCheck	False	True
tblConstDustMitigation	WaterUnpavedRoadMoistureContent	0	12
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	40	15
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1
tblConstEquipMitigation	DPF	No Change	Level 1

Point Martin II Single Family - Bay Area AQMD Air District, Winter

[illegible]

Point Martin II Single Family - Bay Area AQMD Air District, Winter

tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstEquipMitigation	Tier	No Change	Tier 3
tblConstructionPhase	NumDays	20.00	125.00
tblConstructionPhase	NumDays	230.00	190.00
tblConstructionPhase	NumDays	20.00	109.00
tblConstructionPhase	NumDays	10.00	20.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	FireplaceWoodMass	228.80	0.00
tblFireplaces	NumberWood	8.50	0.00
tblFireplaces	NumberWood	28.81	0.00
tblFleetMix	FleetMixLandUseSubType	Other Non-Asphalt Surfaces	Condo/Townhouse
tblFleetMix	FleetMixLandUseSubType	Condo/Townhouse	Other Non-Asphalt Surfaces
tblGrading	AcresOfGrading	54.50	9.70
tblGrading	MaterialExported	0.00	98,000.00
tblLandUse	LotAcreage	21.75	4.30
tblLandUse	Population	143.00	167.00
tblLandUse	Population	192.00	224.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	427
tblProjectCharacteristics	OperationalYear	2018	2019
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripLength	20.00	7.30

Point Martin II Single Family - Bay Area AQMD Air District, Winter

tblTripsAndVMT	HaulingTripLength	20.00	7.30
tblTripsAndVMT	HaulingTripNumber	12,250.00	4,500.00
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblTripsAndVMT	HaulingVehicleClass	HHDT	EMFAC_Mix
tblWoodstoves	NumberCatalytic	1.00	0.00
tblWoodstoves	NumberCatalytic	2.68	0.00
tblWoodstoves	NumberNoncatalytic	1.00	0.00
tblWoodstoves	NumberNoncatalytic	2.68	0.00
tblWoodstoves	WoodstoveDayYear	14.12	0.00
tblWoodstoves	WoodstoveDayYear	21.06	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

Point Martin II Single Family - Bay Area AQMD Air District, Winter

2.1 Overall Construction (Maximum Daily Emission)**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	lb/day										lb/day					
2017	5.0511	52.3451	24.1130	0.0395	18.2141	2.8796	21.0937	9.9699	2.6492	12.6191	0.0000	4,043.977 7	4,043.977 7	1.1984	0.0000	4,073.937 6
2018	19.7301	20.3641	18.6196	0.0336	0.7761	1.2666	2.0428	0.2089	1.1961	1.4050	0.0000	3,317.129 1	3,317.129 1	0.7178	0.0000	3,330.579 0
Maximum	19.7301	52.3451	24.1130	0.0395	18.2141	2.8796	21.0937	9.9699	2.6492	12.6191	0.0000	4,043.977 7	4,043.977 7	1.1984	0.0000	4,073.937 6

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	lb/day										lb/day					
2017	1.0661	19.1353	23.6177	0.0395	7.1937	0.7107	7.9044	3.9122	0.7106	4.6228	0.0000	4,043.977 7	4,043.977 7	1.1984	0.0000	4,073.937 6
2018	19.4909	14.7698	18.4316	0.0336	0.7761	0.6345	1.4106	0.2089	0.6333	0.8422	0.0000	3,317.129 1	3,317.129 1	0.7178	0.0000	3,330.579 0
Maximum	19.4909	19.1353	23.6177	0.0395	7.1937	0.7107	7.9044	3.9122	0.7106	4.6228	0.0000	4,043.977 7	4,043.977 7	1.1984	0.0000	4,073.937 6

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	17.05	53.37	1.60	0.00	58.03	67.56	59.74	59.51	65.05	61.03	0.00	0.00	0.00	0.00	0.00	0.00

Point Martin II Single Family - Bay Area AQMD Air District, Winter

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	lb/day										lb/day					
Area	4.6812	0.5817	9.9003	3.5100e-003		0.0911	0.0911		0.0911	0.0911	0.0000	616.4985	616.4985	0.0285	0.0110	620.4853
Energy	0.1461	1.2488	0.5314	7.9700e-003		0.1010	0.1010		0.1010	0.1010		1,594.223 1	1,594.223 1	0.0306	0.0292	1,603.696 8
Mobile	2.5287	4.9649	26.5421	0.0508	4.6436	0.0545	4.6982	1.2375	0.0512	1.2887		5,066.763 2	5,066.763 2	0.3328		5,075.084 2
Total	7.3560	6.7954	36.9738	0.0622	4.6436	0.2466	4.8902	1.2375	0.2432	1.4807	0.0000	7,277.484 8	7,277.484 8	0.3919	0.0402	7,299.266 3

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	lb/day										lb/day					
Area	5.2707	0.5817	9.9003	3.5100e-003		0.0911	0.0911		0.0911	0.0911	0.0000	616.4985	616.4985	0.0285	0.0110	620.4853
Energy	0.1461	1.2488	0.5314	7.9700e-003		0.1010	0.1010		0.1010	0.1010		1,594.223 1	1,594.223 1	0.0306	0.0292	1,603.696 8
Mobile	2.5287	4.9649	26.5421	0.0508	4.6436	0.0545	4.6982	1.2375	0.0512	1.2887		5,066.763 2	5,066.763 2	0.3328		5,075.084 2
Total	7.9455	6.7954	36.9738	0.0622	4.6436	0.2466	4.8902	1.2375	0.2432	1.4807	0.0000	7,277.484 8	7,277.484 8	0.3919	0.0402	7,299.266 3

Point Martin II Single Family - Bay Area AQMD Air District, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	-8.01	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	Site Preparation	Site Preparation	1/9/2017	2/3/2017	5	20	
2	Grading	Grading	2/4/2017	7/6/2017	5	109	
3	Utilities/Trenching	Trenching	7/7/2017	7/20/2017	5	10	
4	Building Construction	Building Construction	7/21/2017	4/12/2018	5	190	
5	Paving	Paving	4/13/2018	5/10/2018	5	20	
6	Architectural Coating	Architectural Coating	5/11/2018	11/1/2018	5	125	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 9.7

Acres of Paving: 1

Residential Indoor: 345,465; Residential Outdoor: 115,155; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 2,614 (Architectural Coating – sqft)

OffRoad Equipment

Point Martin II Single Family - Bay Area AQMD Air District, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Utilities/Trenching	Excavators	1	8.00	158	0.38
Utilities/Trenching	Skid Steer Loaders	1	8.00	65	0.37
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	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
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Grading	6	15.00	0.00	4,500.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Utilities/Trenching	2	5.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Building Construction	8	78.00	20.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Paving	6	15.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix
Architectural Coating	1	16.00	0.00	0.00	10.80	7.30	7.30	LD_Mix	HDT_Mix	EMFAC_Mix

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Water Exposed Area

Water Unpaved Roads

Reduce Vehicle Speed on Unpaved Roads

3.2 Site Preparation - 2017**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	lb/day										lb/day					
Fugitive Dust					18.0663	0.0000	18.0663	9.9307	0.0000	9.9307			0.0000			0.0000
Off-Road	4.9608	52.2754	23.4554	0.0380		2.8786	2.8786		2.6483	2.6483		3,894.9500	3,894.9500	1.1934		3,924.7852
Total	4.9608	52.2754	23.4554	0.0380	18.0663	2.8786	20.9448	9.9307	2.6483	12.5790		3,894.9500	3,894.9500	1.1934		3,924.7852

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.2 Site Preparation - 2017**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	lb/day										lb/day					
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
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
Worker	0.0904	0.0697	0.6577	1.5000e-003	0.1479	1.0300e-003	0.1489	0.0392	9.5000e-004	0.0402		149.0277	149.0277	4.9900e-003		149.1524
Total	0.0904	0.0697	0.6577	1.5000e-003	0.1479	1.0300e-003	0.1489	0.0392	9.5000e-004	0.0402		149.0277	149.0277	4.9900e-003		149.1524

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	lb/day										lb/day					
Fugitive Dust					7.0458	0.0000	7.0458	3.8730	0.0000	3.8730			0.0000			0.0000
Off-Road	0.9312	19.0656	22.9600	0.0380		0.7096	0.7096		0.7096	0.7096	0.0000	3,894.9500	3,894.9500	1.1934		3,924.7852
Total	0.9312	19.0656	22.9600	0.0380	7.0458	0.7096	7.7555	3.8730	0.7096	4.5826	0.0000	3,894.9500	3,894.9500	1.1934		3,924.7852

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.2 Site Preparation - 2017**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	lb/day										lb/day					
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
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
Worker	0.0904	0.0697	0.6577	1.5000e-003	0.1479	1.0300e-003	0.1489	0.0392	9.5000e-004	0.0402		149.0277	149.0277	4.9900e-003		149.1524
Total	0.0904	0.0697	0.6577	1.5000e-003	0.1479	1.0300e-003	0.1489	0.0392	9.5000e-004	0.0402		149.0277	149.0277	4.9900e-003		149.1524

3.3 Grading - 2017**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	lb/day										lb/day					
Fugitive Dust					6.2181	0.0000	6.2181	3.3358	0.0000	3.3358			0.0000			0.0000
Off-Road	3.0705	33.8868	17.1042	0.0297		1.7774	1.7774		1.6352	1.6352		3,037.9107	3,037.9107	0.9308		3,061.1809
Total	3.0705	33.8868	17.1042	0.0297	6.2181	1.7774	7.9956	3.3358	1.6352	4.9711		3,037.9107	3,037.9107	0.9308		3,061.1809

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.3 Grading - 2017**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	lb/day										lb/day					
Hauling	0.2065	0.2837	1.5351	2.6900e-003	0.2316	3.1600e-003	0.2347	0.0618	2.9700e-003	0.0648		267.9254	267.9254	0.0180		268.3741
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
Worker	0.0753	0.0581	0.5481	1.2500e-003	0.1232	8.6000e-004	0.1241	0.0327	7.9000e-004	0.0335		124.1897	124.1897	4.1600e-003		124.2937
Total	0.2818	0.3417	2.0832	3.9400e-003	0.3548	4.0200e-003	0.3588	0.0945	3.7600e-003	0.0982		392.1151	392.1151	0.0221		392.6678

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	lb/day										lb/day					
Fugitive Dust					2.4251	0.0000	2.4251	1.3010	0.0000	1.3010			0.0000			0.0000
Off-Road	0.7263	14.8397	18.9906	0.0297		0.5667	0.5667		0.5667	0.5667	0.0000	3,037.9107	3,037.9107	0.9308		3,061.1809
Total	0.7263	14.8397	18.9906	0.0297	2.4251	0.5667	2.9917	1.3010	0.5667	1.8676	0.0000	3,037.9107	3,037.9107	0.9308		3,061.1809

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.3 Grading - 2017**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	lb/day										lb/day					
Hauling	0.2065	0.2837	1.5351	2.6900e-003	0.2316	3.1600e-003	0.2347	0.0618	2.9700e-003	0.0648		267.9254	267.9254	0.0180		268.3741
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
Worker	0.0753	0.0581	0.5481	1.2500e-003	0.1232	8.6000e-004	0.1241	0.0327	7.9000e-004	0.0335		124.1897	124.1897	4.1600e-003		124.2937
Total	0.2818	0.3417	2.0832	3.9400e-003	0.3548	4.0200e-003	0.3588	0.0945	3.7600e-003	0.0982		392.1151	392.1151	0.0221		392.6678

3.4 Utilities/Trenching - 2017**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	lb/day										lb/day					
Off-Road	0.4615	5.3116	4.7442	7.2300e-003		0.2677	0.2677		0.2463	0.2463		739.2717	739.2717	0.2265		744.9345
Total	0.4615	5.3116	4.7442	7.2300e-003		0.2677	0.2677		0.2463	0.2463		739.2717	739.2717	0.2265		744.9345

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.4 Utilities/Trenching - 2017**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	lb/day										lb/day					
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
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
Worker	0.0251	0.0194	0.1827	4.2000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.6000e-004	0.0112		41.3966	41.3966	1.3900e-003		41.4312
Total	0.0251	0.0194	0.1827	4.2000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.6000e-004	0.0112		41.3966	41.3966	1.3900e-003		41.4312

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	lb/day										lb/day					
Off-Road	0.1780	3.6189	5.4875	7.2300e-003		0.1500	0.1500		0.1500	0.1500	0.0000	739.2717	739.2717	0.2265		744.9345
Total	0.1780	3.6189	5.4875	7.2300e-003		0.1500	0.1500		0.1500	0.1500	0.0000	739.2717	739.2717	0.2265		744.9345

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.4 Utilities/Trenching - 2017**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	lb/day										lb/day					
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
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
Worker	0.0251	0.0194	0.1827	4.2000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.6000e-004	0.0112		41.3966	41.3966	1.3900e-003		41.4312
Total	0.0251	0.0194	0.1827	4.2000e-004	0.0411	2.9000e-004	0.0414	0.0109	2.6000e-004	0.0112		41.3966	41.3966	1.3900e-003		41.4312

3.5 Building Construction - 2017**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	lb/day										lb/day					
Off-Road	2.5354	19.6743	15.7173	0.0219		1.4811	1.4811		1.3969	1.3969		2,134.7221	2,134.7221	0.4949		2,147.0957
Total	2.5354	19.6743	15.7173	0.0219		1.4811	1.4811		1.3969	1.3969		2,134.7221	2,134.7221	0.4949		2,147.0957

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.5 Building Construction - 2017**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	lb/day										lb/day					
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
Vendor	0.1247	2.8612	0.8588	5.4800e-003	0.1354	0.0263	0.1616	0.0390	0.0251	0.0641		578.3307	578.3307	0.0376		579.2694
Worker	0.3916	0.3019	2.8499	6.4900e-003	0.6408	4.4600e-003	0.6452	0.1700	4.1100e-003	0.1741		645.7865	645.7865	0.0216		646.3270
Total	0.5162	3.1631	3.7087	0.0120	0.7761	0.0307	0.8068	0.2089	0.0292	0.2382		1,224.1172	1,224.1172	0.0592		1,225.5964

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	lb/day										lb/day					
Off-Road	0.5498	11.8276	15.1859	0.0219		0.6094	0.6094		0.6094	0.6094	0.0000	2,134.7221	2,134.7221	0.4949		2,147.0957
Total	0.5498	11.8276	15.1859	0.0219		0.6094	0.6094		0.6094	0.6094	0.0000	2,134.7221	2,134.7221	0.4949		2,147.0957

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.5 Building Construction - 2017**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	lb/day										lb/day					
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
Vendor	0.1247	2.8612	0.8588	5.4800e-003	0.1354	0.0263	0.1616	0.0390	0.0251	0.0641		578.3307	578.3307	0.0376		579.2694
Worker	0.3916	0.3019	2.8499	6.4900e-003	0.6408	4.4600e-003	0.6452	0.1700	4.1100e-003	0.1741		645.7865	645.7865	0.0216		646.3270
Total	0.5162	3.1631	3.7087	0.0120	0.7761	0.0307	0.8068	0.2089	0.0292	0.2382		1,224.1172	1,224.1172	0.0592		1,225.5964

3.5 Building Construction - 2018**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	lb/day										lb/day					
Off-Road	2.1801	17.4218	15.3738	0.0219		1.2416	1.2416		1.1723	1.1723		2,112.9119	2,112.9119	0.4840		2,125.0112
Total	2.1801	17.4218	15.3738	0.0219		1.2416	1.2416		1.1723	1.1723		2,112.9119	2,112.9119	0.4840		2,125.0112

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.5 Building Construction - 2018**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	lb/day										lb/day					
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
Vendor	0.1082	2.6800	0.7622	5.4500e-003	0.1354	0.0208	0.1561	0.0390	0.0199	0.0588		576.4836	576.4836	0.0352		577.3638
Worker	0.3476	0.2622	2.4836	6.3100e-003	0.6408	4.3200e-003	0.6451	0.1700	3.9900e-003	0.1739		627.7336	627.7336	0.0188		628.2040
Total	0.4558	2.9422	3.2458	0.0118	0.7761	0.0251	0.8012	0.2089	0.0238	0.2328		1,204.2172	1,204.2172	0.0540		1,205.5678

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	lb/day										lb/day					
Off-Road	0.5498	11.8276	15.1859	0.0219		0.6094	0.6094		0.6094	0.6094	0.0000	2,112.9119	2,112.9119	0.4840		2,125.0112
Total	0.5498	11.8276	15.1859	0.0219		0.6094	0.6094		0.6094	0.6094	0.0000	2,112.9119	2,112.9119	0.4840		2,125.0112

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.5 Building Construction - 2018**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	lb/day										lb/day					
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
Vendor	0.1082	2.6800	0.7622	5.4500e-003	0.1354	0.0208	0.1561	0.0390	0.0199	0.0588		576.4836	576.4836	0.0352		577.3638
Worker	0.3476	0.2622	2.4836	6.3100e-003	0.6408	4.3200e-003	0.6451	0.1700	3.9900e-003	0.1739		627.7336	627.7336	0.0188		628.2040
Total	0.4558	2.9422	3.2458	0.0118	0.7761	0.0251	0.8012	0.2089	0.0238	0.2328		1,204.2172	1,204.2172	0.0540		1,205.5678

3.6 Paving - 2018**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	lb/day										lb/day					
Off-Road	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6437	17.5209	14.7964	0.0228		0.9561	0.9561		0.8797	0.8797		2,294.0887	2,294.0887	0.7142		2,311.9432

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.6 Paving - 2018**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	lb/day										lb/day					
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
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
Worker	0.0669	0.0504	0.4776	1.2100e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		120.7180	120.7180	3.6200e-003		120.8085
Total	0.0669	0.0504	0.4776	1.2100e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		120.7180	120.7180	3.6200e-003		120.8085

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	lb/day										lb/day					
Off-Road	0.5609	11.2952	17.2957	0.0228		0.4570	0.4570		0.4570	0.4570	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.5609	11.2952	17.2957	0.0228		0.4570	0.4570		0.4570	0.4570	0.0000	2,294.0887	2,294.0887	0.7142		2,311.9432

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.6 Paving - 2018**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	lb/day										lb/day					
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
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
Worker	0.0669	0.0504	0.4776	1.2100e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		120.7180	120.7180	3.6200e-003		120.8085
Total	0.0669	0.0504	0.4776	1.2100e-003	0.1232	8.3000e-004	0.1241	0.0327	7.7000e-004	0.0335		120.7180	120.7180	3.6200e-003		120.8085

3.7 Architectural Coating - 2018**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	lb/day										lb/day					
Archit. Coating	19.3602					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2986	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171
Total	19.6588	2.0058	1.8542	2.9700e-003		0.1506	0.1506		0.1506	0.1506		281.4485	281.4485	0.0267		282.1171

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.7 Architectural Coating - 2018**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	lb/day										lb/day					
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
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
Worker	0.0713	0.0538	0.5095	1.2900e-003	0.1314	8.9000e-004	0.1323	0.0349	8.2000e-004	0.0357		128.7659	128.7659	3.8600e-003		128.8624
Total	0.0713	0.0538	0.5095	1.2900e-003	0.1314	8.9000e-004	0.1323	0.0349	8.2000e-004	0.0357		128.7659	128.7659	3.8600e-003		128.8624

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	lb/day										lb/day					
Archit. Coating	19.3602					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.0594	1.3570	1.8324	2.9700e-003		0.0713	0.0713		0.0713	0.0713	0.0000	281.4485	281.4485	0.0267		282.1171
Total	19.4196	1.3570	1.8324	2.9700e-003		0.0713	0.0713		0.0713	0.0713	0.0000	281.4485	281.4485	0.0267		282.1171

Point Martin II Single Family - Bay Area AQMD Air District, Winter

3.7 Architectural Coating - 2018**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	lb/day										lb/day					
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
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
Worker	0.0713	0.0538	0.5095	1.2900e-003	0.1314	8.9000e-004	0.1323	0.0349	8.2000e-004	0.0357		128.7659	128.7659	3.8600e-003		128.8624
Total	0.0713	0.0538	0.5095	1.2900e-003	0.1314	8.9000e-004	0.1323	0.0349	8.2000e-004	0.0357		128.7659	128.7659	3.8600e-003		128.8624

4.0 Operational Detail - Mobile**4.1 Mitigation Measures Mobile**

Point Martin II Single Family - Bay Area AQMD Air District, Winter

	ROG	NOx	CO	SO2	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	lb/day										lb/day					
Mitigated	2.5287	4.9649	26.5421	0.0508	4.6436	0.0545	4.6982	1.2375	0.0512	1.2887		5,066.763 2	5,066.763 2	0.3328		5,075.084 2
Unmitigated	2.5287	4.9649	26.5421	0.0508	4.6436	0.0545	4.6982	1.2375	0.0512	1.2887		5,066.763 2	5,066.763 2	0.3328		5,075.084 2

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Condo/Townhouse	290.50	283.50	242.00	652,629	652,629
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Single Family Housing	637.84	663.97	577.54	1,461,886	1,461,886
Total	928.34	947.47	819.54	2,114,515	2,114,515

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	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
Condo/Townhouse	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Point Martin II Single Family - Bay Area AQMD Air District, Winter

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Condo/Townhouse	0.566452	0.045204	0.186626	0.124693	0.020348	0.004929	0.011681	0.006406	0.001296	0.000623	0.027486	0.000775	0.003482
Other Non-Asphalt Surfaces	0.566452	0.045204	0.186626	0.124693	0.020348	0.004929	0.011681	0.006406	0.001296	0.000623	0.027486	0.000775	0.003482
Single Family Housing	0.566452	0.045204	0.186626	0.124693	0.020348	0.004929	0.011681	0.006406	0.001296	0.000623	0.027486	0.000775	0.003482

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	lb/day										lb/day					
NaturalGas Mitigated	0.1461	1.2488	0.5314	7.9700e-003		0.1010	0.1010		0.1010	0.1010		1,594.2231	1,594.2231	0.0306	0.0292	1,603.6968
NaturalGas Unmitigated	0.1461	1.2488	0.5314	7.9700e-003		0.1010	0.1010		0.1010	0.1010		1,594.2231	1,594.2231	0.0306	0.0292	1,603.6968

Point Martin II Single Family - Bay Area AQMD Air District, Winter

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	lb/day										lb/day					
Condo/Townhouse	3844.29	0.0415	0.3543	0.1508	2.2600e-003		0.0286	0.0286		0.0286	0.0286		452.2699	452.2699	8.6700e-003	8.2900e-003	454.9576
Other Non-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
Single Family Housing	9706.6	0.1047	0.8945	0.3807	5.7100e-003		0.0723	0.0723		0.0723	0.0723		1,141.9532	1,141.9532	0.0219	0.0209	1,148.7392
Total		0.1461	1.2488	0.5314	7.9700e-003		0.1010	0.1010		0.1010	0.1010		1,594.2231	1,594.2231	0.0306	0.0292	1,603.6968

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	lb/day										lb/day					
Condo/Townhouse	3.84429	0.0415	0.3543	0.1508	2.2600e-003		0.0286	0.0286		0.0286	0.0286		452.2699	452.2699	8.6700e-003	8.2900e-003	454.9576
Other Non-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
Single Family Housing	9.7066	0.1047	0.8945	0.3807	5.7100e-003		0.0723	0.0723		0.0723	0.0723		1,141.9532	1,141.9532	0.0219	0.0209	1,148.7392
Total		0.1461	1.2488	0.5314	7.9700e-003		0.1010	0.1010		0.1010	0.1010		1,594.2231	1,594.2231	0.0306	0.0292	1,603.6968

6.0 Area Detail

Point Martin II Single Family - Bay Area AQMD Air District, Winter

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

Use Low VOC Paint - Residential Exterior

Use Low VOC Paint - Non-Residential Interior

Use Low VOC Paint - Non-Residential Exterior

Use only Natural Gas Hearths

Use Low VOC Cleaning Supplies

	ROG	NOx	CO	SO2	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	lb/day										lb/day					
Mitigated	5.2707	0.5817	9.9003	3.5100e-003		0.0911	0.0911		0.0911	0.0911	0.0000	616.4985	616.4985	0.0285	0.0110	620.4853
Unmitigated	4.6812	0.5817	9.9003	3.5100e-003		0.0911	0.0911		0.0911	0.0911	0.0000	616.4985	616.4985	0.0285	0.0110	620.4853

Point Martin II Single Family - Bay Area AQMD Air District, Winter

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	lb/day										lb/day					
Architectural Coating	0.6630					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.6663					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0549	0.4693	0.1997	3.0000e-003		0.0379	0.0379		0.0379	0.0379	0.0000	599.1177	599.1177	0.0115	0.0110	602.6779
Landscaping	0.2970	0.1124	9.7006	5.1000e-004		0.0532	0.0532		0.0532	0.0532		17.3808	17.3808	0.0171		17.8074
Total	4.6812	0.5817	9.9003	3.5100e-003		0.0911	0.0911		0.0911	0.0911	0.0000	616.4985	616.4985	0.0285	0.0110	620.4853

Point Martin II Single Family - Bay Area AQMD Air District, Winter

6.2 Area by SubCategory**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	lb/day										lb/day					
Architectural Coating	0.6630					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	4.2558					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.0549	0.4693	0.1997	3.0000e-003		0.0379	0.0379		0.0379	0.0379	0.0000	599.1177	599.1177	0.0115	0.0110	602.6779
Landscaping	0.2970	0.1124	9.7006	5.1000e-004		0.0532	0.0532		0.0532	0.0532		17.3808	17.3808	0.0171		17.8074
Total	5.2707	0.5817	9.9003	3.5100e-003		0.0911	0.0911		0.0911	0.0911	0.0000	616.4985	616.4985	0.0285	0.0110	620.4853

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

8.0 Waste Detail**8.1 Mitigation Measures Waste**

Institute Recycling and Composting Services

Point Martin II Single Family - Bay Area AQMD Air District, Winter

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

ATTACHMENT 2

Construction TAC Results Tables

Table
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
1 Year Exposure Scenario / Maximum Residential Receptor
Unmitigated Emissions

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints*									
	(ug/m ³)	(mg/m ³)			URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
					(ug/m ³) ⁻¹	(mg/kg/day) ⁻¹	(mg/kg-day)		(ug/m ³)	(mg/kg/day)								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
Construction	0.14437	1.44E-04	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.3E-04	1.9E-05	5.0E+00	1.4E-03	2.9E-02							
TOTAL					1.9E-05				2.9E-02		0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

* Key to Toxicological Endpoints

RESP Respiratory System
CNS/PNS Central/Peripheral Nervous System
CV/BL Cardiovascular/Blood System
IMMUN Immune System
KIDN Kidney
GI/LV Gastrointestinal System/Liver
REPRO Reproductive System (e.g. teratogenic and developmental effects)
EYES Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	350
exposure duration (years)	1
inhalation rate (L/kg-day))	908
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	1
age sensitivity factor (third trimester to 2 years)	10
breathing rate third trimester	361
breathing rate 0-2	1090
weighted breathing rate	908

Table
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
1 Year Exposure Scenario / Maximum Residential Receptor
Mitigated Emissions

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints*									
	(ug/m ³)	(mg/m ³)			URF (ug/m ³) ⁻¹	CPF (mg/kg/day) ⁻¹	DOSE (mg/kg-day)	RISK	REL (ug/m ³)	RfD (mg/kg/day)	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
	(b)	(c)			(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
Construction	0.05589	5.59E-05	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	4.9E-05	7.3E-06	5.0E+00	1.4E-03	1.1E-02							
TOTAL					7.3E-06				1.1E-02 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00 0.0E+00									

* Key to Toxicological Endpoints

RESP Respiratory System
CNS/PNS Central/Peripheral Nervous System
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KIDN Kidney
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REPRO Reproductive System (e.g. teratogenic and developmental effects)
EYES Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	350
exposure duration (years)	1
inhalation rate (L/kg-day))	908
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	1
age sensitivity factor (third trimester to 2 years)	10
breathing rate third trimester	361
breathing rate 0-2	1090
weighted breathing rate	908

Emission Rate Summary Worksheet CalEEMod Unmitigated Construction / Annual

Pollutant	tons/yr	lbs/yr	lbs/day (260 days)	Annualized lbs/day (365 days)
Exhaust DPM (PM10)	0.2808	561.6	2.1600	1.5386
Fugitive PM2.5	0.2982	596.4	2.2938	1.6340
Exhaust PM2.5	0.2623	524.6	2.0177	1.4373

DPM	Phase	Exhaust mass	Exhaust g/s/source
	All	1.5386	8.6238E-05

Combustion Sources 281

PM2.5	Phase	Fugitive mass	Exhaust mass	Fugitive g/s/m2	Exhaust g/s/source
	All	1.6340	1.4373	9.0186E-07	8.0556E-05

Fugitive Source Area 28535 m2
Combustion Sources 281

Emission Rate Summary Worksheet

CalEEMod Mitigated Construction / Annual

Pollutant	tons/yr	lbs/yr	lbs/day (260 days)	Annualized lbs/day (365 days)
Exhaust DPM (PM10)	0.1087	217.4	0.8362	0.5956
Fugitive PM2.5	0.1267	253.4	0.9746	0.6942
Exhaust PM2.5	0.1085	217	0.8346	0.5945

DPM	Phase	Exhaust mass	Exhaust g/s/source
	All	0.5956	3.3383E-05

Combustion Sources 281

PM2.5	Phase	Fugitive mass	Exhaust mass	Fugitive g/s/m2	Exhaust g/s/source
	All	0.6942	0.5945	3.8318E-07	3.3322E-05

Fugitive Source Area 28535 m2
Combustion Sources 281

Dispersion Model Input Summary Table / Unmitigated Emissions

Area Fugitive	ID	X	Y	ZS	V	SZ	Q PM2.5
	F1	550563.92	4173193.78	105.25	19	1	9.0186E-07
		550563.69	4173194.01				
		550542.16	4173182.72				
		550505.83	4173235.21				
		550537.42	4173330.35				
		550556.28	4173324.02				
		550567.84	4173348.98				
		550578.69	4173356.14				
		550587.21	4173380.83				
		550604.69	4173375.22				
		550631.87	4173456.35				
		550713.92	4173429.59				
		550706.73	4173383.38				
		550684.33	4173315.11				
		550655.32	4173285.70				
		550646.66	4173260.92				
		550629.27	4173266.59				
		550612.59	4173217.67				
		550588.18	4173186.00				

Volume Exhaust	ID	X	Y	ZS	RH	SY	SZ	Q DPM	Q PM2.5
	M1	550547.00	4173191.00	110.45	5	4.65	1.4	8.6238E-05	8.0556E-05
	M2	550577.00	4173191.00	102.23	5	4.65	1.4	8.6238E-05	8.0556E-05
	M3	550587.00	4173191.00	99.96	5	4.65	1.4	8.6238E-05	8.0556E-05
	M4	550537.00	4173201.00	112.24	5	4.65	1.4	8.6238E-05	8.0556E-05
	M5	550547.00	4173201.00	109.55	5	4.65	1.4	8.6238E-05	8.0556E-05
	M6	550557.00	4173201.00	106.8	5	4.65	1.4	8.6238E-05	8.0556E-05
	M7	550567.00	4173201.00	104.09	5	4.65	1.4	8.6238E-05	8.0556E-05
	M8	550577.00	4173201.00	101.9	5	4.65	1.4	8.6238E-05	8.0556E-05
	M9	550587.00	4173201.00	99.72	5	4.65	1.4	8.6238E-05	8.0556E-05
	M10	550597.00	4173201.00	97.38	5	4.65	1.4	8.6238E-05	8.0556E-05
	M11	550527.00	4173211.00	113.55	5	4.65	1.4	8.6238E-05	8.0556E-05
	M12	550537.00	4173211.00	111.12	5	4.65	1.4	8.6238E-05	8.0556E-05
	M13	550547.00	4173211.00	108.66	5	4.65	1.4	8.6238E-05	8.0556E-05
	M14	550557.00	4173211.00	106.16	5	4.65	1.4	8.6238E-05	8.0556E-05
	M15	550567.00	4173211.00	103.69	5	4.65	1.4	8.6238E-05	8.0556E-05
	M16	550577.00	4173211.00	101.58	5	4.65	1.4	8.6238E-05	8.0556E-05
	M17	550587.00	4173211.00	99.47	5	4.65	1.4	8.6238E-05	8.0556E-05
	M18	550597.00	4173211.00	97.31	5	4.65	1.4	8.6238E-05	8.0556E-05
	M19	550517.00	4173221.00	115.38	5	4.65	1.4	8.6238E-05	8.0556E-05
	M20	550527.00	4173221.00	112.92	5	4.65	1.4	8.6238E-05	8.0556E-05
	M21	550537.00	4173221.00	110.48	5	4.65	1.4	8.6238E-05	8.0556E-05
	M22	550547.00	4173221.00	108.07	5	4.65	1.4	8.6238E-05	8.0556E-05
	M23	550557.00	4173221.00	105.68	5	4.65	1.4	8.6238E-05	8.0556E-05
	M24	550567.00	4173221.00	103.31	5	4.65	1.4	8.6238E-05	8.0556E-05
	M25	550577.00	4173221.00	101.35	5	4.65	1.4	8.6238E-05	8.0556E-05
	M26	550587.00	4173221.00	99.38	5	4.65	1.4	8.6238E-05	8.0556E-05
	M27	550597.00	4173221.00	97.38	5	4.65	1.4	8.6238E-05	8.0556E-05
	M28	550607.00	4173221.00	95.35	5	4.65	1.4	8.6238E-05	8.0556E-05

M29	550517.00	4173231.00	114.92	5	4.65	1.4	8.6238E-05	8.0556E-05
M30	550527.00	4173231.00	112.42	5	4.65	1.4	8.6238E-05	8.0556E-05
M31	550537.00	4173231.00	109.93	5	4.65	1.4	8.6238E-05	8.0556E-05
M32	550547.00	4173231.00	107.54	5	4.65	1.4	8.6238E-05	8.0556E-05
M33	550557.00	4173231.00	105.22	5	4.65	1.4	8.6238E-05	8.0556E-05
M34	550567.00	4173231.00	102.95	5	4.65	1.4	8.6238E-05	8.0556E-05
M35	550577.00	4173231.00	101.14	5	4.65	1.4	8.6238E-05	8.0556E-05
M36	550587.00	4173231.00	99.33	5	4.65	1.4	8.6238E-05	8.0556E-05
M37	550597.00	4173231.00	97.47	5	4.65	1.4	8.6238E-05	8.0556E-05
M38	550607.00	4173231.00	95.6	5	4.65	1.4	8.6238E-05	8.0556E-05
M39	550617.00	4173231.00	93.61	5	4.65	1.4	8.6238E-05	8.0556E-05
M40	550517.00	4173241.00	114.46	5	4.65	1.4	8.6238E-05	8.0556E-05
M41	550527.00	4173241.00	111.92	5	4.65	1.4	8.6238E-05	8.0556E-05
M42	550537.00	4173241.00	109.38	5	4.65	1.4	8.6238E-05	8.0556E-05
M43	550547.00	4173241.00	107.01	5	4.65	1.4	8.6238E-05	8.0556E-05
M44	550557.00	4173241.00	104.77	5	4.65	1.4	8.6238E-05	8.0556E-05
M45	550567.00	4173241.00	102.59	5	4.65	1.4	8.6238E-05	8.0556E-05
M46	550577.00	4173241.00	100.93	5	4.65	1.4	8.6238E-05	8.0556E-05
M47	550587.00	4173241.00	99.27	5	4.65	1.4	8.6238E-05	8.0556E-05
M48	550597.00	4173241.00	97.57	5	4.65	1.4	8.6238E-05	8.0556E-05
M49	550607.00	4173241.00	95.85	5	4.65	1.4	8.6238E-05	8.0556E-05
M50	550617.00	4173241.00	93.96	5	4.65	1.4	8.6238E-05	8.0556E-05
M51	550517.00	4173251.00	114.9	5	4.65	1.4	8.6238E-05	8.0556E-05
M52	550527.00	4173251.00	112.23	5	4.65	1.4	8.6238E-05	8.0556E-05
M53	550537.00	4173251.00	109.56	5	4.65	1.4	8.6238E-05	8.0556E-05
M54	550547.00	4173251.00	107.08	5	4.65	1.4	8.6238E-05	8.0556E-05
M55	550557.00	4173251.00	104.75	5	4.65	1.4	8.6238E-05	8.0556E-05
M56	550567.00	4173251.00	102.5	5	4.65	1.4	8.6238E-05	8.0556E-05
M57	550577.00	4173251.00	100.88	5	4.65	1.4	8.6238E-05	8.0556E-05
M58	550587.00	4173251.00	99.26	5	4.65	1.4	8.6238E-05	8.0556E-05
M59	550597.00	4173251.00	97.61	5	4.65	1.4	8.6238E-05	8.0556E-05
M60	550607.00	4173251.00	95.93	5	4.65	1.4	8.6238E-05	8.0556E-05
M61	550617.00	4173251.00	94.13	5	4.65	1.4	8.6238E-05	8.0556E-05
M62	550517.00	4173261.00	115.61	5	4.65	1.4	8.6238E-05	8.0556E-05
M63	550527.00	4173261.00	112.79	5	4.65	1.4	8.6238E-05	8.0556E-05
M64	550537.00	4173261.00	109.97	5	4.65	1.4	8.6238E-05	8.0556E-05
M65	550547.00	4173261.00	107.34	5	4.65	1.4	8.6238E-05	8.0556E-05
M66	550557.00	4173261.00	104.88	5	4.65	1.4	8.6238E-05	8.0556E-05
M67	550567.00	4173261.00	102.5	5	4.65	1.4	8.6238E-05	8.0556E-05
M68	550577.00	4173261.00	100.89	5	4.65	1.4	8.6238E-05	8.0556E-05
M69	550587.00	4173261.00	99.27	5	4.65	1.4	8.6238E-05	8.0556E-05
M70	550597.00	4173261.00	97.62	5	4.65	1.4	8.6238E-05	8.0556E-05
M71	550607.00	4173261.00	95.96	5	4.65	1.4	8.6238E-05	8.0556E-05
M72	550617.00	4173261.00	94.22	5	4.65	1.4	8.6238E-05	8.0556E-05
M73	550527.00	4173271.00	113.35	5	4.65	1.4	8.6238E-05	8.0556E-05
M74	550537.00	4173271.00	110.37	5	4.65	1.4	8.6238E-05	8.0556E-05
M75	550547.00	4173271.00	107.61	5	4.65	1.4	8.6238E-05	8.0556E-05
M76	550557.00	4173271.00	105	5	4.65	1.4	8.6238E-05	8.0556E-05
M77	550567.00	4173271.00	102.5	5	4.65	1.4	8.6238E-05	8.0556E-05
M78	550577.00	4173271.00	100.89	5	4.65	1.4	8.6238E-05	8.0556E-05
M79	550587.00	4173271.00	99.28	5	4.65	1.4	8.6238E-05	8.0556E-05
M80	550597.00	4173271.00	97.64	5	4.65	1.4	8.6238E-05	8.0556E-05
M81	550607.00	4173271.00	95.99	5	4.65	1.4	8.6238E-05	8.0556E-05
M82	550617.00	4173271.00	94.32	5	4.65	1.4	8.6238E-05	8.0556E-05
M83	550627.00	4173271.00	92.63	5	4.65	1.4	8.6238E-05	8.0556E-05
M84	550637.00	4173271.00	90.93	5	4.65	1.4	8.6238E-05	8.0556E-05
M85	550647.00	4173271.00	88.8	5	4.65	1.4	8.6238E-05	8.0556E-05
M86	550527.00	4173281.00	114.49	5	4.65	1.4	8.6238E-05	8.0556E-05

M87	550537.00	4173281.00	111.53	5	4.65	1.4	8.6238E-05	8.0556E-05
M88	550547.00	4173281.00	108.82	5	4.65	1.4	8.6238E-05	8.0556E-05
M89	550557.00	4173281.00	106.29	5	4.65	1.4	8.6238E-05	8.0556E-05
M90	550567.00	4173281.00	103.86	5	4.65	1.4	8.6238E-05	8.0556E-05
M91	550577.00	4173281.00	102.21	5	4.65	1.4	8.6238E-05	8.0556E-05
M92	550587.00	4173281.00	100.55	5	4.65	1.4	8.6238E-05	8.0556E-05
M93	550597.00	4173281.00	98.9	5	4.65	1.4	8.6238E-05	8.0556E-05
M94	550607.00	4173281.00	97.23	5	4.65	1.4	8.6238E-05	8.0556E-05
M95	550617.00	4173281.00	95.57	5	4.65	1.4	8.6238E-05	8.0556E-05
M96	550627.00	4173281.00	93.89	5	4.65	1.4	8.6238E-05	8.0556E-05
M97	550637.00	4173281.00	92.22	5	4.65	1.4	8.6238E-05	8.0556E-05
M98	550647.00	4173281.00	90.05	5	4.65	1.4	8.6238E-05	8.0556E-05
M99	550527.00	4173291.00	115.92	5	4.65	1.4	8.6238E-05	8.0556E-05
M100	550537.00	4173291.00	113.06	5	4.65	1.4	8.6238E-05	8.0556E-05
M101	550547.00	4173291.00	110.5	5	4.65	1.4	8.6238E-05	8.0556E-05
M102	550557.00	4173291.00	108.18	5	4.65	1.4	8.6238E-05	8.0556E-05
M103	550567.00	4173291.00	105.92	5	4.65	1.4	8.6238E-05	8.0556E-05
M104	550577.00	4173291.00	104.23	5	4.65	1.4	8.6238E-05	8.0556E-05
M105	550587.00	4173291.00	102.54	5	4.65	1.4	8.6238E-05	8.0556E-05
M106	550597.00	4173291.00	100.87	5	4.65	1.4	8.6238E-05	8.0556E-05
M107	550607.00	4173291.00	99.2	5	4.65	1.4	8.6238E-05	8.0556E-05
M108	550617.00	4173291.00	97.5	5	4.65	1.4	8.6238E-05	8.0556E-05
M109	550627.00	4173291.00	95.65	5	4.65	1.4	8.6238E-05	8.0556E-05
M110	550637.00	4173291.00	93.81	5	4.65	1.4	8.6238E-05	8.0556E-05
M111	550647.00	4173291.00	91.45	5	4.65	1.4	8.6238E-05	8.0556E-05
M112	550657.00	4173291.00	88.94	5	4.65	1.4	8.6238E-05	8.0556E-05
M113	550537.00	4173301.00	114.59	5	4.65	1.4	8.6238E-05	8.0556E-05
M114	550547.00	4173301.00	112.19	5	4.65	1.4	8.6238E-05	8.0556E-05
M115	550557.00	4173301.00	110.07	5	4.65	1.4	8.6238E-05	8.0556E-05
M116	550567.00	4173301.00	107.99	5	4.65	1.4	8.6238E-05	8.0556E-05
M117	550577.00	4173301.00	106.26	5	4.65	1.4	8.6238E-05	8.0556E-05
M118	550587.00	4173301.00	104.53	5	4.65	1.4	8.6238E-05	8.0556E-05
M119	550597.00	4173301.00	102.84	5	4.65	1.4	8.6238E-05	8.0556E-05
M120	550607.00	4173301.00	101.17	5	4.65	1.4	8.6238E-05	8.0556E-05
M121	550617.00	4173301.00	99.43	5	4.65	1.4	8.6238E-05	8.0556E-05
M122	550627.00	4173301.00	97.41	5	4.65	1.4	8.6238E-05	8.0556E-05
M123	550637.00	4173301.00	95.39	5	4.65	1.4	8.6238E-05	8.0556E-05
M124	550647.00	4173301.00	92.85	5	4.65	1.4	8.6238E-05	8.0556E-05
M125	550657.00	4173301.00	90.15	5	4.65	1.4	8.6238E-05	8.0556E-05
M126	550667.00	4173301.00	87.42	5	4.65	1.4	8.6238E-05	8.0556E-05
M127	550537.00	4173311.00	117.02	5	4.65	1.4	8.6238E-05	8.0556E-05
M128	550547.00	4173311.00	114.58	5	4.65	1.4	8.6238E-05	8.0556E-05
M129	550557.00	4173311.00	112.38	5	4.65	1.4	8.6238E-05	8.0556E-05
M130	550567.00	4173311.00	110.21	5	4.65	1.4	8.6238E-05	8.0556E-05
M131	550577.00	4173311.00	108.26	5	4.65	1.4	8.6238E-05	8.0556E-05
M132	550587.00	4173311.00	106.32	5	4.65	1.4	8.6238E-05	8.0556E-05
M133	550597.00	4173311.00	104.46	5	4.65	1.4	8.6238E-05	8.0556E-05
M134	550607.00	4173311.00	102.64	5	4.65	1.4	8.6238E-05	8.0556E-05
M135	550617.00	4173311.00	100.73	5	4.65	1.4	8.6238E-05	8.0556E-05
M136	550627.00	4173311.00	98.49	5	4.65	1.4	8.6238E-05	8.0556E-05
M137	550637.00	4173311.00	96.26	5	4.65	1.4	8.6238E-05	8.0556E-05
M138	550647.00	4173311.00	93.62	5	4.65	1.4	8.6238E-05	8.0556E-05
M139	550657.00	4173311.00	90.86	5	4.65	1.4	8.6238E-05	8.0556E-05
M140	550667.00	4173311.00	88.14	5	4.65	1.4	8.6238E-05	8.0556E-05
M141	550677.00	4173311.00	85.5	5	4.65	1.4	8.6238E-05	8.0556E-05
M142	550537.00	4173321.00	120.11	5	4.65	1.4	8.6238E-05	8.0556E-05
M143	550547.00	4173321.00	117.47	5	4.65	1.4	8.6238E-05	8.0556E-05
M144	550557.00	4173321.00	114.99	5	4.65	1.4	8.6238E-05	8.0556E-05

M145	550567.00	4173321.00	112.55	5	4.65	1.4	8.6238E-05	8.0556E-05
M146	550577.00	4173321.00	110.25	5	4.65	1.4	8.6238E-05	8.0556E-05
M147	550587.00	4173321.00	107.96	5	4.65	1.4	8.6238E-05	8.0556E-05
M148	550597.00	4173321.00	105.79	5	4.65	1.4	8.6238E-05	8.0556E-05
M149	550607.00	4173321.00	103.69	5	4.65	1.4	8.6238E-05	8.0556E-05
M150	550617.00	4173321.00	101.49	5	4.65	1.4	8.6238E-05	8.0556E-05
M151	550627.00	4173321.00	98.97	5	4.65	1.4	8.6238E-05	8.0556E-05
M152	550637.00	4173321.00	96.46	5	4.65	1.4	8.6238E-05	8.0556E-05
M153	550647.00	4173321.00	93.8	5	4.65	1.4	8.6238E-05	8.0556E-05
M154	550657.00	4173321.00	91.09	5	4.65	1.4	8.6238E-05	8.0556E-05
M155	550667.00	4173321.00	88.42	5	4.65	1.4	8.6238E-05	8.0556E-05
M156	550677.00	4173321.00	85.81	5	4.65	1.4	8.6238E-05	8.0556E-05
M157	550567.00	4173331.00	114.88	5	4.65	1.4	8.6238E-05	8.0556E-05
M158	550577.00	4173331.00	112.23	5	4.65	1.4	8.6238E-05	8.0556E-05
M159	550587.00	4173331.00	109.59	5	4.65	1.4	8.6238E-05	8.0556E-05
M160	550597.00	4173331.00	107.12	5	4.65	1.4	8.6238E-05	8.0556E-05
M161	550607.00	4173331.00	104.73	5	4.65	1.4	8.6238E-05	8.0556E-05
M162	550617.00	4173331.00	102.24	5	4.65	1.4	8.6238E-05	8.0556E-05
M163	550627.00	4173331.00	99.45	5	4.65	1.4	8.6238E-05	8.0556E-05
M164	550637.00	4173331.00	96.66	5	4.65	1.4	8.6238E-05	8.0556E-05
M165	550647.00	4173331.00	93.98	5	4.65	1.4	8.6238E-05	8.0556E-05
M166	550657.00	4173331.00	91.33	5	4.65	1.4	8.6238E-05	8.0556E-05
M167	550667.00	4173331.00	88.7	5	4.65	1.4	8.6238E-05	8.0556E-05
M168	550677.00	4173331.00	86.13	5	4.65	1.4	8.6238E-05	8.0556E-05
M169	550687.00	4173331.00	83.55	5	4.65	1.4	8.6238E-05	8.0556E-05
M170	550567.00	4173341.00	115.91	5	4.65	1.4	8.6238E-05	8.0556E-05
M171	550577.00	4173341.00	113.07	5	4.65	1.4	8.6238E-05	8.0556E-05
M172	550587.00	4173341.00	110.23	5	4.65	1.4	8.6238E-05	8.0556E-05
M173	550597.00	4173341.00	107.59	5	4.65	1.4	8.6238E-05	8.0556E-05
M174	550607.00	4173341.00	105.03	5	4.65	1.4	8.6238E-05	8.0556E-05
M175	550617.00	4173341.00	102.38	5	4.65	1.4	8.6238E-05	8.0556E-05
M176	550627.00	4173341.00	99.42	5	4.65	1.4	8.6238E-05	8.0556E-05
M177	550637.00	4173341.00	96.47	5	4.65	1.4	8.6238E-05	8.0556E-05
M178	550647.00	4173341.00	93.82	5	4.65	1.4	8.6238E-05	8.0556E-05
M179	550657.00	4173341.00	91.25	5	4.65	1.4	8.6238E-05	8.0556E-05
M180	550667.00	4173341.00	88.69	5	4.65	1.4	8.6238E-05	8.0556E-05
M181	550677.00	4173341.00	86.17	5	4.65	1.4	8.6238E-05	8.0556E-05
M182	550687.00	4173341.00	83.65	5	4.65	1.4	8.6238E-05	8.0556E-05
M183	550577.00	4173351.00	112.62	5	4.65	1.4	8.6238E-05	8.0556E-05
M184	550587.00	4173351.00	109.72	5	4.65	1.4	8.6238E-05	8.0556E-05
M185	550597.00	4173351.00	107.04	5	4.65	1.4	8.6238E-05	8.0556E-05
M186	550607.00	4173351.00	104.44	5	4.65	1.4	8.6238E-05	8.0556E-05
M187	550617.00	4173351.00	101.75	5	4.65	1.4	8.6238E-05	8.0556E-05
M188	550627.00	4173351.00	98.76	5	4.65	1.4	8.6238E-05	8.0556E-05
M189	550637.00	4173351.00	95.77	5	4.65	1.4	8.6238E-05	8.0556E-05
M190	550647.00	4173351.00	93.2	5	4.65	1.4	8.6238E-05	8.0556E-05
M191	550657.00	4173351.00	90.73	5	4.65	1.4	8.6238E-05	8.0556E-05
M192	550667.00	4173351.00	88.27	5	4.65	1.4	8.6238E-05	8.0556E-05
M193	550677.00	4173351.00	85.83	5	4.65	1.4	8.6238E-05	8.0556E-05
M194	550687.00	4173351.00	83.39	5	4.65	1.4	8.6238E-05	8.0556E-05
M195	550587.00	4173361.00	109.22	5	4.65	1.4	8.6238E-05	8.0556E-05
M196	550597.00	4173361.00	106.49	5	4.65	1.4	8.6238E-05	8.0556E-05
M197	550607.00	4173361.00	103.85	5	4.65	1.4	8.6238E-05	8.0556E-05
M198	550617.00	4173361.00	101.11	5	4.65	1.4	8.6238E-05	8.0556E-05
M199	550627.00	4173361.00	98.09	5	4.65	1.4	8.6238E-05	8.0556E-05
M200	550637.00	4173361.00	95.08	5	4.65	1.4	8.6238E-05	8.0556E-05
M201	550647.00	4173361.00	92.58	5	4.65	1.4	8.6238E-05	8.0556E-05
M202	550657.00	4173361.00	90.22	5	4.65	1.4	8.6238E-05	8.0556E-05

M203	550667.00	4173361.00	87.86	5	4.65	1.4	8.6238E-05	8.0556E-05
M204	550677.00	4173361.00	85.49	5	4.65	1.4	8.6238E-05	8.0556E-05
M205	550687.00	4173361.00	83.13	5	4.65	1.4	8.6238E-05	8.0556E-05
M206	550697.00	4173361.00	80.63	5	4.65	1.4	8.6238E-05	8.0556E-05
M207	550587.00	4173371.00	108.13	5	4.65	1.4	8.6238E-05	8.0556E-05
M208	550597.00	4173371.00	105.41	5	4.65	1.4	8.6238E-05	8.0556E-05
M209	550607.00	4173371.00	102.83	5	4.65	1.4	8.6238E-05	8.0556E-05
M210	550617.00	4173371.00	100.21	5	4.65	1.4	8.6238E-05	8.0556E-05
M211	550627.00	4173371.00	97.43	5	4.65	1.4	8.6238E-05	8.0556E-05
M212	550637.00	4173371.00	94.65	5	4.65	1.4	8.6238E-05	8.0556E-05
M213	550647.00	4173371.00	92.2	5	4.65	1.4	8.6238E-05	8.0556E-05
M214	550657.00	4173371.00	89.84	5	4.65	1.4	8.6238E-05	8.0556E-05
M215	550667.00	4173371.00	87.49	5	4.65	1.4	8.6238E-05	8.0556E-05
M216	550677.00	4173371.00	85.16	5	4.65	1.4	8.6238E-05	8.0556E-05
M217	550687.00	4173371.00	82.83	5	4.65	1.4	8.6238E-05	8.0556E-05
M218	550697.00	4173371.00	80.27	5	4.65	1.4	8.6238E-05	8.0556E-05
M219	550617.00	4173381.00	98.83	5	4.65	1.4	8.6238E-05	8.0556E-05
M220	550627.00	4173381.00	96.79	5	4.65	1.4	8.6238E-05	8.0556E-05
M221	550637.00	4173381.00	94.75	5	4.65	1.4	8.6238E-05	8.0556E-05
M222	550647.00	4173381.00	92.28	5	4.65	1.4	8.6238E-05	8.0556E-05
M223	550657.00	4173381.00	89.72	5	4.65	1.4	8.6238E-05	8.0556E-05
M224	550667.00	4173381.00	87.22	5	4.65	1.4	8.6238E-05	8.0556E-05
M225	550677.00	4173381.00	84.84	5	4.65	1.4	8.6238E-05	8.0556E-05
M226	550687.00	4173381.00	82.45	5	4.65	1.4	8.6238E-05	8.0556E-05
M227	550697.00	4173381.00	79.8	5	4.65	1.4	8.6238E-05	8.0556E-05
M228	550617.00	4173391.00	97.46	5	4.65	1.4	8.6238E-05	8.0556E-05
M229	550627.00	4173391.00	96.16	5	4.65	1.4	8.6238E-05	8.0556E-05
M230	550637.00	4173391.00	94.86	5	4.65	1.4	8.6238E-05	8.0556E-05
M231	550647.00	4173391.00	92.36	5	4.65	1.4	8.6238E-05	8.0556E-05
M232	550657.00	4173391.00	89.6	5	4.65	1.4	8.6238E-05	8.0556E-05
M233	550667.00	4173391.00	86.96	5	4.65	1.4	8.6238E-05	8.0556E-05
M234	550677.00	4173391.00	84.52	5	4.65	1.4	8.6238E-05	8.0556E-05
M235	550687.00	4173391.00	82.07	5	4.65	1.4	8.6238E-05	8.0556E-05
M236	550697.00	4173391.00	79.33	5	4.65	1.4	8.6238E-05	8.0556E-05
M237	550617.00	4173401.00	96.4	5	4.65	1.4	8.6238E-05	8.0556E-05
M238	550627.00	4173401.00	95.59	5	4.65	1.4	8.6238E-05	8.0556E-05
M239	550637.00	4173401.00	94.78	5	4.65	1.4	8.6238E-05	8.0556E-05
M240	550647.00	4173401.00	92.32	5	4.65	1.4	8.6238E-05	8.0556E-05
M241	550657.00	4173401.00	89.49	5	4.65	1.4	8.6238E-05	8.0556E-05
M242	550667.00	4173401.00	86.78	5	4.65	1.4	8.6238E-05	8.0556E-05
M243	550677.00	4173401.00	84.27	5	4.65	1.4	8.6238E-05	8.0556E-05
M244	550687.00	4173401.00	81.75	5	4.65	1.4	8.6238E-05	8.0556E-05
M245	550697.00	4173401.00	78.88	5	4.65	1.4	8.6238E-05	8.0556E-05
M246	550707.00	4173401.00	75.97	5	4.65	1.4	8.6238E-05	8.0556E-05
M247	550627.00	4173411.00	95.15	5	4.65	1.4	8.6238E-05	8.0556E-05
M248	550637.00	4173411.00	94.15	5	4.65	1.4	8.6238E-05	8.0556E-05
M249	550647.00	4173411.00	91.91	5	4.65	1.4	8.6238E-05	8.0556E-05
M250	550657.00	4173411.00	89.41	5	4.65	1.4	8.6238E-05	8.0556E-05
M251	550667.00	4173411.00	86.87	5	4.65	1.4	8.6238E-05	8.0556E-05
M252	550677.00	4173411.00	84.25	5	4.65	1.4	8.6238E-05	8.0556E-05
M253	550687.00	4173411.00	81.63	5	4.65	1.4	8.6238E-05	8.0556E-05
M254	550697.00	4173411.00	78.51	5	4.65	1.4	8.6238E-05	8.0556E-05
M255	550707.00	4173411.00	75.34	5	4.65	1.4	8.6238E-05	8.0556E-05
M256	550627.00	4173421.00	94.71	5	4.65	1.4	8.6238E-05	8.0556E-05
M257	550637.00	4173421.00	93.51	5	4.65	1.4	8.6238E-05	8.0556E-05
M258	550647.00	4173421.00	91.5	5	4.65	1.4	8.6238E-05	8.0556E-05
M259	550657.00	4173421.00	89.34	5	4.65	1.4	8.6238E-05	8.0556E-05
M260	550667.00	4173421.00	86.96	5	4.65	1.4	8.6238E-05	8.0556E-05

M261	550677.00	4173421.00	84.23	5	4.65	1.4	8.6238E-05	8.0556E-05
M262	550687.00	4173421.00	81.51	5	4.65	1.4	8.6238E-05	8.0556E-05
M263	550697.00	4173421.00	78.13	5	4.65	1.4	8.6238E-05	8.0556E-05
M264	550707.00	4173421.00	74.7	5	4.65	1.4	8.6238E-05	8.0556E-05
M265	550627.00	4173431.00	93.99	5	4.65	1.4	8.6238E-05	8.0556E-05
M266	550637.00	4173431.00	92.58	5	4.65	1.4	8.6238E-05	8.0556E-05
M267	550647.00	4173431.00	90.82	5	4.65	1.4	8.6238E-05	8.0556E-05
M268	550657.00	4173431.00	88.98	5	4.65	1.4	8.6238E-05	8.0556E-05
M269	550667.00	4173431.00	86.77	5	4.65	1.4	8.6238E-05	8.0556E-05
M270	550677.00	4173431.00	83.97	5	4.65	1.4	8.6238E-05	8.0556E-05
M271	550687.00	4173431.00	81.17	5	4.65	1.4	8.6238E-05	8.0556E-05
M272	550697.00	4173431.00	77.68	5	4.65	1.4	8.6238E-05	8.0556E-05
M273	550707.00	4173431.00	74.14	5	4.65	1.4	8.6238E-05	8.0556E-05
M274	550628.00	4173441.00	91.79	5	4.65	1.4	8.6238E-05	8.0556E-05
M275	550637.00	4173441.00	90.24	5	4.65	1.4	8.6238E-05	8.0556E-05
M276	550647.00	4173441.00	88.62	5	4.65	1.4	8.6238E-05	8.0556E-05
M277	550657.00	4173441.00	87.02	5	4.65	1.4	8.6238E-05	8.0556E-05
M278	550667.00	4173441.00	84.97	5	4.65	1.4	8.6238E-05	8.0556E-05
M279	550677.00	4173440.49	82.31	5	4.65	1.4	8.6238E-05	8.0556E-05
M280	550637.00	4173451.00	87.88	5	4.65	1.4	8.6238E-05	8.0556E-05
M281	550647.00	4173449.45	86.77	5	4.65	1.4	8.6238E-05	8.0556E-05

Dispersion Model Input Summary Table / Mitigated Emissions

Area Fugitive	ID	X	Y	ZS	V	SZ	Q PM2.5
	F1	550563.92	4173193.78	105.25	19	1	3.8318E-07
		550563.69	4173194.01				
		550542.16	4173182.72				
		550505.83	4173235.21				
		550537.42	4173330.35				
		550556.28	4173324.02				
		550567.84	4173348.98				
		550578.69	4173356.14				
		550587.21	4173380.83				
		550604.69	4173375.22				
		550631.87	4173456.35				
		550713.92	4173429.59				
		550706.73	4173383.38				
		550684.33	4173315.11				
		550655.32	4173285.70				
		550646.66	4173260.92				
		550629.27	4173266.59				
		550612.59	4173217.67				
		550588.18	4173186.00				

Volume Exhaust	ID	X	Y	ZS	RH	SY	SZ	Q DPM	Q PM2.5
	M1	550547.00	4173191.00	110.45	5	4.65	1.4	3.3383E-05	3.3322E-05
	M2	550577.00	4173191.00	102.23	5	4.65	1.4	3.3383E-05	3.3322E-05
	M3	550587.00	4173191.00	99.96	5	4.65	1.4	3.3383E-05	3.3322E-05
	M4	550537.00	4173201.00	112.24	5	4.65	1.4	3.3383E-05	3.3322E-05
	M5	550547.00	4173201.00	109.55	5	4.65	1.4	3.3383E-05	3.3322E-05
	M6	550557.00	4173201.00	106.8	5	4.65	1.4	3.3383E-05	3.3322E-05
	M7	550567.00	4173201.00	104.09	5	4.65	1.4	3.3383E-05	3.3322E-05
	M8	550577.00	4173201.00	101.9	5	4.65	1.4	3.3383E-05	3.3322E-05
	M9	550587.00	4173201.00	99.72	5	4.65	1.4	3.3383E-05	3.3322E-05
	M10	550597.00	4173201.00	97.38	5	4.65	1.4	3.3383E-05	3.3322E-05
	M11	550527.00	4173211.00	113.55	5	4.65	1.4	3.3383E-05	3.3322E-05
	M12	550537.00	4173211.00	111.12	5	4.65	1.4	3.3383E-05	3.3322E-05
	M13	550547.00	4173211.00	108.66	5	4.65	1.4	3.3383E-05	3.3322E-05
	M14	550557.00	4173211.00	106.16	5	4.65	1.4	3.3383E-05	3.3322E-05
	M15	550567.00	4173211.00	103.69	5	4.65	1.4	3.3383E-05	3.3322E-05
	M16	550577.00	4173211.00	101.58	5	4.65	1.4	3.3383E-05	3.3322E-05
	M17	550587.00	4173211.00	99.47	5	4.65	1.4	3.3383E-05	3.3322E-05
	M18	550597.00	4173211.00	97.31	5	4.65	1.4	3.3383E-05	3.3322E-05
	M19	550517.00	4173221.00	115.38	5	4.65	1.4	3.3383E-05	3.3322E-05
	M20	550527.00	4173221.00	112.92	5	4.65	1.4	3.3383E-05	3.3322E-05
	M21	550537.00	4173221.00	110.48	5	4.65	1.4	3.3383E-05	3.3322E-05
	M22	550547.00	4173221.00	108.07	5	4.65	1.4	3.3383E-05	3.3322E-05
	M23	550557.00	4173221.00	105.68	5	4.65	1.4	3.3383E-05	3.3322E-05
	M24	550567.00	4173221.00	103.31	5	4.65	1.4	3.3383E-05	3.3322E-05
	M25	550577.00	4173221.00	101.35	5	4.65	1.4	3.3383E-05	3.3322E-05
	M26	550587.00	4173221.00	99.38	5	4.65	1.4	3.3383E-05	3.3322E-05
	M27	550597.00	4173221.00	97.38	5	4.65	1.4	3.3383E-05	3.3322E-05
	M28	550607.00	4173221.00	95.35	5	4.65	1.4	3.3383E-05	3.3322E-05

M29	550517.00	4173231.00	114.92	5	4.65	1.4	3.3383E-05	3.3322E-05
M30	550527.00	4173231.00	112.42	5	4.65	1.4	3.3383E-05	3.3322E-05
M31	550537.00	4173231.00	109.93	5	4.65	1.4	3.3383E-05	3.3322E-05
M32	550547.00	4173231.00	107.54	5	4.65	1.4	3.3383E-05	3.3322E-05
M33	550557.00	4173231.00	105.22	5	4.65	1.4	3.3383E-05	3.3322E-05
M34	550567.00	4173231.00	102.95	5	4.65	1.4	3.3383E-05	3.3322E-05
M35	550577.00	4173231.00	101.14	5	4.65	1.4	3.3383E-05	3.3322E-05
M36	550587.00	4173231.00	99.33	5	4.65	1.4	3.3383E-05	3.3322E-05
M37	550597.00	4173231.00	97.47	5	4.65	1.4	3.3383E-05	3.3322E-05
M38	550607.00	4173231.00	95.6	5	4.65	1.4	3.3383E-05	3.3322E-05
M39	550617.00	4173231.00	93.61	5	4.65	1.4	3.3383E-05	3.3322E-05
M40	550517.00	4173241.00	114.46	5	4.65	1.4	3.3383E-05	3.3322E-05
M41	550527.00	4173241.00	111.92	5	4.65	1.4	3.3383E-05	3.3322E-05
M42	550537.00	4173241.00	109.38	5	4.65	1.4	3.3383E-05	3.3322E-05
M43	550547.00	4173241.00	107.01	5	4.65	1.4	3.3383E-05	3.3322E-05
M44	550557.00	4173241.00	104.77	5	4.65	1.4	3.3383E-05	3.3322E-05
M45	550567.00	4173241.00	102.59	5	4.65	1.4	3.3383E-05	3.3322E-05
M46	550577.00	4173241.00	100.93	5	4.65	1.4	3.3383E-05	3.3322E-05
M47	550587.00	4173241.00	99.27	5	4.65	1.4	3.3383E-05	3.3322E-05
M48	550597.00	4173241.00	97.57	5	4.65	1.4	3.3383E-05	3.3322E-05
M49	550607.00	4173241.00	95.85	5	4.65	1.4	3.3383E-05	3.3322E-05
M50	550617.00	4173241.00	93.96	5	4.65	1.4	3.3383E-05	3.3322E-05
M51	550517.00	4173251.00	114.9	5	4.65	1.4	3.3383E-05	3.3322E-05
M52	550527.00	4173251.00	112.23	5	4.65	1.4	3.3383E-05	3.3322E-05
M53	550537.00	4173251.00	109.56	5	4.65	1.4	3.3383E-05	3.3322E-05
M54	550547.00	4173251.00	107.08	5	4.65	1.4	3.3383E-05	3.3322E-05
M55	550557.00	4173251.00	104.75	5	4.65	1.4	3.3383E-05	3.3322E-05
M56	550567.00	4173251.00	102.5	5	4.65	1.4	3.3383E-05	3.3322E-05
M57	550577.00	4173251.00	100.88	5	4.65	1.4	3.3383E-05	3.3322E-05
M58	550587.00	4173251.00	99.26	5	4.65	1.4	3.3383E-05	3.3322E-05
M59	550597.00	4173251.00	97.61	5	4.65	1.4	3.3383E-05	3.3322E-05
M60	550607.00	4173251.00	95.93	5	4.65	1.4	3.3383E-05	3.3322E-05
M61	550617.00	4173251.00	94.13	5	4.65	1.4	3.3383E-05	3.3322E-05
M62	550517.00	4173261.00	115.61	5	4.65	1.4	3.3383E-05	3.3322E-05
M63	550527.00	4173261.00	112.79	5	4.65	1.4	3.3383E-05	3.3322E-05
M64	550537.00	4173261.00	109.97	5	4.65	1.4	3.3383E-05	3.3322E-05
M65	550547.00	4173261.00	107.34	5	4.65	1.4	3.3383E-05	3.3322E-05
M66	550557.00	4173261.00	104.88	5	4.65	1.4	3.3383E-05	3.3322E-05
M67	550567.00	4173261.00	102.5	5	4.65	1.4	3.3383E-05	3.3322E-05
M68	550577.00	4173261.00	100.89	5	4.65	1.4	3.3383E-05	3.3322E-05
M69	550587.00	4173261.00	99.27	5	4.65	1.4	3.3383E-05	3.3322E-05
M70	550597.00	4173261.00	97.62	5	4.65	1.4	3.3383E-05	3.3322E-05
M71	550607.00	4173261.00	95.96	5	4.65	1.4	3.3383E-05	3.3322E-05
M72	550617.00	4173261.00	94.22	5	4.65	1.4	3.3383E-05	3.3322E-05
M73	550527.00	4173271.00	113.35	5	4.65	1.4	3.3383E-05	3.3322E-05
M74	550537.00	4173271.00	110.37	5	4.65	1.4	3.3383E-05	3.3322E-05
M75	550547.00	4173271.00	107.61	5	4.65	1.4	3.3383E-05	3.3322E-05
M76	550557.00	4173271.00	105	5	4.65	1.4	3.3383E-05	3.3322E-05
M77	550567.00	4173271.00	102.5	5	4.65	1.4	3.3383E-05	3.3322E-05
M78	550577.00	4173271.00	100.89	5	4.65	1.4	3.3383E-05	3.3322E-05
M79	550587.00	4173271.00	99.28	5	4.65	1.4	3.3383E-05	3.3322E-05
M80	550597.00	4173271.00	97.64	5	4.65	1.4	3.3383E-05	3.3322E-05
M81	550607.00	4173271.00	95.99	5	4.65	1.4	3.3383E-05	3.3322E-05
M82	550617.00	4173271.00	94.32	5	4.65	1.4	3.3383E-05	3.3322E-05
M83	550627.00	4173271.00	92.63	5	4.65	1.4	3.3383E-05	3.3322E-05
M84	550637.00	4173271.00	90.93	5	4.65	1.4	3.3383E-05	3.3322E-05
M85	550647.00	4173271.00	88.8	5	4.65	1.4	3.3383E-05	3.3322E-05
M86	550527.00	4173281.00	114.49	5	4.65	1.4	3.3383E-05	3.3322E-05

M87	550537.00	4173281.00	111.53	5	4.65	1.4	3.3383E-05	3.3322E-05
M88	550547.00	4173281.00	108.82	5	4.65	1.4	3.3383E-05	3.3322E-05
M89	550557.00	4173281.00	106.29	5	4.65	1.4	3.3383E-05	3.3322E-05
M90	550567.00	4173281.00	103.86	5	4.65	1.4	3.3383E-05	3.3322E-05
M91	550577.00	4173281.00	102.21	5	4.65	1.4	3.3383E-05	3.3322E-05
M92	550587.00	4173281.00	100.55	5	4.65	1.4	3.3383E-05	3.3322E-05
M93	550597.00	4173281.00	98.9	5	4.65	1.4	3.3383E-05	3.3322E-05
M94	550607.00	4173281.00	97.23	5	4.65	1.4	3.3383E-05	3.3322E-05
M95	550617.00	4173281.00	95.57	5	4.65	1.4	3.3383E-05	3.3322E-05
M96	550627.00	4173281.00	93.89	5	4.65	1.4	3.3383E-05	3.3322E-05
M97	550637.00	4173281.00	92.22	5	4.65	1.4	3.3383E-05	3.3322E-05
M98	550647.00	4173281.00	90.05	5	4.65	1.4	3.3383E-05	3.3322E-05
M99	550527.00	4173291.00	115.92	5	4.65	1.4	3.3383E-05	3.3322E-05
M100	550537.00	4173291.00	113.06	5	4.65	1.4	3.3383E-05	3.3322E-05
M101	550547.00	4173291.00	110.5	5	4.65	1.4	3.3383E-05	3.3322E-05
M102	550557.00	4173291.00	108.18	5	4.65	1.4	3.3383E-05	3.3322E-05
M103	550567.00	4173291.00	105.92	5	4.65	1.4	3.3383E-05	3.3322E-05
M104	550577.00	4173291.00	104.23	5	4.65	1.4	3.3383E-05	3.3322E-05
M105	550587.00	4173291.00	102.54	5	4.65	1.4	3.3383E-05	3.3322E-05
M106	550597.00	4173291.00	100.87	5	4.65	1.4	3.3383E-05	3.3322E-05
M107	550607.00	4173291.00	99.2	5	4.65	1.4	3.3383E-05	3.3322E-05
M108	550617.00	4173291.00	97.5	5	4.65	1.4	3.3383E-05	3.3322E-05
M109	550627.00	4173291.00	95.65	5	4.65	1.4	3.3383E-05	3.3322E-05
M110	550637.00	4173291.00	93.81	5	4.65	1.4	3.3383E-05	3.3322E-05
M111	550647.00	4173291.00	91.45	5	4.65	1.4	3.3383E-05	3.3322E-05
M112	550657.00	4173291.00	88.94	5	4.65	1.4	3.3383E-05	3.3322E-05
M113	550537.00	4173301.00	114.59	5	4.65	1.4	3.3383E-05	3.3322E-05
M114	550547.00	4173301.00	112.19	5	4.65	1.4	3.3383E-05	3.3322E-05
M115	550557.00	4173301.00	110.07	5	4.65	1.4	3.3383E-05	3.3322E-05
M116	550567.00	4173301.00	107.99	5	4.65	1.4	3.3383E-05	3.3322E-05
M117	550577.00	4173301.00	106.26	5	4.65	1.4	3.3383E-05	3.3322E-05
M118	550587.00	4173301.00	104.53	5	4.65	1.4	3.3383E-05	3.3322E-05
M119	550597.00	4173301.00	102.84	5	4.65	1.4	3.3383E-05	3.3322E-05
M120	550607.00	4173301.00	101.17	5	4.65	1.4	3.3383E-05	3.3322E-05
M121	550617.00	4173301.00	99.43	5	4.65	1.4	3.3383E-05	3.3322E-05
M122	550627.00	4173301.00	97.41	5	4.65	1.4	3.3383E-05	3.3322E-05
M123	550637.00	4173301.00	95.39	5	4.65	1.4	3.3383E-05	3.3322E-05
M124	550647.00	4173301.00	92.85	5	4.65	1.4	3.3383E-05	3.3322E-05
M125	550657.00	4173301.00	90.15	5	4.65	1.4	3.3383E-05	3.3322E-05
M126	550667.00	4173301.00	87.42	5	4.65	1.4	3.3383E-05	3.3322E-05
M127	550537.00	4173311.00	117.02	5	4.65	1.4	3.3383E-05	3.3322E-05
M128	550547.00	4173311.00	114.58	5	4.65	1.4	3.3383E-05	3.3322E-05
M129	550557.00	4173311.00	112.38	5	4.65	1.4	3.3383E-05	3.3322E-05
M130	550567.00	4173311.00	110.21	5	4.65	1.4	3.3383E-05	3.3322E-05
M131	550577.00	4173311.00	108.26	5	4.65	1.4	3.3383E-05	3.3322E-05
M132	550587.00	4173311.00	106.32	5	4.65	1.4	3.3383E-05	3.3322E-05
M133	550597.00	4173311.00	104.46	5	4.65	1.4	3.3383E-05	3.3322E-05
M134	550607.00	4173311.00	102.64	5	4.65	1.4	3.3383E-05	3.3322E-05
M135	550617.00	4173311.00	100.73	5	4.65	1.4	3.3383E-05	3.3322E-05
M136	550627.00	4173311.00	98.49	5	4.65	1.4	3.3383E-05	3.3322E-05
M137	550637.00	4173311.00	96.26	5	4.65	1.4	3.3383E-05	3.3322E-05
M138	550647.00	4173311.00	93.62	5	4.65	1.4	3.3383E-05	3.3322E-05
M139	550657.00	4173311.00	90.86	5	4.65	1.4	3.3383E-05	3.3322E-05
M140	550667.00	4173311.00	88.14	5	4.65	1.4	3.3383E-05	3.3322E-05
M141	550677.00	4173311.00	85.5	5	4.65	1.4	3.3383E-05	3.3322E-05
M142	550537.00	4173321.00	120.11	5	4.65	1.4	3.3383E-05	3.3322E-05
M143	550547.00	4173321.00	117.47	5	4.65	1.4	3.3383E-05	3.3322E-05
M144	550557.00	4173321.00	114.99	5	4.65	1.4	3.3383E-05	3.3322E-05

M145	550567.00	4173321.00	112.55	5	4.65	1.4	3.3383E-05	3.3322E-05
M146	550577.00	4173321.00	110.25	5	4.65	1.4	3.3383E-05	3.3322E-05
M147	550587.00	4173321.00	107.96	5	4.65	1.4	3.3383E-05	3.3322E-05
M148	550597.00	4173321.00	105.79	5	4.65	1.4	3.3383E-05	3.3322E-05
M149	550607.00	4173321.00	103.69	5	4.65	1.4	3.3383E-05	3.3322E-05
M150	550617.00	4173321.00	101.49	5	4.65	1.4	3.3383E-05	3.3322E-05
M151	550627.00	4173321.00	98.97	5	4.65	1.4	3.3383E-05	3.3322E-05
M152	550637.00	4173321.00	96.46	5	4.65	1.4	3.3383E-05	3.3322E-05
M153	550647.00	4173321.00	93.8	5	4.65	1.4	3.3383E-05	3.3322E-05
M154	550657.00	4173321.00	91.09	5	4.65	1.4	3.3383E-05	3.3322E-05
M155	550667.00	4173321.00	88.42	5	4.65	1.4	3.3383E-05	3.3322E-05
M156	550677.00	4173321.00	85.81	5	4.65	1.4	3.3383E-05	3.3322E-05
M157	550567.00	4173331.00	114.88	5	4.65	1.4	3.3383E-05	3.3322E-05
M158	550577.00	4173331.00	112.23	5	4.65	1.4	3.3383E-05	3.3322E-05
M159	550587.00	4173331.00	109.59	5	4.65	1.4	3.3383E-05	3.3322E-05
M160	550597.00	4173331.00	107.12	5	4.65	1.4	3.3383E-05	3.3322E-05
M161	550607.00	4173331.00	104.73	5	4.65	1.4	3.3383E-05	3.3322E-05
M162	550617.00	4173331.00	102.24	5	4.65	1.4	3.3383E-05	3.3322E-05
M163	550627.00	4173331.00	99.45	5	4.65	1.4	3.3383E-05	3.3322E-05
M164	550637.00	4173331.00	96.66	5	4.65	1.4	3.3383E-05	3.3322E-05
M165	550647.00	4173331.00	93.98	5	4.65	1.4	3.3383E-05	3.3322E-05
M166	550657.00	4173331.00	91.33	5	4.65	1.4	3.3383E-05	3.3322E-05
M167	550667.00	4173331.00	88.7	5	4.65	1.4	3.3383E-05	3.3322E-05
M168	550677.00	4173331.00	86.13	5	4.65	1.4	3.3383E-05	3.3322E-05
M169	550687.00	4173331.00	83.55	5	4.65	1.4	3.3383E-05	3.3322E-05
M170	550567.00	4173341.00	115.91	5	4.65	1.4	3.3383E-05	3.3322E-05
M171	550577.00	4173341.00	113.07	5	4.65	1.4	3.3383E-05	3.3322E-05
M172	550587.00	4173341.00	110.23	5	4.65	1.4	3.3383E-05	3.3322E-05
M173	550597.00	4173341.00	107.59	5	4.65	1.4	3.3383E-05	3.3322E-05
M174	550607.00	4173341.00	105.03	5	4.65	1.4	3.3383E-05	3.3322E-05
M175	550617.00	4173341.00	102.38	5	4.65	1.4	3.3383E-05	3.3322E-05
M176	550627.00	4173341.00	99.42	5	4.65	1.4	3.3383E-05	3.3322E-05
M177	550637.00	4173341.00	96.47	5	4.65	1.4	3.3383E-05	3.3322E-05
M178	550647.00	4173341.00	93.82	5	4.65	1.4	3.3383E-05	3.3322E-05
M179	550657.00	4173341.00	91.25	5	4.65	1.4	3.3383E-05	3.3322E-05
M180	550667.00	4173341.00	88.69	5	4.65	1.4	3.3383E-05	3.3322E-05
M181	550677.00	4173341.00	86.17	5	4.65	1.4	3.3383E-05	3.3322E-05
M182	550687.00	4173341.00	83.65	5	4.65	1.4	3.3383E-05	3.3322E-05
M183	550577.00	4173351.00	112.62	5	4.65	1.4	3.3383E-05	3.3322E-05
M184	550587.00	4173351.00	109.72	5	4.65	1.4	3.3383E-05	3.3322E-05
M185	550597.00	4173351.00	107.04	5	4.65	1.4	3.3383E-05	3.3322E-05
M186	550607.00	4173351.00	104.44	5	4.65	1.4	3.3383E-05	3.3322E-05
M187	550617.00	4173351.00	101.75	5	4.65	1.4	3.3383E-05	3.3322E-05
M188	550627.00	4173351.00	98.76	5	4.65	1.4	3.3383E-05	3.3322E-05
M189	550637.00	4173351.00	95.77	5	4.65	1.4	3.3383E-05	3.3322E-05
M190	550647.00	4173351.00	93.2	5	4.65	1.4	3.3383E-05	3.3322E-05
M191	550657.00	4173351.00	90.73	5	4.65	1.4	3.3383E-05	3.3322E-05
M192	550667.00	4173351.00	88.27	5	4.65	1.4	3.3383E-05	3.3322E-05
M193	550677.00	4173351.00	85.83	5	4.65	1.4	3.3383E-05	3.3322E-05
M194	550687.00	4173351.00	83.39	5	4.65	1.4	3.3383E-05	3.3322E-05
M195	550587.00	4173361.00	109.22	5	4.65	1.4	3.3383E-05	3.3322E-05
M196	550597.00	4173361.00	106.49	5	4.65	1.4	3.3383E-05	3.3322E-05
M197	550607.00	4173361.00	103.85	5	4.65	1.4	3.3383E-05	3.3322E-05
M198	550617.00	4173361.00	101.11	5	4.65	1.4	3.3383E-05	3.3322E-05
M199	550627.00	4173361.00	98.09	5	4.65	1.4	3.3383E-05	3.3322E-05
M200	550637.00	4173361.00	95.08	5	4.65	1.4	3.3383E-05	3.3322E-05
M201	550647.00	4173361.00	92.58	5	4.65	1.4	3.3383E-05	3.3322E-05
M202	550657.00	4173361.00	90.22	5	4.65	1.4	3.3383E-05	3.3322E-05

M203	550667.00	4173361.00	87.86	5	4.65	1.4	3.3383E-05	3.3322E-05
M204	550677.00	4173361.00	85.49	5	4.65	1.4	3.3383E-05	3.3322E-05
M205	550687.00	4173361.00	83.13	5	4.65	1.4	3.3383E-05	3.3322E-05
M206	550697.00	4173361.00	80.63	5	4.65	1.4	3.3383E-05	3.3322E-05
M207	550587.00	4173371.00	108.13	5	4.65	1.4	3.3383E-05	3.3322E-05
M208	550597.00	4173371.00	105.41	5	4.65	1.4	3.3383E-05	3.3322E-05
M209	550607.00	4173371.00	102.83	5	4.65	1.4	3.3383E-05	3.3322E-05
M210	550617.00	4173371.00	100.21	5	4.65	1.4	3.3383E-05	3.3322E-05
M211	550627.00	4173371.00	97.43	5	4.65	1.4	3.3383E-05	3.3322E-05
M212	550637.00	4173371.00	94.65	5	4.65	1.4	3.3383E-05	3.3322E-05
M213	550647.00	4173371.00	92.2	5	4.65	1.4	3.3383E-05	3.3322E-05
M214	550657.00	4173371.00	89.84	5	4.65	1.4	3.3383E-05	3.3322E-05
M215	550667.00	4173371.00	87.49	5	4.65	1.4	3.3383E-05	3.3322E-05
M216	550677.00	4173371.00	85.16	5	4.65	1.4	3.3383E-05	3.3322E-05
M217	550687.00	4173371.00	82.83	5	4.65	1.4	3.3383E-05	3.3322E-05
M218	550697.00	4173371.00	80.27	5	4.65	1.4	3.3383E-05	3.3322E-05
M219	550617.00	4173381.00	98.83	5	4.65	1.4	3.3383E-05	3.3322E-05
M220	550627.00	4173381.00	96.79	5	4.65	1.4	3.3383E-05	3.3322E-05
M221	550637.00	4173381.00	94.75	5	4.65	1.4	3.3383E-05	3.3322E-05
M222	550647.00	4173381.00	92.28	5	4.65	1.4	3.3383E-05	3.3322E-05
M223	550657.00	4173381.00	89.72	5	4.65	1.4	3.3383E-05	3.3322E-05
M224	550667.00	4173381.00	87.22	5	4.65	1.4	3.3383E-05	3.3322E-05
M225	550677.00	4173381.00	84.84	5	4.65	1.4	3.3383E-05	3.3322E-05
M226	550687.00	4173381.00	82.45	5	4.65	1.4	3.3383E-05	3.3322E-05
M227	550697.00	4173381.00	79.8	5	4.65	1.4	3.3383E-05	3.3322E-05
M228	550617.00	4173391.00	97.46	5	4.65	1.4	3.3383E-05	3.3322E-05
M229	550627.00	4173391.00	96.16	5	4.65	1.4	3.3383E-05	3.3322E-05
M230	550637.00	4173391.00	94.86	5	4.65	1.4	3.3383E-05	3.3322E-05
M231	550647.00	4173391.00	92.36	5	4.65	1.4	3.3383E-05	3.3322E-05
M232	550657.00	4173391.00	89.6	5	4.65	1.4	3.3383E-05	3.3322E-05
M233	550667.00	4173391.00	86.96	5	4.65	1.4	3.3383E-05	3.3322E-05
M234	550677.00	4173391.00	84.52	5	4.65	1.4	3.3383E-05	3.3322E-05
M235	550687.00	4173391.00	82.07	5	4.65	1.4	3.3383E-05	3.3322E-05
M236	550697.00	4173391.00	79.33	5	4.65	1.4	3.3383E-05	3.3322E-05
M237	550617.00	4173401.00	96.4	5	4.65	1.4	3.3383E-05	3.3322E-05
M238	550627.00	4173401.00	95.59	5	4.65	1.4	3.3383E-05	3.3322E-05
M239	550637.00	4173401.00	94.78	5	4.65	1.4	3.3383E-05	3.3322E-05
M240	550647.00	4173401.00	92.32	5	4.65	1.4	3.3383E-05	3.3322E-05
M241	550657.00	4173401.00	89.49	5	4.65	1.4	3.3383E-05	3.3322E-05
M242	550667.00	4173401.00	86.78	5	4.65	1.4	3.3383E-05	3.3322E-05
M243	550677.00	4173401.00	84.27	5	4.65	1.4	3.3383E-05	3.3322E-05
M244	550687.00	4173401.00	81.75	5	4.65	1.4	3.3383E-05	3.3322E-05
M245	550697.00	4173401.00	78.88	5	4.65	1.4	3.3383E-05	3.3322E-05
M246	550707.00	4173401.00	75.97	5	4.65	1.4	3.3383E-05	3.3322E-05
M247	550627.00	4173411.00	95.15	5	4.65	1.4	3.3383E-05	3.3322E-05
M248	550637.00	4173411.00	94.15	5	4.65	1.4	3.3383E-05	3.3322E-05
M249	550647.00	4173411.00	91.91	5	4.65	1.4	3.3383E-05	3.3322E-05
M250	550657.00	4173411.00	89.41	5	4.65	1.4	3.3383E-05	3.3322E-05
M251	550667.00	4173411.00	86.87	5	4.65	1.4	3.3383E-05	3.3322E-05
M252	550677.00	4173411.00	84.25	5	4.65	1.4	3.3383E-05	3.3322E-05
M253	550687.00	4173411.00	81.63	5	4.65	1.4	3.3383E-05	3.3322E-05
M254	550697.00	4173411.00	78.51	5	4.65	1.4	3.3383E-05	3.3322E-05
M255	550707.00	4173411.00	75.34	5	4.65	1.4	3.3383E-05	3.3322E-05
M256	550627.00	4173421.00	94.71	5	4.65	1.4	3.3383E-05	3.3322E-05
M257	550637.00	4173421.00	93.51	5	4.65	1.4	3.3383E-05	3.3322E-05
M258	550647.00	4173421.00	91.5	5	4.65	1.4	3.3383E-05	3.3322E-05
M259	550657.00	4173421.00	89.34	5	4.65	1.4	3.3383E-05	3.3322E-05
M260	550667.00	4173421.00	86.96	5	4.65	1.4	3.3383E-05	3.3322E-05

M261	550677.00	4173421.00	84.23	5	4.65	1.4	3.3383E-05	3.3322E-05
M262	550687.00	4173421.00	81.51	5	4.65	1.4	3.3383E-05	3.3322E-05
M263	550697.00	4173421.00	78.13	5	4.65	1.4	3.3383E-05	3.3322E-05
M264	550707.00	4173421.00	74.7	5	4.65	1.4	3.3383E-05	3.3322E-05
M265	550627.00	4173431.00	93.99	5	4.65	1.4	3.3383E-05	3.3322E-05
M266	550637.00	4173431.00	92.58	5	4.65	1.4	3.3383E-05	3.3322E-05
M267	550647.00	4173431.00	90.82	5	4.65	1.4	3.3383E-05	3.3322E-05
M268	550657.00	4173431.00	88.98	5	4.65	1.4	3.3383E-05	3.3322E-05
M269	550667.00	4173431.00	86.77	5	4.65	1.4	3.3383E-05	3.3322E-05
M270	550677.00	4173431.00	83.97	5	4.65	1.4	3.3383E-05	3.3322E-05
M271	550687.00	4173431.00	81.17	5	4.65	1.4	3.3383E-05	3.3322E-05
M272	550697.00	4173431.00	77.68	5	4.65	1.4	3.3383E-05	3.3322E-05
M273	550707.00	4173431.00	74.14	5	4.65	1.4	3.3383E-05	3.3322E-05
M274	550628.00	4173441.00	91.79	5	4.65	1.4	3.3383E-05	3.3322E-05
M275	550637.00	4173441.00	90.24	5	4.65	1.4	3.3383E-05	3.3322E-05
M276	550647.00	4173441.00	88.62	5	4.65	1.4	3.3383E-05	3.3322E-05
M277	550657.00	4173441.00	87.02	5	4.65	1.4	3.3383E-05	3.3322E-05
M278	550667.00	4173441.00	84.97	5	4.65	1.4	3.3383E-05	3.3322E-05
M279	550677.00	4173440.49	82.31	5	4.65	1.4	3.3383E-05	3.3322E-05
M280	550637.00	4173451.00	87.88	5	4.65	1.4	3.3383E-05	3.3322E-05
M281	550647.00	4173449.45	86.77	5	4.65	1.4	3.3383E-05	3.3322E-05

APPENDIX B
BIOLOGICAL LETTER REPORT

March 17, 2017

Point Martin, LLC
268 Bush Street, #2927
San Francisco, CA 94104

Subject: Final Biological Letter Report for Subdivision/Planned Development, Daly City, California (Point Martin II)

To: Development Managers

The following letter report presents the results of a general biological survey conducted April 1, 2016. The report includes a discussion of the survey methods, an assessment of existing vegetation communities/land covers, sensitive biological resources, potential jurisdictional waters present or likely to occur, and a brief analysis of known potential impacts. The report also addresses all relevant California Environmental Quality Act significance criteria and recommends measures to mitigate potential impacts based on our understanding of the proposed project.

INTRODUCTION

Dudek conducted a biological survey for the approximately 18-acre Point Martin II property (west of Carter Street, between Saddleback Drive and Martin Street) in Daly City, CA. The purpose of the assessment was to identify and characterize the biological communities present on and immediately adjacent to the project site, to record plant and animal species observed on the site, to evaluate the site for its potential to support sensitive biological resources, and to provide sufficient data to prepare CEQA documentation in support of the proposed rezoning and development of the property. Potential sensitive biological resources include special-status plant and animal species and any other resources considered sensitive by local, state, and/or federal resource agencies that could potentially be impacted by development of the site. The project site is not located within the San Bruno Mountain Habitat Conservation Plan (HCP) that was adopted by the City in 1982. The property is separated from the northern most boundary of the HCP by two developments, Summit Ridge subdivision to the southeast and Point Martin I to the south, and another intervening vacant property to the south.

PROJECT SETTING

Location

The project site is located in Daly City just southwest of the Cow Palace and just north of the San Bruno Mountain HCP, near the intersection of Carter Street and Steve Courter Way (Figure 1). This location corresponds to Township 3 South, and Range 5 West, of the San Francisco South, California USGS 7.5 minute topographic quadrangles (Latitude 37°42'18"N, Longitude 122°25'31"W). The project site lies to the west of Carter Street and is bounded by various subdivisions to the north, west, south, and southeast, and private and public land owners to the east and south.

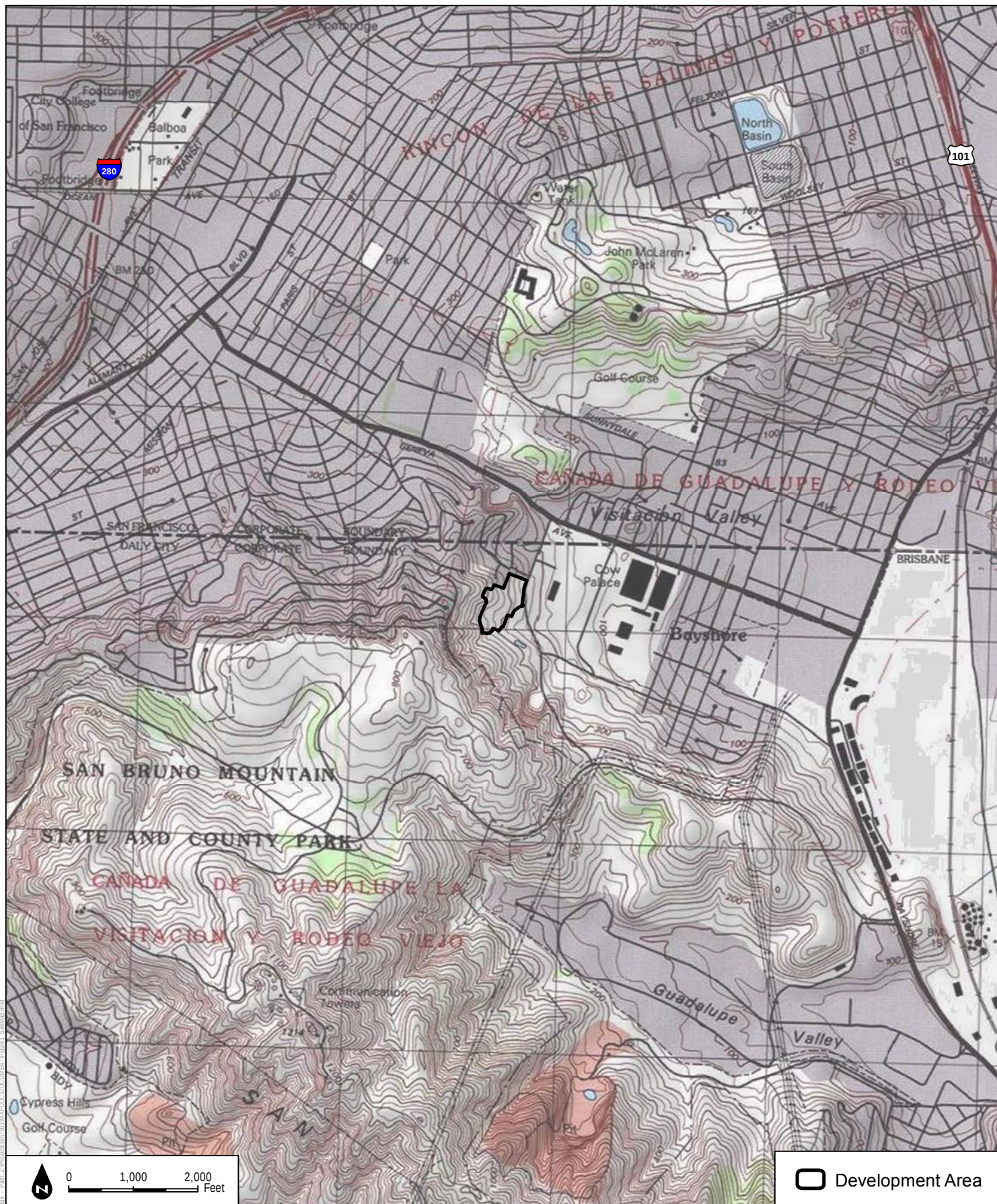
General Physical Characteristics

The approximately 18-acre property is east-facing, moderately sloping to steeply sloping, with elevations on the site ranging from approximately 490 to 230 feet above mean sea level (AMSL) as one travels from the western boundary to the eastern boundary. The site's drainage collects along its eastern-boundary, entering offsite into storm drain inlets and gutters at the northeast and central areas, and at the southeast, offsite draining into adjoining property where it collects before draining to storm drain inlets. The site is currently undeveloped with a history of stock and grazing operations, unpermitted dumping, utility line transmission activities, and invasive vegetation management/abatement activities.

METHODS

Literature Search

Prior to the field survey, the California Department of Fish and Wildlife's (CDFW 2016) California Natural Diversity Database (CNDDB) was queried for any reported occurrences of special-status species in a nine quadrangle area. A review of soils reports, aerial photos, and online resources also contributed to development of the list of special-status species with the potential to occur on site. Because the project site is near to the northernmost boundary of the HCP, its Habitat Management Plan (San Mateo County Parks Department, 2007) and annual reports were also reviewed for special-status species information and current survey information. Finally, Appendix B of the Daly City General Plan Resource Management Element (Daly City, 1989) was reviewed and found to be consistent with the habitat management plan and CNDDB lists. A CNDDB search of the San Francisco South USGS Quadrangle revealed occurrences for thirty-five special-status plant species and twenty-nine special-status wildlife species. A results summary of the CNDDB records search is included in Attachment A.



SOURCE: USGS 7.5-Minute Series San Francisco South Quadrangle; CKS Environmental (2016)

FIGURE 1
Site and Vicinity

Field Survey

A field survey was conducted by Dudek biologist Kevin Derby on April 1, 2016. The field survey included inspection of all areas of the project site. On-site habitat types, species observations, and other field data were recorded during the visits. Due to the lack of suitable habitat for special-status species, no focused, protocol-level surveys for special-status species were conducted. Results of the surveys are presented below and on Figure 2.

FINDINGS/RESULTS

Soils

Two soil types were mapped on the project site: Candlestick-Kron-Buriburi complex, 30 to 75 percent slopes, and Orthents, cut and fill-Urban land complex, 5 to 75 percent slopes. The majority of the 18-acre Point Martin site is Candlestick-Kron-Buriburi complex, 30 to 75 percent slopes. This soil type occurs on mountain slopes and is composed of hard fractured residuum weathered from sandstone. The soil is well drained, non-saline, and has low water availability. The roads and street right of ways within the site are composed of this soil type and Orthents, cut and fill-Urban land complex, 5 to 75 percent slopes. The Orthents, cut and fill-Urban land complex, 5 to 75 percent slopes soil type occurs on hills and is derived from alluvium. The soil is well drained, and the depth to water table is more than 80 inches. Topsoil layer ranges from nonexistent to very thin.

Vegetation/Land Cover

The 18 acre site consists primarily of nonnative grassland habitat and gorse scrubland. These two vegetation communities/land covers dominate the project site. Offsite, adjacent to the southeast of the site, a small area of disturbed central coast riparian scrub and freshwater marsh occurs in a manmade detention basin. The project has been designed and planned to avoid impacts to this adjacent vegetation community. The site existing vegetation communities are presented in Figure 2, and the proposed project footprint (i.e. impact area) is presented in Figure 3.

Nonnative Grassland

The nonnative grassland vegetation community is dominated by non-native annual grass and forb species, and appears to be the result of gorse removal activities on the subject property. This vegetation community dominates the northern portion of lower area of the property where gorse containment activities have been conducted (Figure 2). The nonnative grassland is dominated by wild oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), rattlesnake grass (*Briza maxima*),



FIGURE 2
Biological Resources

hairy cat's ear (*Hypochaeris radicata*), fennel (*Foeniculum vulgare*), and mustard (*Brassica nigra*). This vegetation community covers 14.4 acres of the property and represents the majority of the land proposed for development for the Point Martin project.

Gorse Scrubland

Gorse shrubland is dominated by the highly invasive shrub gorse (*Ulex europaeus*). Despite regional and municipally mandated efforts to control the problematic species, it persists on approximately 1.62 acres of the project site even with annual abatement and control operations. This very aggressive species creates a monoculture and very few, if any, other species coexist in this vegetation community. The uppermost elevations and southern portion of the property is substantially covered by this vegetation community, as well as in those limited areas where topographic contours inhibit operation of the control machinery. Currently there is a Daly City-(City) mandated gorse containment program in place that involves annual removal of gorse and its roots by grading and disking the lower elevations of the property and right of ways.

Disturbed Central Coast Riparian Scrub

This riparian scrub and forest community that occurs along creeks and wet ravines is typically dominated by stands of arroyo willow (*Salix lasiolepis*), Sitka willow (*Salix sitchensis*) and associated species such as California blackberry (*Rubus ursinus*) and cow parsnip (*Heracleum lanatum*). The upper margins of this habitat type are a mix of the associated species of this community, consisting of California blackberry and gorse, with a mix of nonnative annuals like black mustard and fennel. Offsite, the bottom of the ravine and detention basin at the lower elevations is dominated by arroyo willow and Sitka willow with nonnative grasses and weeds that dominate along with wetlands plants such as nutsedge species (*Cyperus eragrostis*). The predominance of nonnative species, the eroded banks, the history of disturbance and land uses and development in the area resulted in the disturbed designation for this habitat type, as significant restoration and maintenance would be required to restore this area to a dominantly native habitat community. Avoidance of this offsite, lower elevation habitat community has been designed into the project and plan, in consultation with Dudek. Further discussion of avoidance protocols and procedures to minimize disturbance of willow root systems on adjacent land is discussed in the Recommendations section below.

Ornamental

Ornamental habitat is land that used to be part of the onsite residence, presumably the former ranch on the property. The vegetation in the area is a mix of bare ground, nonnative grasses and

ornamental cultivars such as flowering plum (*Prunus* sp.) and Spanish dagger (*Yucca gloriosa*) 0.15 acre of this land cover was mapped in the project area.

Mixed Non-native Scrub

Mixed non-native scrub is a disturbed habitat that includes a mix of non-native grasses, sparsely spaced native shrubs, and non-native shrubs that are either gorse or escaped cultivars. This area is a hybrid of the nonnative grassland, ornamental, and gorse scrubland habitat types. There is 1.57 acres of this habitat mapped in the project area.

Developed

This landcover classification is applied to areas that have been graded and paved or compacted and covered with gravel and that are devoid of vegetation except for small areas of planted ornamental species. Developed Land represents 0.21 acre of the study area.

Dirt Road

This landcover classification is applied to areas that have been graded and are not paved or covered with gravel. However, they may be too compacted to successfully revegetate without intervention (e.g. disking, ripping, etc.). The short dirt road in the study area covers 0.05 acre.

Representative photos of the property from various photo points are included in Attachment B. The plant species observed on the property during the April 1, 2016 investigation are listed in Table 1.



SOURCE: Google Maps (Accessed 2016); CKS Environmental (2016)

Point Martin II Biotechnical Report

FIGURE 3
Proposed Project

Table 1
Flora Observed

Common Name	Scientific Name
Yarrow	<i>Achilleum millifolium</i>
Wild oat*	<i>Avena barbata</i>
Coyote brush	<i>Baccharis pilularis</i>
Black mustard*	<i>Brassica nigra</i>
Rattlesnake grass*	<i>Briza maxima</i>
Ripgut brome*	<i>Bromus diandrus</i>
Field marigold*	<i>Calendula arvensis</i>
Italian thistle*	<i>Carduus pycnocephalus</i>
Pampas grass*	<i>Cortaderia selloana</i>
California poppy	<i>Escholzia californica</i>
Red fescue	<i>Festuca rubra</i>
Fennel*	<i>Foeniculum vulgare</i>
Cow parsnip	<i>Heracleum maximum</i>
Hairy cat's ear*	<i>Hypochaeris radicata</i>
deerweed	<i>Acmispon glaber</i>
Plantain*	<i>Plantago lanceolata</i>
Flowering plum	<i>Prunus sp.</i>
Wild radish*	<i>Raphanus raphanistrum</i>
California coffeeberry	<i>Rhamnus californica</i>
Sow thistle*	<i>Sonchus oleraceus</i>
Ithuriel's spear	<i>Triteleia laxa</i>
gorse*	<i>Ulex europaeus</i>
Spanish dagger*	<i>Yucca gloriosa</i>

*non-native species

Common Wildlife

The animal species observed or likely to occur on the project site are common species that are adapted to life in proximity to human activity and disturbed conditions. No bird species were observed on site during the site visit; however, it is expected that bird species using the area would be those that typically occur in urban and suburban settings with disturbed and managed vegetation. Regardless of sensitivity rating, however, all nesting native bird species are protected from harm under the state Fish and Game Code and the federal Migratory Bird Treaty Act. Although no nests were observed on the site visit, the scattered native trees and shrubs on the property represent potential nesting habitat for native songbirds.

No mammals were observed on the project site, and no rodent burrows were observed. However, common wildlife species adapted to urban life are expected to utilize the site. Examples of potential common wildlife that may use the property include striped skunk (*Mephitis mephitis*), Raccoon (*Procyon lotor*), Virginia opossum (*Dipdelphis virginiana*), and coyote (*Canis latrans*). Like the bird species, these mammals are adapted to life in an urban and suburban setting and are therefore relatively tolerant of human interaction and activity.

Special-Status Flora

Thirty special-status plant species are known to occur in the South San Francisco quadrangle (CNDDDB 2012). However, the majority of these species require specialized native habitats and soils that are not present on the approximately 18 acre property, or are considered to be extirpated from the area. Furthermore, the long history of disturbance on the site, dominance of highly invasive nonnative vegetation, decades of biological studies in the area, and proximity to existing residential and commercial development make presence of an undocumented population of special status plants highly unlikely. Therefore, the list generated from CNDDDB was significantly reduced to focus on those species that could not be initially eliminated from consideration for the reasons stated above. Once the reduced list was prepared, the data available from the HCP to the south regarding special status plants was cross-referenced and the following sixteen species were considered for this property: *Amsinckia lunaris*, *Arctostaphylos fransiscana*, *Arctostaphylos imbricata*, *Arctostaphylos Montana* ssp. *ravenii*, *Arctostaphylos montaraensis*, *Arctostaphylos pacifica*, *Fritillaria lillacea*, *Grindelia hirsutula* var. *maritima*, *Helianthella castanea*, *Hemizonia congensta* ssp. *congesta*, *Lessingia germanorum*, *Pentachaeta bellidiflora*, *Silene verecunda* ssp. *verecunda*, *Trifolium amoenum*, *Triphysaria floribunda*, and *Triquetrella californica*.

The project site is unlikely to support occurrences of any special-status plant species because of its disturbed nature, history of livestock and urban activities (grazing, disking, mowing, utilities construction and maintenance, etc.), and the lack of specialized suitable habitats (e.g., perennial marsh, native scrub communities, native grasslands, etc.) and soil types. Furthermore, gorse invasion precludes the potential for special status plants in the areas of dense gorse scrubland. The nonnative grassland represents marginally suitable habitat for the sixteen species listed above, but the annual disking and root removal combined with gorse encroachment makes their presence highly unlikely. The monitoring efforts in the HCP located to the south of this property revealed the presence of at least six of these species, but only in native habitat communities that were not infested with gorse. No special-status plant species or their habitats were observed during the biological survey of the project site, which was conducted during the blooming period for these species. While the survey did include identification of the plant species on the property and pedestrian coverage of the entire site (except where gorse made it inaccessible), a specific special status plant survey focused on these sixteen species was not conducted.

Special-Status Fauna

The results of the CNDDDB search and other literature review, including the HCP, resulted in the identification of twenty-two special-status animal species known to occur in the South San Francisco USGS 7.5 minute quadrangle (Attachment A). Those special-status animal species that occur in the region, but that are dependent on specialized emergent wetland habitat types, vernal pools, salt marshes, steep unvegetated stream banks and road cuts, and slow moving creeks that do not occur on or near the project site were eliminated from further investigation. The nearby HCP and area drainage and their associated habitats resulted in additional consideration of red legged frog and San Francisco garter snake and inclusion on the following list of seven special status fauna (six of which are on federal or state endangered species list, or both) that were considered in our analysis of their potential to occur on the project site: San Bruno elfin butterfly (*Callophrys mossii bayensis*), Bay checkerspot butterfly (*Euphydryas editha bayensis*), Mission blue butterfly (*Plebejus icarioides missionensis*), California red-legged frog (*Rana draytonii*), bank swallow (*Riparia riparia*), callippe silverspot butterfly (*Speyeria callippe callippe*), and San Francisco garter snake (*Thamnophis sirtalis tetrataenia*).

California red-legged frog and San Francisco garter snake require slow moving perennial water free from nonnative invasive predators. While the ravine drainage above-the Martin Street right of way did not have-flowing water at the time of the survey, its narrow width and steep terrain do not support slow moving perennial aquatic habitat suitable for these two species. Furthermore,

surveys conducted in the adjacent San Bruno Mountain HCP preserve within much more suitable habitat have not resulted in observations and the species are presumed to be extirpated from the area due to habitat conversion/loss. Therefore there is no suitable habitat and no potential for occurrence on the project site.

Bank swallows nest in burrows along streambanks. However, no suitable unvegetated banks with burrows exist on the project site; therefore, this species would not occur on the project site.

The mission blue, calippe silverspot, San Bruno elfin, and bay checkerspot butterflies require grassland and/or open coastal scrub habitats to support their larval host plants and nectar plants. The host plants for these butterflies do not exist on the property in numbers sufficient to support a viable population. There are nectar plants present (e.g., thistle, wild radish) on the property, but without host plants and intact native habitats, the site is not suitable for these listed butterflies. The annual monitoring for the HCP is consistent with these findings, as the current populations within the HCP are not known to utilize the area north of the HCP boundary due to nonnative plant invasion and urban development, among other factors. According to the HCP administrator, the majority of the special status butterfly documentations are from the southern portion of the HCP preserve, greater than 2 miles distant.

No sensitive wildlife species or their habitats were observed on the site during the field survey. Suitable habitats for the special-status species considered do not occur on the project site, and therefore there are no regulatory considerations regarding special status species on this property.

Because both common and special-status native bird species are protected by state (California Fish and Game Code 3503) and federal (Migratory Bird Treaty Act) laws, CDFG typically recommends that pre-construction surveys be conducted in areas that could be directly or indirectly impacted by project activities. Therefore, we recommend the trees and larger native shrubs should be investigated by a qualified biologist for avian species nests no more than seven days prior to the commencement of tree/shrub removals or grading activities, if such removals or activities are being conducted during the nesting season (generally February 15 to August 31) to determine if they support native nesting birds. No avian nests were observed during the biological survey on April 1, 2016. Further discussion of avoidance protocols and procedures of nesting birds is discussed in the Recommendations section below.

Wildlife Movement Corridors

The project site is not part of a regional wildlife corridor, though the area south of the site is connected to the San Bruno Mountain HCP preserve. However, the area of the property near to the HCP boundary is dominated by impenetrable gorse scrubland, precluding its use by most

common and special status wildlife species. While this offers migrating avian species potential foraging and stopover habitat, migrating terrestrial species are unlikely to regularly utilize this property as an important movement corridor. The preserved lands dominated by native habitat within the HCP boundary represent the nearest regionally important movement corridor.

Recommendations

- If project construction work is required to be scheduled during the breeding season (as described below), a qualified biologist or ornithologist shall conduct a preconstruction survey of the work area to determine if any native birds, including raptors, are nesting in or in the vicinity of vegetation to be removed. The preconstruction survey will be conducted within 7 days prior to the start of work beginning from March through May (since there is higher potential for birds to initiate nesting during this period), and within 15 days prior to the start of work from June through August. If active nests are found in the work area, the biologist will determine an appropriately-sized buffer around the nest in which no work shall be allowed until the young have successfully fledged. The size of the nest buffer shall be determined by the biologist, and if necessary in consultation with the CDFG. Buffer widths depend on the nesting species and its sensitivity to disturbance.
- The property is not within the boundaries of the San Bruno Mountain HCP and therefore is not subject to its provisions. Notwithstanding, the project's design provides over four-hundred feet of separation between developed areas and the nearest HCP boundary. According to the HCP administrator, special status species protected by the HCP are reported an additional several hundred feet further within the HCP preserve.
- Project design should be compliant with Daly City General Plan Resource Management Element Policy 12.1, which includes consideration for preservation of habitat identified as environmentally sensitive. Although environmentally sensitive habitats, as defined in the element, have not been identified on the project site, the San Bruno Mountain HCP Preserve is near to the southern-most boundary of the property. The project's design has taken this into consideration, clustering development towards the northern and central portions of the site and preserving the southern portion nearest the HCP as open-space (Figure 3). The project's incorporation of this large open-space buffer allows for re-introduction of native vegetative species, a goal of the Resource Management element.
- Development at the southeasterly perimeter of the project, along the rear of proposed Lots 55-59, should limit mass grading to within 20 feet of the dripline of the willows located across the property line at this location, to minimize interaction with root system.

Subsequent planned activities of a lesser nature, such as landscaping, utilities and creation of drainage basins and appurtenances associated thereto, are permissible so long as they do not encroach beyond said dripline. A permeable buffer fence should be established alongside this location at the start of mass grading activity to guide workers as they conduct their activities. The buffer fence should be maintained until mass grading activities have concluded, and then re-established at the dripline to guide subsequent workers in the latter activities.

If you have any questions or require more information regarding this report please contact John Spranza at jspranza@dudek.com or by phone at (530) 863-4568.

Best Regards,



John Spranza
Principal/ Senior Ecologist
DUDEK

REFERENCES

- American Ornithologists' Union. 1998. *The A.O.U. Checklist of North American Birds*. Seventh edition. American Ornithologists' Union. Washington D.C.
- Bossard, Randall and Hoshovsky. 2000. *Invasive Plants of California's Wildlands*. University of California Press. Berkeley, CA.
- California Department of Fish and Game. 2011. California Natural Diversity Database (CNDDDB) RareFind 3, Version 3.0.5. California Department of Fish and Game. Sacramento, CA.
- California Department of Fish and Game. 2011. California Natural Diversity Data Base (CNDDDB). *Special Animals List*. California Department of Fish and Game, Wildlife and Habitat Data Analysis Branch. Sacramento, CA.
- California Native Plant Society (CNPS). 2010. Inventory of Rare and Endangered Plants of California (sixth edition). Rare Plant Scientific Advisory Committee, David P. Tibor, Convening Editor. California Native Plant Society. Sacramento, CA x+388pp.
- Crother, Brian I. (ed.). 2003. *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico: Update*. Herpetological Review 34: 196-203.
- Daly City. April 1989. *Resource Management Element*. Daly City General Plan. Daly City, California.
- Hickman, J. C. 1993. *The Jepson manual: Higher plants of California*. University of California Press, Berkeley. 1400 pp.
- Holland, R. F. 1986. *Preliminary descriptions of the terrestrial natural communities of California*. Nongame-Heritage Program, California Department of Fish and Game. 156 pp.
- San Mateo County Parks Department. December 2010. *San Bruno Mountain Habitat Conservation Plan Year 2010 Activities Report for Special Status Species*. TRA Environmental Sciences. 15 pp.
- San Mateo County Parks Department. September 2007. *San Bruno Habitat Management Plan 2007*. TRA Environmental Sciences, San Bruno Mountain Technical Advisory Committee, USFWS.

Sawyer, Keeler-Wolf, Evens. 2009. *A Manual of California Vegetation. Second Edition.* California Native Plant Society. 1300 pp.

Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Web Soil Survey. Available online at <http://websoilsurvey.nrcs.usda.gov/>. Accessed 7/11/2012.

Stokes, Donald and Lilian. 1996. *Stokes Field Guide to Birds: Western Region.* Little, Brown and Company, New York, NY. 518 pp.

Stebbins, Robert C. 2003. *A Field Guide to Western Reptiles and Amphibians*, Third Ed. Houghton Mifflin Company. Boston, MA. 533 pp.

United States Army Corps of Engineers Engineer Research and Development Center. September 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).* 120 pp.

ATTACHMENT A
Summary of CNDDDB Query Results



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (San Francisco South (3712264))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Adela oplerella</i> Opler's longhorn moth	G2 S2	None None		100 100	14 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Allium peninsulare</i> var. <i>franciscanum</i> Franciscan onion	G5T1 S1	None None	Rare Plant Rank - 1B.2		21 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		64 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Arctostaphylos franciscana</i> Franciscan manzanita	G1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_UCBBG-UC Berkeley Botanical Garden	700 700	4 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Arctostaphylos imbricata</i> San Bruno Mountain manzanita	G1 S1	None Endangered	Rare Plant Rank - 1B.1	900 1,000	2 S:2	1	0	0	0	0	1	1	1	2	0	0
<i>Arctostaphylos montana</i> ssp. <i>ravenii</i> Presidio manzanita	G3T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1	700 700	7 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Arctostaphylos montaraensis</i> Montara manzanita	G1 S1	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	900 900	4 S:1	0	0	0	1	0	0	0	1	1	0	0
<i>Arctostaphylos pacifica</i> Pacific manzanita	G1 S1	None Endangered	Rare Plant Rank - 1B.2	1,045 1,045	1 S:1	0	0	1	0	0	0	0	1	1	0	0
<i>Astragalus tener</i> var. <i>tener</i> alkali milk-vetch	G2T2 S2	None None	Rare Plant Rank - 1B.2	50 50	65 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Banksula incredula</i> incredible harvestman	G1 S1	None None		1,110 1,110	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Bombus caliginosus</i> obscure bumble bee	G4? S1S2	None None	IUCN_VU-Vulnerable	30 400	181 S:2	0	0	0	0	0	2	1	1	2	0	0
<i>Bombus occidentalis</i> western bumble bee	G2G3 S1	None None	USFS_S-Sensitive XERCES_IM-Imperiled	40 800	282 S:6	0	0	0	0	0	6	5	1	6	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Caecidotea tomalensis Tomales isopod	G2 S2	None None		50 2,100	6 S:2	0	0	1	1	0	0	2	0	2	0	0
Callophrys mossii bayensis San Bruno elfin butterfly	G4T1 S1	Endangered None	XERCES_CI-Critically Imperiled	450 800	10 S:3	0	0	0	0	0	3	2	1	3	0	0
Carex comosa bristly sedge	G5 S2	None None	Rare Plant Rank - 2B.1	0 0	29 S:1	0	0	0	0	1	0	1	0	0	1	0
Chorizanthe cuspidata var. cuspidata San Francisco Bay spineflower	G2T1 S1	None None	Rare Plant Rank - 1B.2	50 650	17 S:8	0	0	2	0	0	6	4	4	8	0	0
Chorizanthe robusta var. robusta robust spineflower	G2T1 S1	Endangered None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	150 150	20 S:2	0	0	0	0	2	0	2	0	0	2	0
Cicindela hirticollis grvida sandy beach tiger beetle	G5T2 S2	None None		10 10	34 S:1	0	0	0	0	1	0	1	0	0	0	1
Cirsium andrewsii Franciscan thistle	G3 S3	None None	Rare Plant Rank - 1B.2	100 100	27 S:1	0	0	0	0	1	0	1	0	0	1	0
Cirsium occidentale var. compactum compact cobwebby thistle	G3G4T1 S1	None None	Rare Plant Rank - 1B.2	100 100	14 S:1	0	0	0	0	1	0	1	0	0	1	0
Collinsia multicolor San Francisco collinsia	G2 S2	None None	Rare Plant Rank - 1B.2 SB_RSABG-Rancho Santa Ana Botanic Garden	100 650	25 S:7	0	1	0	0	0	6	6	1	7	0	0
Corynorhinus townsendii Townsend's big-eared bat	G3G4 S2	None Candidate Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive WBWG_H-High Priority	700 700	622 S:1	0	0	0	0	0	1	0	1	1	0	0
Dufourea stagei Stage's dufourine bee	G1G2 S1?	None None		700 700	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	40 40	1153 S:2	0	1	1	0	0	0	0	2	2	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Eucyclogobius newberryi</i> tidewater goby	G3 S3	Endangered None	AFS_EN-Endangered CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	20 20	117 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	G5T1 S1	Threatened None	XERCES_CI-Critically Imperiled	100 1,000	24 S:3	0	0	0	0	3	0	3	0	0	0	3
<i>Fritillaria liliacea</i> fragrant fritillary	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	300 300	77 S:2	0	0	0	0	1	1	2	0	1	0	1
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	G5T3 S3	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	30 300	111 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Gilia capitata ssp. chamissonis</i> blue coast gilia	G5T2 S2	None None	Rare Plant Rank - 1B.1	10 650	37 S:4	0	1	0	0	0	3	2	2	4	0	0
<i>Grindelia hirsutula var. maritima</i> San Francisco gumplant	G5T1Q S1	None None	Rare Plant Rank - 3.2	50 1,000	15 S:8	0	0	1	1	1	5	8	0	7	0	1
<i>Helianthella castanea</i> Diablo helianthella	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	700 700	107 S:2	0	1	0	0	1	0	1	1	1	1	0
<i>Hemizonia congesta ssp. congesta</i> congested-headed hayfield tarplant	G5T1T2 S1S2	None None	Rare Plant Rank - 1B.2		33 S:2	0	0	0	0	1	1	2	0	1	1	0
<i>Hesperevax sparsiflora var. brevifolia</i> short-leaved evax	G4T3 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		36 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Heteranthera dubia</i> water star-grass	G5 S1	None None	Rare Plant Rank - 2B.2		9 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Horkelia cuneata var. sericea</i> Kellogg's horkelia	G4T2 S2?	None None	Rare Plant Rank - 1B.1 USFS_S-Sensitive	150 600	38 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Horkelia marinensis</i> Point Reyes horkelia	G2 S2	None None	Rare Plant Rank - 1B.2		36 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Hydroporus leechi</i> Leech's skyline diving beetle	G1? S1?	None None		680 680	13 S:1	0	0	0	0	0	1	1	0	0	1	0
<i>Ischnura gemina</i> San Francisco forktail damselfly	G2 S2	None None	IUCN_VU-Vulnerable	25 540	7 S:2	0	0	0	0	1	1	1	1	1	1	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Lasiurus cinereus</i> hoary bat	G5 S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority	20 20	235 S:4	0	0	0	0	0	4	4	0	4	0	0
<i>Laterallus jamaicensis coturniculus</i> California black rail	G3G4T1 S1	None Threatened	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_NT-Near Threatened NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	25 25	240 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Layia carnosa</i> beach layia	G2 S2	Endangered Endangered	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden	40 40	23 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Leptosiphon rosaceus</i> rose leptosiphon	G1 S1	None None	Rare Plant Rank - 1B.1		31 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Lessingia germanorum</i> San Francisco lessingia	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1	150 500	5 S:2	0	0	1	0	1	0	1	1	1	1	0
<i>Lichnanthe ursina</i> bumblebee scarab beetle	G2 S2	None None		15 20	8 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Malacothamnus arcuatus</i> arcuate bush-mallow	G2Q S2	None None	Rare Plant Rank - 1B.2	700 700	30 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Melospiza melodia pusillula</i> Alameda song sparrow	G5T2? S2?	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	10 25	38 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Monardella sinuata ssp. nigrescens</i> northern curly-leaved monardella	G3T2 S2	None None	Rare Plant Rank - 1B.2		25 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Mylopharodon conocephalus</i> hardhead	G3 S3	None None	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	20 20	32 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_UCBBG-UC Berkeley Botanical Garden	500 500	14 S:1	0	0	0	0	1	0	1	0	0	1	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Phalacrocorax auritus</i> double-crested cormorant	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	45 75	37 S:2	0	0	2	0	0	0	0	2	2	0	0
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcornflower	G3T2Q S2	None None	Rare Plant Rank - 1B.2	1,150 1,150	40 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Plebejus icarioides missionensis</i> Mission blue butterfly	G5T1 S1	Endangered None	XERCES_CI-Critically Imperiled	200 750	14 S:12	0	2	1	0	1	8	2	10	12	0	0
<i>Rallus longirostris obsoletus</i> California clapper rail	G5T1 S1	Endangered Endangered	CDFW_FP-Fully Protected NABCI_RWL-Red Watch List	0 7	98 S:3	0	0	2	0	0	1	1	2	3	0	0
<i>Rana draytonii</i> California red-legged frog	G2G3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	5 600	1380 S:6	1	2	1	0	0	2	2	4	6	0	0
<i>Riparia riparia</i> bank swallow	G5 S2	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	10 40	296 S:3	0	1	0	0	0	2	2	1	3	0	0
<i>Sanicula maritima</i> adobe sanicle	G2 S2	None Rare	Rare Plant Rank - 1B.1 USFS_S-Sensitive	250 250	16 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Silene verecunda</i> ssp. <i>verecunda</i> San Francisco campion	G5T2 S2	None None	Rare Plant Rank - 1B.2	400 1,200	11 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Speyeria callippe callippe</i> callippe silverspot butterfly	G5T1 S1	Endangered None	XERCES_CI-Critically Imperiled	250 900	8 S:6	0	1	1	0	0	4	2	4	6	0	0
<i>Spirinchus thaleichthys</i> longfin smelt	G5 S1	Candidate Threatened	CDFW_SSC-Species of Special Concern	0 0	45 S:2	0	0	0	0	0	2	1	1	2	0	0
<i>Suaeda californica</i> California seablite	G1 S1	Endangered None	Rare Plant Rank - 1B.1	5 5	18 S:2	0	0	1	0	0	1	0	2	2	0	0
<i>Thamnophis sirtalis tetrataenia</i> San Francisco garter snake	G5T2Q S2	Endangered Endangered	CDFW_FP-Fully Protected	10 600	67 S:7	0	1	1	0	4	1	5	2	3	0	4
<i>Trachusa gummifera</i> San Francisco Bay Area leaf-cutter bee	G1 S1	None None		200 200	2 S:1	0	0	0	0	0	1	1	0	1	0	0



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Trifolium amoenum</i> two-fork clover	G1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_RSABG-Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture		26 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Triphysaria floribunda</i> San Francisco owl's-clover	G2 S2	None None	Rare Plant Rank - 1B.2	100 125	41 S:5	0	0	0	0	2	3	5	0	3	1	1
<i>Triquetrella californica</i> coastal triquetrella	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	400 1,200	13 S:2	0	0	0	0	0	2	0	2	2	0	0

ATTACHMENT B
Representative Photos



Photo 1: Looking to the west up from the drainage in the Martin Road right of way. Disturbed riparian vegetation in the foreground and gorse scrubland/nonnative grassland on the hillside in the distance.



Photo 2: Representative photo of nonnative grassland (looking to the northwest).



Photo 3: Representative photo of gorse scrubland in the distance, nonnative grassland in the foreground, and developed land within the project area (looking west).



Photo 4: Representative photo of nonnative grassland, dirt road, and ornamental land covers (looking to the northwest).

APPENDIX C

GEO TECHNICAL INVESTIGATION

PRELIMINARY
GEOTECHNICAL ASSESSMENT

POINT MARTIN
DALY CITY, CALIFORNIA

ENGEO

Expect Excellence

Submitted to:
Mr. Christopher M. Hawke
Point Martin LLC
268 Bush Street, Suite 2927
San Francisco, CA 94104

Prepared by:
ENGEO Incorporated

September 21, 2015

Project No:
11308.001.000

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Project No.
11308.001.000

September 21, 2015

Mr. Christopher M. Hawke
Point Martin LLC
268 Bush Street, Suite 2927
San Francisco, CA 94104

Subject: Point Martin
Daly City, California

PRELIMINARY GEOTECHNICAL ASSESSMENT

Dear Mr. Hawke:

With your authorization, we completed this geotechnical feasibility assessment for the subject project. The accompanying geotechnical feasibility assessment presents our field exploration with our conclusions and preliminary recommendations regarding residential development at the site.

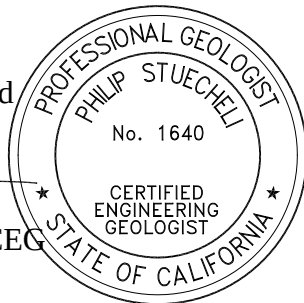
Our findings indicate that the site is suitable for the proposed development provided the preliminary recommendations and guidelines provided in this report are implemented during project planning. Additional design-level geotechnical exploration services will be required for grading plan preparation, construction and foundation design. We are pleased to have been of service to you on this project and are prepared to consult further with you and your design team as the project progresses.

Very truly yours,

ENGEO Incorporated



Philip J. Stuecheli, CEG
pjs/tpb/jf



Theodore P. Bayham GE



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APPENDIX D – Historic Aerial Photographs

APPENDIX E – Supplemental Recommendations

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

The purpose of this preliminary geotechnical assessment is to provide preliminary conclusions and recommendations for the proposed residential development. The information presented in this report may be used for general land planning purposes.

The scope of our exploration included the following:

- Review of pertinent geologic maps and literature.
- Examination of stereographic aerial photographs covering the site.
- Review of previous geotechnical exploration reports regarding the project.
- Supplemental field exploration, including drilling and logging of borings, and excavation and logging of exploratory test pits.
- Supplemental laboratory index testing of collected samples of soil materials.
- Analysis of the geological and geotechnical data.
- Preparation of this report providing our preliminary conclusions and recommendations for proposed site development, and recommendations for additional studies.

For our use, we received the following:

- Ruggeri-Jensen-Azar (RJA), Conceptual Site Development Plan – Point Martin, Daly City, September 2015.

This report was prepared for the exclusive use of Maracor Development, Inc. and its design team consultants. In the event that any changes are made in the character, design or layout of the development, the conclusions and recommendations contained in this report should be reviewed by ENGEO to determine whether modifications to the report are necessary. This document may not be reproduced in whole or in part by any means whatsoever, nor may it be quoted or excerpted without the express written consent of ENGEO Incorporated.

1.2 SITE LOCATION AND DESCRIPTION

The irregularly shaped, roughly 19-acre site is located on a hillside to the west of Carter Street and Farrier Place and east of Oakridge Drive in Daly City as shown on the attached Vicinity Map (Figure 1). The site varies from an Elevation of approximately 250 feet at the northeastern corner of the site, to approximately 500 feet along the western perimeter. The site generally consists of a

series of alternating, eastern-trending bedrock ridges and colluvial-filled flanks. A northeastern-trending, deeply incised ravine crosses the central portion of the site. Existing slope gradients range from approximately 3:1 (horizontal:vertical) at the eastern end of the site, to 1.5:1 for slopes on the western end of the site below the existing residential development along Oakridge Drive. The site is surrounded by existing residential development to the west, north, and east, and open space to the south.

At the time of our field exploration, onsite vegetation consisted of seasonal grasses across the majority of the site, with dense brush in the ravine and along steeper portions of the slope below existing residential development to the west. We also observed an existing stockpile, debris pile, and dilapidated shed along the eastern portion of the site.

1.3 PROPOSED DEVELOPMENT

Conceptual site plans prepared by RJA (referenced above) indicate that the property will be developed with approximately 109 single-family residential, split-level lots with appurtenant streets (Figure 3). The development will be situated on the lower, eastern half of the site.

Proposed grading for the project site involves cuts and fills up to about 20 feet from existing ground. Proposed graded slope gradients are up to 2:1. The project will include both single and tiered retaining walls up to about 10 feet high. In addition, the project will incorporate a tied-back soldier-pile wall along the west property line adjacent to existing apartments.

1.4 PREVIOUS GEOTECHNICAL WORK

PSC Associates Inc. (PSC) conducted a geotechnical feasibility study of the site in 2000 that consisted of drilling nine exploratory borings using 8-inch-diameter hollow-stem augers and extending up to approximately 51½ feet deep, and excavation of four test pits up to about 15 feet deep. Groundwater was encountered in one exploration location, Boring B-10, at a depth of about 16 feet.

In 2008, Berlogar Geotechnical Consultants (BGC) performed a preliminary geotechnical exploration for a southern parcel located within the overall site, identified as the Point Martin Subdivision. Their exploration comprised excavation of 14 test pits up to about 13½ feet deep. BGC also performed geotechnical studies for the adjacent Summit Ridge (formerly Emerald Heights) residential development, located to the east of the overall site. We reviewed their preliminary report from 1999. The adjacent residential development was graded and “built out” in the 2000s.

In 2013, Ryan Geological Consulting, Inc. performed an engineering geologic evaluation for the Point Martin Subdivision. As part of their preliminary study, they performed three phases of exploration which included: (1) drilling of seven 1¼-inch-diameter Geoprobe direct push borings to depths of up to approximately 24 feet; (2) drilling of two solid flight auger borings using a limited access drill rig to depths of up to about 38 feet; and (3) a geophysical survey consisting of five seismic refraction lines across the site. Groundwater was encountered in Borings B-1,

B-3, B-4, B-5A, and B-6 at depths ranging from 12 to 21 feet. In all cases, the groundwater was interpreted as perched lenses of water and not the groundwater table.

The approximate boring, test pit and seismic refraction line locations are shown on Figure 2. Logs from previous exploration activities and laboratory testing are included in Appendix C. The previous geotechnical information was reviewed and incorporated into our current study as deemed appropriate.

2.0 GEOLOGY AND SEISMICITY

2.1 REGIONAL GEOLOGY

The geology in the area of the site has been mapped on a regional scale by Bonilla (1998) (Figure 5). The geologic units mapped underlying the site are described as Quaternary slope debris and ravine fill (Qsr), and Cretaceous and Jurassic sandstone and shale of the Franciscan Complex (KJsk). In general, the slope debris and ravine fill covers flank and swale areas, and Franciscan Complex bedrock is exposed on ridges.

2.2 FAULTING AND SEISMICITY

The site is not located within a State of California Earthquake Fault Hazard Zone (1982) and no known active faults cross the site. Nearby active¹ faults located within 25 miles of the site include the San Andreas fault, located approximately 4½ miles southwest of the site; the Hayward fault, located approximately 14½ miles northeast of the site; and the Calaveras fault, located approximately 24 miles northeast of the site. Figure 6 shows the approximate locations of these faults and significant historic earthquakes recorded within the Greater Bay Area Region.

Bonilla (1998, Figure 3) mapped the City College fault approximately 2,000 feet north of the site. Review of geologic literature and studies of active and potentially active faults prepared by the California Geologic Survey (CGS) did not find any reference to the City College fault trace. The City College fault is considered inactive.

Because of the presence of nearby active faults, the Bay Area Region is considered seismically active. Numerous small earthquakes occur every year in the region, and large (>M7) earthquakes have been recorded and can be expected to occur in the future. Ground motions are typically expressed as a fraction of the acceleration due to gravity (g). As described in the 2013 California Building Code (CBC), the calculated geometric mean peak ground acceleration for the project site is 0.72g (PGA_M).

In addition, the Working Group on California Earthquake Probabilities (2007) estimates there is a 21 percent probability that a magnitude Mw = 6.7 or greater earthquake will occur on the northern portion of the San Andreas Fault within 30 years of their study (2007 – 2037).

¹ An active fault is defined by the State Mining and Geology Board as one that has had surface displacement within Holocene time (about the last 11,000 years) (Hart, 1997).

3.0 FIELD EXPLORATION

Our supplemental field explorations at this site were conducted in July 2014 and in May and June 2015. Our supplemental exploration consisted of drilling seven exploratory borings and excavation of 28 test pits. The approximate boring and test pit locations are shown on Figure 2. These areas of subsurface exploration were located by pacing from existing features, and the elevations were estimated from the plans provided at the time of our study and should be considered accurate only to the degree implied by the method used.

The test pits and borings were logged in the field by an ENGEO geologist. Soil samples were collected from the borings and test pits for laboratory testing. The test pits were excavated using a track-mounted excavator. The borings were drilled with 8-inch-diameter hollow-stem augers semi-continuously cored using “dry coring” equipment. Samples were collected using the core barrel sampler collecting 5-foot-long sampling runs. The boreholes were backfilled to the ground surface with cement grout. The exploratory test pits were backfilled with the excavated soil with nominal compactive effort.

The field logs were used to develop the report borelogs and test pit logs (Appendix A). The logs depict subsurface conditions within the borings for the date of drilling; however, subsurface conditions may vary with time.

4.0 LABORATORY TESTING

Following field explorations, we re-examined the samples in our laboratory to confirm field classifications. Representative samples recovered from our borings and test pits were tested for the following physical characteristics:

TABLE 4.0-1
Laboratory Testing

Soil Characteristic	Testing Method	Location of Results
Natural Unit Weight and Moisture Content	ASTM D-2216	Appendix B
Plasticity Index	ASTM D-4318	Appendix B
Grain Size Distribution	ASTM D-422	Appendix B
Compaction Curve	ASTM D-1557	Appendix B
Consolidated Undrained Triaxial Shear	ASTM D- 4767	Appendix B
Unconsolidated Undrained Triaxial Shear	ASTM D-2860	Appendix B

The laboratory test results are included on the borelogs in Appendix A. Results of individual laboratory tests are presented in Appendix B.

5.0 SITE GEOLOGIC UNITS

Through a combination of aerial photograph review, site reconnaissance, exploratory borings, review of published geologic information, and review of previous geotechnical reports, we identified several geologic units on the site. The approximate distribution of these geologic units is depicted on the Site Plan (Figure 2). Brief descriptions of the geologic units are provided below.

5.1 EXISTING FILL (Qaf)

Existing fill was encountered in Test Pits 1-TP9 and 1-TP10, excavated within the stockpile located in the central portion of the site (Figure 2). Where encountered, the fill material consisted of sandy silt with abundant rootlets and small angular sandstone rock fragments (less than 1 inch in diameter) to the maximum explored depth of approximately 7 feet below the existing ground surface. Boring B-7, advanced by PSC Associates (2000) within the same onsite stockpile, encountered fill material to a depth of approximately 9 feet below the ground surface.

Review of black and white stereo-paired photographs indicates that the offsite slope to the west of the project area, adjacent to Oakridge Drive, appears to be composed of artificial fill placed sometime during the 1960s. As shown on Figure 2, the fill slope has an approximate height of up to 160 feet with slope gradients generally ranging between 1:1 and 1.5:1 (horizontal:vertical). Relevant historic aerial photographs are included in Appendix D.

5.2 COLLUVIUM (Qc)

Soils identified as colluvium (identified as Qc on Figure 2) have accumulated in swale and valley areas of the site. Based on examination of historic aerial photographs, the colluvium appears to have been deposited by a combination of shallow landslides, debris flows, and erosion/slopewash processes. In the central portion of the site, the colluvium is up to approximately 50 feet thick based on borings by ENGEO and PSC. Similar deposits of colluvium and landslide deposits were encountered in explorations by BGC and Ryan Geological Consulting to depths of approximately 20 to 40 feet. Areas mapped as colluvium are potentially future landslide and debris flow hazards. Historic aerial images show that debris flows have historically originated on the steep western and southern slopes on the site, and deposited debris on the flatter slopes of swale and valley areas.

The colluvium encountered in subsurface explorations consists of interlayered dense silty to clayey sands and very stiff to hard lean clays. At most locations, the upper 3 to 4 feet consists of stiff, dark brown sandy silt.

5.3 LANDSLIDE DEPOSITS (Qls)

Landslide deposits, depicted as Qls on Figure 2, were identified during our review of black and white stereo-paired photographs as well as by both BGC (2008) and Ryan Geological Consulting, Inc. during previous studies of the project area. As described in Test Pits TP-6,

TP-12, and TP-14 by BGC (2008), shallow landslides within the southern portion of the site were observed to range between 6.5 and 8 feet thick and appear to be contained within colluvial soils (i.e. do not extend into underlying bedrock). Shallow landslides within the central portion of the site were not explored by ENGEO during our recent field activities.

ENGEO Borings 1-B2, 2-B4 and 2-B5 advanced within the northern portion of the site, encountered larger landslide deposits overlying sandstone bedrock at a depth of approximately 15 to 30 feet below the ground surface. The approximate limits of the northernmost landslide are depicted on Figure 2.

5.4 SANDSTONE AND SHALE BEDROCK (KJfs)

Bedrock consisting of the Franciscan complex was encountered at relatively shallow depths during our subsurface exploration or previous investigations within areas mapped as KJfs, as depicted on Figure 2. Where encountered, bedrock materials were generally observed to consist of moderately weathered, medium strong to strong sandstone and shale units striking roughly northeast-southwest to northwest-southeast with dip inclinations varying between 51 and 61 degrees to the east. The observed bedrock structure is generally consistent with published regional geologic maps.

6.0 GROUNDWATER

During our field exploration, groundwater was encountered in the Boring 1-B1 at a depth of approximately 25 feet and in Borings 2-B1 and 2B2 at depths of approximately 17 and 15 feet, respectively. Groundwater was encountered during previous field exploration by others, as indicated in their respective reports. The groundwater encountered during field exploration activities should be considered perched lenses of groundwater and not the actual groundwater table.

Groundwater conditions are expected to vary depending on factors such as weather conditions, time of year, and future irrigation practices. For planning purposes, groundwater should be expected near the bedrock contact, especially during wet seasons. In addition, variable perched groundwater may be encountered within “slope wash and ravine fill” deposits, as encountered in various field exploration locations.

A grading concern at this site will be potential groundwater that may be encountered in deeper keyway excavations. As such, planning and construction should consider the use of temporary dewatering of deeper excavations, such as during keyway excavation sitework.

7.0 DISCUSSION AND CONCLUSIONS

7.1 SEISMIC HAZARDS

Potential seismic hazards resulting from a nearby moderate to major earthquake may include primary ground rupture, ground shaking, liquefaction, lurch cracking and lateral spreading, and

landsliding. These potential hazards are discussed below. Review of the site conditions and topography indicates risks from seiches, tsunamis, and inundation due to embankment failure are considered low to negligible.

7.1.1 Ground Rupture

The site is not located within a State of California Earthquake Fault Zone and no known active faults have been mapped on the site. The potential for fault rupture at the site is considered low.

7.1.2 Ground Shaking

An earthquake of moderate to high magnitude generated within the San Francisco Bay Region could cause considerable ground shaking at the site, similar to that which has occurred in the past. To mitigate the shaking effects, all structures should be designed using sound engineering judgment and the latest California Building Code (CBC) requirements, as a minimum.

Seismic design provisions of current building codes generally prescribe minimum lateral forces, applied statically to the structure, combined with the gravity forces of dead-and-live loads. The code-prescribed lateral forces are generally considered to be substantially smaller than the comparable forces that would be associated with a major earthquake. Therefore, structures should be able to: (1) resist minor earthquakes without damage, (2) resist moderate earthquakes without structural damage but with some nonstructural damage, and (3) resist major earthquakes without collapse but with some structural as well as nonstructural damage. Conformance to the current building code recommendations does not constitute any kind of guarantee that significant structural damage would not occur in the event of a maximum magnitude earthquake; however, it is reasonable to expect that a well-designed and well-constructed structure will not collapse or cause loss of life in a major earthquake (SEAOC, 1996).

7.1.3 Liquefaction Potential

Soil liquefaction results from loss of strength during cyclic loading, such as imposed by earthquakes. Soils most susceptible to liquefaction are clean, loose, saturated, uniformly graded fine sands below the groundwater table. When seismic ground shaking occurs, the soil is subjected to cyclic shear stresses that can cause excess hydrostatic pressures to develop and liquefaction of susceptible soil to occur.

Historically, standard geotechnical engineering practices for liquefaction assessment have included layers of loose to medium dense and saturated sandy deposits as being potentially liquefiable. However, empirical evidence from recent major earthquakes and published research projects at major universities indicate that some fine-grained soils (including low plasticity silts and clays) can also liquefy.

Based on existing conditions and considering perched groundwater conditions, there is potential for liquefaction of some colluvial deposits. However, proposed remedial grading recommended in this report for developed portions of the site would be expected to mitigate this hazard.

Therefore, we estimate that risk of liquefaction “post grading” would be considered low to negligible.

7.1.4 Lateral Spreading and Lurch Cracking

Lurch cracking and lateral spreading can occur in weaker soils on slopes that are subjected to strong ground shaking during earthquakes. The potential for lurch cracks forming in weaker surface soils can also be reduced by proper site preparation and grading methods that will be developed in a design-level geotechnical report for the project. Considering proposed remedial grading, the potential for lurching and lateral spreading post grading is considered to be low to negligible.

7.1.5 Slope Stability

As with other hillside development projects in the Bay Area, slope stability is a critical issue for the project. Several landslide deposits have been identified across the site as well as relatively thick deposits of colluvium, as shown on Figure 2. Both mapped landslides and deposits of colluvium could be subject to slope instability. In addition, it is likely that debris flows will continue to be shed from the steep slopes on and above the project into lower-lying areas. Although slope stability and debris flows can be a significant hazard, they can generally be mitigated through proper grading procedures. Where landslides and debris flows could potentially impact the development area, the hazards can be mitigated by a combination of (1) complete removal of the slide debris/colluvium; (2) reconstruction of the slide/colluvium areas with drained, engineered fill; (3) buttressing the slide areas; and (4) retention of landslide deposits extending off the property with a tied-back soldier pile retaining wall.

For this project, we anticipate the mitigation measure will include complete removal of landslide debris and colluvium and replacement as drained engineered fill, both under the development footprint and in potential debris flow source areas underlain by colluvium above the development limits (conceptual geotechnical mitigation measures are depicted on Figures 4A and 4B). Therefore, we anticipate slope stability and debris flow hazards will not pose a significant impact to residential development when mitigated.

7.2 EXPANSIVE SOILS

Based upon visual observation and limited laboratory testing, the surface (upper 3 to 5 feet) colluvial site soils are expected to be moderately expansive. Deeper soils appear to be of low to moderate plasticity. Expansive soils shrink and swell as a result of moisture changes. This can cause heaving and cracking of slabs-on-grade, pavements, and structures founded on shallow foundations.

Successful construction on expansive soils requires special attention during grading. It is imperative to keep exposed soils moist by occasional sprinkling. If the soils dry, it is extremely difficult to remoisturize the soils (because of their clayey nature) without excavation, moisture conditioning, and recompaction.

Conventional grading operations, incorporating fill placement specifications tailored to the expansive characteristics of the soil, and use of a post-tensioned mat foundation are common, generally cost-effective measures to address the expansive potential of the foundation soils. The effects of expansive soils pose a low impact to residential development when mitigated.

7.3 SWELL/SETTLEMENT RELATED TO DEEP FILL

According to the conceptual plans and conceptual remedial grading mitigation measures (Figures 3, 4A and 4B), total fills thickness may extend about 60 feet for the planned development. Studies have shown that engineered fills in residential development sites typically experience increases in moisture content after building construction due to increases in irrigation or natural conditions and to alternation of drainage pattern. This process may take about 5 to 10 years after irrigation commences, or even more, before the fill becomes fully wetted. The wetting process can cause settlement or swell (hydrocompression due to wetting) depending on soil type, compaction, moisture content, and the overburden pressures (fill thickness).

Based on our experience, engineered fills can be expected to exhibit net swells in the upper 30 feet and net settlement beginning at depths typically greater than 60 feet. The swelling potential for low to moderate confining pressures as anticipated at this site is significantly reduced when the soils are compacted to a relatively lower compaction and at a higher moisture content. Engineered fill placement recommendations are provided in a subsequent section.

7.4 DIFFERENTIAL FILL THICKNESS

Some of the single-family residential lots could have a differential fill thickness if not graded properly. Differential building movements, although not seriously damaging, may become apparent for large differentials in fill thickness. Therefore, differential fill remedial grading overexcavation is provided in the recommendations section of this report.

7.5 CUT-FILL TRANSITION LOTS AND CUT LOTS

Some residential lots in this project site will likely be entirely in cut or traversed by a cut-fill transition. We anticipate that significant variations in material properties may occur in areas of cut or cut-and-fill “day-lighting” if not mitigated during site grading. Recommendations are provided subsequently in this report to mitigate the effect on structures caused by differential subgrade performance over cuts and cut-fill transition zones.

7.6 CORROSIVITY CONSIDERATIONS

The California Building Code (CBC) references the 2008 American Concrete Institute Manual, ACI 318-08 for concrete requirements based on the potential exposure risk for sulfate attack on concrete in contact with soil.

Testing was not completed as part of our study. Baseline samples should be collected and tested during design-level geotechnical study to determine the potential for corrosion to buried metal

pipelines and sulfate attack on foundation concrete. The sulfate test results should be used to provide recommended concrete design parameters in accordance with the guidelines presented in the CBC. Samples of actual pad subgrade soils should then be collected and tested to confirm minimum foundation concrete strength.

7.7 SEISMIC DESIGN CRITERIA

The 2013 CBC utilizes design criteria set forth in the 2010 ASCE 7 Standard. We characterized the site as Site Class B in accordance with the 2013 CBC. We provide the 2013 CBC seismic design parameters in Table 7.7-1 below, which include design spectral response acceleration parameters based on the mapped Risk-Targeted Maximum Considered Earthquake (MCE_R) spectral response acceleration parameters.

TABLE 7.7-1
2013 CBC Seismic Design Parameters
Latitude: 37.70492 Longitude: -122.42650

Parameter	Value
Site Class	C
Mapped MCE _R Spectral Response Acceleration at Short Periods, S_s (g)	1.83
Mapped MCE _R Spectral Response Acceleration at 1-second Period, S_1 (g)	0.85
Site Coefficient, F_A	1.00
Site Coefficient, F_V	1.00
MCE _R Spectral Response Acceleration at Short Periods, S_{MS} (g)	1.83
MCE _R Spectral Response Acceleration at 1-second Period, S_{M1} (g)	0.85
Design Spectral Response Acceleration at Short Periods, S_{DS} (g)	1.22
Design Spectral Response Acceleration at 1-second Period, S_{D1} (g)	0.57
Mapped MCE Geometric Mean Peak Ground Acceleration (g)	0.72
Site Coefficient, F_{PGA}	1.00
MCE Geometric Mean Peak Ground Acceleration, PGA_M (g)	0.72
Long period transition-period, T_L	12 sec

7.8 BEDROCK EXCAVATION

Bedrock underlying the site consists of shale and sandstone of the Franciscan Complex. Based on our experience in the area, the majority of this material should be rippable using conventional excavation equipment. RGC performed seismic refractions of the bedrock units and recorded seismic velocities of about 7,900 to 9,700 feet per second. Ripper performance charts provided by Caterpillar indicate these seismic velocities are marginally to non-rippable with a D9 Dozer, and generally rippable with a D10T to D11T dozer. Some resistant sandstone beds should be anticipated that require mechanical breaking with a hoe ram attached to an excavator.

7.9 CONCLUSIONS

Based upon this preliminary study, it is our opinion that the project site is suitable for the proposed development. A design-level geotechnical exploration should be performed as part of the design process, which would include additional borings, test pits, and laboratory soil testing to provide data for preparation of specific recommendations regarding remedial grading measures, foundations, and drainage to mitigate potential geotechnical/geological hazards for the proposed residential construction.

8.0 PRELIMINARY RECOMMENDATIONS

The following recommendations are for initial land planning and preliminary estimating purposes. Final recommendations regarding site grading and foundation construction will be provided after additional site-specific exploration has been undertaken once final land plans are available.

8.1 GRADING

Grading and site development plans should be coordinated with the Engineering Geologist and the Geotechnical Engineer to modify the plans such that they mitigate known soil and geologic hazards. Detailed locations of keyways, subdrains, debris benches, and subexcavation areas should be shown on the final grading plans upon their completion. Sequence of grading issues, such as placement of various cut materials in specific locations, should also been evaluated during review of final 40-scale grading plans.

Grading operations should meet the requirements of the Supplemental Recommendations included in Appendix E and must be observed and tested by ENGEO's field representatives. After the grading operations commence, geologic observations of cut areas should be made at frequent intervals by the Engineering Geologist. This is advised so that modified geologic recommendations can be incorporated into updated grading plans as grading proceeds.

8.1.1 Demolition and Stripping

Site development will commence with the removal of improvements and their foundations, and buried structures, including abandoned utilities and septic tanks and their leach fields, if any exist. All existing artificial fills, vegetation, and soft or compressible soils should be removed as necessary for project requirements. Actual depths of stripping and unsuitable material and tree root removal will be determined by the Geotechnical Engineer's field representative during grading.

Within the development areas, excavations resulting from demolition and stripping which extend below final grades should be cleaned to firm undisturbed soil as determined by the Geotechnical Engineer's representative. Following clearing and grubbing, all depressions in areas to be filled should be scarified, moisture conditioned and backfilled with compacted engineered fill. The

requirements for backfill materials and placement procedures are the same as those for engineered fill described below.

No loose or uncontrolled backfilling of depressions resulting from demolition and stripping should be permitted.

8.1.2 Selection of Materials

With the exception of construction debris (wood, brick, asphalt, concrete, metal, etc.), trees, organically contaminated materials (soil which contains more than 3 percent organic content by weight), and environmentally impacted soils (if any), we anticipate the site soils are suitable for use as engineered fill. Unsuitable materials and debris, including trees with their root balls, should be removed from the project site. Subject to approval by the Landscape Architect, organically contaminated soil may be stockpiled in approved areas located outside of the grading limits for future placement within landscape areas.

Oversized soil or rock materials (those exceeding two-thirds of the lift thickness or 6 inches in dimension, whichever is less) should be removed from the fill and broken down to meet this requirement. Rocks up to 12 inches in size may be selectively placed at depths greater than 10 feet from finished grade. Rocks greater than 12 inches in size should be broken down such that their maximum dimension is less than 12 inches, or placed in non-structural fills, in stormwater quality or wetland features, or in landscape areas.

The Geotechnical Engineer should be informed when import materials are planned for the site. Import materials should be submitted to, and approved by, the Geotechnical Engineer prior to delivery at the site and should conform to the requirements provided in the Supplemental Recommendations (Appendix E).

8.2 FILL PLACEMENT

Areas to receive fill should be scarified to a depth of 12 inches, moisture conditioned, and recompacted to provide adequate bonding with the initial lift of fill. All fills should be placed in thin lifts. The lift thickness should not exceed 8 inches or the depth of penetration of the compaction equipment used, whichever is less. The following preliminary compaction recommendations should be used for the placement and compaction of fills. Low-expansive fills refer to materials with a Plasticity Index less than 12.

TABLE 8.2-1
Compaction and Moisture Content Requirements

Description	Materials	Minimum Relative Compaction (%)	Minimum Moisture Content (Percentage Points Above Optimum)
Within the upper 5 feet of finished grade	Expansive	88 to 92	4
	Low-expansive	90	2
From 5 to 40 feet below finished grade	Expansive	90	3
	Low-expansive	95	2

Relative compaction refers to in-place dry density of the fill material expressed as a percentage of the maximum dry density as determined by ASTM D-1557. Optimum moisture is the moisture content corresponding to the maximum dry density.

Additional compaction requirements may be required. These additional requirements will be developed during design-level study.

8.3 REMEDIAL GRADING CONCEPTS

Preliminary remedial grading concepts are presented below. Development of the final grading plans should be coordinated with the Geotechnical Engineer and Engineering Geologist in order to tailor the plans to accommodate known soil and geologic hazards and to improve the overall stability of the site. Detailed locations of keyways, subdrains and subexcavation areas will be outlined on these plans during our review, as applicable.

8.3.1 Colluvium and Landslide Debris Removal

Based on our preliminary study, the project should consider remedial grading that will completely overexcavate and remove colluvial slope debris and landslide deposits to expose competent bedrock as determined by the Geotechnical Engineer's representative.

Additional design-level study should be performed to possibly refine this preliminary recommendation and consider partial removal of colluvium deposits. As described above, the adjacent project to the west was constructed by building relatively steep fill slopes close to the western project property line. The toes of existing fill slopes are directly above areas where deposits of colluvium will be removed by remedial grading. As with any hillside development project, there will be a risk of upslope movement of temporary back-cuts during colluvium removal. It will therefore be advisable to consider making excavations in colluvial deposits near the adjacent slopes in relative narrow slots to reduce the risk of upslope movement.

8.3.2 Graded Slopes

Permanent cut slopes in exposed bedrock can be constructed at gradients up to 2:1. Permanent cut slopes in colluvium or slope debris material should be overexcavated to expose competent

bedrock and be reconstructed as an engineered fill slope. All cut slopes should be viewed by the Engineering Geologist during slope grading for adverse bedding, seepage, or bedrock conditions which may affect slope stability. In the event that adverse geologic conditions are detected during grading of the cut slopes, additional overexcavation and reconstruction of these slopes may be necessary.

Permanent fill slopes should be constructed at gradients no steeper than 2:1. Fill slopes should be constructed with keyways extending into competent bedrock, and subsequent fill should be continuously benched into and placed onto bedrock. Fill slopes should be overbuilt at least 2 feet, and then cut back to design grades.

Permanent 2:1 graded slopes (cut or fill) constructed using general colluvium should be a maximum height of 10 feet. Where steeper and/or higher slopes are desired, supplemental slope stabilization techniques such as the use of select low-expansive fill materials, and/or incorporation of geogrid-reinforcing materials will likely be required. Graded slopes (cut or fill) exceeding 30 feet in height should be constructed with intermediate surface benches spaced no greater than 30 feet vertically. The benches should be at least 8 feet wide with concrete-lined V-ditches to intercept runoff.

To improve performance of slopes against erosion, in addition to typical erosion control protection such as hydroseeding or other techniques, we recommend that all finished slopes receive roughly a 6-inch-thick layer of track-walked moistened strippings placed on a roughened, moistened slope. In some locations at the site, we anticipate track-walked strippings will not be sufficient, and placement of a robust erosion control blanket will be required.

8.3.3 Tied-Back Soldier Pile Retaining Wall

It is proposed to construct a portion of the development on an existing landslide deposit on the northern portion of the project. Remedial grading excavations in this area will be up to approximately 30 feet below existing grade. The adjacent property is currently developed with apartment buildings extending to near the property line. It will therefore be necessary to plan for support of proposed temporary excavations with suitably designed earth retention such as a tied-back soldier pile wall that will support the slopes above the project during grading removals. We anticipate that the wall system will be designed at a later date when project plans are more finalized.

8.3.4 Toe Keyways

Site grading generally commences with construction of engineered keyways placed at the toe of slopes. We anticipate that typical keyway designs will consist of minimum 18-foot-wide keyways constructed to a minimum depth of 3 to 5 feet into underlying bedrock, as recommended by the Geotechnical Engineer. Keyway and other typical details are presented on Figure 7; however, final keyway sizes and locations will be shown on remedial grading plans to be developed during review of the final grading plan.

8.3.5 Subsurface Drainage Facilities

Subsurface drainage systems should be installed in all keyways, and at the base of swale and landslide cleanout areas that are to be filled. Secondary bench subdrains may also be required, depending upon the height of the fill slope and the slope of the underlying native terrain. The recommended locations of the subdrains will be approximately located on the corrective grading plans used during site grading; however, general details are presented on Figure 8.

8.3.6 Differential Fill Thickness

Differential fill thickness conditions could possibly arise. For subexcavation activities that create a differential fill thickness across individual building pads, mitigation to achieve a similar fill thickness across the pad is beneficial for the performance of a shallow foundation system. For planning purposes, we recommend that a differential fill thickness of up to 20 feet is acceptable across individual building pads. Where this condition is exceeded, local subexcavation of soil material and replacement by engineered fill will be necessary.

8.3.7 Cut-Fill Transition and Cut Lots

Some of the lots in this project may be entirely in cut or traversed by a cut-fill transition. Significant variations in material properties may occur in areas of cut or cut-and-fill transition, due to the highly variable nature of site soils and bedrock. Such situations can be detrimental to building performance.

For planning purposes, we recommend that upper portions of transition lots be re-worked to achieve a 3-foot layer of properly compacted engineered fill. Cut lots should be reworked to achieve at least a 2-foot layer of properly compacted engineered fill. Cut/fill transition lots and cut lots should be designated on corrective grading plans for the project.

8.4 FOUNDATION RECOMMENDATIONS

The following preliminary foundation recommendations are provided for planning purposes and should be evaluated once the final foundation layouts are provided. Contingent on the successful completion of remedial grading, it is our opinion that the proposed residential structures may be supported on structural mat foundations provided that the structures are located on level ground and at least 10 feet from top of slopes. A minimum mat thickness of 10 inches is recommended. The perimeter should be thickened to at least 12 inches.

Buildings that are located within 10 feet of the top of slopes and/or with differential fill thickness greater than 10 feet can be supported on drilled piers with raised floors. The piers should be interconnected by grade beams and used in conjunction with raised floors. The construction of deeper piers with a wider spacing and stiffer grade beams is preferred. We also recommend extending the piers into firm, natural materials as determined by ENGEO from the boring data and also from pier drilling during construction. For planning purposes, minimum 16-inch diameter piers extending at least 15 feet deep should be assumed.

Due to split-pad configuration of lots, surface and shallow subsurface drainage will require close attention during the design and construction of pad improvements. Subsurface drains should be constructed around building perimeters to limit subsurface seepage under foundations. The subsurface drain trench should be at least 12 inches wide and at least 6 inches below the lowest elevation of the adjacent crawl space (if present), or a minimum of 18 inches deep.

Drainage is particularly important for structures with raised floors and crawl spaces. Structures with raised floors should be provided with crawl space drains. The crawl space drain system should outlet to an approved location outside the structure.

8.5 RETAINING WALLS

Unrestrained walls constructed on level foreground and up to 6 feet in retaining height should be designed for active lateral fluid pressure considering drained conditions.

TABLE 8.5-1

Backfill Slope Condition	Active Pressure (pcf)
Level	50
4:1	55
3:1	60
2:1	70

For walls constructed as part of the house foundations, at-rest earth pressures should be used in design since such walls are not free to deflect at the top. Restrained walls with a level backfill condition should be designed for an at-rest pressure of 80 pcf. Walls with 2:1 backslope should be designed for an at-rest pressure of 100 pcf. These recommendations consider drained conditions.

Passive pressures acting on shallow foundations and keyways may be assumed as 250 pounds per cubic foot (pcf) provided that the area in front of the retaining wall is level for a distance of at least 10 feet or three times the depth of foundation and keyway, whichever is greater. The upper 1 foot of soil should be excluded from passive pressure computations unless it is confined by pavement or a concrete slab. The friction factor for sliding resistance may be assumed as 0.35. It is recommended that retaining wall footings be designed using an allowable bearing pressure of 2,500 pounds per square foot (psf) in engineered fill. The footings should be at least 24 inches below lowest adjacent grades. Walls adjacent to sloping terrain should be supported on deep foundations such as drilled piers.

The Geotechnical Engineer should be consulted on additional design recommendations where walls are taller than 6 feet in retained height, tiered retaining wall conditions exist, or surcharge loading is present.

All retaining walls should be provided with drainage facilities to prevent the build-up of hydrostatic pressures behind the walls. Wall drainage may be provided using a 4-inch-diameter perforated pipe embedded in Class 2 permeable material, or free-draining gravel surrounded by synthetic filter fabric. The width of the drain blanket should be at least 12 inches. The drain blanket should extend to about 1 foot below the finished grades. As an alternative, prefabricated wall drain panels can be used. The upper 1 foot of wall backfill should consist of onsite clayey soils. Collector perforated pipes should be directed to an outlet approved by the Civil Engineer.

All backfill should be placed in accordance with recommendations provided above for engineered fill. Light equipment should be used during backfill compaction to reduce possible overstressing of the walls.

8.6 PRELIMINARY PAVEMENT DESIGN

As applicable, the following preliminary pavement sections for new streets has been determined for a Traffic Index of 4 through 6, an assumed R-value of 5, and in accordance with the design methods contained in Topic 633 of Caltrans Highway Design Manual (including the asphalt factor of safety), presented in the table below.

TABLE 8.6-1
Preliminary Pavement Sections

Traffic Index	HMA (inches)	AB (inches)
4.0	2 ½	8
5.0	3	10
6.0	3 ½	13

Notes: HMA – Hot Mix Asphalt

AB – Caltrans Class 2 aggregate base (R-value of 78 or greater)

The above preliminary pavement sections are provided for estimating only. We recommend the actual subgrade material be tested for R-value once established and the Traffic Index and minimum pavement section(s) should be confirmed by the Civil Engineer and the City of Daly City.

8.7 DRAINAGE

The building pads must be positively graded at all times to provide for rapid removal of surface water runoff from the foundation systems and to prevent ponding of water under floors or seepage toward the foundation systems at any time during or after construction.

Ponding of stormwater must not be permitted on the building pads during prolonged periods of inclement weather. As a minimum requirement, finished grades should have slopes of at least 3 to 5 percent within 7 feet from the exterior walls at right angles to them to allow surface water to drain positively away from the structures. For paved areas, the slope gradient can be reduced

to 2 percent. All surface water should be collected and discharged into the storm drain system. Landscape mounds must not interfere with this requirement.

All roof stormwater should be collected and directed to downspouts. Stormwater from roof downspouts should be directed to a solid pipe that discharges to the street, to an approved outlet, or onto an impervious surface, such as the concrete apron or pavement area that will drain at a 2 percent slope gradient.

8.8 REQUIREMENTS FOR LANDSCAPING IRRIGATION

Vegetation should not be planted immediately adjacent to structures. If planting adjacent to the building is desired, we recommend using plants that require very little moisture with drip irrigation systems.

Sprinkler systems should not be installed where they may cause ponding or saturation of foundation soils within 5 feet of the walls or under structures. Ponding or saturation of foundation soils may cause loss of soil strength, and movements of the foundation and slabs.

Irrigation of landscaped areas should be strictly limited to that necessary to sustain vegetation. Excessive irrigation could result in saturation and weakening of foundation soils. The Landscape Architect and prospective owners should be informed of the surface drainage requirements included in this report.

8.9 UTILITIES

It is recommended that utility trench backfilling be done under the observation of a Geotechnical Engineer. Pipe zone backfill (i.e., material beneath and immediately surrounding the pipe) may consist of a well-graded import or native material less than $\frac{3}{4}$ inch in maximum dimension compacted in accordance with recommendations provided above for engineered fill. Trench zone backfill (i.e., material placed between the pipe zone backfill and the ground surface) may consist of native soil compacted in accordance with recommendations for engineered fill.

Material used for pipe zone backfill should consist of fine- to medium-grained sand or a well-graded mixture of sand and gravel, but this material should not be used within 2 feet of finish grades. In general, uniformly graded gravel should not be used for pipe or trench zone backfill due to the potential for migration of: (1) soil into the relatively large void spaces present in this type of material, and (2) water along trenches backfilled with this type of material. All utility trenches entering buildings and paved areas must be provided with an impervious seal consisting of native materials or concrete where the trenches pass under the building perimeter or curb lines. The impervious plug should extend at least 3 feet to both sides of the crossing.

Care should be exercised where utility trenches are located beside foundation areas. Utility trenches constructed parallel to foundations should be located entirely above a plane extending down from the lower edge of the footing at an angle of 45 degrees. Utility companies and Landscape Architects should be made aware of this information.

Utility trenches in paved areas should be constructed in accordance with City of Daly City requirements. Compaction of trench backfill by jetting should be avoided. The owner should be notified if a conflict between city or other agency requirements and the recommendations contained in this report is observed to provide a resolution prior to submitting bids.

9.0 LIMITATIONS AND UNIFORMITY OF CONDITIONS

This report is issued with the understanding that it is the responsibility of the owner to transmit the information and recommendations of this report to developers, contractors, buyers, architects, engineers and designers for the project so that the necessary steps can be taken by the contractors and subcontractors to carry out such recommendations in the field. The conclusions and recommendations contained in this report are solely professional opinions.

The professional staff of ENGEO Incorporated strives to perform its services in a proper and professional manner with reasonable care and competence but is not infallible. There are risks of earth movement and property damage inherent in land development. We are unable to eliminate all risks or provide insurance; therefore, we are unable to guarantee or warrant the results of our work.

This report is based upon field and other conditions discovered at the time of preparation of ENGEO's work. This document must not be subject to unauthorized reuse, that is, reuse without written authorization of ENGEO. Such authorization is essential because it requires ENGEO to evaluate the document's applicability given new circumstances, not the least of which is passage of time. Actual field or other conditions will necessitate clarifications, adjustments, modifications or other changes to ENGEO's work. Therefore, ENGEO must be engaged to prepare the necessary clarifications, adjustments, modifications or other changes before construction activities commence or further activity proceeds. If ENGEO's scope of services does not include onsite construction observation, or if other persons or entities are retained to provide such services, ENGEO cannot be held responsible for any or all claims, including, but not limited to claims arising from or resulting from the performance of such services by other persons or entities, and any or all claims arising from or resulting from clarifications, adjustments, modifications, discrepancies or other changes necessary to reflect changed field or other conditions.

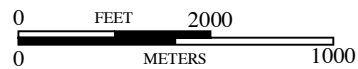
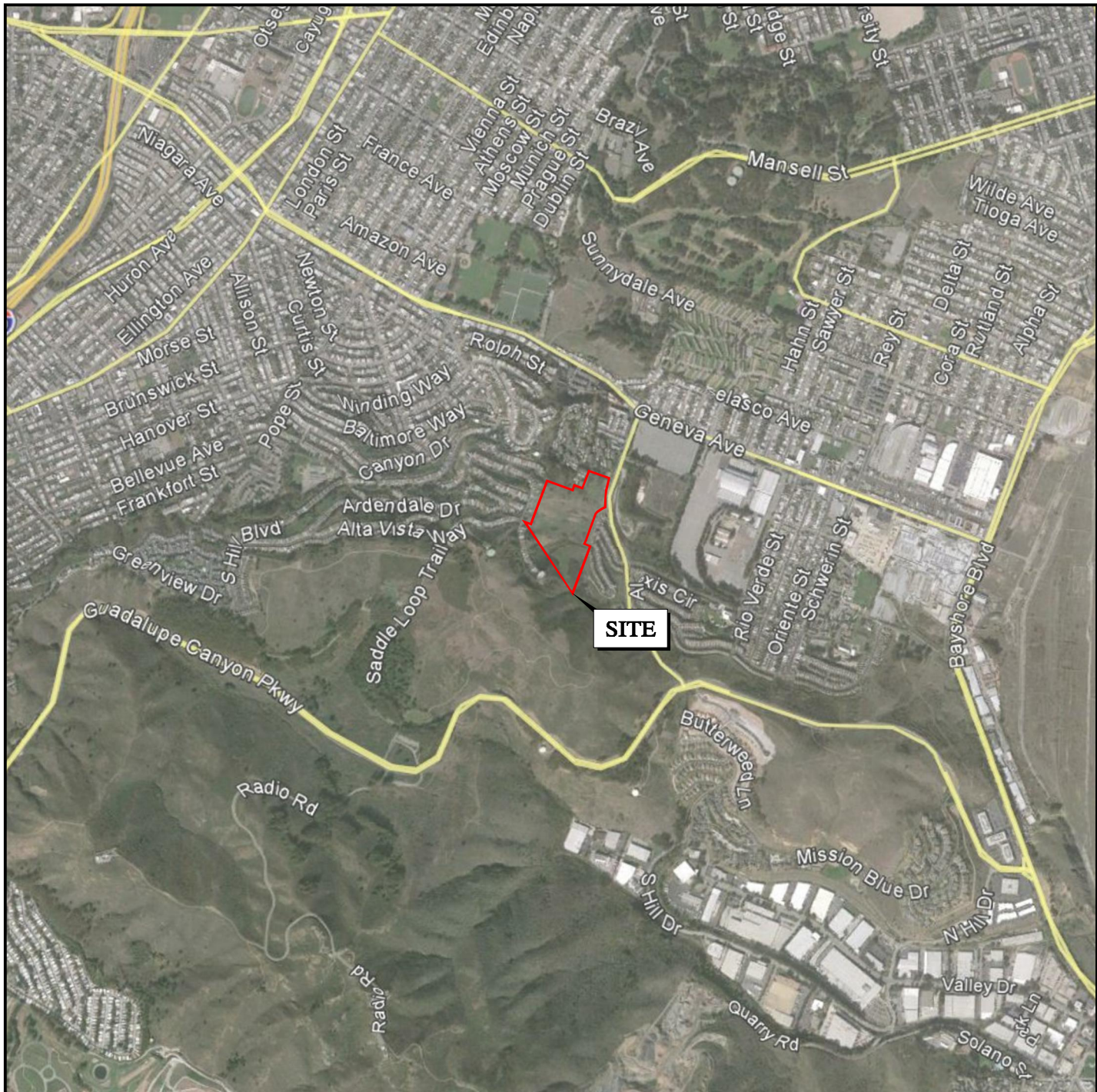
SELECTED REFERENCES

- American Society of Civil Engineers, 2010, Minimum Design Loads for Buildings and Other Structures, ASCE Standard, ASCE/SEI 7-10.
- Berlogar Geotechnical Consultants, Supplemental Geotechnical Investigation, Emerald Heights, Daly City, California, August 27, 1999.
- Berlogar Geotechnical Consultants, Preliminary Geotechnical Exploration, Point Martin Subdivision, Daly City, California, July 29, 2008.
- Bonilla, M.G., 1998, Preliminary Geologic Map of the San Francisco South 7.5' Quadrangle and Part of the Hunters Point 7.5' Quadrangle, San Francisco Bay Area, California: a Digital Database, U.S. Geological Survey, Open File Report OF-98-354.
- California Building Code, 2013.
- California Department of Transportation, 1992, Highway Design Manual.
- Hart, E.W., 1997, Fault-Rupture Hazard Zones in California, California Division of Mines and Geology Special Publication 42, revised.
- PSC Associates Inc., Geotechnical Feasibility Study, Proposed Residential Development Between Carter Street and Oakridge Drive, Daly City, California, August 16, 2000.
- Ryan Geological Consulting, Inc., Engineering Geologic Evaluation, Point Martin Subdivision, Daly City, California, December 10, 2013.
- SEAOC, 1996, Recommended Lateral Force Requirements and Tentative Commentary.
- Southern California Earthquake Center (SCEC), 2008, Recommended Procedures for Implementation of DMG Special Publication 117A, Guidelines for Evaluation and Mitigating Seismic Hazards in California, adopted September 11.
- State of California, Division of Mines and Geology (CDMG), 1982, Earthquake Fault Hazard Zones Map, San Francisco South Quadrangle (previously named Special Studies Zones Map).
- WGCEP, 2007; Earthquake Probabilities in San Francisco Bay Region 2002-2031; U.S. Geological Survey; Open-File Report 03-214.

FIGURES

Figure 1	Vicinity Map
Figure 2	Site Plan
Figure 3	Proposed Development Plan
Figure 4A	Cross Section A-A'
Figure 4B	Cross Section B-B'
Figure 5	Regional Geologic Map (Bonilla)
Figure 6	Regional Faulting and Seismicity
Figure 7	Typical Keyway Details
Figure 8	Typical Subdrain Details





BASE MAP SOURCE: GOOGLE EARTH PRO



VICINITY MAP
POINT MARTIN
DALY CITY, CALIFORNIA

PROJECT NO.: 11308.001.000

SCALE: AS SHOWN

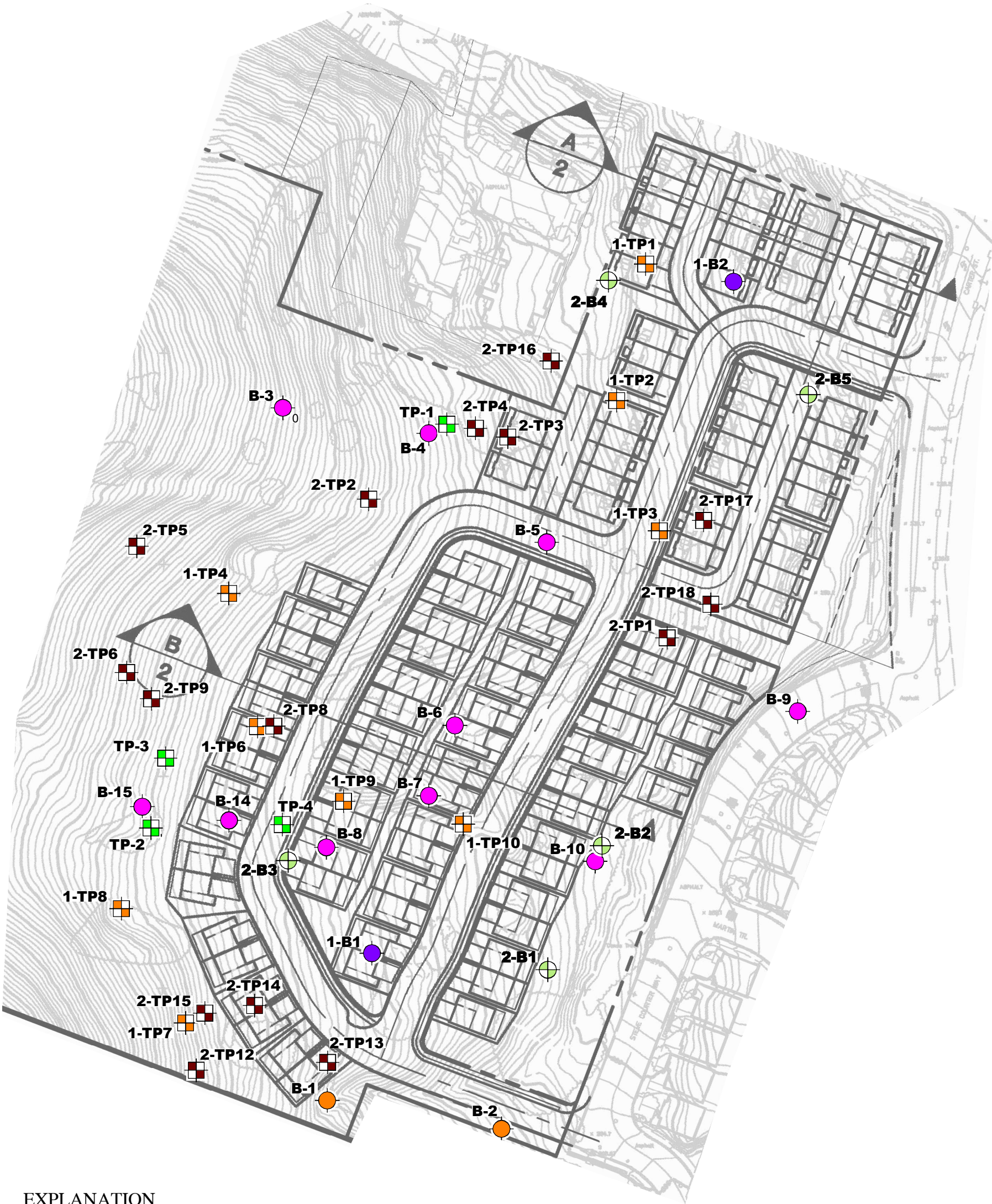
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FIGURE NO.

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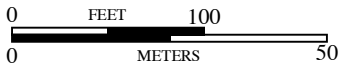
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EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- 2-B5**  BORING (ENGEO, 2015)
- 1-B2**  BORING (ENGEO, 2014)
- B-2**  BORING (RYAN GEOLOGICAL CONSULTING INC., 2013)
- B-15**  BORING (PSC ASSOCIATES, INC. , 2000)
- 2-TP18**  TEST PIT (ENGEO, 2015)
- 1-TP10**  TEST PIT (ENGEO, 2014)
- TP-4**  TEST PIT (PSC ASSOCIATES, INC. , 2000)



BASE MAP SOURCE: RJA

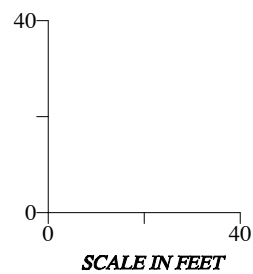
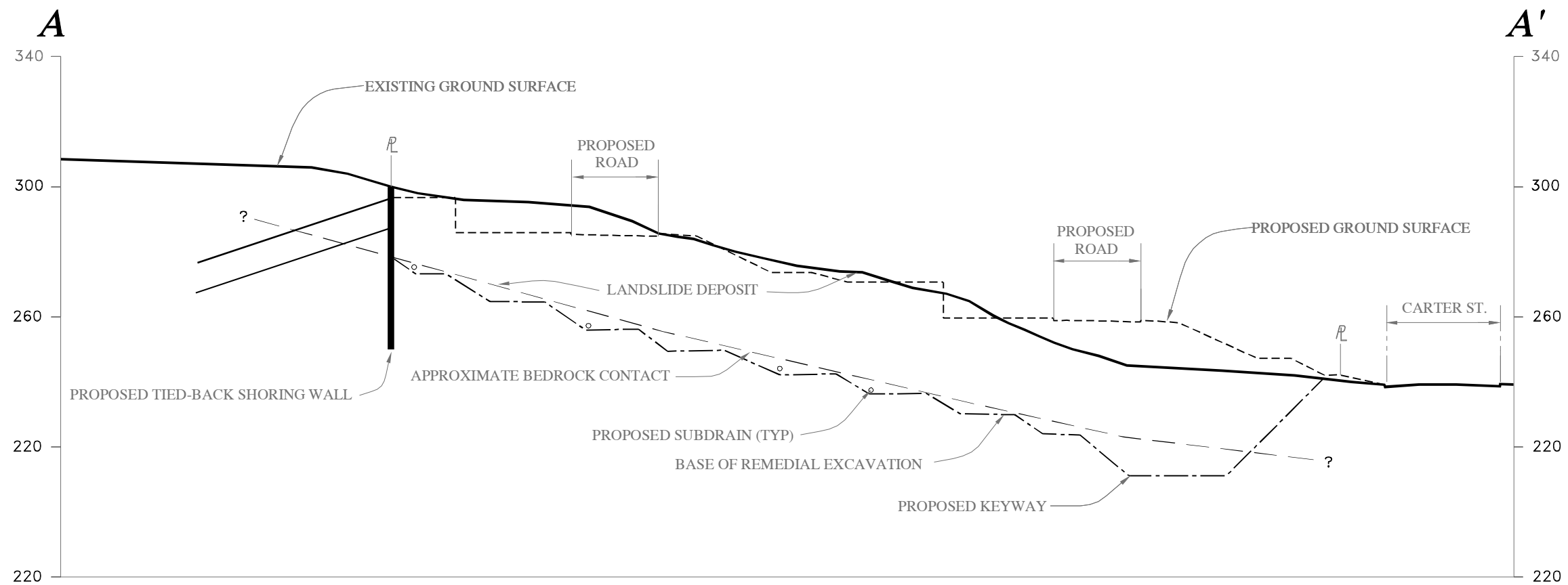


PROPOSED DEVELOPMENT PLAN
POINT MARTIN
DALY CITY, CALIFORNIA

PROJECT NO.: 11308.001.000
SCALE: AS SHOWN
DRAWN BY: SRP
CHECKED BY: PE

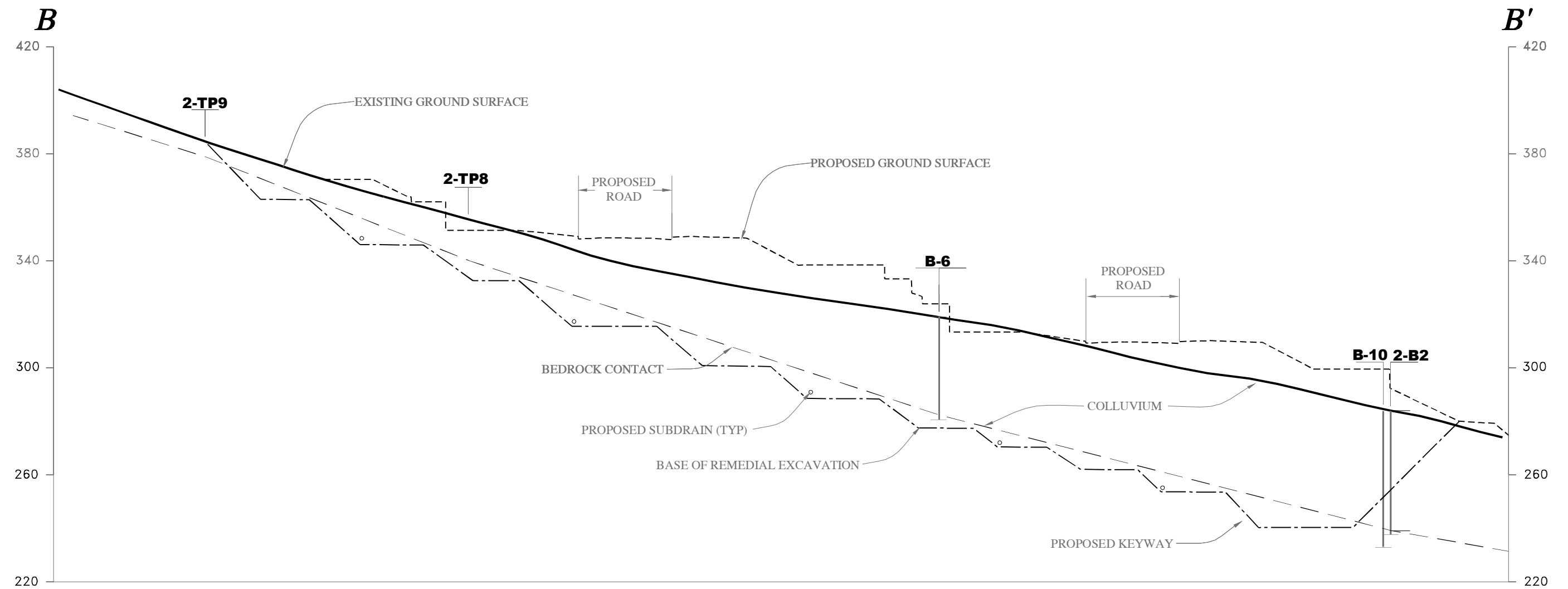
FIGURE NO.
3

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	CROSS SECTION A-A' POINT MARTIN DALY CITY, CALIFORNIA		PROJECT NO.: 11308.001.000	FIGURE NO. 4A
			SCALE: AS SHOWN	
			DRAWN BY: SRP CHECKED BY: PE	

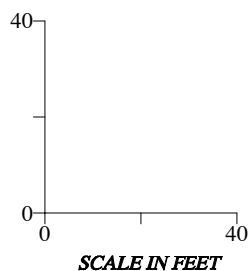
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EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

- 2-TP9** TEST PIT (ENGEO, 2015)
- 2-B2** BORING (ENGEO, 2015)
- B-6** BORING (PSC ASSOCIATES, INC. , 2000)

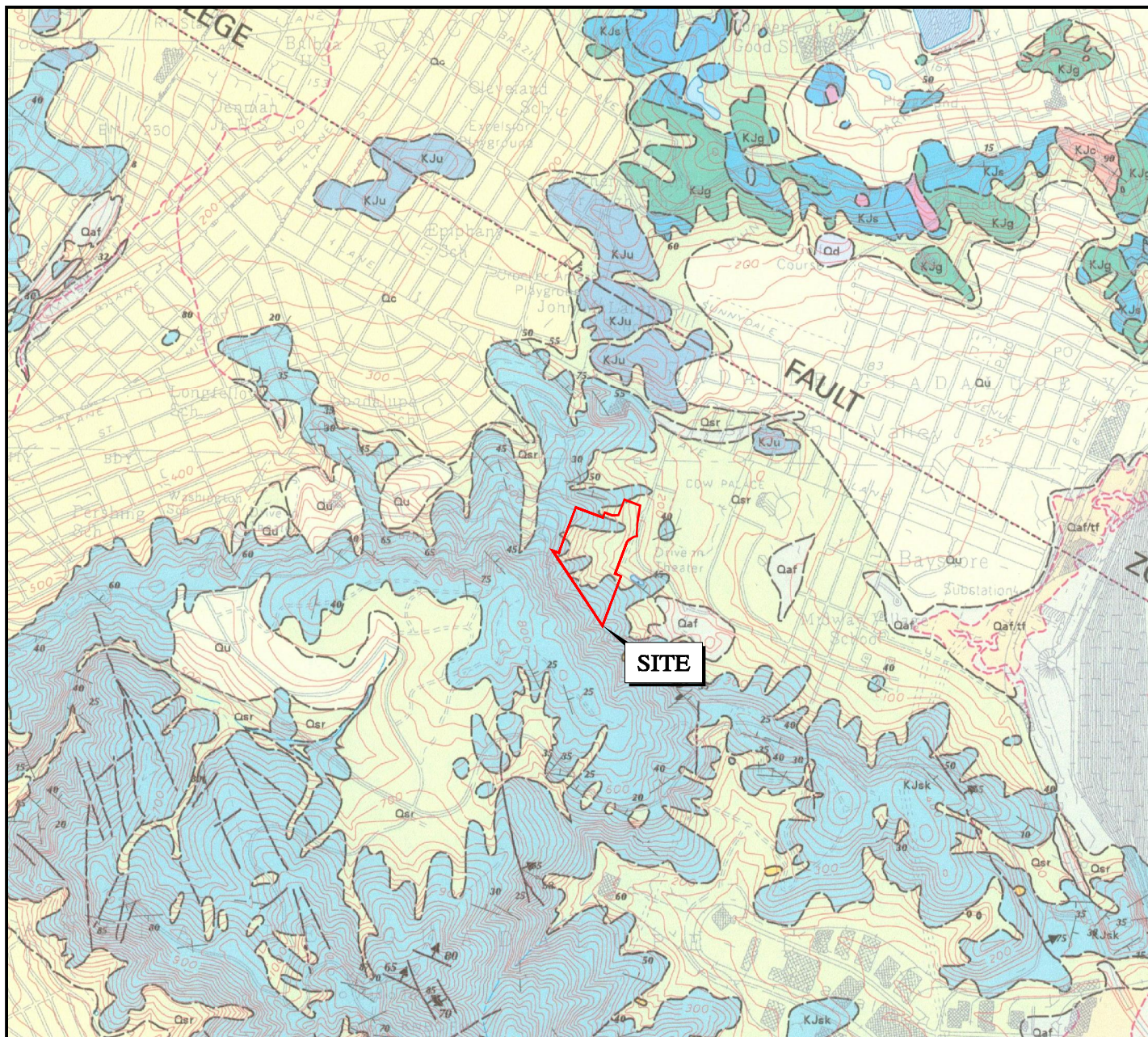


CROSS SECTION B-B'
POINT MARIN
DALY CITY, CALIFORNIA

PROJECT NO.: 11308.001.000
SCALE: AS SHOWN
DRAWN BY: SRP CHECKED BY: PE

FIGURE NO.
4B

ORIGINAL FIGURE PRINTED IN COLOR



EXPLANATION

ALL LOCATIONS ARE APPROXIMATE

----- GEOLOGIC CONTACT-DASHED WHERE GRADATIONAL OR APPROXIMATELY LOCATED

----- FAULT-DASHED WHERE INFERRED, DOTTED WHERE CONCEALED, QUERIED WHERE EXISTENCE IS DOUBTFUL

AXIS OF FOLD

↑ ANTICLINE ↓ SYNCLINE

STRIKE AND DIP OF FAULT

↗ STRIATIONS OR GROOVES

Qaf ARTIFICIAL FILL

Qsr SLOPE DEBRIS AND RAVINE FILL

Qc COLMA FORMATION

Qu SEDIMENTARY DEPOSITS

Kjsk SANDSTONE AND SHALE

STRIKE AND DIP OF STRATA

↗ INCLINED ↘ VERTICAL



0 FEET 2000
0 METERS 1000

BASE MAP SOURCE: BONILLA



REGIONAL GEOLOGIC MAP
POINT MARTIN
DALY CITY, CALIFORNIA

PROJECT NO.: 11308.001.000

SCALE: AS SHOWN

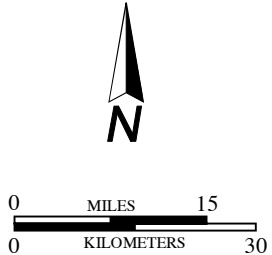
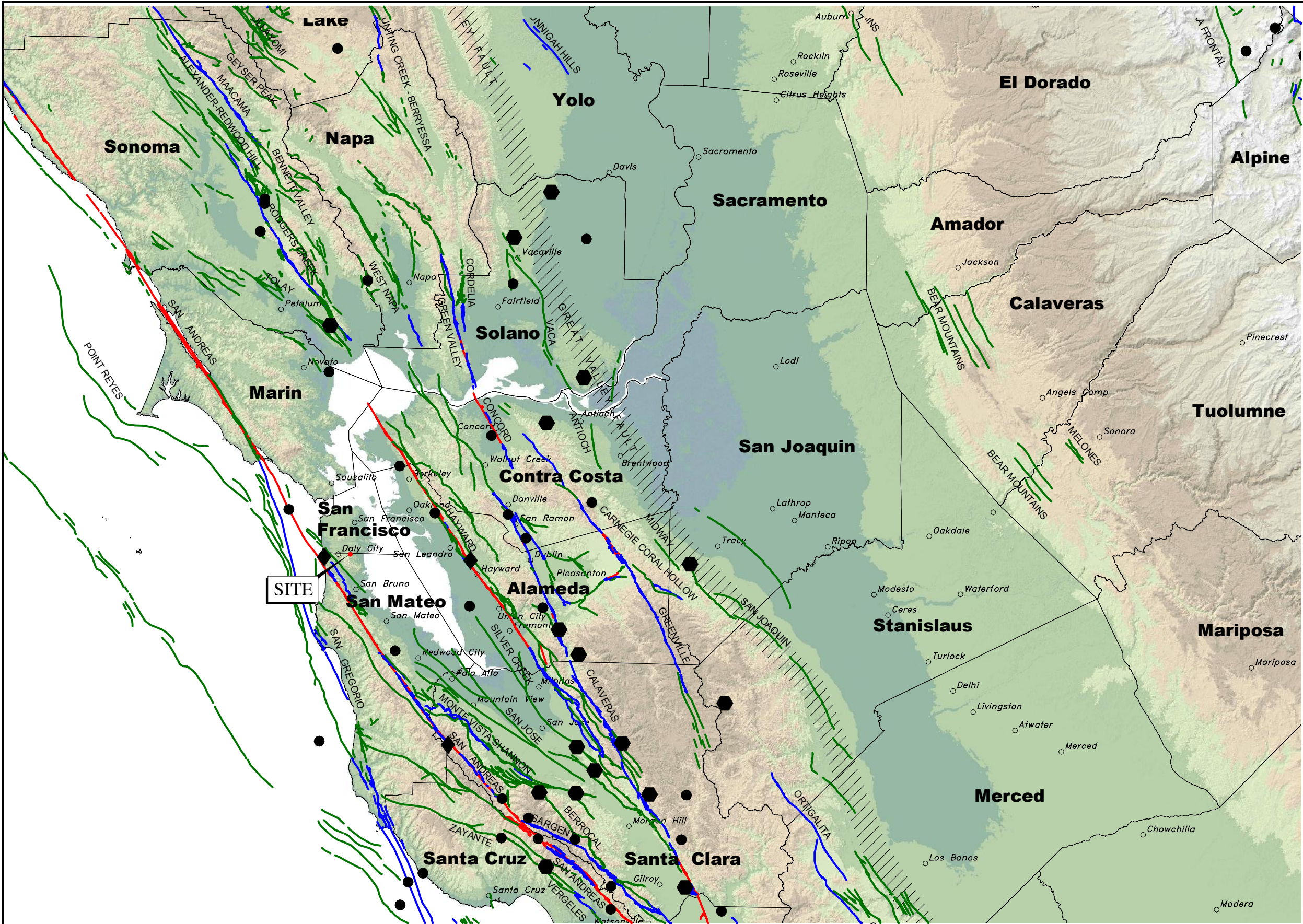
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FIGURE NO.

5

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EXPLANATION	
	MAGNITUDE 7+
	MAGNITUDE 6-7
	MAGNITUDE 5-6
	HISTORIC FAULT
	HOLOCENE FAULT
	QUATERNARY FAULT
	HISTORIC BLIND THRUST FAULT ZONE

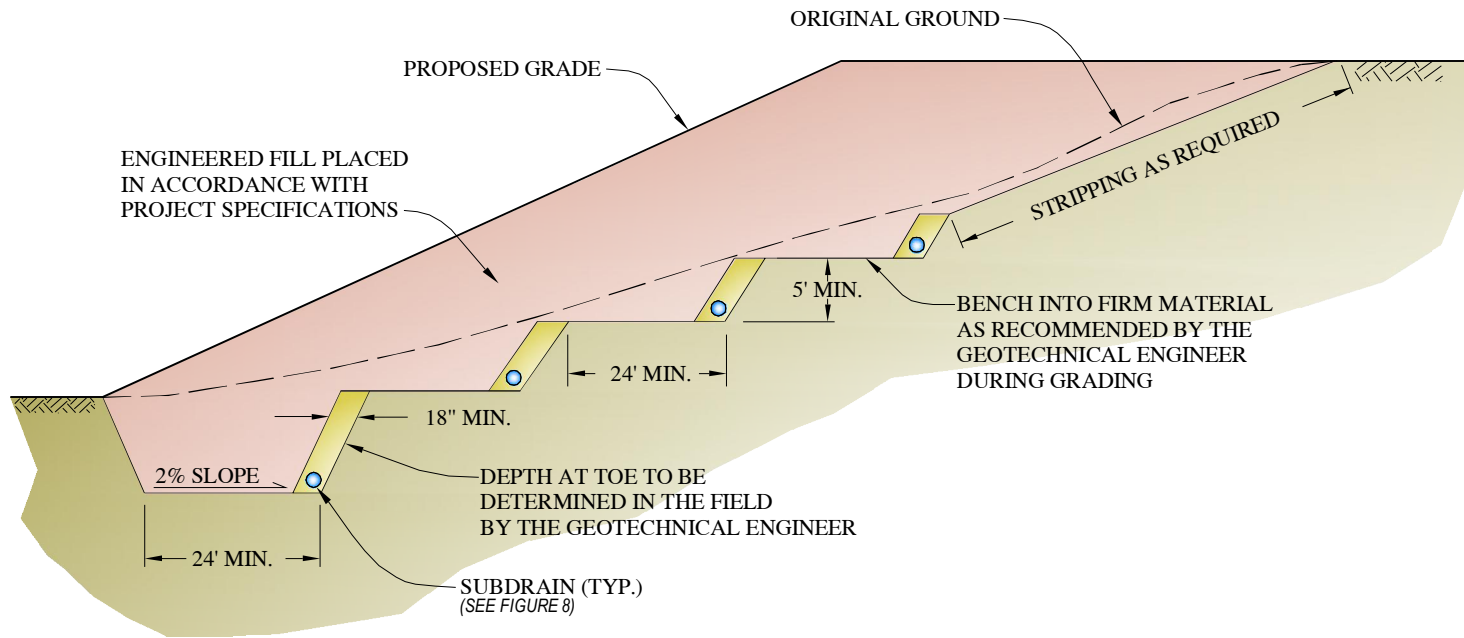
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U.S.G.S. HISTORIC EARTHQUAKE DATABASE (1800-2000)



REGIONAL FAULTING AND SEISMICITY
POINT MARTIN
DALY CITY, CALIFORNIA

PROJECT NO.: 11308.001.000	FIGURE NO 6
SCALE: AS SHOWN	
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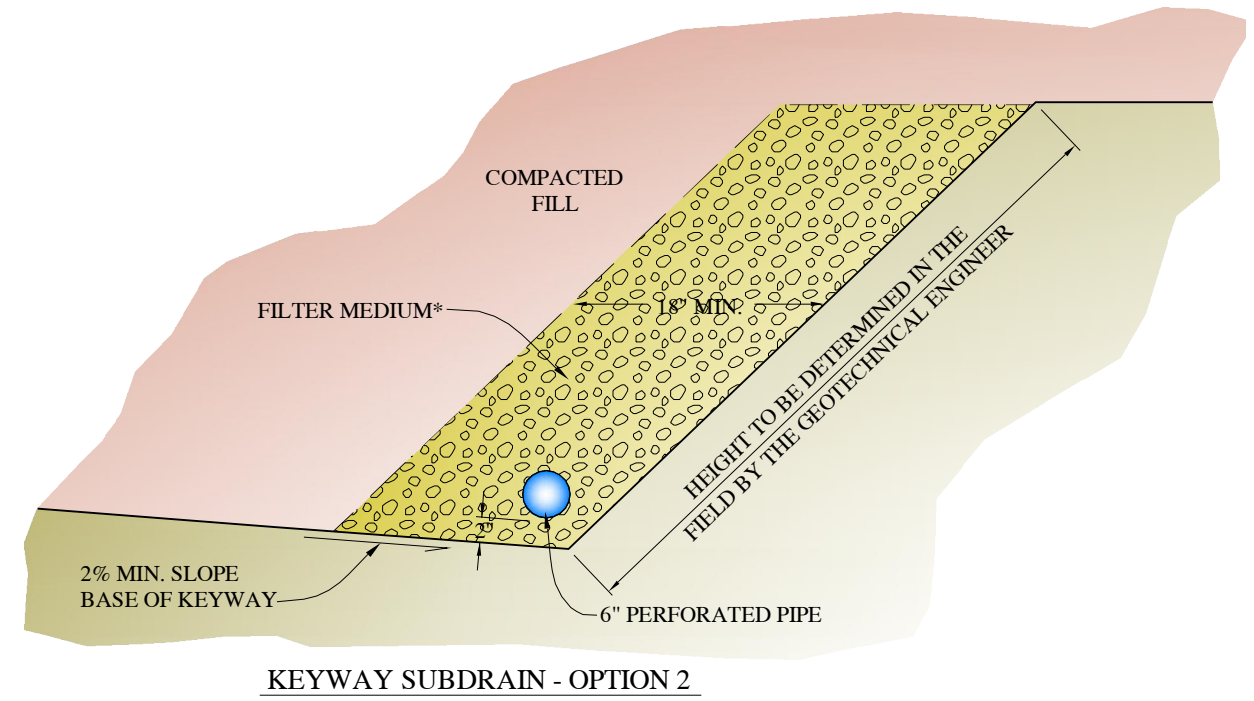
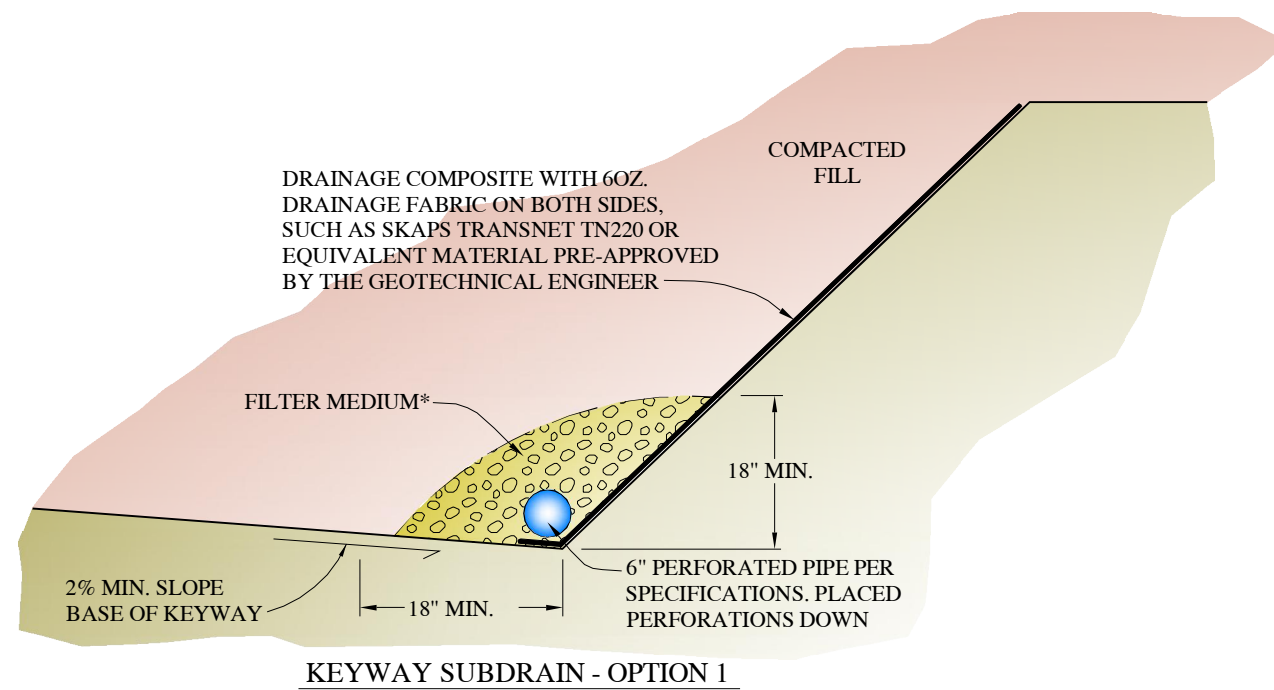
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	TYPICAL KEYWAY DETAIL POINT MARTIN DALY CITY, CALIFORNIA	PROJECT NO.: 11308.001.000		FIGURE NO. 7
		DRAWN BY: SRP	CHECKED BY: PE	

ORIGINAL FIGURE PRINTED IN COLOR

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*FILTER MEDIUM

ALTERNATIVE A

CLASS 2 PERMEABLE MATERIAL

MATERIAL SHALL CONSIST OF CLEAN, COARSE SAND AND GRAVEL OR CRUSHED STONE, CONFORMING TO THE FOLLOWING GRADING REQUIREMENTS:

SIEVE SIZE	% PASSING SIEVE
1"	100
3/4"	90-100
3/8"	40-100
#4	25-40
#8	18-33
#30	5-15
#50	0-7
#200	0-3

ALTERNATIVE B

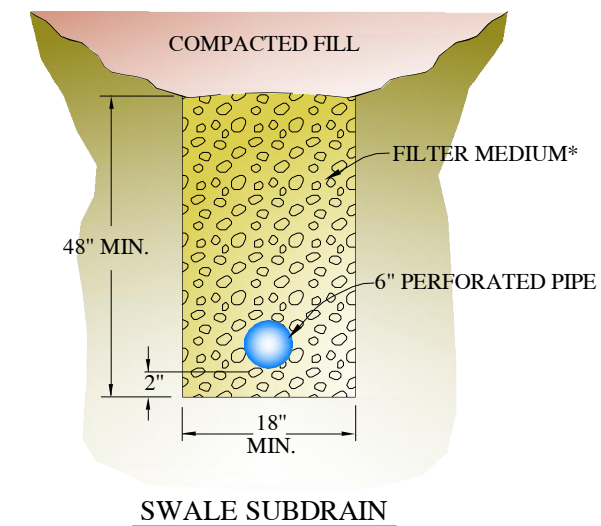
CLEAN CRUSHED ROCK OR GRAVEL WRAPPED IN FILTER FABRIC

ALL FILTER FABRIC SHALL MEET THE FOLLOWING MINIMUM AVERAGE ROLL VALUES UNLESS OTHERWISE SPECIFIED BY ENGEO:

GRAB STRENGTH (ASTM D-4632)	180 lbs
MASS PER UNIT AREA (ASTM D-4751)	6 oz/yd ²
APPARENT OPENING SIZE (ASTM D-4751)	70-100 U.S. STD. SIEVE
FLOW RATE (ASTM D-4491)	80 gal/min/ft
PUNCTURE STRENGTH (ASTM D-4833)	80 lbs

NOTES:

1. ALL PIPE JOINTS SHALL BE GLUED
2. ALL PERFORATED PIPE PLACED PERFORATIONS DOWN
3. 1% FALL (MINIMUM) ON ALL TRENCHES AND DRAIN LINES



TYPICAL SUBDRAIN DETAILS
POINT MARTIN
DALY CITY, CALIFORNIA

PROJECT NO.: 11308.001.000
SCALE: NO SCALE
DRAWN BY: SRP
CHECKED BY: PE

FIGURE NO.
8

**A
P
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A**

APPENDIX A

**Key to Boring Logs
Exploration Logs**



KEY TO BORING LOGS

MAJOR TYPES			DESCRIPTION
COARSE-GRAINED SOILS MORE THAN HALF OF MAT'L LARGER THAN #200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE SIZE	CLEAN GRAVELS WITH LESS THAN 5% FINES	GW - Well graded gravels or gravel-sand mixtures GP - Poorly graded gravels or gravel-sand mixtures
		GRAVELS WITH OVER 12 % FINES	GM - Silty gravels, gravel-sand and silt mixtures GC - Clayey gravels, gravel-sand and clay mixtures
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE	CLEAN SANDS WITH LESS THAN 5% FINES	SW - Well graded sands, or gravelly sand mixtures SP - Poorly graded sands or gravelly sand mixtures
		SANDS WITH OVER 12 % FINES	SM - Silty sand, sand-silt mixtures SC - Clayey sand, sand-clay mixtures
FINE-GRAINED SOILS MORE THAN HALF OF MAT'L SMALLER THAN #200 SIEVE	SILTS AND CLAYS LIQUID LIMIT 50 % OR LESS		ML - Inorganic silt with low to medium plasticity CL - Inorganic clay with low to medium plasticity OL - Low plasticity organic silts and clays
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50 %		MH - Elastic silt with high plasticity CH - Fat clay with high plasticity OH - Highly plastic organic silts and clays
	HIGHLY ORGANIC SOILS		PT - Peat and other highly organic soils

For fine-grained soils with 15 to 29% retained on the #200 sieve, the words "with sand" or "with gravel" (whichever is predominant) are added to the group name.

For fine-grained soil with >30% retained on the #200 sieve, the words "sandy" or "gravelly" (whichever is predominant) are added to the group name.

GRAIN SIZES

U.S. STANDARD SERIES SIEVE SIZE				CLEAR SQUARE SIEVE OPENINGS			
200	40	10	4	3/4 "	3"	12"	
SILTS AND CLAYS	SAND			GRAVEL		COBBLES	BOULDERS
	FINE	MEDIUM	COARSE	FINE	COARSE		

RELATIVE DENSITY

SANDS AND GRAVELS

VERY LOOSE
LOOSE
MEDIUM DENSE
DENSE
VERY DENSE

BLOWS/FOOT (S.P.T.)

0-4
4-10
10-30
30-50
OVER 50

CONSISTENCY

SILTS AND CLAYS

VERY SOFT
SOFT
MEDIUM STIFF
STIFF
VERY STIFF
HARD

STRENGTH*

0-1/4
1/4-1/2
1/2-1
1-2
2-4
OVER 4

MOISTURE CONDITION

DRY
MOIST
WET

Dusty, dry to touch
Damp but no visible water
Visible freewater

LINE TYPES

————— Solid - Layer Break
----- Dashed - Gradational or approximate layer break

GROUND-WATER SYMBOLS



Groundwater level during drilling



Stabilized groundwater level

SAMPLER SYMBOLS

(S.P.T.) Number of blows of 140 lb. hammer falling 30" to drive a 2-inch O.D. (1-3/8 inch I.D.) sampler

* Unconfined compressive strength in tons/sq. ft., asterisk on log means determined by pocket penetrometer

ENGEO
INCORPORATED

CORELOG 2-B1

Geotechnical Exploration
Carter Canyon
Daly City, CA
11308.000.000

DATE DRILLED: 5/28/2015
HOLE DEPTH: Approx. 50¼ ft.
HOLE DIAMETER: 8.0 in.
SURF ELEV (:): Approx. 297 ft.

LOGGED / REVIEWED BY: P. Stuecheli / PJS
CORING CONTRACTOR: Britton Exploration
CORING METHOD: Dry Core
DRILL BIT SIZE/TYPE: 140 lb. Auto Trip

Run Number	Drill Rate (s/ft) OR Blow Count (N)	Run Length (ft)	Recovery (ft)	Recovery (%)	RQD	Depth in Feet	Depth in Meters	Sample Type	Graphic Log	DESCRIPTION	Water Level	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)
1		5	3.5				1			CLAYEY SAND [SC], yellowish brown, hard, with pebbles coated in clay, mottled with orangeish brown manganese oxide staining				
2		5	4.5				2			2" diameter rock @ 5' depth SILTY SAND [SM], grey, moist, mottled with yellowish brown				
3		5	5				3			CLAYEY SAND [SC], olive brown, dense, angular sandstone fragments, mottled with brown and black				
4		5	5				4			Increase in clay content				
5	7	5	5				5			CLAYEY SAND/SANDY CLAY [SC-CL], olive brown, dense, moist, mottled with orangeish brown manganese oxide staining				
6	10	5	5				6			SILTY SAND [SM], olive brown, wet, mottled with brown. SANDY CLAY [CL], gray, medium stiff, wet				
7	26	5	5				7			SILTY SAND, gray, loose, wet, with clay SILTY/SANDY CLAY [CL], grey, stiff, wet, with roots and sandstone fragments		20.3		
8		5	5				8			SILTY CLAY [CL], grey, stiff, with sandstone fragments				
9		5	5				9			Becomes very stiff			19.1	110.2
10		5	5				10							

CORELOG 2-B1

Geotechnical Exploration
Carter Canyon
Daly City, CA
11308.000.000

DATE DRILLED: 5/28/2015
HOLE DEPTH: Approx. 50¼ ft.
HOLE DIAMETER: 8.0 in.
SURF ELEV (): Approx. 297 ft.

LOGGED / REVIEWED BY: P. Stuecheli / PJS
CORING CONTRACTOR: Britton Exploration
CORING METHOD: Dry Core
DRILL BIT SIZE/TYPE: 140 lb. Auto Trip

Run Number	Drill Rate (s/ft) OR Blow Count (N)	Run Length (ft)	Recovery (ft)	Recovery (%)	RQD	Depth in Feet	Depth in Meters	Sample Type	Graphic Log	DESCRIPTION	Water Level	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)
8	15	5	5			11				SANDY CLAY [CL-GC], olive brown, very stiff, with rock fragments, mottled with brown				
										Continued from previous				
										Increase in rock fragments				
						12				CLAYEY GRAVEL [GC], olive brown				
9	15	5	4.5			40				SANDY CLAY, orangeish brown, stiff, with rock fragments				
						13				CLAYEY GRAVEL [GC], orangeish brown, with sandy clay matrix and layered aligned clasts. Potential debris flow deposit				
10		5	5			45								
						14								
						15								
						50				SANDSTONE [SS], weathered, highly friable				
										Bottom of borehole at approximately 50.3 feet. Groundwater encountered at approximately 17.5 feet.				

CORELOG 2-B2

Geotechnical Exploration
Carter Canyon
Daly City, CA
11308.000.000

DATE DRILLED: 5/29/2015
HOLE DEPTH: Approx. 46½ ft.
HOLE DIAMETER: 8.0 in.
SURF ELEV (:): Approx. 286 ft.

LOGGED / REVIEWED BY: E. Keifer / PJS
CORING CONTRACTOR: Britton Exploration
CORING METHOD: Dry Core
DRILL BIT SIZE/TYPE: 140 lb. Auto Trip

Run Number	Drill Rate (s/ft) OR Blow Count (N)	Run Length (ft)	Recovery (ft)	Recovery (%)	RQD	Depth in Feet	Depth in Meters	Sample Type	Graphic Log	DESCRIPTION	Water Level	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)
1		5	4.25				1			SANDY CLAY [CL], olive gray				
							5			Mottled with olive gray to orange brown, some translocated clays and minor gravel				
2		5	5				2			Orange brown, mottled with olive brown, moist				
							10			1" lense of rock				
3		5	5				4							
4	10	3.5	2				5							
							6			Gray				
5	12	5	5				7			CLAY [CL], olive gray, stiff, moist, with minor silt/sand		24.8	101.02	
6	21	5	2.5				8			Mottled with olive/orange brown		21.9	106.8	
7	29	5	5				10			SANDY CLAY [CL], olive gray mottled with orange brown, very stiff, moist		19.5	110.6	
							35							

CORELOG 2-B2

Geotechnical Exploration
Carter Canyon
Daly City, CA
11308.000.000

DATE DRILLED: 5/29/2015
HOLE DEPTH: Approx. 46½ ft.
HOLE DIAMETER: 8.0 in.
SURF ELEV (:): Approx. 286 ft.

LOGGED / REVIEWED BY: E. Keifer / PJS
CORING CONTRACTOR: Britton Exploration
CORING METHOD: Dry Core
DRILL BIT SIZE/TYPE: 140 lb. Auto Trip

Run Number	Drill Rate (s/ft) OR Blow Count (N)	Run Length (ft)	Recovery (ft)	Recovery (%)	RQD	Depth in Feet	Depth in Meters	Sample Type	Graphic Log	DESCRIPTION	Water Level	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)
8		5	5			11				SANDY CLAY [CL], olive gray mottled with orange brown, very stiff, moistContinued from previous				
9		5	5			12								
10		1.5	1.5			13				META SHALE [SH], gray & orange brown				
						14								
										Bottom of borehole at approximately 46.5 feet. Groundwater encountered at approximately 15 feet.				

CORELOG 2-B3

Geotechnical Exploration
Carter Canyon
Daly City, CA
11308.000.000

DATE DRILLED: 6/1/2015
HOLE DEPTH: Approx. 42 ft.
HOLE DIAMETER: 8.0 in.
SURF ELEV (:): Approx. 347 ft.

LOGGED / REVIEWED BY: E. Keifer / PJS
CORING CONTRACTOR: Britton Exploration
CORING METHOD: Dry Core
DRILL BIT SIZE/TYPE: 140 lb. Auto Trip

Run Number	Drill Rate (s/ft) OR Blow Count (N)	Run Length (ft)	Recovery (ft)	Recovery (%)	RQD	Depth in Feet	Depth in Meters	Sample Type	Graphic Log	DESCRIPTION	Water Level	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)
1		5	3				1			Sandy CLAY [CL], dark brown, stiff, sand mottled red/orange.				
2		5	5			5	2			Sandy lenses orientated at approx. 25-30 degrees				
3		5	3			10	3			Becomes moist				
4	39	5	5			15	4			Sandy CLAY [CL] with gravel, orange/brown mottled with olive grey, very stiff, moist.				
5	39	5	1			20	5			Sandy CLAY/Clayey SAND [CL/SC] with gravel, mottled orange brown with olive grey, moist to dry.				
6	50/6" 23	5	5			25	6							
7	34	5	5			30	7							
						35	8							
							9							
							10							



CORELOG 2-B3

Geotechnical Exploration
Carter Canyon
Daly City, CA
11308.000.000

DATE DRILLED: 6/1/2015
HOLE DEPTH: Approx. 42 ft.
HOLE DIAMETER: 8.0 in.
SURF ELEV (): Approx. 347 ft.

LOGGED / REVIEWED BY: E. Keifer / PJS
CORING CONTRACTOR: Britton Exploration
CORING METHOD: Dry Core
DRILL BIT SIZE/TYPE: 140 lb. Auto Trip

Run Number	Drill Rate (s/ft) OR Blow Count (N)	Run Length (ft)	Recovery (ft)	Recovery (%)	RQD	Depth in Feet	Depth in Meters	Sample Type	Graphic Log	DESCRIPTION	Water Level	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)
8		5	5			11				Sandy CLAY/Clayey SAND [CL/SC] with gravel, mottled orange brown with olive grey, moist to dry. Continued from previous				
9		2	2			12								
	50/6"					40				SANDSTONE, light blue, highly fractured Bottom of borehole at approximately 42.5 feet.				

CORELOG 2-B4

Geotechnical Exploration
Carter Canyon
Daly City, CA
11308.000.000

DATE DRILLED: 6/1/2015
HOLE DEPTH: Approx. 30 ft.
HOLE DIAMETER: 8.0 in.
SURF ELEV (:): Approx. 308 ft.

LOGGED / REVIEWED BY: E. Keifer / PJS
CORING CONTRACTOR: Britton Exploration
CORING METHOD: Dry Core
DRILL BIT SIZE/TYPE: 140 lb. Auto Trip

Run Number	Drill Rate (s/ft) OR Blow Count (N)	Run Length (ft)	Recovery (ft)	Recovery (%)	RQD	Depth in Feet	Depth in Meters	Sample Type	Graphic Log	DESCRIPTION	Water Level	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)
1		5	3				1			SANDY CLAY [CL], olive brown, moist, stiff				
2		5	5			5	2							
						10	3			SILTY SAND [SM], olive gray, loose				
3	8	5	5				4			SANDY CLAY [CL], olive gray, medium stiff to loose, interbedded with clayey sand				
						15	5			SANDSTONE [SS], highly fractured to broken				
4	63	5	5				6			SANDY CLAY [CL], olive, with many Sandstone fragments, wet				
5	80	5	5			20	7							
6	88	5	5			25	8							
						30	9			2" thick sheared zone with light grey fat clay SANDSTONE [SS], highly weathered, highly fractured, dense				
										Bottom of borehole at approximately 30 feet. Perched Groundwater conditions encountered approximately 10 feet to 28 feet.				

CORELOG 2-B5

Geotechnical Exploration
Carter Canyon
Daly City, CA
11308.000.000

DATE DRILLED: 6/1/2015
HOLE DEPTH: Approx. 30 ft.
HOLE DIAMETER: 8.0 in.
SURF ELEV ('): Approx. 262 ft.

LOGGED / REVIEWED BY: E. Keifer / PJS
CORING CONTRACTOR: Britton Exploration
CORING METHOD: Dry Core
DRILL BIT SIZE/TYPE: 140 lb. Auto Trip

Run Number	Drill Rate (s/ft) OR Blow Count (N)	Run Length (ft)	Recovery (ft)	Recovery (%)	RQD	Depth in Feet	Depth in Meters	Sample Type	Graphic Log	DESCRIPTION	Water Level	Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)
		5	3			1				SANDY CLAY [CL], yellow-brown with olive-brown mottling, stiff, slightly moist				
		5	4			2				SILTY SAND [SM], yellow-brown with olive-brown mottling, medium dense, slightly moist				
										CLAYSTONE, light grey, highly fractured				
		5	2.5			3				SANDY CLAY [CL], yellow-brown, medium stiff to stiff, moist, with rock fragments				
		5	2			4				Red-brown soft clay, wet				
						5				SILTY SAND [SM], red-brown				
						6				SANDSTONE [SS], light brown, highly fractured, dry				
						20.3				Bottom of borehole at approximately 20.3 feet.				
						7								
						8								
						9								
						30								

LOG OF BORING 1-B1

Geotechnical Exploration
Carter Canyon
Daly City, California
11308.000.000

DATE DRILLED: 7/14/2014
HOLE DEPTH: Approx. 50 ft.
HOLE DIAMETER: 8.0 in.
SURF ELEV (): Approx. 333 ft.

LOGGED / REVIEWED BY: G. Cubbon / PJS
DRILLING CONTRACTOR: Britton Exploration
DRILLING METHOD: Dry Core
HAMMER TYPE: 140 lb. Auto Trip

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits			Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
							Liquid Limit	Plastic Limit	Plasticity Index				
			SANDY SILT (ML), dark brown, hard, moist, <5% angular rock fragments										
330			CLAYEY SAND (SC), orangeish brown, dense, moist, contains some with sandstone rock fragments										
5			Iron staining from 5 to 10 feet										
325													
10													
320			Angular sandstone rock fragments, up to 2.5 inches in diameter, increased clay content										
15			SANDY LEAN CLAY (CL), orangeish brown, very stiff, moist										
315			CLAYEY SAND (SC), orange and brown, dense, moist										
20			LEAN CLAY WITH SAND (CL), orange and brown, very stiff, moist										
310			Angular sandstone rock fragments, up to 0.5 inches in diameter										
25													



LOG OF BORING 1-B1

Geotechnical Exploration
Carter Canyon
Daly City, California
11308.000.000

DATE DRILLED: 7/14/2014
HOLE DEPTH: Approx. 50 ft.
HOLE DIAMETER: 8.0 in.
SURF ELEV (): Approx. 333 ft.

LOGGED / REVIEWED BY: G. Cubbon / PJS
DRILLING CONTRACTOR: Britton Exploration
DRILLING METHOD: Dry Core
HAMMER TYPE: 140 lb. Auto Trip

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits			Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
							Liquid Limit	Plastic Limit	Plasticity Index				
			LEAN CLAY WITH SAND (CL), orange and brown, very stiff, moist										
			SANDY SILT (ML), orange and brown, stiff to very stiff, very moist, contains some angular sandstone rock fragments, up to 0.5 inches in diameter										
305													
30			Abundant angular sandstone rock fragments, up to 1 inch in diameter										
			SANDY LEAN CLAY (CL), orange and brown, very stiff, very moist										
300													
35			SANDY SILT (ML), orange and grayish brown, very stiff, very moist, <5% angular rock fragments										
295													
40													
290			SILTY SAND (SM), red and orange, very dense, very moist, abundant angular siltstone and sandstone rock fragments										
45													
285			SANDSTONE, reddish orange and gray, strong (R4), massive										
50													

LOG OF BORING 1-B2

Geotechnical Exploration
Carter Canyon
Daly City, California
11308.000.000

DATE DRILLED: 7/14/2014
HOLE DEPTH: Approx. 34½ ft.
HOLE DIAMETER: 8.0 in.
SURF ELEV (): Approx. 274 ft.

LOGGED / REVIEWED BY: G. Cubbon / PJS
DRILLING CONTRACTOR: Britton Exploration
DRILLING METHOD: Dry Core
HAMMER TYPE: 140 lb. Auto Trip

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits			Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
							Liquid Limit	Plastic Limit	Plasticity Index				
		NR	SANDY SILT (ML), brown, stiff, dry to slightly moist, rootlets										
5	270		SILTY SAND (SM), dense, slightly moist to moist, iron staining										
			Becomes moist										
10	265		SANDY SILT (ML), orange and brown, stiff, iron staining										
15	260		SANDY LEAN CLAY (CL), orange and brown, hard, iron staining										
20	255												
25	250												

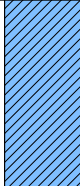


LOG OF BORING 1-B2

Geotechnical Exploration
Carter Canyon
Daly City, California
11308.000.000

DATE DRILLED: 7/14/2014
HOLE DEPTH: Approx. 34½ ft.
HOLE DIAMETER: 8.0 in.
SURF ELEV (): Approx. 274 ft.

LOGGED / REVIEWED BY: G. Cubbon / PJS
DRILLING CONTRACTOR: Britton Exploration
DRILLING METHOD: Dry Core
HAMMER TYPE: 140 lb. Auto Trip

Depth in Feet	Elevation in Feet	Sample Type	DESCRIPTION	Log Symbol	Water Level	Blow Count/Foot	Atterberg Limits			Fines Content (% passing #200 sieve)	Moisture Content (% dry weight)	Dry Unit Weight (pcf)	Unconfined Strength (tsf) *field approx
							Liquid Limit	Plastic Limit	Plasticity Index				
			SANDY LEAN CLAY (CL), orange and brown, hard, iron staining										
	245		SLIDE PLANE, grey fat clay, approximate orientation N34E, 35SE				50	25	25	88			
30			SANDSTONE, gray and light brown, weak (R2), highly weathered (WH), damp										
	240		Thin (~ 3 mm thick) siltstone bed, N10W, 60NE										
			Dry Core Refusal										



TEST PIT LOG

Carter Canyon
Daly City, California
11308.000.000

Logged By: G. Cubbon
Logged Date: 7/11/14

Test Pit Number	Depth (feet)	Description
1-TP1	0 – 4.5	SANDY SILT (ML), light brown, dry to slightly moist, stiff, slightly porous, contains small rootlets (Qc)
	4.5 - 11	CLAYEY SAND (SC), orange and yellowish brown, high clay content (estimated 30 to 40 %, PI 15 to 20), very moist, dense to very dense, contains some small (approx. 0.25 inch diameter) rounded sandstone rock fragments, poorly developed clay films on sandstone rock fragments (Landslide Debris)
1-TP2	0 - 3	SANDY SILT (ML), light brown, dry to slightly moist, stiff, slightly porous, contains small rootlets (Qc)
	3 - 5	POORLY GRADED SAND (SP), light yellow, fine grained, slightly moist, moderately dense (Landslide Debris)
	5 - 11	LEAN CLAY WITH SAND (CL), orange and reddish brown, very moist, very stiff, contains some small (approx. 0.25 inch diameter) rounded sandstone rock fragments, poorly developed clay films on sandstone rock fragments, minor iron staining (Landslide Debris)
1-TP3	0 - 3	SANDY SILT (ML), light brown, dry to slightly moist, stiff, slightly porous, contains small rootlets (Qc)
	3 - 6.5	CLAYEY SAND (SC), orange and brown, moist, very dense, contains some small (0.25 inch diameter) sandstone rock fragments (Qc)
	6.5 - 11	CLAYEY SAND (SC), orange and reddish - brown, moist, very dense, abundant iron staining, blocky structure, clay films on blocky surfaces (Qc)
1-TP4	0 – 2.5	SANDY SILT (ML), light brown, dry to slightly moist, stiff, porous, contains angular sandstone rock fragments up to 0.5 inches in diameter (Qc)
	2.5 - 6	SILTSTONE, orange and grey, thinly bedded, medium strong, moderately

Test Pit Number	Depth (feet)	Description
		weathered, damp, bedding N46W, 54 NE (Franciscan)
1-TP5	0 - 4.5	SANDY SILT (ML), dark brown, slightly moist, stiff to very stiff, contains small rootlets (Qc)
	4.5 – 10.5	SANDY LEAN CLAY (CL), grey and orange, very stiff to hard, moist, abundant iron staining, blocky structure, clay films on blocky surfaces, high fine sand content (estimated 40%, borderline clayey sand) (Qc)
1-TP6	0 - 4	SANDY SILT (ML), dark brown, slightly moist, stiff to very stiff, contains small rootlets (Qc)
	4 - 10	SANDY LEAN CLAY (CL), reddish brown and orange, very moist, very stiff to hard, abundant iron staining, blocky texture, poorly developed clay films on blocky surfaces (Qc)
1-TP7	0 - 3	SANDY SILT (ML), light brown, slightly moist, stiff, contains small rootlets (Qc)
	3 - 6	CLAYEY SAND (SC), reddish-brown and orange, fine to medium sand, moist, very dense (Qc)
	6 - 10	SANDSTONE, light brown, fine grained, moderately weathered, strong, closely fractured, bedding not discernible, damp, becomes wetter with depth, groundwater seepage at 10 feet (Franciscan)
1-TP8	0 – 4.5	SANDY SILT (ML), dark brown, slightly moist, stiff, porous, contains angular sandstone rock fragments up to 3 inches in diameter (Qc)
	4.5 - 8	SANDSTONE, light brown, fine grained, medium strong to strong, moderately weathered, thinly bedded, damp, closely fractured, bedding N10W 41NE (Franciscan)
1-TP9	0 - 7	SANDY SILT (ML), dark brown, slightly moist, very stiff, contains few small angular sandstone rock fragments (<1 inch in diameter), abundant small rootlets (af).
1-TP10	0 - 7	SANDY SILT (ML), dark brown, slightly moist, very stiff, contains few small angular sandstone rock fragments (<1 inch in diameter), abundant small rootlets (af)



TEST PIT LOG

Carter Canyon
Daly City, California
11308.000.000

Logged By: R. Rud
Logged Date: 5/27/15 – 5/28/15

Test Pit Number	Depth (feet)	Description
2-TP1	0 – 3	SANDSTONE, light brown, fine grained, moderately strong to strong, moderately weathered, damp, blocky fracturing approximately 2 to 6 inch spacing (KJfs)
2-TP2	0 – 0.5	SANDY SILT (ML), brown, dry to slightly moist, stiff, slightly porous, contains small rootlets (Qc)
	0.5 – 5	SANDSTONE, light brown, fine grained, moderately strong, moderately weathered with manganese and iron oxide staining on fracture surfaces, undulated fracture surfaces, damp, interbedded laminated shale layer, bedding N35W 44NE (KJfs)
2-TP3	0 - 1	SANDY SILT (ML), light brown, dry to damp, stiff, slightly porous, contains small rootlets (Qc)
	1 - 3	CLAYEY SILT (ML), dark brown, damp to moist, very stiff, tubular pores, increasing clay content with depth (Qc)
	3 - 10	SANDY CLAY (SC), dark red - brown, mottled texture, very moist, stiff, iron staining, slight blocky structure, possible shear at 7 to 8-feet (Qc?)
2-TP4	0 – 2.5	SANDY SILT (ML), light brown, dry to slightly moist, stiff, tubular pores (Qc)
	2.5 - 6	SANDY CLAY (CL), orange and grey, mottled texture, moist to very moist, highly weathered, iron staining, contains thinly bedded, non-continuous shear plane(?) with subjacent, perpendicular, clay filled tension fractures, N45W 44NE (Qc)

Test Pit Number	Depth (feet)	Description
2-TP5	0 - 3	SANDY SILT (ML), dark brown, moist, stiff to very stiff, contains small rootlets and sub-angular sandstone fragments (Qc)
	3 – 5	CLAYEY SAND (SC), light brown to reddish brown, dense, moist, abundant iron staining, blocky fracturing (Qc)
	5 - 7	SANDSTONE, light brown, fine grained, highly weathered with clay lined fractures, closely fractured, abundant manganese and iron oxide staining on joint planes, transitions into very strong slightly weathered sandstone at 7 feet (KJfs)
2-TP6	0 – 1	SANDY SILT (ML), dark brown, slightly moist, stiff, contains small rootlets (Qc)
	1 - 4	SANDSTONE, brown to dark brown, moist, moderately strong, abundant iron staining, blocky, angular, moderately to highly weathered (Qc)
2-TP7	0 - 1	SANDY SILT (ML), light brown, damp, stiff, contains small rootlets (Qc)
	1 - 11	SANDY CLAY (CL), dark reddish-brown and orange, mottled texture, moist, very stiff, iron and manganese oxide staining, clay lined tubular pores (approx. <0.25 inch diameter), angular sandstone fragments in matrix, sandstone at 11 feet, hardens with increased depth (Qc)
2-TP8	0 – 2	SANDY SILT (ML), dark brown, damp to slightly moist, stiff, tubular pores (Qc)
	2 - 10	SANDY CLAY (CL), dark reddish-brown, very moist, very stiff, iron oxide staining, contains highly weathered fine grained sandstone fragments (Qc)
2-TP9	0 – 1	SANDY SILT (ML), dark brown, slightly moist, stiff, contains abundant small rootlets and tubular pores (Qc).
	1 – 7	SILTY SAND (SM), dark reddish-brown and reddish-yellow, mottled texture, moist to very moist, contains sandstone fragments (increasing size and angularity with depth), gradational contact into bedrock at 6-feet (Qc)
	7 – 9	SANDSTONE, dark brown, fine grained, strong to very strong, slightly to moderately weathered, medium to closely fractured, iron and manganese oxide staining on fracture surfaces, bedding plane N52W 42NE (KJfs)

Test Pit Number	Depth (feet)	Description
2-TP10	0 – 1	SANDY SILT (ML), dark brown, slightly moist, stiff, contains abundant small rootlets and tubular pores (Qc).
	1 – 11	SANDY SILT w/ CLAY (ML), reddish-brown to brown, damp to moist, stiff to very stiff, minor iron oxide staining, coarse angular sandstone fragments in matrix (increase with depth), competent bedrock at 11 feet (Qc)
2-TP11	0 – 3	SANDY SILT (ML), light to dark brown, damp to slightly moist, medium stiff, abundant small rootlets (Qc)
	3 – 12	SANDY CLAY (CL), reddish-brown, moist, very dense, contains rounded and highly weathered sandstone fragments, iron oxide staining (Qc)
2-TP12	0 – 1	SANDY SILT (ML) brown, damp, very stiff, contains minor clay and abundant small rootlets (Qc)
	1 – 2	LEAN SILTY CLAY (CL), dark reddish-brown, stiff to very stiff, well graded angular sandstone fragments (>50% abundance) (Qc)
	2 – 5.5	SANDY CLAY (CL), dark red and grayish-green, mottled texture, very moist, very stiff, contains minor sandstone fragments (<1 inch diameter), gradational upper contact. (Qc)
	5.5 – 8.5	SANDSTONE, brown to dark brown, fine grained, weak, highly weathered, possible shear zone @ 5.5 to 7 feet (laminae spacing <1 inch.) and interbedded shaley sandstone with clay lined fractures/foliation, rare rootlets, possible ash bed (approx. 1 to 3 inch thickness), bedding plane N72W 30NE, shear plane N15W 38NE, fracture plane N70E 46N (Qls)
2-TP13	0 – 1	SANDY SILT (ML), brown, dry to slightly moist, stiff, slightly porous, contains small rootlets (Qc)
	1 – 13.5	SANDY CLAY (CL), dark red and yellowish-red, mottled texture, very moist, very stiff, abundant iron oxide staining (Qc)
2-TP14	0 – 2	SANDY SILT (ML), dark brown, saturated/wet, slightly porous, very soft (Qc)
	2 – 8	SANDY CLAY (CL), dark reddish-brown and reddish-yellow, mottled

Test Pit Number	Depth (feet)	Description
		texture, very moist to wet, abundant iron oxide staining sporadic highly weathered angular sandstone fragments, groundwater seepage from 7 to 8 feet (Qc)
2-TP15	0 – 2	SANDY SILT (ML), brown, moist to very moist, medium stiff, contains small rootlets (Qc)
	2 – 4	SANDY CLAY (CL), dark brown, very moist, stiff to very stiff, rare highly weathered sandstone fragments (Qc)
	4 – 10	SANDY CLAY (CL), dark red and grayish-green, mottled texture, medium stiff to stiff, very moist to wet, groundwater seepage from approx. 7 to 10 feet.
2-TP16	0 – 3	SANDY SILT (ML), brown, moist, hard, gradational lower contact (Qc)
	3 – 6	POORLY GRADED SAND (SP), light yellowish-brown, medium dense, contains trace clay at upper contact and increases with depth (Landslide Debris)
	6 – 12	CLAYEY SAND (SC), dark reddish-brown and reddish-yellow, mottled texture, medium dense to dense, moist, blocky structure, gradational upper contact (Landslide Debris)
2-TP17	0 – 2	SANDY SILT (ML), dark brown, slightly moist, stiff, contains abundant small rootlets and tubular pores (Qc).
	2 – 6.5	CLAYEY SAND (SC), orange and brown, mottled texture, moist, dense, interstitial rounded pebble size sandstone fragments (Qc)
	6.5 – 8.5	CLAYEY SAND (SC), reddish-brown to reddish-yellow, mottled texture, very moist, very dense, abundant iron staining, blocky structure (Qc)
2-TP18	0 – 2	SANDY SILT (ML), dark brown, slightly moist, stiff, contains abundant small rootlets and tubular pores (Qc).
	2 – 6.5	CLAYEY SAND (SC), orange and brown, mottled texture, moist, dense, interstitial rounded pebble size sandstone fragments (Qc)
	6.5 – 10	CLAYEY SAND (SC), reddish-brown to reddish-yellow, mottled texture, very moist, very dense, abundant iron staining, blocky structure (Qc)

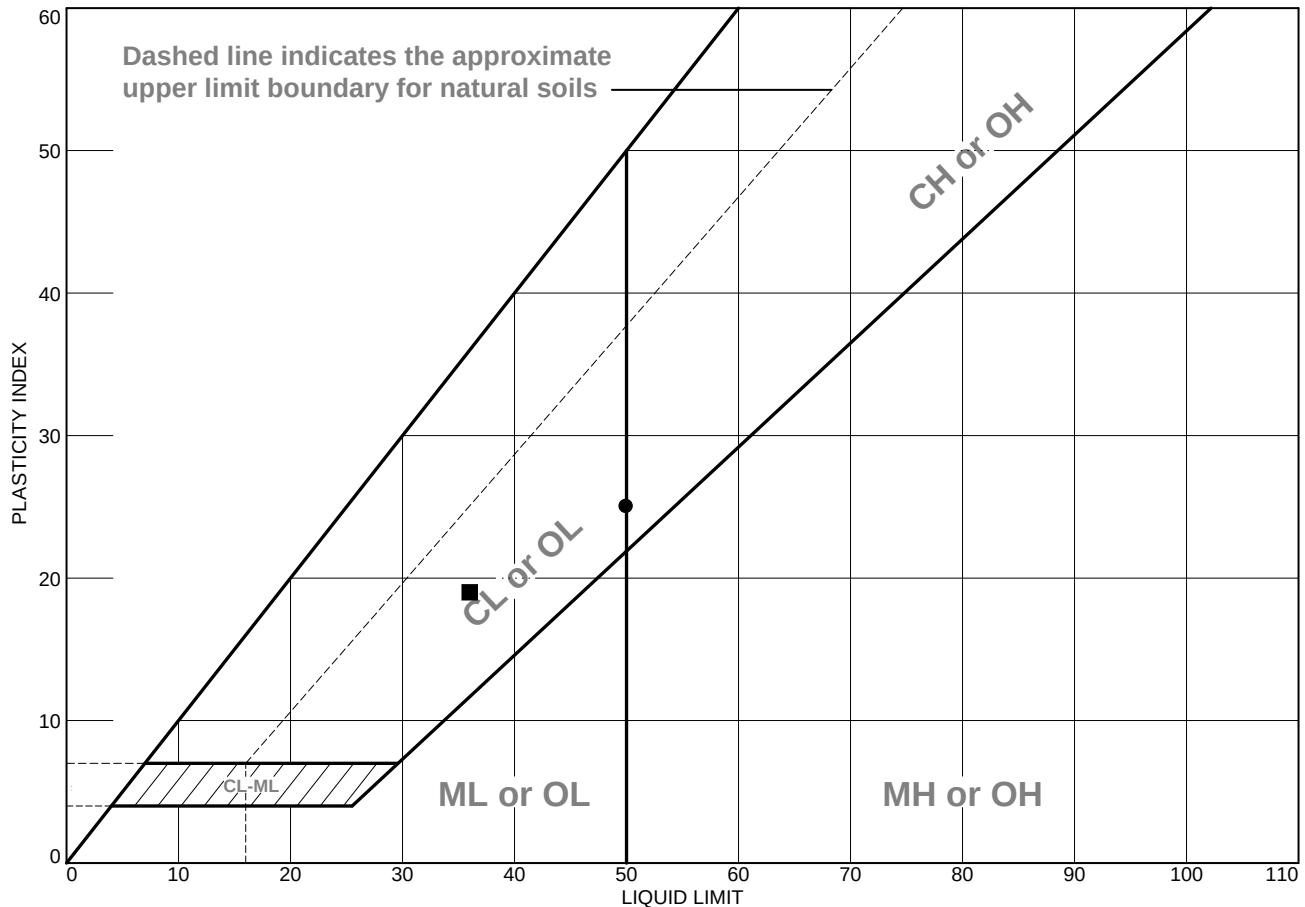
A P P E N D I X B

APPENDIX B

Laboratory Test Data



LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Brown fat CLAY	50	25	25	100.0	88.1	CH
■	Dark yellowish brown lean CLAY with sand	36	17	19	96.1	71.5	CL

Project No. 11308.000.000 **Client:** Warmington Residential California, Inc.

Project: Carter Canyon, Due Diligence, Daly City

● **Depth:** 28.0 feet **Sample Number:** 1-B2 @ 28

■ **Sample Number:** 1-TP2

Remarks:

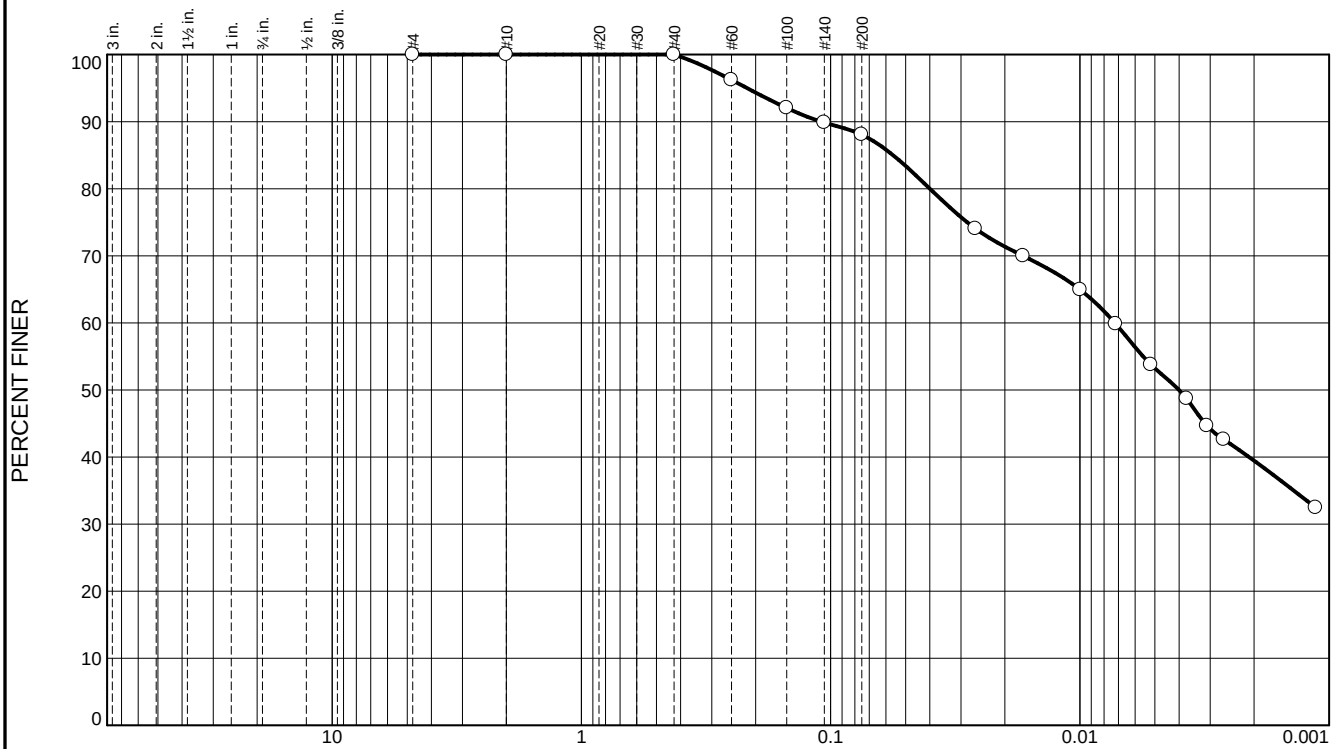
● PI: ASTM D4318; Grain Size: ASTM D422; USCS: ASTM D2487

■ PI: ASTM D4318
Grain Size: ASTM D422
USCS: ASTM D2487

ENGEO
INCORPORATED

Tested By: JL **Checked By:** GC

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.0	0.0	11.9	34.9	53.2

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	100.0		
#40	100.0		
#60	96.2		
#100	92.0		
#140	89.8		
#200	88.1		
0.0262 mm.	74.0		
0.0169 mm.	70.0		
0.0100 mm.	64.9		
0.0072 mm.	59.8		
0.0052 mm.	53.8		
0.0037 mm.	48.7		
0.0031 mm.	44.6		
0.0026 mm.	42.6		
0.0011 mm.	32.5		

* (no specification provided)

Soil Description
 Brown fat CLAY

Atterberg Limits
 PL= 25 LL= 50 PI= 25

Coefficients
 D₉₀= 0.1092 D₈₅= 0.0562 D₆₀= 0.0072
 D₅₀= 0.0040 D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= CH AASHTO= A-7-6(24)

Remarks
 GS: ASTM D422; PI: ASTM D4318; USCS: ASTM D2487

Sample Number: 1-B2 @ 28

Depth: 28.0 feet

Date: 07/29/14



Client: Warmington Residential California, Inc.

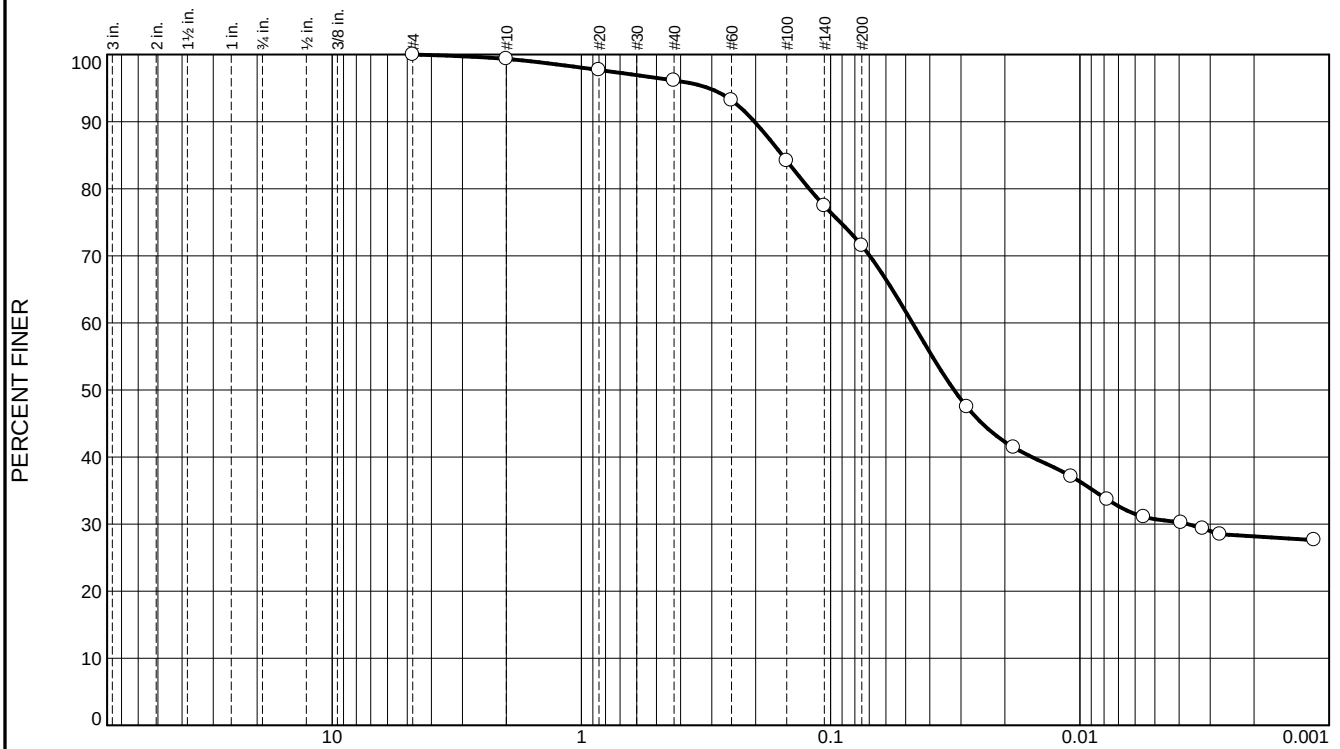
Project: Carter Canyon, Due Diligence, Daly City

Project No: 11308.000.000

Tested By: GC

Checked By: JAL

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	0.0	0.7	3.2	24.6	40.8	30.7

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
#4	100.0		
#10	99.3		
#20	97.7		
#40	96.1		
#60	93.2		
#100	84.2		
#140	77.4		
#200	71.5		
0.0284 mm.	47.5		
0.0184 mm.	41.4		
0.0108 mm.	37.1		
0.0078 mm.	33.7		
0.0055 mm.	31.1		
0.0039 mm.	30.2		
0.0032 mm.	29.3		
0.0027 mm.	28.5		
0.0011 mm.	27.6		

* (no specification provided)

Soil Description

Dark yellowish brown lean CLAY with sand

Atterberg Limits

PL= 17 LL= 36 PI= 19

Coefficients

D₉₀= 0.2020 D₈₅= 0.1562 D₆₀= 0.0470
D₅₀= 0.0320 D₃₀= 0.0037 D₁₅=
D₁₀= C_u= C_c=

Classification

USCS= CL AASHTO= A-6(12)

Remarks

GS: ASTM D422; PI: ASTM D4318; USCS: ASTM D2487

Sample Number: 1-TP2

Date: 07/29/14



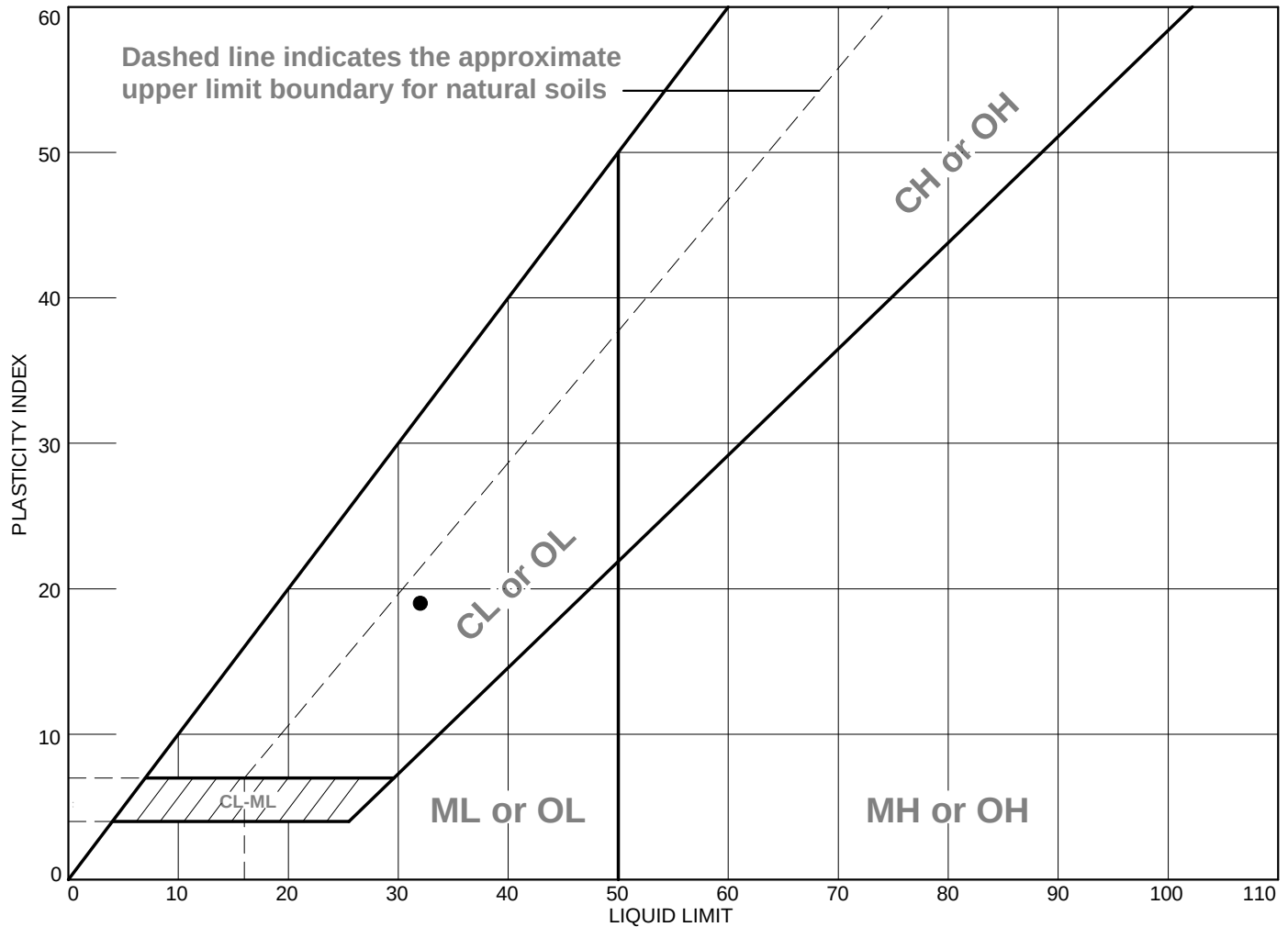
Client: Warmington Residential California, Inc.

Project: Carter Canyon, Due Diligence, Daly City

Project No: 11308.000.000

Tested By: GC Checked By: JAL

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	See exploration logs	32	13	19			

Project No. 11308.001.000 **Client:** Point Marin, LLC

Project: Carter Canyon - Due Dilligence

● **Depth:** 10-30 feet **Sample Number:** 2b3 @ 10-30

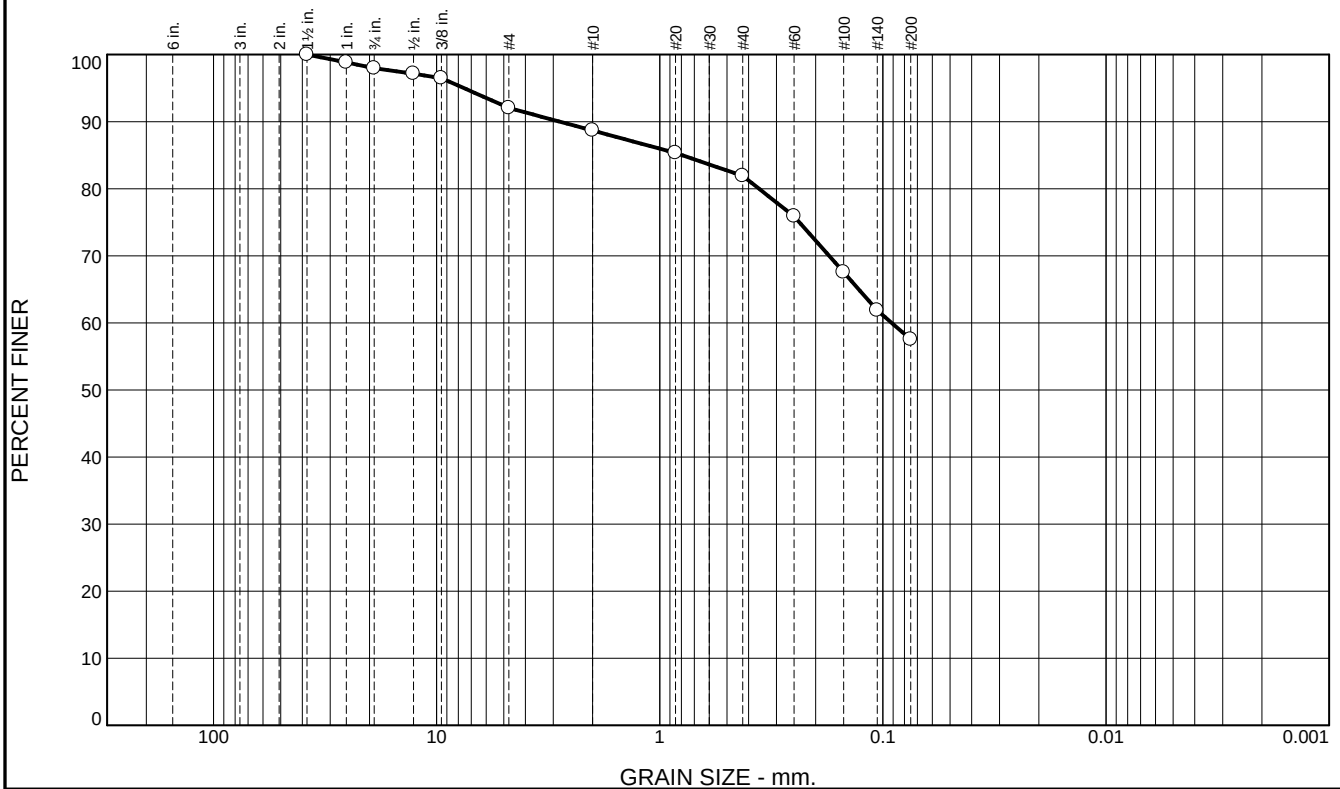
Remarks:

● ASTM D4318, Wet method

ENGEO
INCORPORATED

Tested By: M. Liu **Checked By:** D. Seibold

Particle Size Distribution Report



% +75mm	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	2.0	6.0	3.3	6.8	24.4	57.5	

SIEVE SIZE	PERCENT FINER	SPEC.* PERCENT	PASS? (X=NO)
1-1/2	100.0		
1	98.8		
3/4	98.0		
1/2	97.2		
3/8	96.5		
#4	92.0		
#10	88.7		
#20	85.3		
#40	81.9		
#60	75.9		
#100	67.6		
#140	61.9		
#200	57.5		

* (no specification provided)

Soil Description
 See exploration logs

Atterberg Limits
 PL= 13 LL= 32 PI= 19

Coefficients
 D₉₀= 2.8079 D₈₅= 0.7938 D₆₀= 0.0913
 D₅₀= D₃₀= D₁₅=
 D₁₀= C_u= C_c=

Classification
 USCS= CL AASHTO= A-6(8)

Remarks
 GS: ASTM D6913
 PI: ASTM D4318, Wet method
 USCS: ASTM D2487

Sample Number: 2b3 @ 10-30

Depth: 10-30 feet

Date: 08/06/15

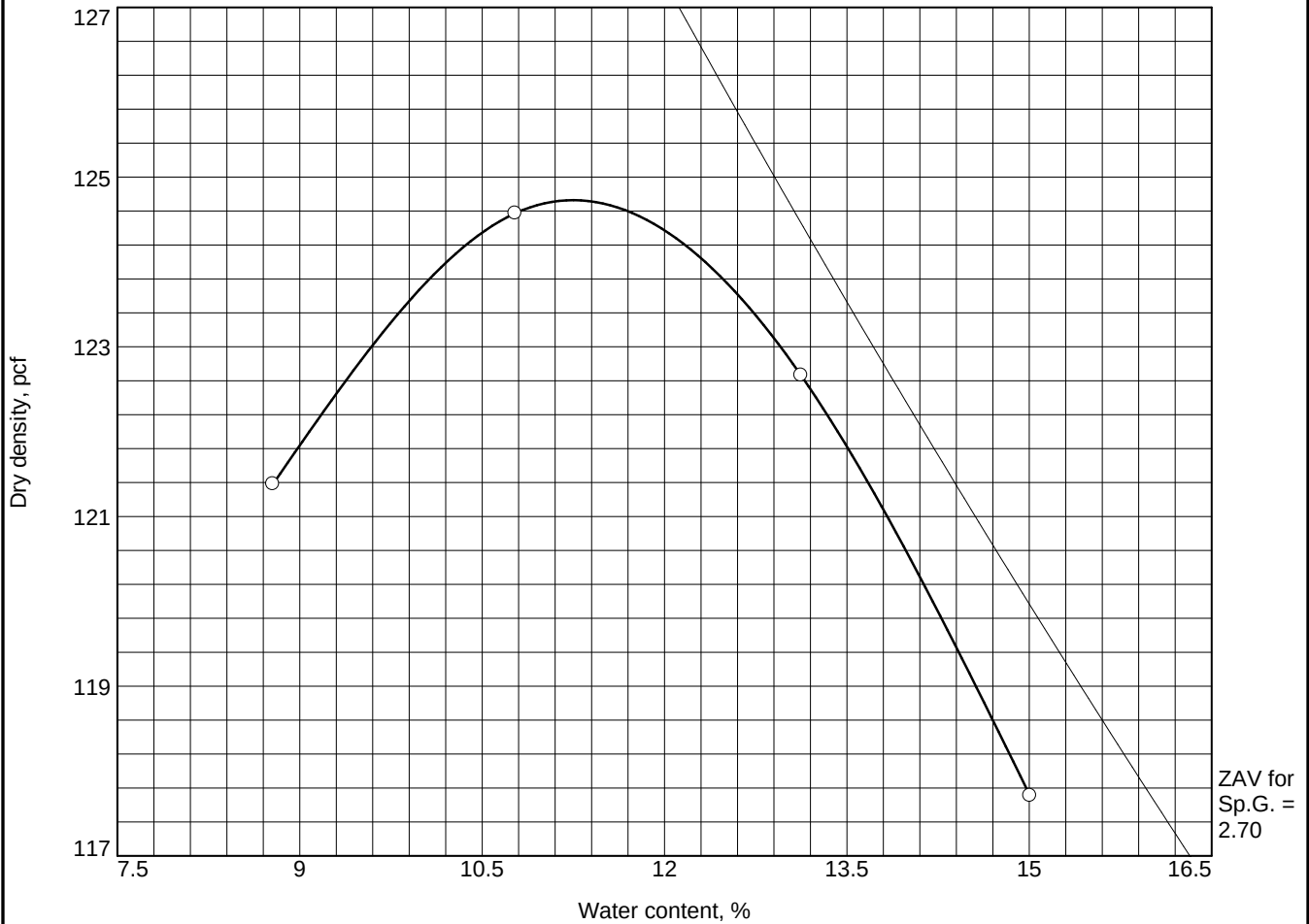


Client: Point Marin, LLC
 Project: Carter Canyon - Due Dilligence
 Project No: 11308.001.000

Tested By: G. Criste

Checked By: D. Seibold

COMPACTION TEST REPORT For Curve No. 1



Test specification: ASTM D 1557-12 Method A Modified

Elev/ Depth	Classification		Nat. Moist.	Sp.G.	LL	PI	% > #4	% < No.200
	USCS	AASHTO						

TEST RESULTS	MATERIAL DESCRIPTION
Maximum dry density = 124.7 pcf Optimum moisture = 11.2 %	Dark yellowish brown sandy CLAY

Project No. 11308.001.000 Client: Point Martin, LLC Project: Carter Canyon - Due Diligence Date: 7.30.15 Location: 2b3 @ 10-30 Sample Number: 1	Remarks:
	

Tested By: J. Lawton Checked By: T. Borde

Isotropic Consolidated Undrained Triaxial Test

ASTM D4767

Date: 8/19/15

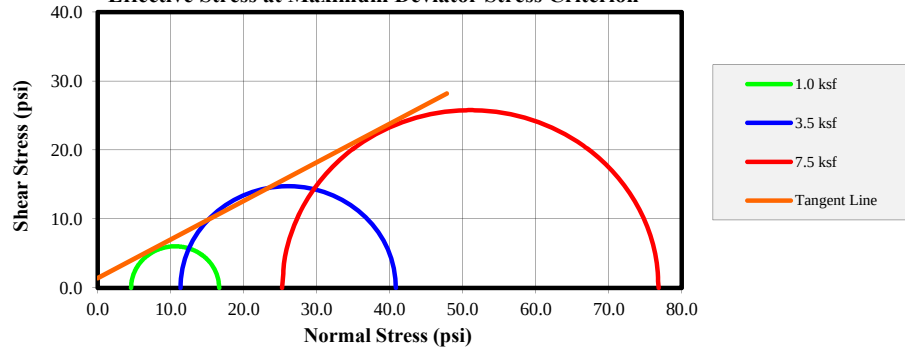
Checked By: P. Stuecheli

Date: 8/19/15

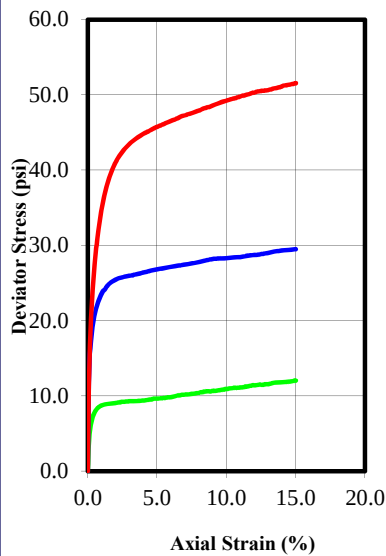
D. Seibold

Tested By:

Effective Stress at Maximum Deviator Stress Criterion



Deviator Stress Vs. Axial Strain



Maximum Deviator Stress Criterion

C (psf)	2.7
C' (psf)	1.3
ϕ (deg)	17.7
ϕ' (deg)	26.8

Initial	1.0 ksf	3.5 ksf	7.5 ksf
Height-to-Diameter Ratio	2.064	2.061	2.064
Water Content (%)	14.3	14.3	14.3
Dry Density (pcf)	112.0	112.1	112.1
Saturation (%)	74.20	74.32	74.28
Void Ratio	0.525	0.524	0.525
Diameter (in)	2.428	2.428	2.428
Height (in)	5.011	5.005	5.011
ASTM D854 - Measured			
Specific Gravity	2.742	2.742	2.742
ASTM D4318 - Wet Method			
Liquid Limit	32	32	32
Plastic Limit	13	13	13
After Consolidation	1.0 ksf	3.5 ksf	7.5 ksf
Void Ratio	0.517	0.477	0.446
Water Content (%)	19.05	17.78	16.41
Dry Density (pcf)	112.87	115.87	118.34
Eff. Consol. Press. (psi)	6.96	24.44	52.42
Back Pressure (psi)	40.2	38.2	37.5
Saturation (%)	100.0	100.0	100.0
B-Value	0.97	0.96	0.99
Strain Rate (in./min.)	0.00403	0.00403	0.00403
Height-to-Diameter Ratio	2.064	2.071	2.064
After Shear	1.0 ksf	3.5 ksf	7.5 ksf
σ'_1 at Failure (psi)	16.64	40.84	76.83
σ'_3 at Failure (psi)	4.58	11.34	25.27
t_{50}	N/A	0.367	2.719
t_{90}	N/A	1.190	8.810
Corrected Peak Deviator Stress:	12.0619	29.4960	51.5649

Project: Carter Canyon - Due Dilligence

Location:

Project Number: 11308.001.000

Boring Number: 2b3

Sample Number: 2b3@10-30' Composite

Depth: 10-30 ft.

Sample Type: Remolded

Description: See exploration logs

Test Type: Consolidated Undrained

Remarks

Specimens were remolded to 90% compaction at 3% over OMC in accordance with ASTM D1557. The strain rate during shear for all test specimens was based on the consolidation data for the 7.5 ksf specimen in accordance with ASTM D4767.



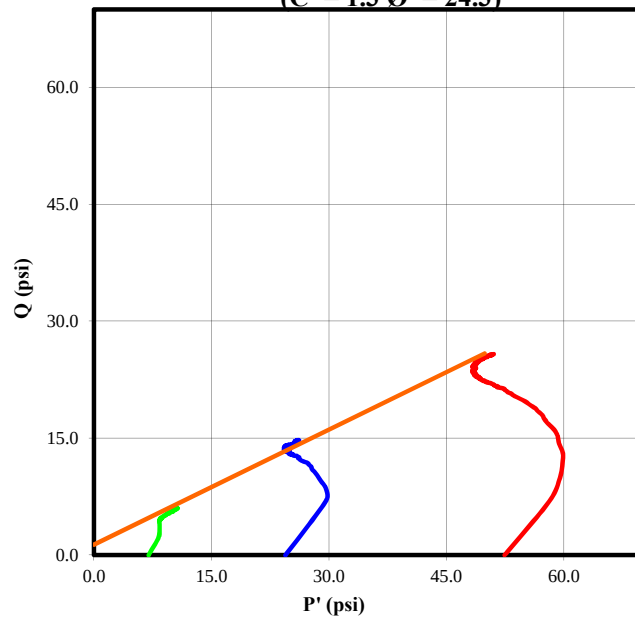
Isotropic Consolidated Undrained Triaxial Test

ASTM D4767

Date: 8/19/15

Checked By: P. Stuecheli

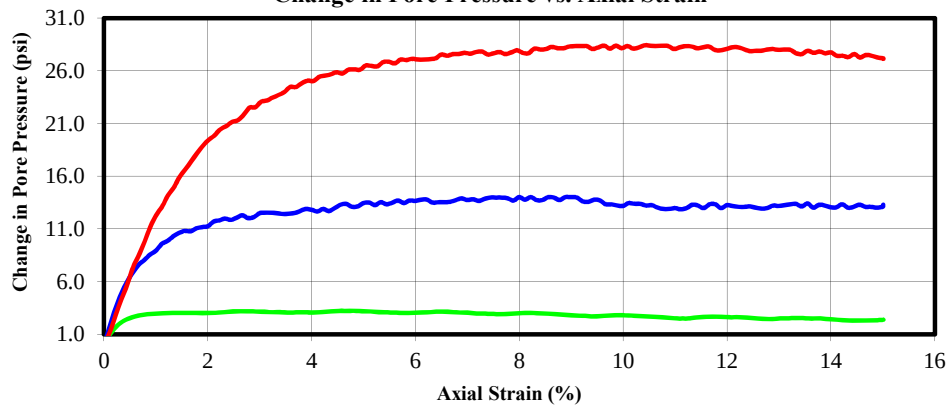
Stress Paths (Effective)
($C' = 1.3$ $\phi' = 24.3$)



1.0 ksf 3.5 ksf 7.5 ksf Tangent Line

Date: 8/19/15

Change in Pore Pressure vs. Axial Strain



D. Seibold

Tested By:

Project:	Carter Canyon - Due Dilligence
Location:	
Project Number:	11308.001.000
Boring Number:	2b3
Sample Number:	2b3@10-30' Composite
Depth:	10-30 ft.
Sample Type:	Remolded
Description:	See exploration logs
Test Type:	Consolidated Undrained
Remarks:	Specimens were remolded to 90% compaction at 3% over OMC in accordance with ASTM D1557. The strain rate during shear for all test specimens was based on the consolidation data for the 7.5 ksf specimen in accordance with ASTM D4767.



A P P E N D I X C

APPENDIX C

Previous Boring and Test Pit Logs and Laboratory Test Data



BORING LOCATION, ELEVATION, AND DATE DRILLED See Site Plan 408ft. 6/28/90							DRILLING METHOD 8 inch diameter continuous hollow stem auger		BORING NUMBER B-3	
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	SAMPLING METHOD 5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop		SHEET 1 OF 1
Core					0		SS	SILTY SANDSTONE - brownish-yellow, weathered to yellowish-brown, very dark brown; fine-grained, well graded, close fractured, hard, occasional shale stringers. wet, free moisture at 6 ft. (BEDROCK, hard) Boring terminated at 6.75 feet No Groundwater encountered at the time of drilling		
					1					
					2					
					3					
					4					
					5					
					6					
					7					
					8					
					9					
					10					
					11					
					12					
					13					
					14					
					15					
					16					
					17					
					18					
					19					
					20					

LOG OF BORING

PSC ASSOCIATES INC.	Soils Foundation & Geological Engineers	J.R.H. Capitol Hillside Village	
		DATE: 11/90	JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED						DRILLING METHOD		BORING NUMBER	
See Site Plan						8 inch diameter continuous hollow stem auger		B-4	
352ft.						6/28/90			
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	SAMPLING METHOD	
								5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop	
					0				
Core					1		ML	SANDY SILT - dark grayish-brown, occasional sub-rounded gravel to 1/2-inch diameter, (weathered sandstone and shale), rootlets. (TOPSOIL)	
					2				
					3				
					4		ML	SANDY SILT, yellowish-brown, patches of light brownish-gray, fine grained sand, dense, moist. (COLLUVIUM)	
MC	42	114.2	11.0	4-1	5			(PI<10; Fines=46.3%)	
					6		ML	SANDY SILT - pale brownish-gray, rootlets, dry, hard. (COLLUVIUM)	
Bag		—	15.7		7	X	ML	SANDY SILT - yellowish-brown, patches of grayish-brown, low to moderately plastic, massive, friable, very moist, occasional rootlets.	
					8				
					9				
					10				
Bag					11	X			
					12				
					13				
					14			(highly weathered SANDSTONE BEDROCK ?)	
MC	44	116.2	15.6	4-2	15				
					16			Boring terminated at 15.5 feet No Groundwater encountered at the time of drilling	
					17				
					18				
					19				
					20				

BORING LOCATION, ELEVATION, AND DATE DRILLED							DRILLING METHOD		BORING NUMBER	
See Site Plan							8 inch diameter continuous hollow stem auger		B-5	
330ft.							6/28/90			
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	SAMPLING METHOD		SHEET 1 OF 1
								5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop		
Core					0		ML	SANDY SILT - grayish-brown, occasional yellow-brown coarse sand, dry, hard. (TOPSOIL)		
					1					
					2		ML	SANDY SILT - brownish-yellow, locally mottled, speckled yellow and black, abundant coarse sand to gravel of weathered sandstone, moderately cemented, blocky, abundant rootholes, rootlets, hard, moist. (COLLUVIUM with highly weathered SANDSTONE)		
Bag		—	11.9		3	X				
					4					
					5					
					6					
					7					
					8			Some moisture at 7.5 ft.		
					9		SS	SILTY SANDSTONE - light brownish-gray, locally yellowish-brown and olive-gray, moderate to close fractured (vertical), well cemented, hard, moist. (BEDROCK)		
					10					
					11					
					12		SH	grades, occasional SHALE layers, dark gray, fresh to slightly weathered. (BEDROCK)		
					13					
					14					
					15					
					16					
					17					
					18					
					19					
					20			Boring terminated at 19.0 feet No Groundwater encountered at the time of drilling		

LOG OF BORING

	Soils Foundation & Geological Engineers	J.R.H. Capitol Hillside Village	
		DATE: 11/90	JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED							DRILLING METHOD		BORING NUMBER	
See Site Plan							8 inch diameter continuous hollow stem auger		B-6	
330ft.							7/2/90			
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	SAMPLING METHOD		SHEET 1 OF 2
									5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop	
Core					0		ML	SANDY SILT - brownish-yellow, abundant sub-rounded quartz, occasional chert fragments to 1/2" dia., hard, slightly moist. (COLLUVIUM)		
					1					
					2					
					3					
					4					
MC	44	111.8	13.7	6-1	5					
					6			grades clayey		
					7					
					8			grades silty, stiff		
					9					
MC	24	114.3	19.2	6-2	10			(PI=12; Fines=69.8%)		
					11					
					12					
					13					
					14			brownish-yellow with dark brown mottles, massive, hard, moist.		
MC	37	111.3	16.5	6-3	15					
					16					
					17					
					18					
					19					
MC	32	112.8	17.9	6-4	20			(see Direct Shear Test)		

LOG OF BORING

PSC
ASSOCIATES INC.

Soils
Foundation &
Geological
Engineers

J.R.H. Capitol
Hillside Village

DATE: 11/90

JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED						DRILLING METHOD		BORING NUMBER	
See Site Plan						8 inch diameter continuous hollow stem auger		B-6	
330ft.						7/2/90			
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	SAMPLING METHOD	
MC	38	112.8	17.9	6-4	20		ML	5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop	
					21				
					22				
					23				
					24				
					25				
MC	58			6-5	26				
					27				
					28				
					29				
					30				
					31				
					32				
					33				
					34				
					35				
					36		CL	SANDY SILT - yellowish-brown, mottled dark brown, occasional fine gravel, sub-rounded to angular up to 1/2" dia., fractures stained with black, manganese coatings? (COLLUVIUM)	
					37		SH		
					38			grades, abundant in gravel, grades olive-brown	
					39			grades yellowish-brown, with sandstone fragments up to 1" dia., weakly cemented texture, moist.	
					40			Boring terminated at 38.5 feet No Groundwater encountered at the time of drilling	

LOG OF BORING

	Soils Foundation & Geological Engineers	J.R.H. Capitol Hillside Village	
		DATE: 11/90	JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED								DRILLING METHOD		BORING NUMBER		
See Site Plan								8 inch diameter continuous hollow stem auger		B-7		
325ft. 7/2/90								SAMPLING METHOD		SHEET 1 OF 1		
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop				
Core					0		ML	SANDY SILT - dark grayish-brown, rootlets, dry, loose. (uncompacted FILL)				
					1							
					2							
					3							
					4							
					5							
					6							
					7							
					8							
				9		CL	SILTY CLAY - dark brown with yellow-brown sandstone fragments, abundant rootlets, medium stiff. (TOPSOIL)					
				10								
				11								
				12								
				13								approximately base of uncompacted fill at 13.5 ft.
				14		ML	SANDY SILT - yellow-brown, mottled dark brown, rounded gravels to 1/2" dia., black roothole infillings, wet (free moisture). (COLLUVIUM)					
				15								
				16								
				17								
				18								Boring terminated at 18.0 feet No Groundwater encountered at the time of drilling
				19								
				20								

LOG OF BORING

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Hillside Village

DATE: 11/90

JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED					DRILLING METHOD			BORING NUMBER	
See Site Plan					8 inch diameter continuous hollow stem auger			B-8	
335ft.					7/2/90				
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	SAMPLING METHOD	
								5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop	
								SHEET 1 OF 3	
Core					0		SM	SILTY SAND - brown, dry, rootlets grades silty at 1.5 ft. (TOPSOIL)	
					1				
					2		ML	SANDY SILT - light yellowish-brown, mottled yellow, occasional weathered sandstone fragments, moist, rootlets. (COLLUVIUM)	
Bag		—	6.4		3				
					4				
					5				
Bag					6				
					7				
					8		ML	SANDY SILT - yellowish-brown, streaks of pale to dark brown, abundant fine quartz, abundant reddish-brown gravels, wet, medium dense. (OLD TOPSOIL) (PI=14) (see GRAIN SIZE plot and Direct Shear Test)	
MC	19	106.2	20.4	8-1	9				
					10		ML	SANDY SILT - yellowish-brown, blocky structure, moist, stiff, friable. (COLLUVIUM)	
					11				
					12				
Bag		—	14.7		13				
					14				
					15				
					16				
Bag					17		ML	SANDY SILT - dark yellow-brown, occasional rounded coarse sand and gravel, massive, very stiff, slightly moist, rootlets. (OLD TOPSOIL ?)	
					18				
					19		CL	SANDY CLAY - dark yellowish-brown, mottled gray, black (roots?), moist, friable. (COLLUVIUM)	
					20				

LOG OF BORING

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BORING LOCATION, ELEVATION, AND DATE DRILLED							DRILLING METHOD	BORING NUMBER
See Site Plan 335ft.							8 inch diameter continuous hollow stem auger	B-8
7/2/90							SAMPLING METHOD	SHEET 2 OF 3
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	
					20		CL	SANDY CLAY - (as above)
					21			
					22			
Bag		—	17.1		23			
Bag					24			
					25		ML	SANDY SILT - dark yellowish-brown, mottled gray, yellowish-brown, reddish-brown, abundant coarse sand, occasional gravel up to 1" dia. of angular, moderately weathered sandstone. (COLLUVIUM)
					26			
					27			
Bag		—	16.4		28			
					29			
					30			
					31			
					32			
					33			
					34			
Bag		—	13.2		35			
					36			
					37			
					38			
					39		SM	SILTY SAND - yellowish-brown, hard, dry, moderately weathered. (COLLUVIUM)
					40			

LOG OF BORING

	Soils Foundation & Geological Engineers	J.R.H. Capitol Hillside Village	
		DATE: 11/90	JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED							DRILLING METHOD		BORING NUMBER		
See Site Plan							8 inch diameter continuous hollow stem auger		B-8		
335ft.							7/2/90				
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	SAMPLING METHOD		SHEET 3 OF 3	
					40		SM	SILTY SAND - (as above)			
				41							
				42							
MC	65			43							
				44							
MC	50+	108.2	19.5	8-2	44			(see Direct Shear Test)			
					45		SS	SANDSTONE - yellowish-brown, gray at fracture surfaces, highly fractured, well graded, well cemented, hard. (BEDROCK)			
				46							
				47							
					48			Boring terminated at 47.0 feet No Groundwater encountered at the time of drilling			
				49							
				50							
				51							
				52							
				53							
				54							
				55							
				56							
				57							
				58							
				59							
				60							

LOG OF BORING

	Soils Foundation & Geological Engineers	J.R.H. Capitol Hillside Village	
		DATE: 11/90	JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED							DRILLING METHOD	BORING NUMBER
See Site Plan							8 inch diameter continuous hollow stem auger	B-9
272ft.							7/3/90	
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	SAMPLING METHOD
								5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop
Core					0		SM	SILTY SAND - light yellowish-brown, with angular gravels, dry. (poorly compacted FILL)
					1			
					2			
					3			
					4			
					5		CL	SANDY CLAY - yellowish-brown, low plasticity, slightly moist, stiff, rootlets. (COLLUVIUM)
					6			
					7			
					8			
MC	25	115.7	15.6	9-1	9			abundant rounded gravel, coarse sand, friable, moist (see Direct Shear Test) (PI=6; Fines=54.4%)
					10			
					11			
					12			grades silty
Bag		—	12.8		13			
					14			
					15			
					16			grades silty
					17		SS	SANDSTONE - yellowish-brown. (BEDROCK)
					18			Boring terminated at 17.0 feet No Groundwater encountered at the time of drilling
					19			
					20			

LOG OF BORING

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J.R.H. Capitol
Hillside Village

DATE: 11/90

JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED							DRILLING METHOD		BORING NUMBER	
See Site Plan							8 inch diameter continuous hollow stem auger		B-10	
283ft.							7/3/90			
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	SAMPLING METHOD		SHEET 1 OF 3
								5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop		
Core					0		ML	SANDY SILT - dark brown, occasional gravel, abundant rootlets, dense. (TOPSOIL)		
					1					
					2		ML	SANDY SILT - light olive-brown, mottled yellowish-brown and black, abundant fine to medium sand and fine gravel, chaotic texture, stiff, moist, low plasticity. (COLLUVIUM)		
					3					
Bag		—	14.9		4	X				
					5					
					6					
					7					
					8					
					9					
MC	18	111.2	18.6	10-1	10			(see Direct Shear Test)		
					11					
					12					
					13					
Bag		—	17.9		14	X				
					15					
					16		SM/ML			
Bag					17	X	ML	SILTY SAND/SANDY SILTY - yellowish-brown, mottled light olive-gray, dark brown, coarse sand and gravel to 1" dia. of highly weathered sandstone, moist (free moisture). (COLLUVIUM)		
					18					
					19					
					20					

LOG OF BORING

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Hillside Village

DATE: 11/90

JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED							DRILLING METHOD	BORING NUMBER
See Site Plan							8 inch diameter continuous hollow stem auger	B-10
283ft. 7/3/90							SAMPLING METHOD	SHEET 2 OF 3
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	
					20	[]	SM/CL	(as above)
					21	[]		SILTY CLAY - dark greenish-gray, plastic, stiff, moist, slight organic odor. (OLD ALLUVIUM)
Bag					22	[X]		
					23	[X]		
					24	[X]		very stiff at 24 ft.
Bag		98.3	22.9		25	[X]		(PI=18; Fines=77.7%)
					26	[X]		
					27	[X]		
Bag					28	[X]		
					29	[X]		occasional sandy zones, friable
					30	[X]		
					31	[X]		
					32	[X]		
Bag			20.8		33	[X]		
					34	[X]		
Bag					35	[X]	SP	SAND - very dark grayish-brown, fine grained, relatively uniform grading, abundant green sub-rounded quartz (?), occasional gray clay fragments. (ALLUVIUM ?)
					36	[X]		
					37	[]	ML	SANDY SILT - greenish-gray, occasional weathered gravels, dry.
					38	[]		
Bag					39	[X]	CL/ML	SILTY CLAY - yellowish-brown, mottled gray, reddish-brown, occasional coarse sand, very hard, slightly moist. (weathered BEDROCK or COLLUVIUM ?)
					40	[X]		

LOG OF BORING

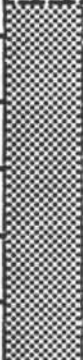
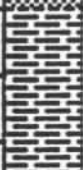
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Hillside Village

DATE: 11/90

JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED						DRILLING METHOD		BORING NUMBER	
See Site Plan						8 inch diameter continuous hollow stem auger		B-10	
283ft.						7/3/90			
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	SAMPLING METHOD	
								5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop	
					40		CL/ ML	SANDY SILT/SANDY CLAY - yellowish-brown	
					41			grades sheared/chaotic texture, brittle	
					42				
					43				
					44		SS	SANDSTONE - yellow, occasional white zones, reddish-brown staining, fine grained, well graded, moderately cemented, friable, dry. (weathered BEDROCK)	
					45				
					46				
					47				
					48		SH	SANDSTONE/SHALE - dark gray, well cemented, angular to sub-rounded quartz, blocky, wet, grades to dark brown shale, shattered, wet. (BEDROCK)	
					49				
					50				
					51				
					52			Boring terminated at 51.5 feet	
					53			Groundwater encountered at 16.8' on 7/3/90	
					54			Groundwater stabilized at 19.0' on 7/17/90 after bailing.	
					55				
					56				
					57				
					58				
					59				
					60				

LOG OF BORING

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Hillside Village

DATE: 11/90

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BORING LOCATION, ELEVATION, AND DATE DRILLED					DRILLING METHOD			BORING NUMBER	
See Site Plan					8 inch diameter continuous hollow stem auger			B-14	
355 ft.					7/6/90				
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	SAMPLING METHOD	
								5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop	
Core					0		SM	SILTY SAND - dark grayish-brown, occasional bands of light gray silt, mottled reddish-brown, abundant coarse sand, sub-rounded gravels, rootlets, hard, dry. (COLLUVIUM)	
					1				
					2				
					3				
					4		SM	SILTY SAND - very dark grayish-brown, mottled light brown, flecked yellow-brown, black, blocky texture, brittle, dry. (COLLUVIUM)	
					5				
					6				
					7			chaotic structure at 7.2 ft. (base of slide debris?)	
Bag		—	15.7		8	X	ML/CL	SANDY SILT/SANDY CLAY - yellowish-brown, mottled pale yellow, reddish-brown, fissile, moist; top 12 ft. shows 1/4' thick laminations. (COLLUVIUM)	
					9				
					10				
MC	40	110.9	18.4	14-1	11				
					12				
					13				
					14		ML		
					15	X		GRAVELLY SILT - yellowish-brown, mottled black (manganese oxide?), abundant angular fragments up to 1" dia., friable. (ALLUVIUM or OLD SLIDE DEBRIS)	
					16				
					17	X	ML	SANDY SILT - yellow-brown, patches of very dark brown and light gray clay, stiff, wet, rootlets and organic, fibrous. (COLLUVIUM - BASE OF OLD SLIDE DEBRIS ?)	
					18		SM		
					19			SILTY SAND - dark brown, mottled yellowish-brown, abundant gravel-sized gray patches, occasional rounded gravel, hard, moist. (weathered BEDROCK ?)	
					20				

LOG OF BORING

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J.R.H. Capitol
Hillside Village

DATE: 11/90

JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED							DRILLING METHOD	BORING NUMBER
See Site Plan 355ft.							8 inch diameter continuous hollow stem auger	B-14
7/6/90							SAMPLING METHOD	SHEET 2 OF 2
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	
					20		SM	(as above)
					21			
					22			(see Unconfined Compression Test and Grain Size Distribution)
Bag		116.2	11.5		23		SS	SANDSTONE - (poor recovery) very hard drilling at 23.0 ft.
					24			
					25			
					26			Boring terminated at 25.5 feet No Groundwater encountered at the time of drilling
					27			
					28			
					29			
					30			
					31			
					32			
					33			
					34			
					35			
					36			
					37			
					38			
					39			
					40			

LOG OF BORING

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J.R.H. Capitol
Hillside Village

DATE: 11/90

JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED							DRILLING METHOD	BORING NUMBER
See Site Plan							8 inch diameter continuous hollow stem auger	B-15
370ft.							7/6/90	
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S.	SAMPLING METHOD
								5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop
Core					0		ML	CLAYEY SILT - dark brown, occasional sand, gravel up to 1/4" dia., low plasticity, stiff, dry, rootlets. (TOPSOIL)
					1			
					2			
					3		ML	CLAYEY SILT - yellowish-brown, streaked black, flecked light brown, hard, dry, rootlets. (COLLUVIUM)
					4			
					5			
					6			
					7			apparent base of landslide at 6 to 7 ft.?
Bag		—	19.8		8		CL	SILTY CLAY - light brownish-gray, mottled yellowish-brown, gray, abundant sand, stiff, very moist. (COLLUVIUM)
					9			
					10			
					11			
					12		CH	SILTY CLAY - light brownish-gray with zones of white, and black stains, abundant angular shale fragments up to 1/2" dia. (weathered SHALE ?)
					13			
					14			
					15			Boring terminated at 14.0 feet No Groundwater encountered at the time of drilling
					16			
					17			
					18			
					19			
					20			

LOG OF BORING

	Soils Foundation & Geological Engineers	J.R.H. Capitol Hillside Village	
		DATE: 11/90	JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED				DRILLING METHOD				BORING NUMBER			
See Site Plan				8 inch diameter continuous hollow stem auger				B-19			
232ft.				7/9/90							
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	SAMPLING METHOD			
								5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop			
								SHEET 1 OF 2			
Core					0		SM/ GM	SILTY SAND/SILTY GRAVEL - light yellowish-brown, abundant angular fragments, dry. (poorly compacted FILL)			
					1						
					2						
					3						
					4						
					5		ML	SANDY SILT - very dark gray, zones of yellowish-brown, abundant rounded to angular coarse sandy fine gravel, stiff, very moist. (OLD ALLUVIUM)			
					6						
					7						
					8						
					9						
Bag					10			GM - 7/4/90 occasional zones of olive-gray grades mottled olive-gray, sandier, wet			
					11						
					12						
					13						
					14						
Bag					15						
					16						
					17						
					18						
					19						
					20		SM	SILTY SAND - yellowish-brown, mottled olive, fine grained, loose, wet. (OLD ALLUVIUM)			

LOG OF BORING

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J.R.H. Capitol
Hillside Village

DATE: 11/90

JOB NO: 89161.11

BORING LOCATION, ELEVATION, AND DATE DRILLED							DRILLING METHOD		BORING NUMBER
See Site Plan 232ft.							8 inch diameter continuous hollow stem auger		B-19
7/8/90							SAMPLING METHOD		SHEET 2 OF 2
SAMPLER TYPE	NUMBER OF BLOWS/FT	DRY DENSITY PCF	MOISTURE CONTENT % DRY WT	SAMPLE NUMBER	DEPTH IN FEET	SOIL GRAPH	U.S.C.S	5 ft. core barrel Mod. Cal. (MC), 140# hammer, 30" drop	
					20		SM	SILTY SAND - (as above)	
					21				
					22				
					23				
					24				
Bag		—	20.0		25		CL	SILTY CLAY - greenish-gray, mottled yellowish-brown, abundant sand and highly weathered gravel, slight organic odor, very stiff, moist. (COLLUVIUM) Boring terminated at 25.0 feet Groundwater stabilized at 9 ft. on 7/17/90	
					26				
					27				
					28				
					29				
					30				
					31				
					32				
					33				
					34				
					35				
					36				
					37				
					38				
					39				
					40				

LOG OF BORING

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J.R.H. Capitol
Hillside Village

DATE: 11/90

JOB NO: 89161.11

ELEV. 350

LOGGED BY PW, LM

TEST PIT LOG 1

SOILS, FOUNDATION AND GEOLOGICAL ENGINEERS

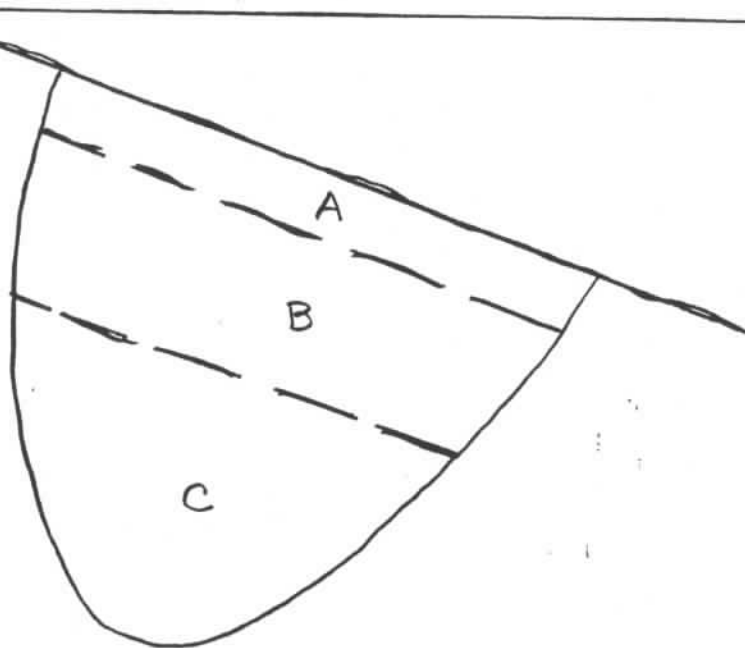


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DEPTH (FT.)	MATERIALS DESCRIPTION TYPE, COLOR, MOISTURE, CONSOLIDATION, ETC.	ATTITUDES			DATE LOGGED:
		BEDDING	JOINTS	FAULT OR SHEAR	COMMENTS
0 - 2	Sandy silt, brown, dry (ML) A				soil
2 - 4	Sand, clayey, brown to lite brown, dry (SC) B				colluvium
4 - 14	Sand, fine grained, clayey, rust streaks and discontinuos clay stringers occasional subangular weathered sandstone fragments up to 1/2 inch black manganes cratings (SC) C				moist below about 5 feet
	Bedrock not reached				roots to a depth of out 8 ft.
					No bedding
					No landslide activity
					No groundwater

DATE : 12/90

JOB NO : 39161.11

Hillside Village
Daly City

SCALE
H: 5 FT.
V: 5 FT.
PIT ORIENT.
N 35° W
NATURAL SLOPE
ANGLE: 18°
T.D.: 14 ft

ELEV. 376

LOGGED BY PW, EM

TEST PIT LOG 2

SOILS, FOUNDATION AND GEOLOGICAL ENGINEERS



PSC ASSOCIATES, INC.

DEPTH (FT.)	MATERIALS DESCRIPTION TYPE, COLOR, MOISTURE, CONSOLIDATION, ETC.	ATTITUDES			DATE LOGGED:
		BEDDING	JOINTS	FAULT OR SHEAR	COMMENTS
	Disturbed material				0 - 6 ft. landslide material Colluvium
0 - 2½	Silty sand, dark brown (ML) A				
2½ - 5	Clay, yellow brown to greenish brown B				
5 - 6	Sandy clay with sandstone fragments up to 6 inches across C				
	Undisturbed material				
6 - 9½	Sandy clay, dark brown to black with streaks and fragments of yellow brown sandstone (CL) D				
9½ - 15	Sandy clay, gray brown to yellow brown (CL) E				

DATE: 12/90

JOB NO: 89161.11

Hillside Village,
Daly CityLandslide lobe
or tongueDisturbed zone, narrow soil flow
type slide

undisturbed area

2-1-9½

SCALE
H: 5 FT
V: 5 FT
PIT ORIENT.
E-W
NATURAL SLOPE
ANGLE: 21½°
T.D.: 15½ ft

ELEV. 380LOGGED BY PW EMTEST PIT LOG 3

SOILS, FOUNDATION AND GEOLOGICAL ENGINEERS



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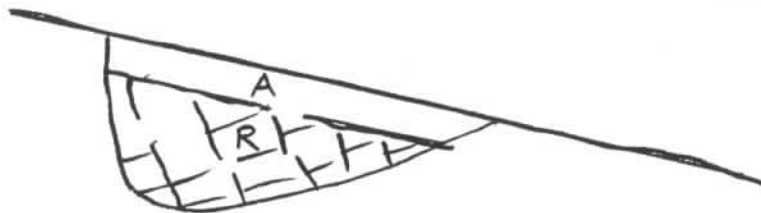
DEPTH (FT.)	MATERIALS DESCRIPTION TYPE, COLOR, MOISTURE, CONSOLIDATION, ETC.	ATTITUDES			DATE LOGGED:
		BEDDING	JOINTS	FAULT OR SHEAR	COMMENTS
0 - 1	Sand, silty, lite brown, dry (SM) soil <u>A</u>				soil
1 - 4	Sandstone, yellow brown, hard, fractured. <u>R</u>				bedrock
	Practical refusal for backhoe at 4 ft.				

No groundwater

DATE: 12/00

Hillside Village,
Daly City

ICR NO. 00161 11



SCALE
H: 5 FT.
V: 5 FT.
PIT ORIENT.
N 75° W
NATURAL SLOPE
ANGLE: 10°
T.D.: 4 ft

ELEV. 380LOGGED BY PW EMTEST PIT LOG 3

SOILS, FOUNDATION AND GEOLOGICAL ENGINEERS



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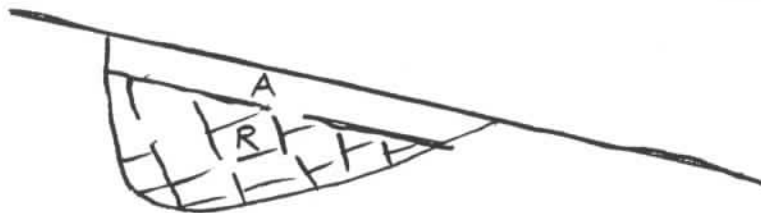
DEPTH (FT.)	MATERIALS DESCRIPTION TYPE, COLOR, MOISTURE, CONSOLIDATION, ETC.	ATTITUDES			DATE LOGGED:
		BEDDING	JOINTS	FAULT OR SHEAR	COMMENTS
0 - 1	Sand, silty, lite brown, dry (SM) soil <u>A</u>				soil
1 - 4	Sandstone, yellow brown, hard, fractured. <u>R</u>				bedrock
	Practical refusal for backhoe at 4 ft.				

No groundwater

DATE: 12/00

Hillside Village,
Daly City

ICR NO. 00161 11



SCALE

H: 5 FTV: 5 FT

PIT ORIENT.

N 75° W

NATURAL SLOPE

ANGLE: 10°T. D. : 4 ft

ELEV. 348

LOGGED BY PW, EM

TEST PIT LOG

4

SOILS, FOUNDATION AND GEOLOGICAL ENGINEERS

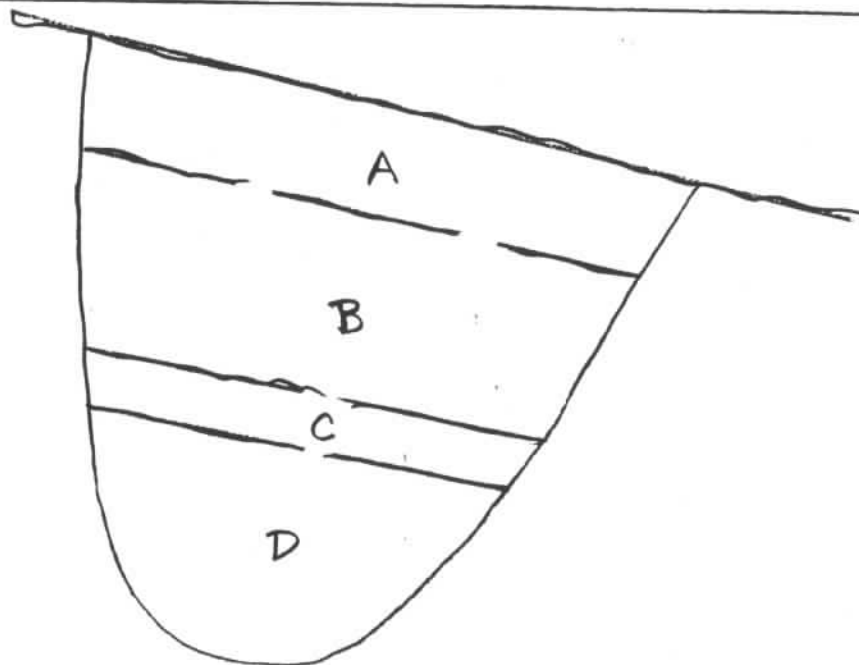


PSC ASSOCIATES, INC.

DEPTH (FT.)	MATERIALS DESCRIPTION TYPE, COLOR, MOISTURE, CONSOLIDATION, ETC.	ATTITUDES			DATE LOGGED:
		BEDDING	JOINTS	FAULT OR SHEAR	COMMENTS
2-3	Sand, silty, dark brown, dry to medium moist at base (SM) A				Soil
3-8	Sandy clay, yellow brown, moist (ML) B				Colluvium
3-9	Sandy clay with random sandstone fragments C				Colluvium
9-15	Sand with clay matrix and subrounded weathered sandstone pebbles up to about 3 inches across D				Old stream channel deposit
	No groundwater but free water drops on pebbles				

DATE: 12/90

JOB NO: 89161.11

Hillside Village,
Daly City

SCALE
H: 5 FT
V: 5 FT
PIT ORIENT.
N 85°W
NATURAL SLOPE
ANGLE: 11°
T.D.: 15 ft

ELEV. 290LOGGED BY EMTEST PIT LOG 13

SOILS, FOUNDATION AND GEOLOGICAL ENGINEERS

PSC
ASSOCIATES, INC.

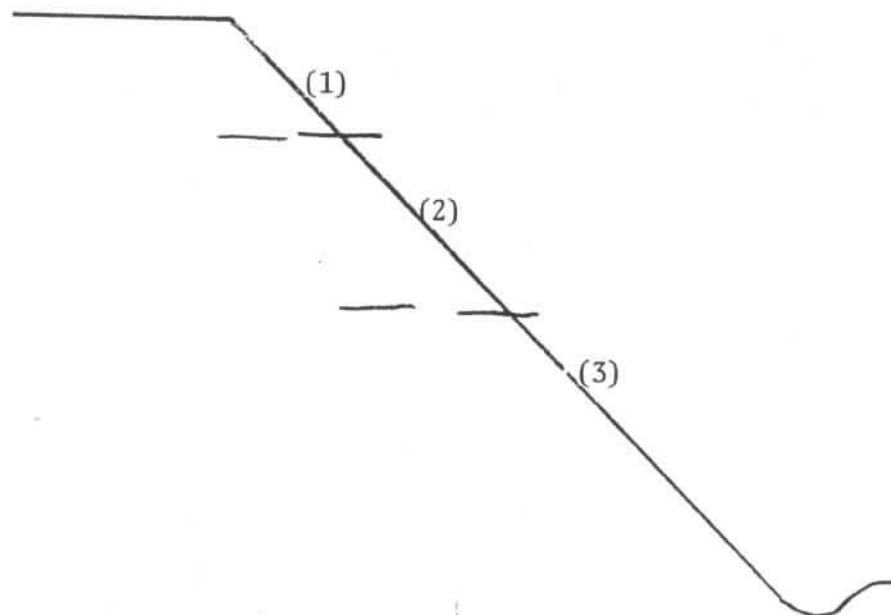
DATE: 12/90

JOB NO: 89161.11

Hillside Village,
Daly City

PLATE

DEPTH (FT.)	MATERIALS DESCRIPTION TYPE, COLOR, MOISTURE, CONSOLIDATION, ETC.	ATTITUDES			DATE LOGGED:
		BEDDING	JOINTS	FAULT OR SHEAR	COMMENTS
0-3½	(1) Sandy silt, dark brownish yellow, abundant gravels up to 2 inches roots, slightly moist (ML/GC)				Colluvium
3½-8	(2) Sandy silt, dark yellow brown with mottled reddish brown patches occasional gravels, hard, moist				
8-15	(3) Sand, silty, lite brownish gray with mottled reddish brown patches and occasional lite gray patches, moist hard				

Colluvial material exposed
in an old weathered cut
bank

SCALE
H: 5 FT.
V: 5 FT.
PIT ORIENT.
N 70°W
NATURAL SLOPE
ANGLE: 45°
T.D.: 15 ft

ELEV. 270LOGGED BY PW, EMTEST PIT LOG 17

SOILS, FOUNDATION AND GEOLOGICAL ENGINEERS



PSC ASSOCIATES, INC.

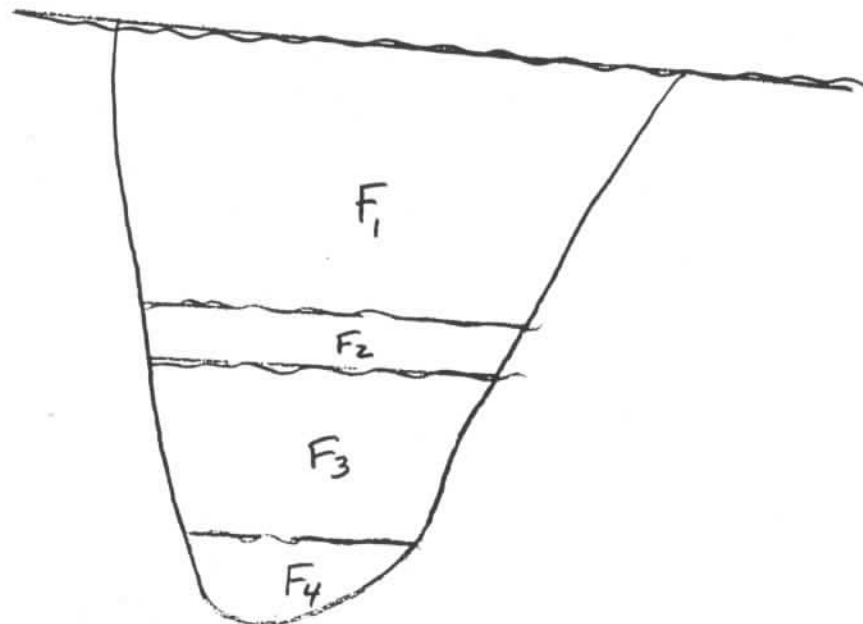
DATE: 12/90

JOB NO: 89161.11

Hillside Village
Daly City

PLATE

DEPTH (FT.)	MATERIALS DESCRIPTION TYPE, COLOR, MOISTURE, CONSOLIDATION, ETC.	ATTITUDES			DATE LOGGED:
		BEDDING	JOINTS	FAULT OR SHEAR	COMMENTS
0-7	Fill-mixture of plastic materials plywood, boards, rotting wood, broken concrete, bricks etc. in sand and clay mixture F_1				Fill
7-8½	Gray black sand and clay mixture with rotten wood, very moist F_2				Fill
8½-13	Sandy clay with rock fragments, moist F_3				Fill
13-15	Sandy clay, dark olive brown, rotten wood and plywood fragments moist F_4				Base of fill not reached



SCALE
H: 5 FT.
V: 5 FT.
PIT ORIENT.
N 85° E
NATURAL SLOPE
ANGLE: 4°
T.D.: 15 ft

ELEV. 232LOGGED BY PW, EMTEST PIT LOG 18

SOILS, FOUNDATION AND GEOLOGICAL ENGINEERS



PSC ASSOCIATES, INC.

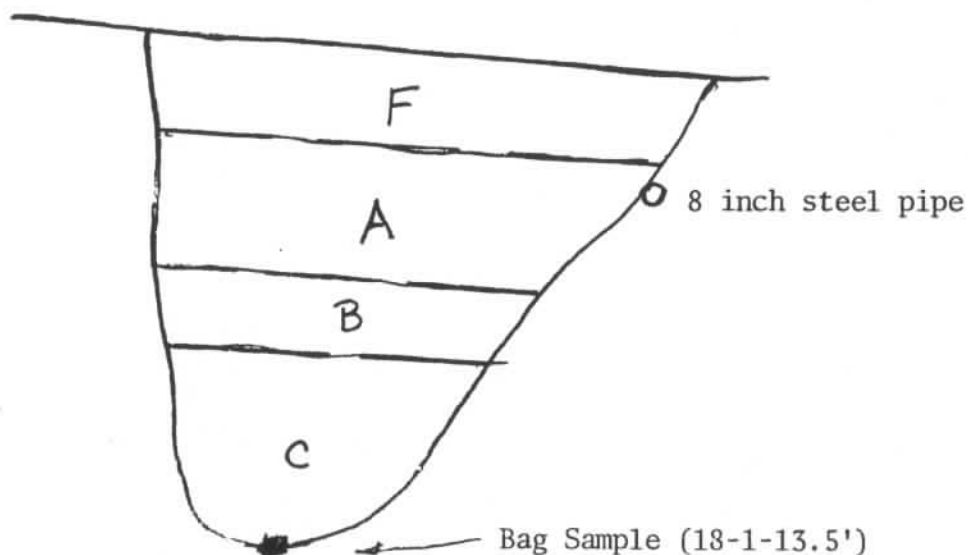
DATE: 12/90

JOB NO: 89161.11

PLATE

Hillside Village
Daly City

DEPTH (FT.)	MATERIALS DESCRIPTION TYPE, COLOR, MOISTURE, CONSOLIDATION, ETC.	ATTITUDES			DATE LOGGED:
		BEDDING	JOINTS	FAULT OR SHEAR	COMMENTS
0-2½	Fill broken concrete, metal plates, broken bricks in sandy clay matrix F				Fill, uncompacted
2½-6	Sandy to silty clay, dark gray brown, dry (ML) A				Soil
6-8	Sandy clay, dark yellow brown (ML) B				Colluvium
8-13	Sand yellow brown, occasional rust steaks, moist (SC) C				Colma Formation
					No groundwater



SCALE
H: 5 FT.
V: 5 FT.
PIT ORIENT.
N 80° E
NATURAL SLOPE
ANGLE: 5°
T.D.: 13 ft

TEST PIT LOGS

<u>Test Pit Number</u>	<u>Depth (feet)</u>	<u>Description</u>
TP-1	0 – 3	Silty Clay, dark yellow-brown, moist to wet, stiff.
	3 – 11	Sandy Clay with Silt, mottled orange-brown and light gray, moist, stiff, trace angular gravel up to 1½ inches, trace cobbles and small sandstone boulders, vertical inversion cracks.
	11 – 13	Silty Clay, gray, moist, stiff, faint oxidation mottling.
		Total Depth 13 feet No free groundwater encountered
TP-2	0 – 3½	Silty Clay, dark yellow-brown, moist to wet, stiff.
	3½ – 6	Silty Clay, tan-brown, dry to moist, stiff.
	6 – 12½	Silty Clay, light orange-brown to tan-brown, dry to moist, very stiff, trace cobbles below 9 feet.
		Total Depth 12½ feet No free groundwater encountered
TP-3	0 – 2½	Silty Clay, dark yellow-brown, moist, stiff.
	2½ – 3½	Sandy Silt, tan-brown, dry stiff, fine-grained sand.
	3½ – 6	Sandstone, fine-grained, tan-brown, highly weathered, moderately strong, highly fractured, trace siltstone interbeds, bedding N10W 51NE.
		Total Depth 6 feet No free groundwater encountered
TP-4	0 – 3	Silty Clay, dark yellow-brown, moist, stiff.
	3 – 6	Sandstone, fine-grained, tan-brown, highly weathered, moderately strong to strong.
		Total Depth 6 feet No free groundwater encountered
TP-5	0 – 3½	Silty Clay, dark yellow-brown, moist, stiff.
	3½ – 5	Sandy Clay, tan, dry, stiff, fine-grained sand.
	5 – 7	Sandstone fine-grained, tan-brown, highly weathered, moderately strong to strong.
		Total Depth 7 feet No free groundwater encountered

TEST PIT LOGS

<u>Test Pit Number</u>	<u>Depth (feet)</u>	<u>Description</u>
TP-6	0 – 4	Silty Clay, dark yellow-brown, moist, stiff.
	4 – 8	Silty Clay, tan, moist, stiff, trace to some angular gravel, up to 3 inches, sharp basal contact $\approx 17^\circ$ downslope (shallow landslide).
	8 – 12	Silty Sandy Clay, tan-brown to light orange-brown, moist, very stiff, trace cobbles up to 4 inches, fine-grained sand.
		Total Depth 12 feet No free groundwater encountered
TP-7	0 – 3	Sandstone, fine-grained, tan-brown, highly weathered, strong, moderately fractured, Joints N80W 65S.
		Total Depth 3 feet No free groundwater encountered
TP-8	0 – 2½	Silty Clay, dark yellow-brown, dry, stiff.
	2½ – 4½	Sandy Silt, tan-brown, dry, very stiff.
	4½ – 6	Sandstone, fine-grained, tan, highly weathered, strong, siltstone interbeds, N60E 54SE.
		Total Depth 6 feet No free groundwater encountered
TP-9	0 – 4	Silty Clay, dark yellow-brown, moist, stiff.
	4 – 8	Sandy Clay, mottled orange-brown and gray, moist, stiff, fine-grained sand.
	8 – 13	Silty Sandy Clay, yellow-brown, dry to moist, very stiff, trace cobbles.
		Total Depth 13 feet No free groundwater encountered
TP-10	0 – 4	Silty Clay, dark yellow-brown, moist, stiff.
	4 – 13	Silty Clay with fine-grained sand, mottled orange-brown and gray, moist, very stiff.
		Total Depth 13 feet No free groundwater encountered

TEST PIT LOGS

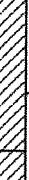
<u>Test Pit Number</u>	<u>Depth (feet)</u>	<u>Description</u>
TP-11	0 – 3½	Silty Clay, dark yellow-brown, moist to wet, stiff.
	3½ – 4½	Silty Clay, light brown, dry to moist, stiff, some fine-grained sand.
	4½ – 7	Sandstone, fine-grained, tan, highly weathered, strong, thin, shale interbeds N5E 61SE.
		Total Depth 7 feet No free groundwater encountered
TP-12	0 – 3	Silty Clay, dark yellow-brown, moist to wet, stiff.
	3 – 6½	Silty Clay, brown and gray, moist, stiff, sharp basal contact with faint clay surface, N25E 21NW, shallow landslide.
	6½ – 13	Silty Sandy Clay, mottled light orange-brown and gray, moist, very stiff, manganese oxide stains.
		Total Depth 13 feet No free groundwater encountered
TP-13	0 – 4	Silty Clay, dark gray-brown, moist to wet, stiff.
	4 – 6	Sandy Silt, brown, moist, stiff, fine-grained sand.
	6 – 10	Silty Sandy Clay, mottled light orange-brown and gray, moist, very stiff.
	10 – 13	Silty Clay with fine-grained sand, light orange-brown, moist, stiff.
		Total Depth 13 feet No free groundwater encountered
TP-14	0 – 4	Silty Clay, dark gray-brown, wet, medium stiff.
	4 – 8	Sandy Clay, moist to wet, medium stiff, orange-brown, fine-grained sand, sharp basal contact with 1/16" tan clay N80W 22N (shallow landslide).
	8 – 12	Silty Sandy Clay, mottled, moist, orange-brown and gray, very stiff, columnar ped structure.
		Total Depth 12 feet No free groundwater encountered

APPENDIX A

BORING LOGS - BORINGS B-1 THROUGH B-8 KEY TO BORING LOG SYMBOLS

Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 6-3-13
Project Name: Point Martin Subdivision	Drilling Method: Direct Push	Elevation: 334.5 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
 4 Feet long, 1.25-inch I.D. Push Core	Woodward Drilling	Encountered: 12-1/2 feet
	Powerprobe 9500 VTR	Stabilized: Not Determined

Run	Moisture Content (%)	Dry Unit Weight (PCF)	Blows/ft	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
							SURFACE CONDITIONS: Dozer road up swale
1				0		SM/ML	SILTY SAND to SANDY SILT, dark brown, dry to moist, medium stiff to stiff, fine-grained sand, some clay
2				5		SM/SC	CLAYEY SILT/SAND, mottled orange, dark and gray-brown, moist, fine-to medium-grained sand, clayey sand to sandy silt
						SC	CLAYEY SAND, brown, moist, medium-to fine-grained sand, thin 2 inch lenses of subangular gravel
3				10		SC	CLAYEY SAND, orange-brown, moist, stiff, fine-to medium grained sand, trace subangular gravel
4	18	115	-	15		SC	CLAYEY SAND, gray, moist to wet, fine-to medium grained sand, fine gravel, some clay
5				20			below 14 feet, medium to coarse-grained sand, saturated, more clay
6	13	128	-				below 16 feet, trace to some subangular to subrounded gravel

Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 6-3-13
Project Name: Point Martin Subdivision	Drilling Method: Direct Push	Elevation: 334.5 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
 4 Feet long, 1.25-inch I.D. Push Core	Woodward Drilling	Encountered: 12-1/2 feet
	Powerprobe 9500 VTR	Stabilized: Not Determined

Run	Moisture Content (%)	Dry Unit Weight (PCF)	Blows/ft	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
6	13	128	-	20		SM/ML	GRAVELLY SAND, gray, moist to wet, fine-to medium grained sand, fine gravel, some clay
				25			Boring terminated at 23-1/2 feet, due to refusal Perched groundwater encountered at 12-1/2 feet
				30			
				35			
				40			

Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 6-3-13
Project Name: Point Martin Subdivision	Drilling Method: Direct Push	Elevation: 301.6 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
 4 Feet long, 1.25-inch I.D. Push Core	Woodward Drilling	Encountered: n/a
	Powerprobe 9500 VTR	Stabilized: Not Determined

Run	Moisture Content (%)	Dry Unit Weight (PCF)	Blows/ft	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
							SURFACE CONDITIONS: Dozer road up swale
1				0		CL	SANDY CLAY, mottled orange, dark and gray-brown, moist, some clay
				-		SC	CLAYEY SAND, mottled orange-brown and gray, moist, stiff, medium-grained sand
	19	105	-	-			
2				-		CL	SILTY CLAY, brown, moist, stiff, trace fine-grained sand, grass fragments
				5		CL/SC	CLAYEY SAND/SANDY CLAY, orange-brown, moist, stiff, fine-grained sand, trace rounded pebbles
	21	109	-	-			
3				-			
				10		CL	SILTY CLAY, mottled gray and brown, moist, stiff to very stiff, trace fine-grained sand, trace subrounded gravel
	21	113	-	-			Liquid Limit = 41 Plastic Limit = 15 Plasticity Index = 26
4				-			
5				-			
				15			
6				-		SC	CLAYEY SAND, mottled orange-brown, and gray, moist, dense, trace rounded pebbles
	16	115	-	-			
				-			
				20			Boring terminated at 18-1/2 feet, due to refusal No groundwater encountered

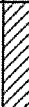
Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 6-3-13
Project Name: Point Martin Subdivision	Drilling Method: Direct Push	Elevation: 385.0 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
 4 Feet long, 1.25-inch I.D. Push Core	Woodward Drilling	Encountered: 15 feet
	Powerprobe 9500 VTR	Stabilized: Not Determined

Run	Moisture Content (%)	Dry Unit Weight (PCF)	Blows/ft	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
							SURFACE CONDITIONS: Grassy Slope
1				0		CL	SILTY CLAY, brown, dry, medium stiff
				-		CL	SANDY SILTY CLAY, mottled orange and gray-brown, moist, trace rounded pebbles, manganese oxide stains
2	16	118	-	5			
				-		CL	SILTY CLAY, dark brown, moist, stiff
				-		CL	SANDY CLAY, mottled orange-brown and gray, moist, stiff, fine-grained sand
3				-		CL	SANDY CLAY, orange-brown, moist, stiff, medium-grained sand,
				10		SC	CLAYEY SAND, mottled orange-brown and gray, moist, stiff, fine-to medium-grained sand, trace subrounded pebbles
4	19	117	-	-			
				-			
				-			
				-			
				-			
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Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 6-3-13
Project Name: Point Martin Subdivision	Drilling Method: Direct Push	Elevation: 385.0 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
 4 Feet long, 1.25-inch I.D. Push Core	Woodward Drilling	Encountered: 15 feet
	Powerprobe 9500 VTR	Stabilized: Not Determined

Run	Moisture Content (%)	Dry Unit Weight (PCF)	Blows/ft	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
6				20		SC	CLAYEY SAND, blue-gray, moist, dense, medium-grained sand
				-		CL	SILTY CLAY, gray-brown, moist, some fine-grained sand
7				-			SANDSTONE, blue-gray, moist, highly weathered sandstone fragments in clayey sand matrix, articulated joint structures 40°, 70° dip (weathered bedrock)
				25			Boring terminated at 24 feet, due to refusal Perched groundwater encountered at 15 feet
				-			
				-			
				-			
				-			
				30			
				-			
				-			
				-			
				35			
				-			
				-			
				-			
				40			

Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 6-3-13
Project Name: Point Martin Subdivision	Drilling Method: Direct Push	Elevation: 401.4 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
 4 Feet long, 1.25-inch I.D. Push Core	Woodward Drilling	Encountered: n/a
	Powerprobe 9500 VTR	Stabilized: Not Determined

Run	Moisture Content (%)	Dry Unit Weight (PCF)	Blows/ft	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
							SURFACE CONDITIONS: Grassy Slope
1				0		CL	SILTY CLAY, dark brown, dry to moist, trace fine gravel
	12	88	-	-			Liquid Limit = 28 Plastic Limit = 17 Plasticity Index = 11
2				5		SC	CLAYEY SAND, orange-brown to red-brown, moist, very stiff, medium-to coarse-grained sand, trace fine gravel
	18	114	-	-			
3				10		CL	SANDY CLAY, mottled orange-brown and gray, moist, stiff to very stiff, fine-grained sand, some silt
	17	118	-	-			
4				15		CL	SANDY CLAY, mottled orange, gray and brown, moist, trace fine gravel, some silt, occasional saturated lenses
	25	88	-	-			at 14-1/2 feet, subrounded gravel
5				20			
6							Liquid Limit = 34 Plastic Limit = 18 Plasticity Index = 16

Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 6-3-13
Project Name: Point Martin Subdivision	Drilling Method: Direct Push	Elevation: 401.4 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
 4 Feet long, 1.25-inch I.D. Push Core	Woodward Drilling	Encountered: n/a
	Powerprobe 9500 VTR	Stabilized: Not Determined

Run	Moisture Content (%)	Dry Unit Weight (PCF)	Blows/ft	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
6				20		CL	SANDY CLAY, mottled orange, gray and brown, moist, trace fine gravel, some silt
				-			
				-			
				-			
				25			
				-			
				-			
				-			
				-			
				-			
				30			
				-			
				-			
				-			
				-			
				-			
				35			
				-			
				-			
				-			
				-			
				-			
				40			
				-			

Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 6-3-13
Project Name: Point Martin Subdivision	Drilling Method: Direct Push	Elevation: 359.6 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
 4 Feet long, 1.25-inch I.D. Push Core	Woodward Drilling	Encountered: n/a
	Powerprobe 9500 VTR	Stabilized: Not Determined

Run	Moisture Content (%)	Dry Unit Weight (PCF)	Blows/ft	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
							SURFACE CONDITIONS:
1				0		CL	SILTY CLAY, dark brown, dry, medium stiff, topsoil organics
				-			
				-			
				-		SM	SILTY SAND, mottled orange, gray and dark brown, dry to moist, fine-to medium-grained sand
2				-			below 4 feet, becoming dry, less silty
				5			
				-		SM	SILTY SAND, orange and red-brown, moist, medium-to coarse-grained sand, fine gravel, deeply weathered bedrock
				-			Boring terminated at 6-1/2 feet, due to refusal on cobble, see log for B-5A No groundwater encountered
				-			
				-			
				-			
				10			
				-			
				-			
				-			
				-			
				15			
				-			
				-			
				-			
				-			
				20			

LOG OF BORING B-5A

Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 9-10-13
Project Name: Point Martin Subdivision	Drilling Method: Solid-Flight Auger	Elevation: 359.6 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
 2.5-inch I.D. Split Barrel 140 lb/30" drop	Access Soil Drilling	Encountered: 21 feet
 Standard Penetration Test 140 lb/30"	Minute Man Tripod	Stabilized: Not Determined

Moisture Content (%)	Dry Unit Weight (PCF)	SPT N-Value	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
			0			SURFACE CONDITIONS: Open hillside covered in grass and brush
			-		CL	SILTY CLAY, dark brown, dry to moist, stiff, trace fine-grained sand *drilled to 15 feet without sampling logged based on cuttings
			-			
			-			
			-		SM	SILTY SAND, mottled orange-brown and red-brown, moist, stiff
			-			
			5			
			-			between 6 and 7 feet, cobbles and boulders
			-			
			-			
			10			
			-			
			-			
			-		CL	SANDY CLAY, dark gray, moist, stiff, trace to some fine-grained sand, trace angular rock fragments up to 1/4 inch diameter
16	113	15	15			
			-			at 16 feet, some brown clay lenses
			-			
			-			
			-			
			20			

LOG OF BORING B-5A

Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 9-10-13
Project Name: Point Martin Subdivision	Drilling Method: Solid-Flight Auger	Elevation: 359.6 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
☐ 2.5-inch I.D. Split Barrel 140 lb/30" drop	Access Soil Drilling	Encountered: 21 feet
☒ Standard Penetration Test 140 lb/30"	Minute Man Tripod	Stabilized: Not Determined

Moisture Content (%)	Dry Unit Weight (PCF)	SPT N-Value	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
14	113	37	20		CL	SANDY CLAY, dark gray, moist, stiff, trace to some fine-grained sand, angular rock fragments up to 1/4 inch diameter
22	-	24	25		CL	SILTY CLAY, brown, dry to moist, stiff, some cobbles up to 1 inch
					CL	SANDY CLAY, blueish gray, moist, stiff, fine-to medium-grained sand
24	-	17	35		CL	SANDY CLAY, olive-brown to blue-gray, moist, stiff, fine-to medium grained sand, trace angular sandstone clasts
-	-	50/5"				
			40			Boring terminated at 39 feet, due to refusal Perched groundwater encountered at 21 feet SPT N-Value calculated based on 0.6 conversion factor from mod-cal blows/ft

Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 6-3-13
Project Name: Point Martin Subdivision	Drilling Method: Direct Push	Elevation: 344.6 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
 4 Feet long, 1.25-inch I.D. Push Core	Woodward Drilling	Encountered: 12 feet
	Powerprobe 9500 VTR	Stabilized: Not Determined

Run	Moisture Content (%)	Dry Unit Weight (PCF)	Blows/ft	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
1				0			SURFACE CONDITIONS:
				-		CL/ML	SILT/CLAY, dark brown, dry, topsoil organics
				-		CL	SANDY CLAY, mottled orange, gray, and dark brown, moist, trace fine gravel, fine-grained sand
2	15	113	-	-			
				5			
				-			
3	18	118	-	-			
				-		SP	SAND, brown, moist to saturated, fine-to medium-grained sand, some silt
				10		SC	CLAYEY SAND, brown, moist to saturated, fine-to medium-grained sand, some silt
				-		SP	SAND, gray, moist to saturated, poorly graded, trace silt and clay
				-			Boring terminated at 12 feet, due to refusal, likely on cobble
				-			Groundwater encountered at 12 feet
				15			
				-			
				-			
				-			
				-			
				20			

Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 6-3-13
Project Name: Point Martin Subdivision	Drilling Method: Direct Push	Elevation: 330.4 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
 4 Feet long, 1.25-inch I.D. Push Core	Woodward Drilling	Encountered: n/a
	Powerprobe 9500 VTR	Stabilized: Not Determined

Run	Moisture Content (%)	Dry Unit Weight (PCF)	Blows/ft	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
							SURFACE CONDITIONS:
1				0		CL	SILTY CLAY, dark brown, dry, sand clayey silt
				-			
				-			
				-		CL	SANDY CLAY, mottled orange, dark and gray-brown, moist, fine-grained sand
2				-			
				5		SC/CL	CLAYEY SAND, orange-brown, moist, stiff, fine-to medium-grained sand
				-			
				-		CL	SANDY CLAY, orange-brown, moist, stiff to very stiff, trace subrounded gravel
3	118	117	-	-			
				10			
				-			below 11 feet, light orange-brown
4				-			
				-			
				15			
5	20	112	-	-			below 16 feet, some subrounded to subangular gravel
				-			
				-			
6	18	117	-	20			

Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 6-3-13
Project Name: Point Martin Subdivision	Drilling Method: Direct Push	Elevation: 330.4 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
 4 Feet long, 1.25-inch I.D. Push Core	Woodward Drilling	Encountered: n/a
	Powerprobe 9500 VTR	Stabilized: Not Determined

Run	Moisture Content (%)	Dry Unit Weight (PCF)	Blows/ft	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
6	18	117	-	20		CL	SANDY CLAY, light orange-brown, moist, stiff to very stiff, some subrounded to subangular gravel
				-			Boring terminated at 21 feet, due to refusal No groundwater encountered
				-			
				-			
				25			
				-			
				-			
				-			
				-			
				30			
				-			
				-			
				-			
				-			
				35			
				-			
				-			
				-			
				40			

Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 9-10-13
Project Name: Point Martin Subdivision	Drilling Method: Solid-Flight Auger	Elevation: 376.7 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
☒ Standard Penetration Test 140 lb/30"	Access Soil Drilling	Encountered: n/a
	Minute Man Tripod	Stabilized: Not Determined

Moisture Content (%)	Dry Unit Weight (PCF)	SPT N-Value	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
						SURFACE CONDITIONS: Open hillside
			0		CL	SILTY SAND/CLAY, light orange-brown, moist, stiff, fine-grained sand, trace pebbles *drilled to 15 feet without sampling logged based on cuttings
			-			
			-			
			-			
			-			
			-			
			5			
			-			
			-			
			-			
			-			
			10			
			-			
			-		CL	SANDY SILTY CLAY, gray to dark gray, moist, stiff, fine-grained sand, trace angular rock fragments up to 1 inch
			-			
			-			
			15			
			-			
			-			
			-			
			-			
			-			
			20		CL	SANDY CLAY, blue-gray, moist, stiff, fine-to medium-grained sand, trace angular gravel up to 1 inch

Project No. 1121.100	Client: BTM Group, LLC	Date Drilled: 9-10-13
Project Name: Point Martin Subdivision	Drilling Method: Solid-Flight Auger	Elevation: 376.7 Feet MSL

SAMPLER TYPE:	DRILLER	GROUNDWATER
☒ Standard Penetration Test 140 lb/30"	Access Soil Drilling	Encountered: n/a
	Minute Man Tripod	Stabilized: Not Determined

Moisture Content (%)	Dry Unit Weight (PCF)	SPT N-Value	Depth (feet)	Sample Symbol	USCS Classification	MATERIAL DESCRIPTION AND REMARKS
-	-	72	20		CL	SANDY CLAY, blue-gray, moist, stiff, fine-to medium-grained sand, trace angular gravel up to 1 inch
-	-	33	25			
-	-		30			at 31 feet, occasional roots and wood fragments
-	-	50/6"	35			SANDSTONE, fine-grained, gray, moderately weathered, strong, moderately fractured
			40			Boring terminated at 40 feet, No groundwater encountered

UNIFIED SOIL CLASSIFICATION SYSTEM

DATE: 8-18-13

MAJOR DIVISIONS			CLASSIFICATION SYMBOL	TYPICAL NAMES
COARSE GRAINED SOILS MORE THAN HALF OF THE MATERIAL IS LARGER THAN NO. 200 SIEVE	GRAVELS MORE THAN HALF COARSE FRACTION IS LARGER THAN NO. 4 SIEVE	CLEAN GRAVELS WITH LITTLE TO NO FINES	GW	WELL GRADED GRAVELS, GRAVEL/SAND MIXTURES
			GP	POORLY GRADED GRAVELS, GRAVEL/SAND MIXTURES
		GRAVEL WITH OVER 12% FINES	GM	SILTY GRAVELS, POORLY GRADED GRAVEL/SAND/SILT MIXTURES
			GC	CLAYEY GRAVELS, POORLY GRADED GRAVEL/SAND/CLAY MIXTURES
	SANDS MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE	CLEAN SANDS WITH LITTLE TO NO FINES	SW	WELL GRADED SANDS, GRAVELLY SANDS
			SP	POORLY GRADED SANDS, GRAVELLY SANDS
		SANDS WITH OVER 12% FINES	SM	SILTY SANDS, POORLY GRADED SAND/SILT MIXTURES
			SC	CLAYEY SANDS, POORLY GRADED SAND/CLAY MIXTURES
FINE GRAINED SOILS MORE THAN HALF OF THE MATERIAL IS SMALLER THAN NO. 200 SIEVE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL	ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
			HIGHLY ORGANIC SOILS	

KEY TO BORING LOG SYMBOLS

JOB NUMBER: 1121.100

Depth in Feet	Moisture Content (%)	Dry Unit Weight (pcf)	Blows per foot	Unified Soil Classification System	
Note: Soils described as dry, moist, and wet are estimated to be dry of optimum, near optimum, and more wet than optimum moisture content, respectively. Saturated soils are estimated to be within areas of free groundwater.					1.25 inch I.D. Push Core Sample
					2.5-inch I.D. Split Barrel Sample
					2.8-inch I.D. Shelby Tube Sample
					No Sample recovered
					Standard Penetration Test interval
					Well-defined stratum change
					Gradual stratum change
					Interpreted stratum change
					Apparent ground water level measured at date noted; seasonal weather conditions, site topography, etc., may cause fluctuations in water level indicated on boring logs
					Stabilized ground water level measured at date noted

APPENDIX B

LABORATORY TESTING DATA

29 Sugarloaf Terrace, Alamo, CA 94507 - Tel: (510) 409-2916 - Fax: (925) 891-9267 - Email: soiltesting@aol.com

Project Number:	1121.100	Project Name:	Point Martin, Daly City	Results Due By:
Requested By:	KR	Request Date:	7/2/13	Throw Samples Out On:

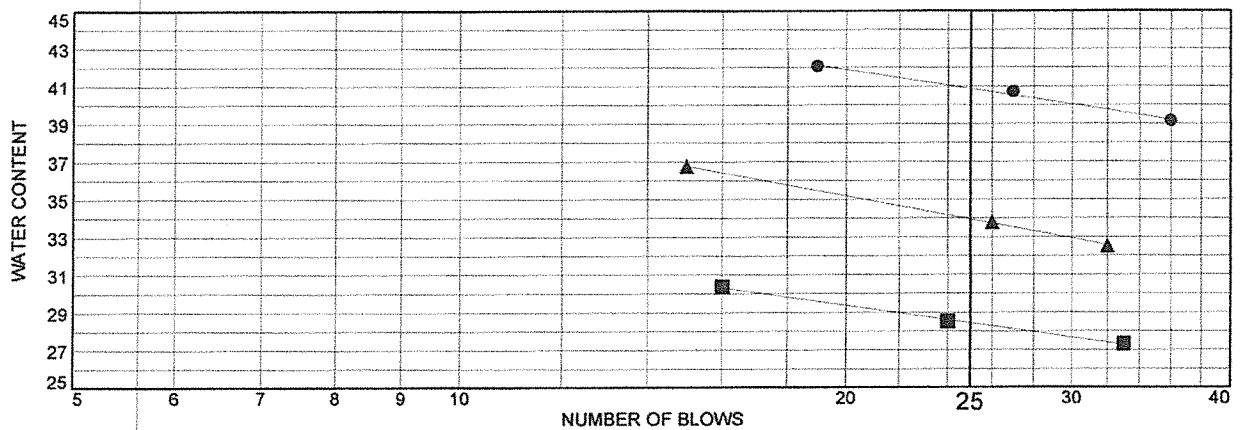
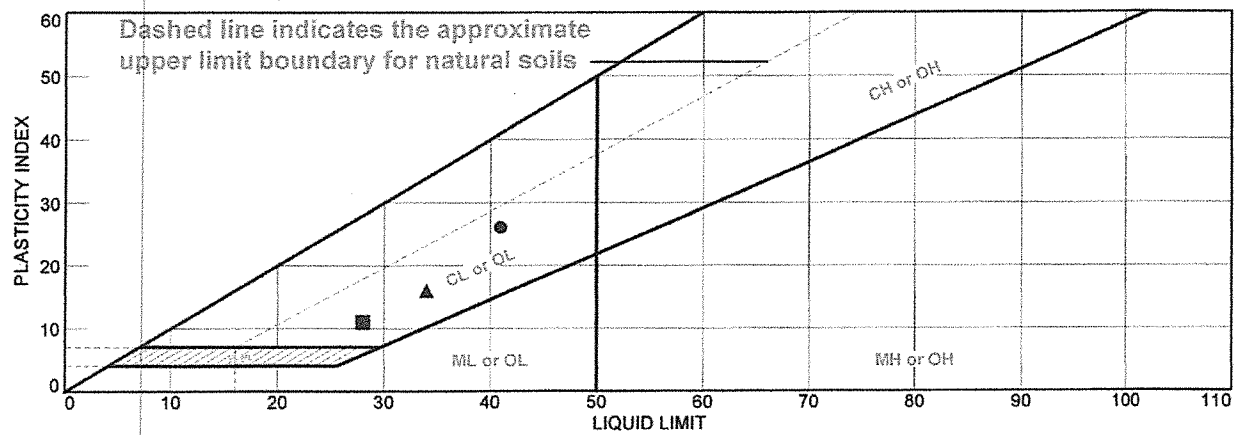
[illegible]

29 Sugarloaf Terrace, Alamo, CA 94507 - Tel: (510) 409-2916 - Fax: (925) 891-9267 - Email: soiltesting@aol.com

Project Number:	#1121.100	Project Name:		Results Due By:	
Requested By:	KR	Request Date:	11/1/13	Throw Samples Out On:	

[illegible]

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	Olive lean CLAY	41	15	26			CL
■	Dark brown lean CLAY	28	17	11			CL
▲	Yellowish brown lean CLAY with some fine sand	34	18	16			CL

Project No. 1121.100 Client: Ryan Geological

Project: Point Martin, Daly City

● Source of Sample: B-2 Depth: 11.0 - 12.0'

■ Source of Sample: B-4 Depth: 2.0 - 3.0'

▲ Source of Sample: B-4 Depth: 18.0 - 19.0'

Remarks:

B. HILLEBRANDT SOILS TESTING, INC.

+1 510-409-2816

SoilTesting@aol.com

Figure

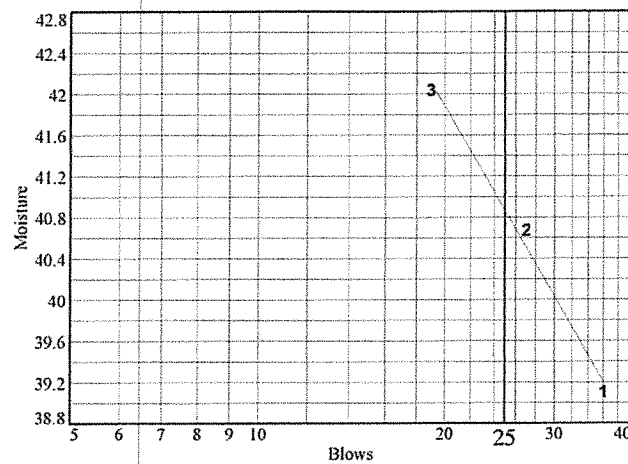
Tested By: BH

LIQUID AND PLASTIC LIMIT TEST DATA

7/17/2013

Client: Ryan Geological
 Project: Point Martin, Daly City
 Project Number: 1121.100
 Location: B-2
 Depth: 11.0 - 12.0'
 Material Description: Olive lean CLAY
 USCS: CL
 Tested by: BH

Liquid Limit Data						
Run No.	1	2	3	4	5	6
Wet+Tare	24.75	26.63	23.21			
Dry+Tare	20.96	22.2	19.67			
Tare	11.27	11.31	11.25			
# Blows	36	27	19			
Moisture	39.1	40.7	42.0			



Liquid Limit= 41
 Plastic Limit= 15
 Plasticity Index= 26
 Natural Moisture= 20.9
 Liquidity Index= 0.2

Plastic Limit Data				
Run No.	1	2	3	4
Wet+Tare	17.37	17.72		
Dry+Tare	16.55	16.87		
Tare	11.19	11.29		
Moisture	15.3	15.2		

Natural Moisture Data			
Wet+Tare	Dry+Tare	Tare	Moisture
166.7	143.8	34.2	20.9

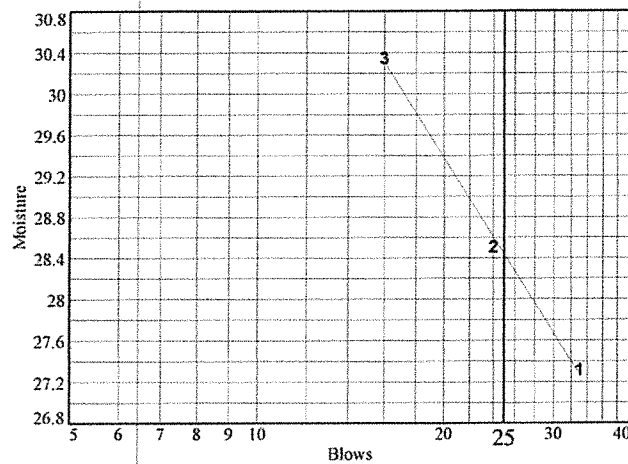
B. Hillebrandt Soils Testing, Inc.

LIQUID AND PLASTIC LIMIT TEST DATA

7/17/2013

Client: Ryan Geological
 Project: Point Martin, Daly City
 Project Number: 1121.100
 Location: B-4
 Depth: 2.0 - 3.0'
 Material Description: Dark brown lean CLAY
 USCS: CL
 Tested by: BH

Liquid Limit Data						
Run No.	1	2	3	4	5	6
Wet+Tare	34.03	33.26	35.36			
Dry+Tare	29.15	28.37	29.76			
Tare	11.29	11.22	11.31			
# Blows	33	24	16			
Moisture	27.3	28.5	30.4			



Liquid Limit= 28
 Plastic Limit= 17
 Plasticity Index= 11
 Natural Moisture= 11.8
 Liquidity Index= -0.5

Plastic Limit Data				
Run No.	1	2	3	4
Wet+Tare	18.62	17.28		
Dry+Tare	17.50	16.39		
Tare	11.24	11.18		
Moisture	17.9	17.1		

Natural Moisture Data			
Wet+Tare	Dry+Tare	Tare	Moisture
90.5	84.5	33.8	11.8

B. Hillebrandt Soils Testing, Inc.

LIQUID AND PLASTIC LIMIT TEST DATA

7/17/2013

Client: Ryan Geological

Project: Point Martin, Daly City

Project Number: 1121.100

Location: B-4

Depth: 18.0 - 19.0'

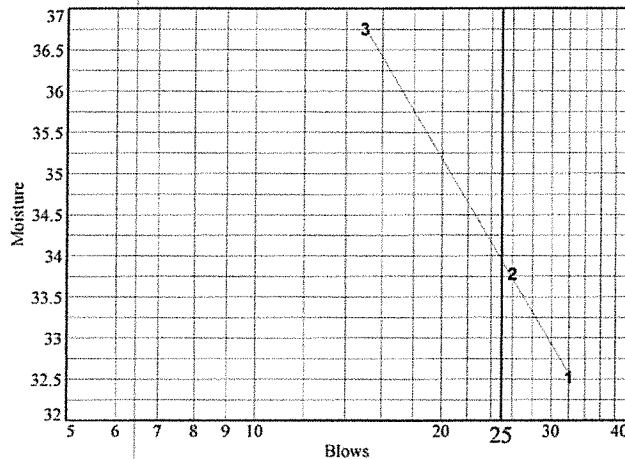
Material Description: Yellowish brown lean CLAY with some fine sand

USCS: CL

Tested by: BH

Liquid Limit Data

Run No.	1	2	3	4	5	6
Wet+Tare	32.04	31.74	27.21			
Dry+Tare	26.94	26.51	22.88			
Tare	11.26	11.03	11.10			
# Blows	32	26	15			
Moisture	32.5	33.8	36.8			



Liquid Limit= 34
 Plastic Limit= 18
 Plasticity Index= 16
 Natural Moisture= 24.8
 Liquidity Index= 0.4

Plastic Limit Data

Run No.	1	2	3	4
Wet+Tare	17.29	16.83		
Dry+Tare	16.34	16.02		
Tare	11.18	11.23		
Moisture	18.4	16.9		

Natural Moisture Data

Wet+Tare	Dry+Tare	Tare	Moisture
178.8	150.8	38.0	24.8

B. Hillebrandt Soils Testing, Inc.

APPENDIX C

GEOPHYSICAL STUDY – JR Associates (2013)

J R ASSOCIATES

Engineering Geophysics
1886 Emory Street
San Jose, CA 95126
(408) 293-7390

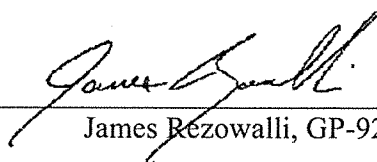
SEISMIC REFRACTION SURVEY AT THE
POINT MARTIN SITE
DALY CITY, CALIFORNIA

October 18, 2013

for

BTM Group LLC
PO Box 1328
Point Reyes Station, CA 94956

by



James Rezowalli, GP-921

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A. Site Conditions	1
II METHODOLOGY	2
A. Field Procedures	2
B. Instrumentation	2
C. Data Reduction	3
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A. Seismic Layering	4
B. Rippability	5
C. Limitations	6

LIST OF ILLUSTRATIONS

- Drawing 1 Vicinity Map
- Drawing 2 Geologic Map
- Drawing 3 Site Map
- Drawing 4 Refraction Profiles 1 Through 5
- Drawing 5 D9 Ripper Chart

I INTRODUCTION

This report presents the results of a seismic refraction investigation performed on a hillside off Steve Courter Way in Daly City, California. The investigation was performed for BTM Group by J R Associates. The purpose of the investigation was to measure bedrock depth and rippability. James Rezowalli, Principal Geophysicist, and Brian Rezowalli, Technician, of J R Associates performed the field work in October of 2013.

A. Site Conditions

The site is along a hillside on the west side of Steve Courter Way in Daly City, California (Drawing 1). The site is approximately 150 feet by 600 feet with a 3 to 1 slope, sloping uphill to the south. A 2008 Geotechnical report written by Berlogar Geotechnical Consultants and provided to us by BTM found three geologic units at the site (Drawing 2). The youngest consisted of landslide deposits (Qls). The second unit was made up of slope wash and ravine fill consisting of silty to sandy clay that was stiff to very stiff (Qsr). The third unit was Franciscan bedrock (KJfss). Where encountered the Franciscan bedrock consisted of very strong to strong sandstone with minor amounts of shale interbeds. The shale beds were highly weathered and weak. The depth to bedrock varied at the site. Test pits on the east side of the site found bedrock at depths of 3 to 6 feet. Borings and cone penetrometer tests on the west side of the site found bedrock at depths between 22 and 36 feet. The purpose of our investigation was to help determine the depth to bedrock on the western side of the site.

II METHODOLOGY

Seismic refraction data are used to help determine the depth and strength of bedrock. Studies by tractor companies show a relationship between rock strength and seismic compressional (P) wave velocities. The studies show that rocks with fast P-wave velocities are more difficult to rip than rocks with slow P-wave velocities. Both the Caterpillar and Komatsu tractor handbooks contain tables of P-wave velocities versus ripping ease.

A. Field Procedures

We collected refraction data along five seismic refraction lines, Line 1 through Line 5 (Drawing 3). The ends of the refraction lines were marked with green pin flags in the field. Each line was 120 feet long and contained 12 geophones and four shot points. The shot points were at the beginning, the end, and the middle of each line, and 30 feet off of one end of each line. A twelve-pound sledge hammer striking an aluminum plate was used to create P-waves at the shot point locations.

B. Instrumentation

Litton LRS-1011 14-Hz geophones detected the seismic signals. A cable connected the geophones to a personal computer. The PC filtered, stacked, and recorded the signals. Stacking (adding) signals from multiple shots at the same shot point location improved the signal to noise ratio of the seismograph recordings. Typically twenty-four recordings at each shot point location were stacked. A PC displayed the seismograph recordings in the field for quality control and

stored the records for later processing. The depth of investigation was approximately 40 feet below the ground surface.

C. Data Reduction

Data reduction began by picking the arrival times from the seismograph recordings. An arrival time is the time a P-wave spent traveling from shot point to geophone. The wave could either travel along the ground surface or be refracted from an interface between materials. For a refraction to occur, the materials below the interface must have a greater P-wave velocity than the materials above the interface. The arrival times were entered into a computer program with elevation, location, and layer control information.

The interpretation program, FSIP, performs a first approximation delineation of the refracting horizons using a delay-time method. The approximation is then tested and improved by the program's ray-tracing procedure in which ray travel times computed for the model are compared against measured travel times. The model is subsequently adjusted iteratively to minimize the discrepancy between the computed and measured travel times. A Bureau of Mines Report of Investigation describes the program¹.

¹Scott, James H., Computer Analysis of Seismic Refraction Data, BuMines RI 7595, 1972.

III RESULTS

The results of the computer analysis of the refraction data are presented in Drawing 4 and Table 1. The drawing contains two-dimensional diagrams profiling the seismic layering and layer velocities measured along the refraction lines. Table 1 summarizes the results presented in the drawings.

Table 1. Summary of Refraction Results

Line Numbers	Depth to Layer 2 (feet)	Depth to Layer 3 (feet)	Layer 1 Velocity (fps)	Layer 2 Velocity (fps)	Layer 3 Velocity (fps)
1	4 to 8	26 to 37	1400	5200	8800
2	10 to 16	20 to 45	1400	3000	9700
3	7 to 14	25 to 39	1400	4100	8400
4	5 to 8	Not Seen	1400	4900	Not Seen
5	3 to 8	26 to 53	1500	3300	7900

A. Seismic Layering

We found three seismic layers beneath the site (Drawing 4). The layers were distinguished by their compressional (P) wave velocities. Layer 1 included the ground surface and had a P-wave velocity ranging between 1400 and 1500 feet per second (fps). The P-wave velocities and the geology from the 2008 geotechnical report suggest the first seismic layer consisted of dry to partially saturated landslide, slope wash, or ravine fill deposits.

The second seismic layer was distinguished by a P-wave velocity that ranged from 3000 to 5200 fps. The depth to the top of the second seismic layer ranged from 3 to 16 feet. The P-wave velocities suggest the second seismic layer consisted of denser and/or more saturated landslide, slope wash, or ravine fill deposits.

The third seismic layer was distinguished by a P-wave velocity that ranged from 7900 fps to 9700 fps. The depth to the top of the third seismic layer beneath the ground surface ranged from 20 to 53 feet. The P-wave velocity suggested the third seismic layer consisted of moderately weathered and/or fractured Franciscan bedrock. Although the third seismic layer was not seen beneath Line 3 we believe this is because either geometry or a weak velocity contrast at the top of the layer rather than the layer being deeper than our depth of penetration. Along the beginning of Line 5 the depth of the bedrock was at the limit of the ability for a 120-foot long line to detect and as a result its depth may not be well resolved.

B. Rippability

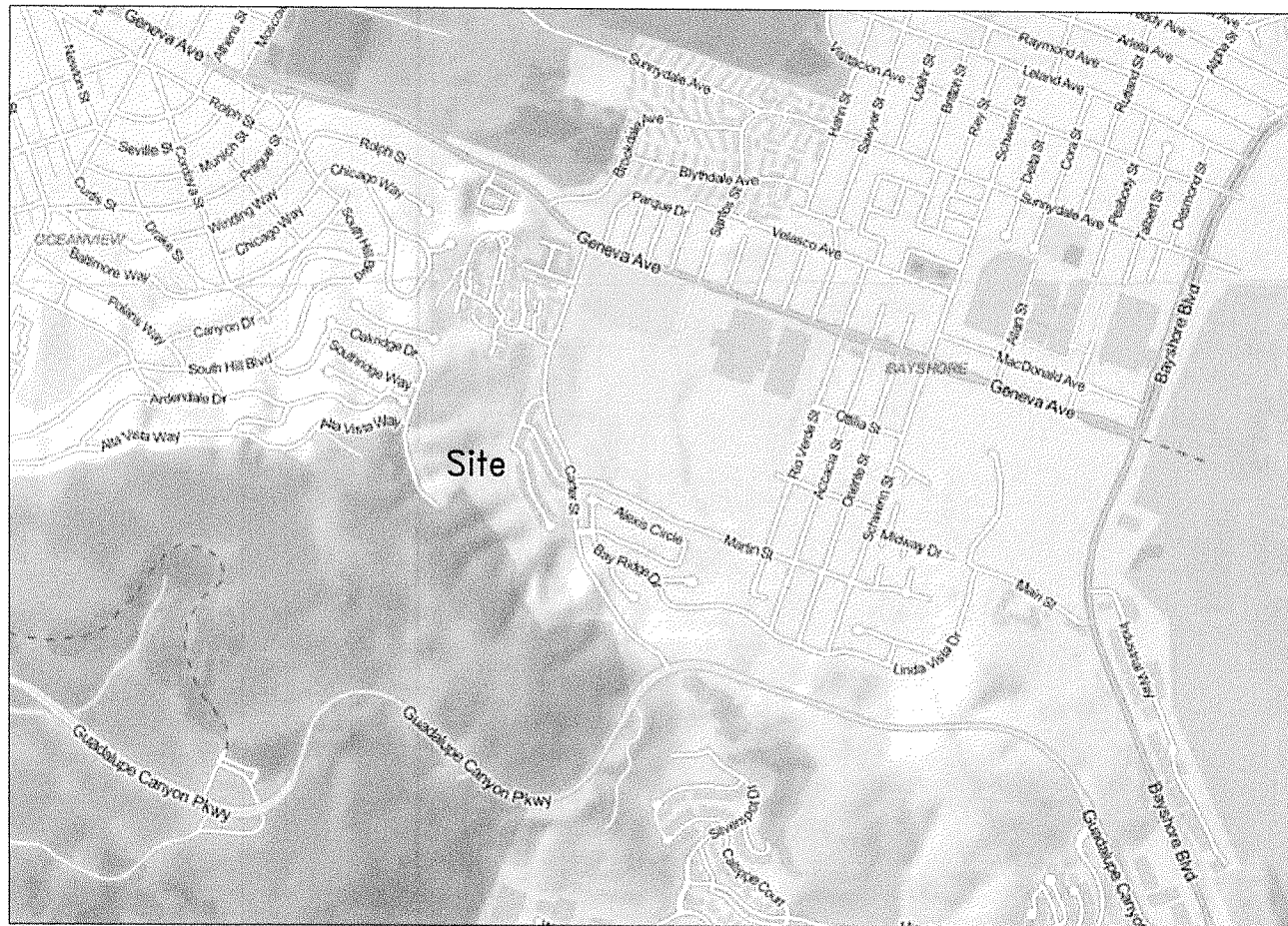
Drawing 5 illustrates a rippability table presented in the 40th edition of the Caterpillar Performance Handbook for the D9R tractor. Our estimate of rippability is based on the D9R table. Based on the measured P-wave velocities and the D9R table, the first two seismic layers found at the Point Martin site should be rippable given the proper combination of tractor and ripper. The third seismic layer is marginally rippable to nonrippable. The ripper charts are for tractors pulling single or multishank rippers. Backhoes and excavators that are lighter or have less horsepower than rippers will have a more difficult time ripping bedrock. There can be hard knobs within the second seismic layer that can be difficult to rip and may require an excavator equipped with a hydraulic hammer or similar technique. This is most likely to occur where the P-wave velocities are above 5000 fps.

C. Limitations

Seismic layers do not always correspond directly to lithologic changes that might be found in borehole or trenching data. A seismic layer is an interface between materials with different P-wave velocities. Factors such as weathering, cementation, induration, and saturation as well as lithologic changes can create changes in seismic velocities. Also, there can be lithologic changes without velocity changes. However, our field experience indicates that seismic layers often correspond to major changes in lithology or saturation to within $\pm 20\%$ of the depth to the interface.

Factors that determine rippability include rock characteristics such as P-wave velocity and weathering, the type and condition of the tractor and ripper and the experience of the tractor operator. Our estimates of rippability based on P-wave velocities are obtained from the D9R ripper chart shown in the Caterpillar Performance Handbook published by the Caterpillar Tractor Company. There are other charts for other sized tractors. These performance charts were developed from field tests conducted in a variety of materials. Considering the extreme variations among materials and among rocks of a specific type, our estimate must be recognized as only one indicator of rippability.

IV DRAWINGS



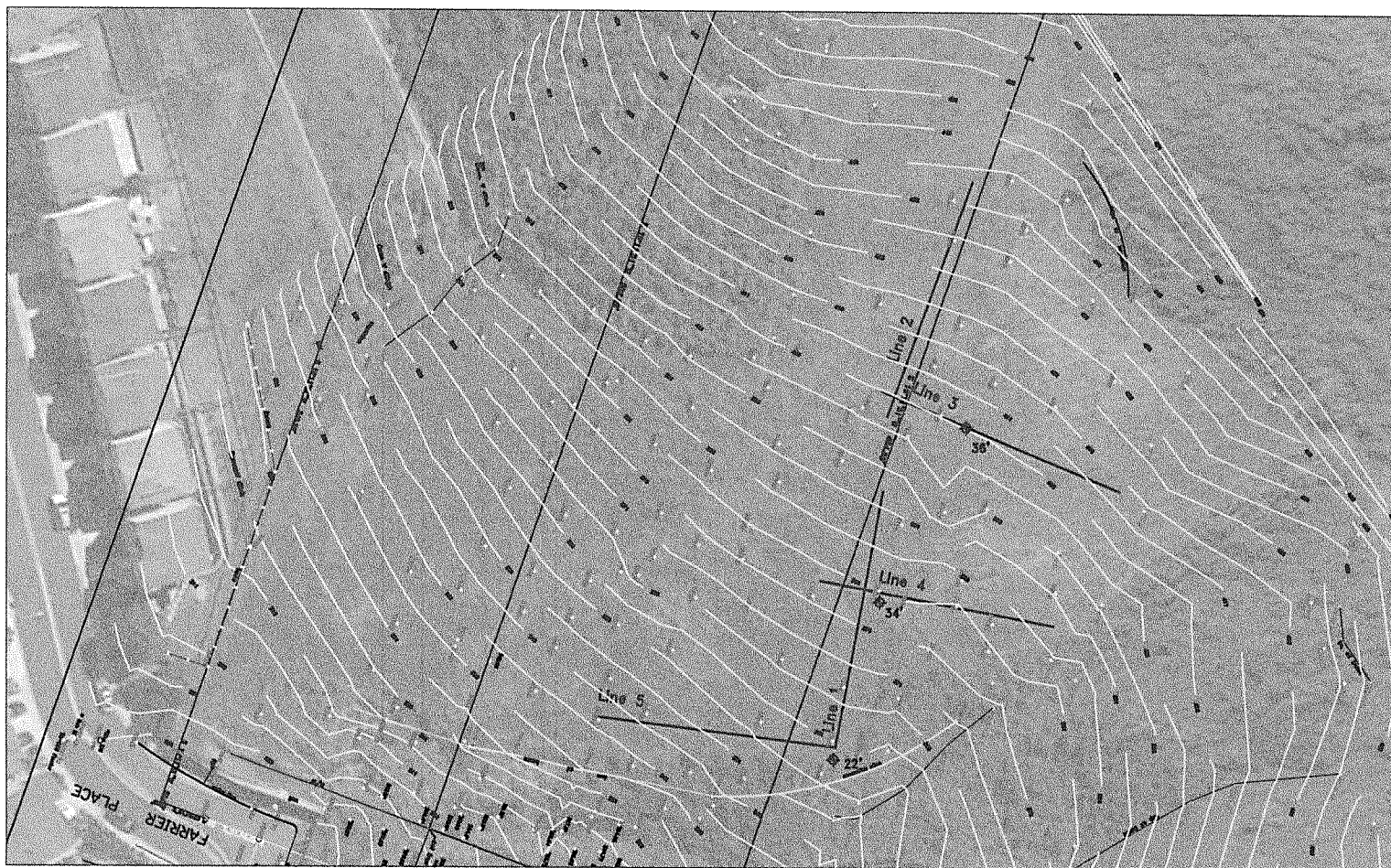
Vicinity Map- Seismic Refraction Survey
 Point Martin
 Daly City, California

SCALE:	No Scale		DRAWN BY:	J.J.R.
DATE:	10-14-13	JOB NUMBER:	141-309-13	REVISED:

J R Associates Civil and Environmental Geophysics
 1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER:

1



Explanation:

— Approximate Refraction Line Location

Site Map- Seismic Refraction Survey
Point Martin
Daly City, California

SCALE: 1" = 80'

DATE: 10-14-2013

JOB NUMBER:

141-309-13

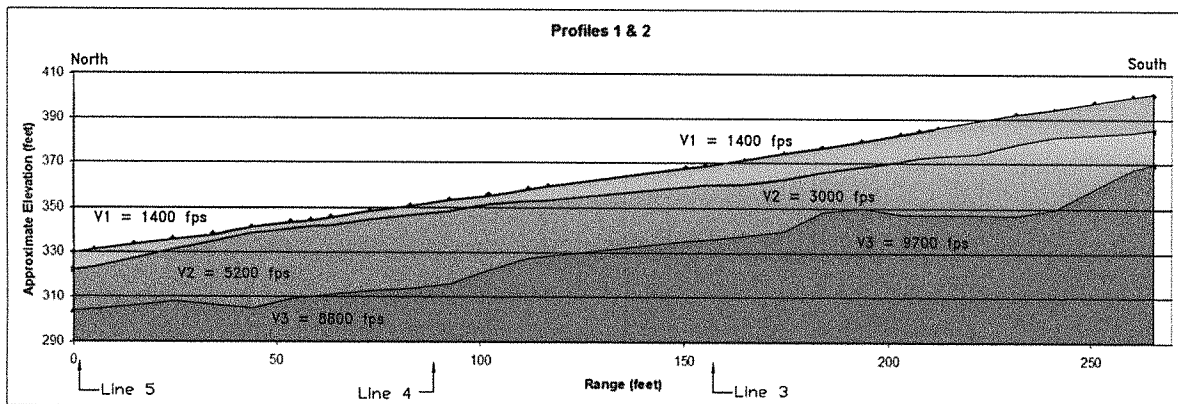
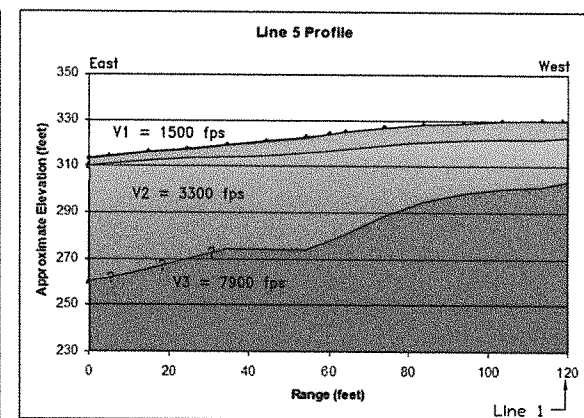
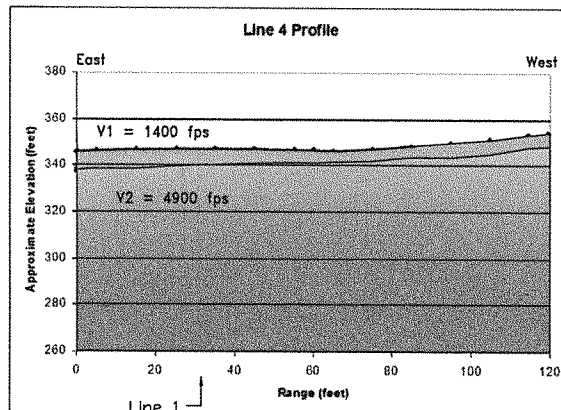
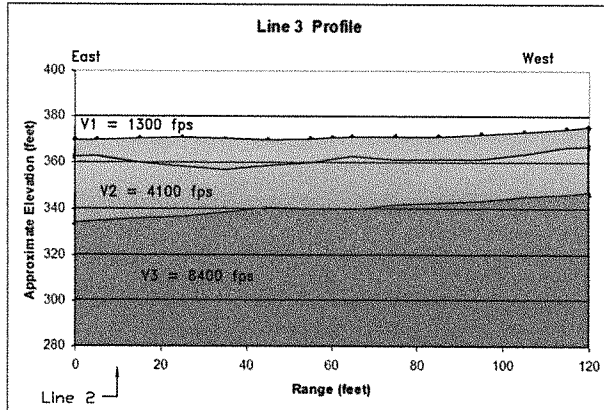
DRAWN BY: J.J.R.

REVISED:

J R Associates Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER:

3



Explanation:

- Alluvium
- Dense Alluvium to Highly Weathered Or Poorly Indurated Bedrock
- Weathered Bedrock
- "?" Indicates Poorly Resolved Layer Interface

Refraction Profiles 1 Through 5- Seismic Refraction Investigation
Point Martin
Daly City, California

SCALE: See Diagrams	DRAWN BY: J.J.R.
DATE: 10-14-2013	JOB NUMBER: 141-309-13
REVISED:	

J R Associates Civil and Environmental Geophysics
1886 Emory Street, San Jose, CA (408) 293-7390

DRAWING NUMBER: **4**

Rippers

Ripper Performance

• D9R/D9T

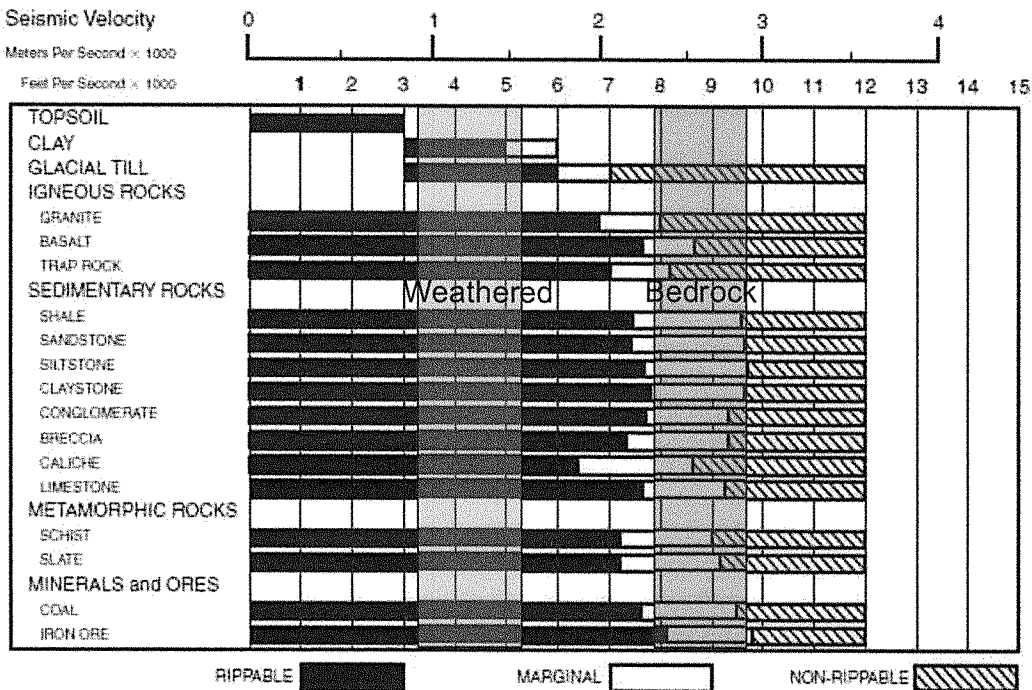
D9R/D9T

- Multi- or Single Shank No. 9 Ripper
- Estimated by Seismic Wave Velocities

Seismic Velocity

Meters Per Second x 1000

Feet Per Second x 1000



P-wave velocity range measured at the site

Chart from the 40th edition of the Caterpillar Performance Handbook published by Caterpillar, Incorporated, Peoria, Illinois, January, 2010.

D9 Ripper Chart-Seismic Refraction Investigation

Point Martin

Daly City, California

SCALE: See Chart

DRAWN BY: J.J.R.

DATE: 10-14-2013

JOB NUMBER: 141-309-13

REVISED:

J R ASSOCIATES Civil and Environmental Geophysics

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DRAWING NUMBER:

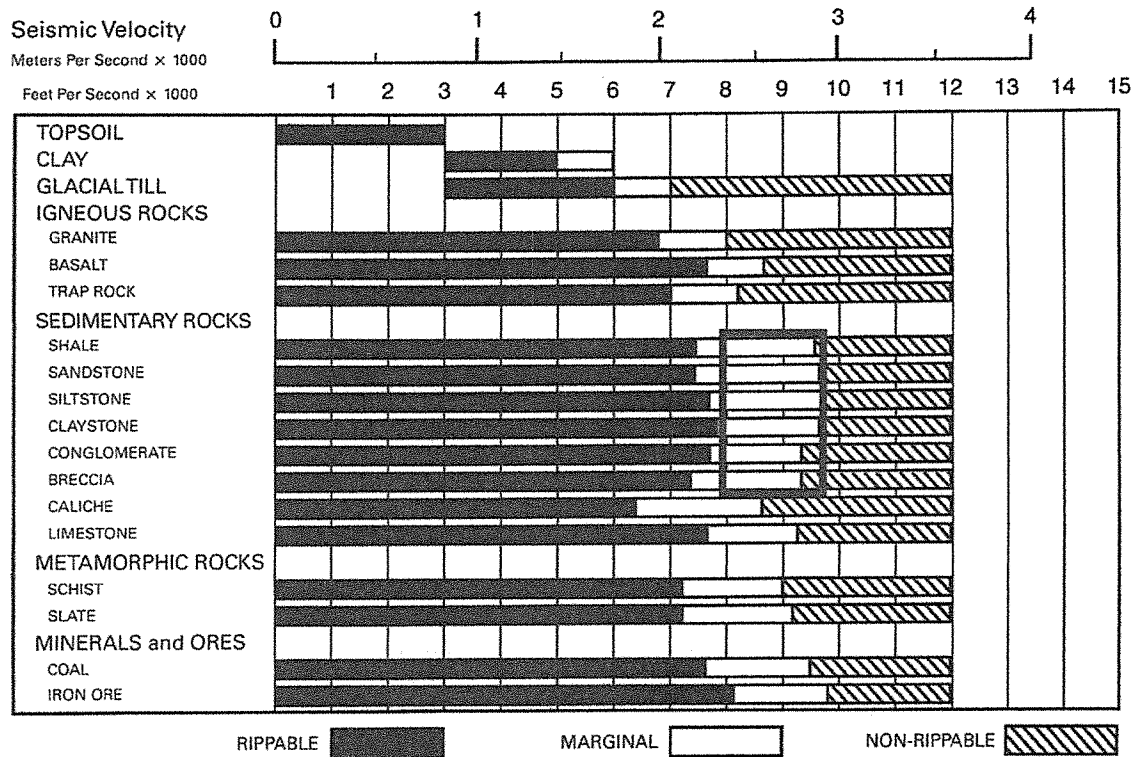
5

APPENDIX E

CATERPILLAR RIPPER PERFORMANCE CHARTS

D9R/D9T

- Multi- or Single Shank No. 9 Ripper
- Estimated by Seismic Wave Velocities



APPROXIMATE RANGE OF SEISMIC
VELOCITIES FOR FRANCISCAN COMPLEX
BEDROCK ACCORDING TO SEIEMIC
REFRACTRION SURVEY (JRA, 2013)

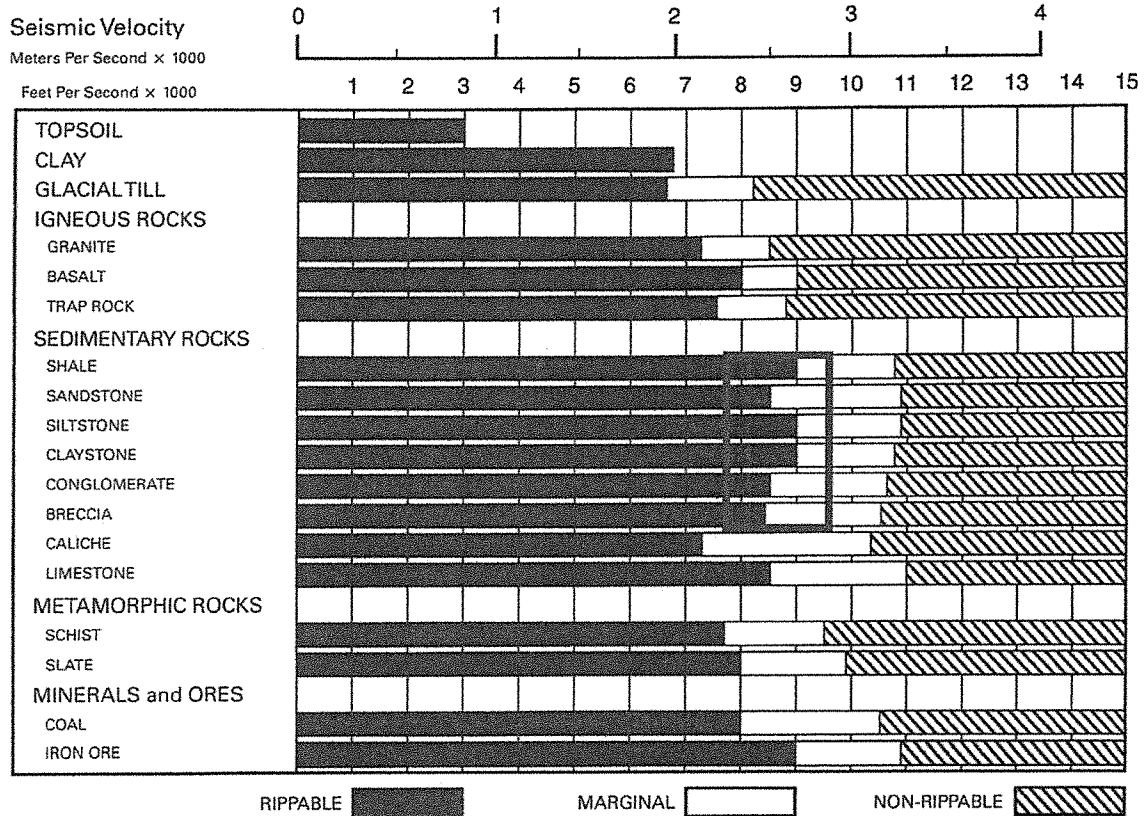
MARGINAL RIPPABILITY TO NON-RIPPABLE

Rippers

Ripper Performance ● D10T

D10T

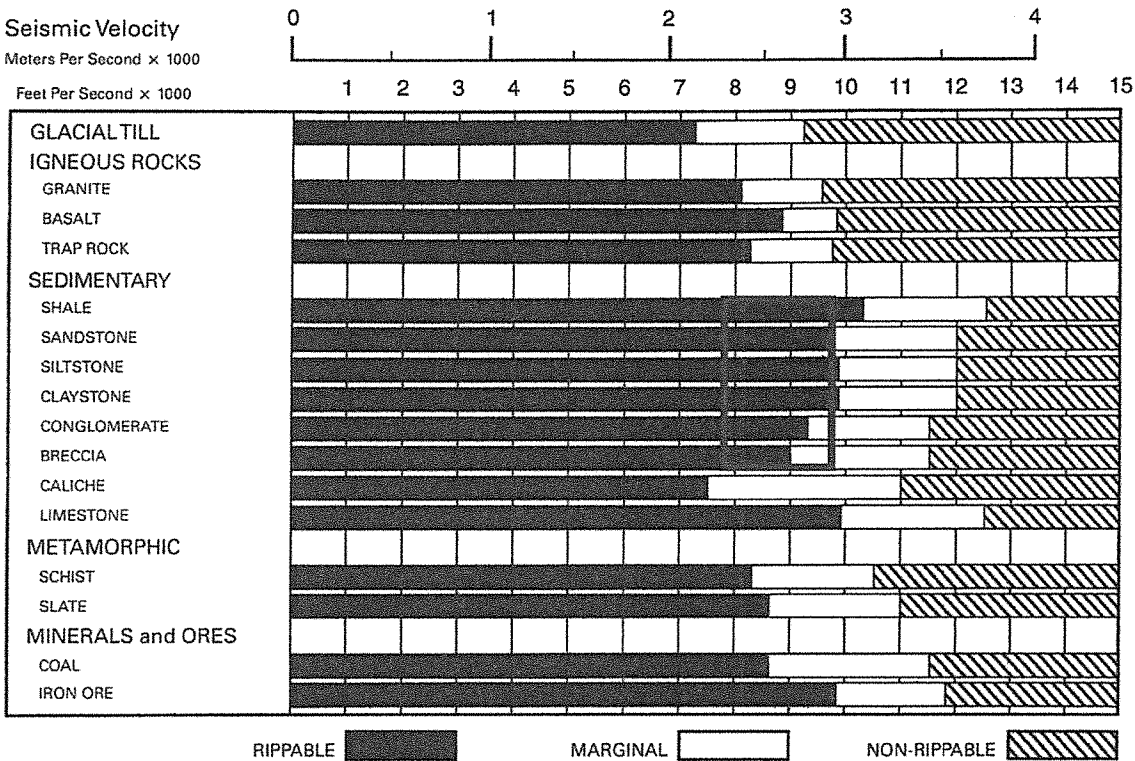
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APPROXIMATE RANGE OF SEISMIC
VELOCITIES FOR FRANCISCAN COMPLEX
BEDROCK ACCORDING TO SEIEMIC
REFRACTRION SURVEY (JRA, 2013)

RIPPABLE TO MARGINAL RIPPABILITY

D11T
● Multi- or Single Shank No. 11 Ripper
● Estimated by Seismic Wave Velocities



APPROXIMATE RANGE OF SEISMIC
VELOCITIES FOR FRANCISCAN COMPLEX
BEDROCK ACCORDING TO SEIEMIC
REFRACTRION SURVEY (JRA, 2013)

RIPPABLE TO OCCASSIONAL MARGINAL
RIPPABILITY

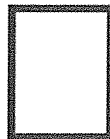
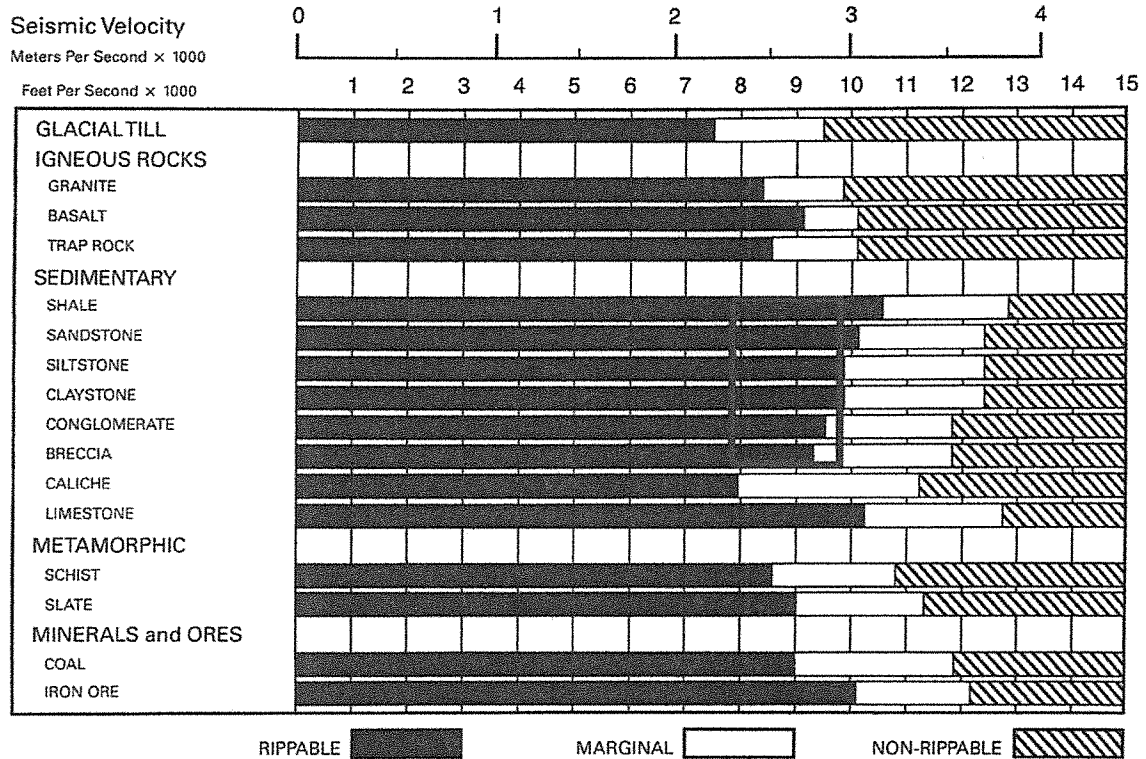
Rippers

Ripper Performance ● D11T CD

D11T CD

● Single Shank No. 11 Ripper

● Estimated by Seismic Wave Velocities



APPROXIMATE RANGE OF SEISMIC
VELOCITIES FOR FRANCISCAN COMPLEX
BEDROCK ACCORDING TO SEIEMIC
REFRACTRION SURVEY (JRA, 2013)

RIPPABLE TO OCCASSIONAL MARGINAL
RIPPABILITY

A P P E N D I X D

APPENDIX D

Historic Aerial Photographs







A P P E N D I X E

APPENDIX E

Supplemental Recommendations



SUPPLEMENTAL RECOMMENDATIONS



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GENERAL INFORMATION

PREFACE

These supplemental recommendations are intended as a guide for earthwork and are in addition to any previous earthwork recommendations made by the Geotechnical Engineer. If there is a conflict between these supplemental recommendations and any previous recommendations, it should be immediately brought to the attention of ENGEO. Testing standards identified in this document shall be the most current revision (unless stated otherwise).

DEFINITIONS

Backfill	Soil, rock or soil-rock material used to fill excavations and trenches.
Drawings	Documents approved for construction which describe the work.
The Geotechnical Engineer	The project geotechnical engineering consulting firm, its employees, or its designated representatives.
Engineered Fill	Fill upon which the Geotechnical Engineer has made sufficient observations and tests to confirm that the fill has been placed and compacted in accordance with geotechnical engineering recommendations.
Fill	Soil, rock, or soil-rock materials placed to raise the grades of the site or to backfill excavations.
Imported Material	Soil and/or rock material which is brought to the site from offsite areas.
Onsite Material	Soil and/or rock material which is obtained from the site.
Optimum Moisture	Water content, percentage by dry weight, corresponding to the maximum dry density as determined by ASTM D-1557.
Relative Compaction	The ratio, expressed as a percentage, of the in-place dry density of the fill or backfill material as compacted in the field to the maximum dry density of the same material as determined by ASTM D-1557.
Select Material	Onsite and/or imported material which is approved by the Geotechnical Engineer as a specific-purpose fill.

PART I - EARTHWORK

1.1 GENERAL

1.1.1 WORK COVERED

Supplemental recommendations for performing earthwork and grading. Activities include:

- ✓ Site Preparation and Demolition
- ✓ Excavation
- ✓ Grading
- ✓ Backfill of Excavations and Trenches
- ✓ Engineered Fill Placement, Moisture Conditioning, and Compaction

1.1.2 CODES AND STANDARDS

The contractor should perform their work complying with applicable occupational safety and health standards, rules, regulations, and orders. The Occupational Safety and Health Standards (OSHA) Board is the only agency authorized in the State to adopt and enforce occupational safety and health standards (Labor Code § 142 et seq.). The owner, their representative and contractor are responsible for site safety; ENGEO representatives are not responsible for site safety.

Excavating, trenching, filling, backfilling, shoring and grading work should meet the minimum requirements of the applicable Building Code, and the standards and ordinances of state and local governing authorities.

1.1.3 TESTING AND OBSERVATION

Site preparation, cutting and shaping, excavating, filling, and backfilling should be carried out under the testing and observation of ENGEO. ENGEO shall be retained to perform appropriate field and laboratory tests to check compliance with the recommendations. Any fill or backfill that does not meet the supplemental recommendations shall be removed and/or reworked, until the supplemental recommendations are satisfied.

Tests for compaction shall be made in accordance with test procedures outlined in ASTM D-1557, as applicable, unless other testing methods are deemed appropriate by ENGEO. These and other tests shall be performed in accordance with accepted testing procedures, subject to the engineering discretion of ENGEO.

1.2 MATERIALS

1.2.1 STANDARD

Materials, tools, equipment, facilities, and services as required for performing the required excavating, trenching, filling and backfilling should be furnished by the Contractor.

1.2.2 ENGINEERED FILL AND BACKFILL

Material to be used for engineered fill and backfill should be free from organic matter and other deleterious substances, and of such quality that it will compact thoroughly without excessive voids when watered and rolled.

Unless specified elsewhere by ENGEO, engineered fill and backfill shall be free of significant organics, or any other unsatisfactory material. In addition, engineered fill and backfill shall comply with the grading requirements shown in the following table:

TABLE 1.2.2-1
Engineered Fill and Backfill Requirements

US Standard Sieve	Percentage Passing
3"	100
No. 4	35–100
No. 30	20–100

Earth materials to be used as engineered fill and backfill shall be cleared of debris, rubble and deleterious matter. Rocks and aggregate exceeding the maximum allowable size shall be removed from the site. Rocks of maximum dimension in excess of two-thirds of the lift thickness shall be removed from any fill material to the satisfaction of ENGEO.

ENGEO shall be immediately notified if potential hazardous materials or suspect soils exhibiting staining or odor are encountered. Work activities shall be discontinued within the area of potentially hazardous materials. ENGEO shall be notified at least 72 hours prior to the start of filling and backfilling operations. Materials to be used for filling and backfilling shall be submitted to ENGEO no less than 10 days prior to intended delivery to the site. Unless specified elsewhere by ENGEO, where conditions require the importation of low expansive fill material, the material shall be an inert, low to non-expansive soil, or soil-rock material, free of organic matter and meeting the following requirements:

TABLE 1.2.2-2
Imported Fill Material Requirements

GRADATION (ASTM D-421)	SIEVE SIZE	PERCENT PASSING
	2-inch	100
	#200	15 - 70
PLASTICITY (ASTM D-4318)	Plasticity Index < 12	
ORGANIC CONTENT (ASTM D-2974)	Less than 2 percent	

A sample of the proposed import material should be submitted to ENGEO no less than 10 days prior to intended delivery to the site.

1.2.3 SUBDRAINS

A subdrain system is an underground network of piping used to remove water from areas that collect or retain surface water or subsurface water. Subsurface water is collected by allowing water into the pipe through perforations. Subdrain systems may drain and discharge to an appropriate outlet such as storm drain, natural swales or drainage, etc.. Details for subdrain systems may vary depending on many items, including but not limited to site conditions, soil types, subdrain spacing, depth of the pipe and pervious medium, as well as pipe diameter.

1.2.3A Pipe

Subdrain pipe shall conform with these supplemental recommendations unless specified elsewhere by ENGEO. Perforated pipe for various depths shall be manufactured in accordance with the following requirements:

TABLE 1.2.3A-1
Perforated Pipe Requirements

Pipe Type	Standard	Typical Sizes (inches)	Pipe Stiffness (psi)
Pipe Stiffness above 200 psi (Below 50 feet of Finished Grade)			
ABS SDR 15.3		4 to 6	450
PVC Schedule 80	ASTM D1785	3 to 10	530
Pipe Stiffness between 100 psi and 150 psi (Between 15 and 50 feet of Finished Grade)			
ABS SDR 23.5	ASTM D2751	4 to 6	150
PVC SDR 23.5	ASTM D3034	4 to 6	153
PVC Schedule 40	ASTM D1785	3 to 10	135
ABS Schedule 40/DWV	ASTM D1527 & D2661	3 to 10	
Pipe Stiffness between 45 psi and 50 psi* (Between 0 to 15 feet of Finished Grade)			
PVC A-2000	ASTM F949	4 to 10	50
PVC SDR 35	ASTM D3034	4 to 8	46
ABS SDR 35	ASTM D2751	4 to 8	45
Corrugated PE	AASHTO M294 Type S	4 to 10	45

*Pipe with a stiffness less than 45 psi should not be used.

Other pipes not listed in the table above shall be submitted for review by the Geotechnical Engineer not less 72 hours before proposed use.

1.2.3B Outlets and Risers

Subdrain outlets and risers must be fabricated from the same material as the subdrain pipe. Outlet and riser pipe and fittings must not be perforated. Covers must be fitted and bolted into the riser pipe or elbow. Covers must seat uniformly and not be subject to rocking.

1.2.3C Permeable Material

Permeable material shall generally conform to Caltrans Standard Specification unless specified otherwise by ENGEO. Class 2 permeable material shall comply with the gradation requirements shown in the following table.

TABLE 1.2.3C-1
Class 2 Permeable Material Grading Requirements

Sieve sizes	Percentage passing
1"	100
3/4"	90 to 100
3/8"	40 to 100
No. 4	25 to 40
No. 8	18 to 33
No. 30	5 to 15
No. 50	0 to 7
No. 200	0 to 3

1.2.3D Filter Fabric

Filter fabric shall meet the following Minimum Average Roll Values unless specified elsewhere by ENGEO.

Grab Strength (ASTM D-4632)	180 lbs
Mass per Unit Area (ASTM D-4751)	6 oz/yd ²
Apparent Opening Size (ASTM D-4751)	70-100 U.S. Std. Sieve
Flow Rate (ASTM D-4491)	80 gal/min/ft ²
Puncture Strength (ASTM D-4833)	80 lbs

Areas to receive filter fabric must comply with the compaction and elevation tolerance specified for the material involved. Handle and place filter fabric under the manufacturer's instructions. Align and place filter fabric without wrinkles.

Overlap adjacent roll ends of filter fabric in accordance with manufacturer's recommendations. The preceding roll must overlap the following roll in the direction that the permeable material is being spread. Completely replace torn or punctured sections damaged during placement or repair by placing a piece of filter fabric that is large enough to cover the damaged area and comply with the overlap specified. Cover filter fabric with the thickness of overlying material shown within 72 hours of placing the fabric.

1.2.4 GEOCOMPOSITE DRAINAGE

Geocomposite drainage is a prefabricated material that includes filter fabric and plastic pipe. Filter fabric must be Class A. The drain shall be of composite construction consisting of a supporting structure or drainage core material surrounded by a geotextile. The geotextile shall

encapsulate the drainage core and prevent random soil intrusion into the drainage structure. The drainage core material shall consist of a three-dimensional polymeric material with a structure that permits flow along the core laterally. The core structure shall also be constructed to permit flow regardless of the water inlet surface. The drainage core shall provide support to the geotextile.

A geotextile flap shall be provided along drainage core edges. This flap shall be of sufficient width for sealing the geotextile to the adjacent drainage structure edge to prevent soil intrusion into the structure during and after installation. The geotextile shall cover the full length of the core. The geocomposite core shall be furnished with an approved method of constructing and connecting with outlet pipes. If the fabric on the geocomposite drain is torn or punctured, replace the damaged section completely. The specific drainage composite material and supplier shall be preapproved by ENGEO.

The Contractor shall submit a manufacturer's certification that the geocomposite meets the design properties and respective index criteria measured in full accordance with applicable test methods. The manufacturer's certification shall include a submittal package of documented test results that confirm the design values. In case of dispute over validity of design values, the Contractor will supply design property test data from a laboratory approved by ENGEO, to support the certified values submitted.

Geocomposite material suppliers shall provide a qualified and experienced representative onsite to assist the Contractor and ENGEO at the start of construction with directions on the use of drainage composite. If there is more than one application on a project, this criterion will apply to construction of the initial application only. The representative shall also be available on an as-needed basis, as requested by ENGEO, during construction of the remaining applications. The soil surface against which the geocomposite is to be placed shall be free of debris and inordinate irregularities that will prevent intimate contact between the soil surface and the drain.

Edge seams shall be formed by utilizing the flap of the geotextile extending from the geocomposite's edge and lapping over the top of the fabric of the adjacent course. The fabric flap shall be securely fastened to the adjacent fabric by means of plastic tape or non-water-soluble construction adhesive, as recommended by the supplier. To prevent soil intrusion, exposed edges of the geocomposite drainage core edge must be covered.

Approved backfill shall be placed immediately over the geocomposite drain. Backfill operations should be performed to not damage the geotextile surface of the drain. Also during operations, avoid excessive settlement of the backfill material. The geocomposite drain, once installed, shall not be exposed for more than 7 days prior to backfilling.

PART II - GEOGRID SOIL REINFORCEMENT

Geogrid soil reinforcement (geogrid) shall be submitted to ENGEO and should be approved before use. The geogrid shall be a regular network of integrally connected polymer tensile elements with aperture geometry sufficient to permit significant mechanical interlock with the surrounding soil or rock. The geogrid structure shall be dimensionally stable and able to retain its geometry under construction stresses and shall have high resistance to damage during construction to ultraviolet degradation and to chemical and biological degradation encountered in the soil being reinforced. The geogrids shall have an Allowable Tensile Strength (T_a) and Pullout Resistance, for the soil type(s) as specified on design plans.

The contractor shall submit a manufacturer's certification that the geogrids supplied meet plans and project specifications. The contractor shall check the geogrid upon delivery to ensure that the proper material has been received. During periods of shipment and storage, the geogrid shall be protected from temperatures greater than 140°F, mud, dirt, dust, and debris. Manufacturer's recommendations in regard to protection from direct sunlight must also be followed. At the time of installation, the geogrid will be rejected if it has defects, tears, punctures, flaws, deterioration, or damage incurred during manufacture, transportation, or storage. If approved by ENGEO, torn or punctured sections may be repaired by placing a patch over the damaged area. Any geogrid damaged during storage or installation shall be replaced by the Contractor at no additional cost to the owner.

Geogrid material suppliers shall provide a qualified and experienced representative onsite at the initiation of the project, for a minimum of three days, to assist the Contractor and ENGEO personnel at the start of construction. If there is more than one slope on a project, this criterion will apply to construction of the initial slope only. The representative shall also be available on an as-needed basis, as requested by ENGEO, during construction of the remaining slope(s). Geogrid reinforcement may be joined with mechanical connections or overlaps as recommended and approved by the manufacturer. Joints shall not be placed within 6 feet of the slope face, within 4 feet below top of slope, nor horizontally or vertically adjacent to another joint.

The geogrid reinforcement shall be installed in accordance with the manufacturer's recommendations. The geogrid reinforcement shall be placed within the layers of the compacted soil as shown on the plans or as directed. The geogrid reinforcement shall be placed in continuous longitudinal strips in the direction of main reinforcement. However, if the Contractor is unable to complete a required length with a single continuous length of geogrid, a joint may be made with the manufacturer's approval. Only one joint per length of geogrid shall be allowed. This joint shall be made for the full width of the strip by using a similar material with similar strength. Joints in geogrid reinforcement shall be pulled and held taut during fill placement.

Adjacent strips, in the case of 100 percent coverage in plan view, need not be overlapped. The minimum horizontal coverage is 50 percent, with horizontal spacing between reinforcement no greater than 40 inches. Horizontal coverage of less than 100 percent shall not be allowed unless specifically detailed in the construction drawings. Adjacent rolls of geogrid reinforcement shall be overlapped or mechanically connected where exposed in a wrap around face system, as applicable.

The Contractor may place only that amount of geogrid reinforcement required for immediately pending work to prevent undue damage. After a layer of geogrid reinforcement has been placed, the next succeeding layer of soil shall be placed and compacted as appropriate. After the specified soil layer has been placed, the next geogrid reinforcement layer shall be installed. The process shall be repeated for each subsequent layer of geogrid reinforcement and soil. Geogrid reinforcement shall be placed to lay flat and pulled tight prior to backfilling. After a layer of geogrid reinforcement has been placed, suitable means, such as pins or small piles of soil, shall be used to hold the geogrid reinforcement in position until the subsequent soil layer can be placed.

Under no circumstances shall a track-type vehicle be allowed on the geogrid reinforcement before at least 6 inches of soil have been placed. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and the geogrid reinforcement. If approved by the Manufacturer, rubber-tired equipment may pass over the geosynthetic reinforcement at slow speeds, less than 10 mph. Sudden braking and sharp turning shall be avoided. During construction, the surface of the fill should be kept approximately horizontal. Geogrid reinforcement shall be placed directly on the compacted horizontal fill surface. Geogrid reinforcements are to be placed as shown on plans, and oriented correctly.

PART III - GEOTEXTILE SOIL REINFORCEMENT

The specific geotextile material and supplier shall be preapproved by ENGEO. The contractor shall submit a manufacturer's certification that the geotextiles supplied meet the respective index criteria set when geotextile was approved by ENGEO, measured in full accordance with specified test methods and standards.

The contractor shall check the geotextile upon delivery to ensure that the proper material has been received. During periods of shipment and storage, the geotextile shall be protected from temperatures greater than 140°F, mud, dirt, dust, and debris. Manufacturer's recommendations in regard to protection from direct sunlight must also be followed. At the time of installation, the geotextile will be rejected if it has defects, tears, punctures, flaws, deterioration, or damage incurred during manufacture, transportation, or storage. If approved by ENGEO, torn or punctured sections may be repaired by placing a patch over the damaged area. Any geotextile damaged during storage or installation shall be replaced by the Contractor at no additional cost to the owner.

Geotextile material suppliers shall provide a qualified and experienced representative onsite at the initiation of the project to assist the Contractor and ENGEO personnel at the start of construction. The geotextile reinforcement shall be installed in accordance with the manufacturer's recommendations. The geotextile reinforcement shall be placed within the layers of the compacted soil as shown on the plans or as directed, secured with staples, pins, or small piles of backfill, placed without wrinkles, and aligned with the primary strength direction perpendicular to slope contours. Cover geotextile reinforcement with backfill within the same work shift. Place at least 6 inches of backfill on the geotextile reinforcement before operating or driving equipment or vehicles over it, except those used under the conditions specified below for spreading backfill.

Adjacent strips, in the case of 100 percent coverage in plan view, need not be overlapped. The minimum horizontal coverage is 50 percent, with horizontal spacing between reinforcement no greater than 40 inches. Horizontal coverage of less than 100 percent shall not be allowed unless specifically detailed in the construction drawings. Adjacent rolls of geotextile reinforcement shall be overlapped or mechanically connected where exposed in a wraparound face system, as applicable.

The contractor may place only that amount of geotextile reinforcement required for immediately pending work to prevent undue damage. After a layer of geotextile reinforcement has been placed, the succeeding layer of soil shall be placed and compacted as appropriate. After the specified soil layer has been placed, the next geotextile reinforcement layer shall be installed. The process shall be repeated for each subsequent layer of geotextile reinforcement and soil.

Geotextile reinforcement shall be placed to lay flat and be pulled tight prior to backfilling. After a layer of geotextile reinforcement has been placed, suitable means, such as pins or small piles of soil, shall be used to hold the geotextile reinforcement in position until the subsequent soil layer can be placed. Under no circumstances shall a track-type vehicle be allowed on the geotextile reinforcement before at least six inches of soil has been placed. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and the geotextile reinforcement. If approved by the Manufacturer, rubber-tired equipment may pass over the geotextile reinforcement at slow speeds, less than 10 mph. Sudden braking and sharp turning shall be avoided.

During construction, the surface of the fill should be kept approximately horizontal. Geotextile reinforcement shall be placed directly on the compacted horizontal fill surface. Geotextile reinforcements are to be placed within three inches of the design elevations and extend the length as shown on the elevation view unless otherwise directed by ENGEO.

Replace or repair any geotextile reinforcement damaged during construction. Grade and compact backfill to ensure the reinforcement remains taut. Geotextile soil reinforcement must be tested to the required design values using the following ASTM test methods.

TABLE III-1
Geotextile Soil Reinforcements

Property	Test
Elongation at break, percent	ASTM D 4632
Grab breaking load, lb, 1-inch grip (min) in each direction	ASTM D 4632
Wide width tensile strength at 5 percent strain, lb/ft (min)	ASTM D 4595
Wide width tensile strength at ultimate strength, lb/ft (min)	ASTM D 4595
Tear strength, lb (min)	ASTM D 4533
Puncture strength, lb (min)	ASTM D 6241
Permittivity, sec^{-1} (min)	ASTM D 4491
Apparent opening size, inches (max)	ASTM D 4751
Ultraviolet resistance, percent (min) retained grab break load, 500 hours	ASTM D 4355

PART IV - EROSION CONTROL MAT

Work shall consist of furnishing and placing a synthetic erosion control mat and/or degradable erosion control blanket for slope face protection and lining of runoff channels. The specific erosion control material and supplier shall be pre-approved by ENGEO.

The Contractor shall submit a manufacturer's certification that the erosion mat/blanket supplied meets the criteria specified when the material was approved by ENGEO. The manufacturer's certification shall include a submittal package of documented test results that confirm the property values. Jute mesh shall consist of processed natural jute yarns woven into a matrix, and netting shall consist of coconut fiber woven into a matrix. Erosion control blankets shall be made of processed natural fibers that are mechanically, structurally, or chemically bound together to form a continuous matrix that is surrounded by two natural nets.

The Contractor shall check the erosion control material upon delivery to ensure that the proper material has been received. During periods of shipment and storage, the erosion mat shall be protected from temperatures greater than 140°F, mud, dirt, and debris. Manufacturer's recommendations in regard to protection from direct sunlight must also be followed. At the time of installation, the erosion mat/blanket shall be rejected if it has defects, tears, punctures, flaws, deterioration, or damage incurred during manufacture, transportation, or storage. If approved by ENGEO, torn or punctured sections may be removed by cutting out a section of the mat. The remaining ends should be overlapped and secured with ground anchors. Any erosion mat/blanket damaged during storage or installation shall be replaced by the Contractor at no additional cost to the Owner.

Erosion control material suppliers shall provide a qualified and experienced representative onsite, to assist the Contractor and ENGEO personnel at the start of construction. If there is more than one slope on a project, this criterion will apply to construction of the initial slope only. The representative shall be available on an as-needed basis, as requested by ENGEO, during construction of the remaining slope(s). The erosion control material shall be placed and anchored on a smooth graded, firm surface approved by the Engineer. Anchoring terminal ends of the erosion control material shall be accomplished through use of key trenches. The material in the trenches shall be anchored to the soil on maximum 1½ foot centers. Topsoil, if required by construction drawings, placed over final grade prior to installation of the erosion control material shall be limited to a depth not exceeding 3 inches.

Erosion control material shall be anchored, overlapped, and otherwise constructed to ensure performance until vegetation is well established. Anchors shall be as designated on the construction drawings, with a minimum of 12 inches length, and shall be spaced as designated on the construction drawings, with a maximum spacing of 4 feet.

APPENDIX D
PHASE I ENVIRONMENTAL SITE
ASSESSMENT



ENVIRONMENTAL INVESTIGATION SERVICES, INC.

PHASE I

ENVIRONMENTAL SITE ASSESSMENT

CARTER STREET PROPERTIES
DALY CITY,
CALIFORNIA

EIS, Inc. PROJECT # 1609-1

April 28, 2016

PREPARED FOR:
Point Martin LLC
Box 927, Pacifica
CA 94044-0927

PREPARED BY:

ENVIRONMENTAL INVESTIGATION SERVICES, INC.
15951 LOS GATOS BLVD, SUITE 17
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1.0 EXECUTIVE SUMMARY

Environmental Investigation Services Inc. (EIS) has completed an environmental site assessment of a property located at Carter Canyon, Daly City, California. From here on, the subject property will be referred to as “Carter Street Properties.” Peter Littman, Environmental Professional and EIS Geologist, Tyler Sproule, prepared this report according to ASTM E 1527 2013 Standards.

This Executive Summary is provided solely for the purpose of overview. Any party who relies on this report must read the full report. The Executive Summary omits a number of details, any one of which could be crucial to the proper understanding and risk assessment of the subject matter.

In the professional opinion of EIS “we have performed a Phase I Environmental Site Assessment, in conformance with the scope and limitations of ASTM Practice E 1527 2013 for the property at Carter Street Properties, California. Any exceptions to, or deletions from, this practice are described in Section 2.3 of this report. An appropriate level of inquiry has been made into the previous ownership and uses of the property, consistent with good commercial and customary practice, in an effort to minimize liability. This assessment has revealed no evidence of recognized environmental concerns.”

EIS inspected the subject property on March 18, 2016. The subject property is composed of 34 individual assessor’s parcels, covering approximately 18 acres, located in Daly City California. The subject property is bounded by Carter Street to the east, Oakridge Drive to the west, and Oak Court to the north. The property is located at an approximate latitude of 37.705195° and longitude of -122.427011°. The property is located on a vacant hillside covered by weeds, trees, and shrubs. The hillside slopes downwards from west to east; the elevation difference between the west and east side of the property is approximately 285 feet. A graded soil stockpile of roughly 50 feet in width and 225 feet in length was observed near the east-central property. The mound was covered by weeds and shrubs. The stockpile originated from grading activities previously completed for a nearby subdivision. A single dilapidated wood and metal shed is located on the east side of the site. Demolition debris including scrap wood, tires, rusted appliances, and one empty 55-gallon drum were observed strewn throughout the property. The debris observed at the site represents a potential area of concern.

Small amounts of surface water were observed flowing downslope from west to east on the central property. Much of the water is channeled into the two concrete drainage swales installed on the eastern side of the property. The drainage swales eventually discharge water into storm drains installed along Steve Courter Way.

There were no physical signs or evidence of underground storage tanks (USTs) or aboveground storage tanks (ASTs) observed at the property during the site visit. No evidence of USTs, such as vent pipes and fill ports were observed. No hazardous waste, hazardous materials, or petrochemicals were observed at the property during the site inspection.

To determine historical use of the property, EIS reviewed aerial photographs, city directories, and regulatory records. The subject property has been vacant since the early 2000s. A residence and several small sheds were built on the subject property prior to the 1940s, and were demolished in 2001. The graded soil stockpile first appeared on the property in the early 2000s. The property was used residentially from at least the 1940s to early 2000s, with some livestock storage. Review of building and planning department records revealed that some of the previous structures were used as a hay barn and for trailer storage. The historical use of the property does not represent a recognized environmental concern.

Areas surrounding the subject property are currently residential or undeveloped. Surrounding properties were historically used residentially, with several miscellaneous small businesses. In the 1950s, all areas surrounding the subject property were undeveloped land.

To evaluate off-site concerns, EIS reviewed an Environmental Record Search (ERS) database search of the site and all surrounding sites. ERS database search distances were in accordance to the ASTM E 1527 2013 standard. The results of the database search are found in a copy of the ERS RecCheck report in the Appendix.

According to the environmental database list review, there is one LUST site and one SLIC site within a 1/2-mile radius of the property, neither of which represent an offsite recognized environmental concern.

SUBJECT PROPERTY

The subject property was not listed on any of the reviewed environmental databases.

Consistent with 40 CFR 312 and ASTM E 1527, no data gaps were identified.

2.0 INTRODUCTION

Environmental Investigation Services Inc. (EIS) has completed an environmental site assessment of Carter Street Properties, Daly City, California. The property is located on the west side of Carter Street in Daly City. Peter Littman, Environmental Professional and EIS Geologist, Tyler Sproule, prepared this report according to ASTM Standard E 1527-13.

2.1 PURPOSE

The purpose of this Phase I Environmental Site Assessment was to identify, to the extent feasible pursuant to the processes prescribed herein, recognized environmental conditions in connection with the subject property. The term recognized environmental conditions means 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, ground water, or surface water of the property. The term is not intended to include de minimis conditions that generally do not present a threat to human health or the environment and that generally would not be 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.

2.2 DETAILED SCOPE OF SERVICES

This Phase I Environmental Assessment (ESA) was prepared in accordance with EIS's Proposal No. 1609-1 with respect to the Carter Street Properties in Daly City, San Mateo County, California. This was an investigation in general accordance with ASTM E 1527-2013. The work conducted by EIS is limited to the services agreed to by Point Martin LLC, and no other services beyond those explicitly stated should be inferred or are implied. The objective of this Environmental Site Assessment was to evaluate the subject site for potential recognized environmental concerns as outlined in the standards referenced above. EIS's professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in the location of the subject site at the time of our investigation. This warranty is in lieu of all other warranties, expressed or implied.

2.3 LIMITATIONS

Our professional judgment regarding the potential for environmental impacts is based on limited data and our investigation was not intended to be a definitive investigation of contamination at the site. Unless specifically set forth in our proposal, the scope of work did not include groundwater, soil sampling or other subsurface investigations, a strict compliance audit of the site, or a review of the procedures for hazardous material use, waste storage or handling prior to disposal, or for personnel safety and health training and monitoring procedures, analyses of radon, formaldehyde, lead paint, asbestos and other hazardous materials or indoor air quality, occupational health and safety or wetlands surveys.

Regarding any subsurface investigation, sampling undertaken or subsurface reports reviewed, our opinions are limited to only specific areas and analytes evaluated and EIS will not be held accountable for analyte quantities falling below recognized standard detection limits for the laboratory method utilized. EIS does not warrant or guarantee the subject property suitable for any particular purpose, or certify the subject site as "clean" or free on contamination. As with any assessment, it is possible that past or existing contamination remains undiscovered.

The professional opinions set forth in this report are based solely upon and limited to EIS's visual observations of the site and the immediate site vicinity, and upon EIS's interpretations of the readily available historical information, interviews with personnel knowledgeable about the site, and other readily available information. Consequently, this report is complete and accurate only to the extent that cited reports, agency information and recollections of persons interviewed are complete and accurate.

The opinions and recommendations in this report apply to site conditions and features, as they existed at the time of EIS's investigation. They cannot necessarily apply to conditions and features of which EIS is unaware and has not had the opportunity to evaluate. Future regulatory modifications, agency interpretations, and/or policy changes may also affect the compliance status of the subject property. EIS has made no attempt to address future

financial impacts to the site (e.g., reduced property values) as a result of potential subsurface contaminant migration.

2.4 SPECIAL TERMS AND CONDITIONS

No special terms and conditions were defined as part of this Phase I.

2.5 USER RELIANCE

This Phase I Environmental Assessment was prepared for the sole and exclusive use of Point Martin LLC, the only intended beneficiaries of our work. This report is intended exclusively for the purpose outlined herein for the project site location and is intended to be used in its entirety. No excerpts may be taken to be representative of the findings of this assessment. The scope of services performed in execution of this investigation may not be appropriate to satisfy other users, and any use or reuse of this document or its findings, or conclusions presented herein is at the sole risk of the user. This report is not a specification for further work.

3.0 SITE DESCRIPTION

3.1 LOCATION AND LEGAL DESCRIPTION

The Subject Property is located at Carter Street Properties, Daly City, San Mateo County, California. The property is bounded by Carter Street to the east, Oak Court to the north, and Oakridge Drive to the west. The property is located at an approximate latitude of 37.705195° and longitude of -122.427011°. The property is composed of 34 individual parcels covering approximately 18 acres. The property is composed of parcels with the following associated assessor parcel numbers (APN): 005-031-070, 005-031-080, 005-031-090, 005-031-100, 005-031-110, 005-031-120, 005-031-130, 005-031-140, 005-031-150, 005-041-010, 005-041-020, 005-041-030, 005-041-040, 005-041-050, 005-041-060, 005-041-90, 005-041-100, 005-041-110, 005-041-120, 005-041-130, 005-041-140, 005-041-150, 005-041-160, 005-041-170, 005-041-180, 005-041-190, 005-041-200, 005-041-210, 005-041-220, 005-041-230, 005-041-240, 005-041-250, 005-041-260, and 005-042-010. The subject property is located on the west side of Carter Street.

3.2 SITE AND VICINITY GENERAL CHARACTERISTICS

The subject property encompasses 34 distinct assessor's parcels. The subject property covers an area of approximately 18 acres.

3.3 CURRENT USE OF PROPERTY

The subject property is currently undeveloped.

3.3.1 HAZARDOUS MATERIALS MANUFACTURE/USE

No storage or use of hazardous materials or petrochemicals was observed during the site inspection.

3.3.2 HAZARDOUS WASTE

No hazardous waste was observed at the property during the site visit. However, various refuse and debris was scattered throughout the west, central, and east parts of the property during the site inspection. Refer to Section 6.4 of this report for a full description of the debris observed at the subject property.

3.4 DESCRIPTIONS OF STRUCTURES AND IMPROVEMENTS

3.4.1 BUILDING STRUCTURES

One unoccupied dilapidated shed of 64-SF is located on the east side of the property. The shed appears to have been constructed prior to the 1940s. Building materials are primarily wood and sheet metal. According to a building department demolition permit, there was no asbestos present in wooden sheds on the property. Because of the age of the structure, built prior to 1978, there is a potential that lead based paint (LBP) is present in the subject property building materials. Due to age of building materials, prior to demolition of the onsite building, a State Licensed Lead Based Paint Consultant should test all suspect LBP to be disturbed by the work. If LBP is found, it would be prudent to have the Lead Based Paint Consultant write and implement work procedures and associated Operations and Maintenance Plans, as applicable.

3.4.2 INDUSTRIAL EQUIPMENT

No industrial equipment was observed at the subject property.

3.4.3 PARKING

A section of unmaintained gravel and asphalt road near the northeastern side of the property serves as a small parking area.

3.4.4 ROADWAYS

The subject property is bounded by Carter Street to the east, Oak Court to the north, and Oakridge Drive to the west.

3.4.5 FENCING

Sections of the subject property perimeter are surrounded by a rusted and dilapidated barbed wire fence.

3.4.6 EASEMENTS

There are no easements affecting the subject property, other than easements regarding public utilities.

3.4.7 WELLS

There are no wells observed at the subject property.

3.4.8 SUMPS

There are no sumps observed at the subject property.

3.4.9 DITCHES

Two cement drainage swales were observed near the east side of the property. The two drainage ditches run downslope to the east, eventually discharging runoff into storm drains located along Steve Courter Way.

3.4.10 CATCH BASINS

There are no catch basins on the subject property.

3.4.11 SEWAGE SYSTEM

There are no structures on the property connected to a sewage system.

3.4.12 POTABLE WATER SYSTEM

There are no structures on the property connected to a potable water system.

3.4.13 WASTE WATER SYSTEM

The subject property does not generate waste water.

3.4.14 SOLID WASTE

The subject property does not generate any solid waste.

3.5 CURRENT USES OF NEIGHBORING PROPERTIES

Neighboring properties are currently residential or undeveloped in all directions. Residences along Oakridge Drive are located adjacent to the west and southwest of the site, Mira Vista Terrace is adjacent to the northwest, Oak Court is adjacent to the north, Steve Courter Way is adjacent to the east, and Farrier Place is adjacent to the southeast. 607 Carter Street, while not technically adjoining the site, is located approximately 300 feet northeast across the street from the subject property.

4.0 USER PROVIDED INFORMATION

4.1 TITLE RECORDS

No title records were readily available for review during the writing of this report.

4.2 ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

According to the environmental database review and regulatory agency records, there are no known environmental liens associated with the subject property.

4.3 SPECIALIZED KNOWLEDGE

There is no specialized information provided by the owner.

4.4 COMMONLY KNOWN OR REASONABLY ASCERTAINABLE INFORMATION

The site is currently undeveloped.

4.5 VALUATION REDUCTIONS FOR ENVIRONMENTAL ISSUES

The property representative stated no valuation reduction for environmental issues.

4.6 PREVIOUS REPORTS

ENGEO previously completed a Phase I ESA for the subject property on July 18, 2014. EIS was provided with a copy of the previous Phase I. A summary of ENGEO's findings are as follows:

"The Property is a vacant hillside site with a small, abandoned structure and accompanying debris, including abandoned wood and concrete. An undocumented stockpile of approximately 4,000 cubic yards is located near the center of the property. Review of historical records indicates that the Property has remained undeveloped land, with the exception of a residence and associated sheds first built before 1950. The residence was demolished in the early 2000s and only depleted structure is onsite...

The site reconnaissance and records review did not find documentation or physical evidence of soil or groundwater impairments associated with the use or past use of the Property. A review of regulatory databases maintained by county, state, tribal, and federal agencies found no documentation of hazardous materials violations or discharge on the property and did not identify contaminated facilities within the appropriate ASTM search distances that would reasonably be expected to impact the Property. Based on the findings of this assessment, no RECs, historical RECs, and no controlled RECs were identified for the Property."

The executive summary also stated that the undocumented stockpile and various debris scattered throughout the property represented features of potential environmental concern. ENGEO's report recommended that the property owner remove the trash and debris present throughout the property. In a 2015 geotechnical report, ENGEO later identified the "undocumented stockpile" as a graded soil stockpile which originated from previous grading of a nearby subdivision development. EIS concurs with ENGEO's conclusions.

4.7 OWNER, PROPERTY MANAGER, AND OCCUPANT INFORMATION

The property is currently undeveloped.

4.8 REASON FOR PERFORMING PHASE I

The Phase I is being performed in anticipation of residential redevelopment of the property.

5.0 RECORDS REVIEW

5.1 STANDARD ENVIRONMENTAL RECORD SOURCES

A database search was conducted of the site and all surrounding sites by Environmental Record Search, Inc. (ERS). ERS database search distances were in accordance to the ASTM E 1527 standard.

The National Priorities List Liens (NPL-Liens), Emergency Response Notification System (ERNS), US Institutional Controls and US Engineering Controls Registries lists were searched for the Subject Property.

The RCRA Generator, Underground Storage Tank (UST), and Hazardous Waste Information Summary (HWIS) lists were searched for the Subject Property and adjacent sites.

The Tribal Underground Storage Tank (Tribal UST) list was searched within a ¼ mile radius of the Subject Property.

The following lists were searched for a ½ mile radius of the Subject Property: Tribal Leaking Underground Storage Tank (Tribal LUST), Leaking Underground Storage Tank (LUST), Spills, Leaks, Investigations, and Cleanup (SLIC), Solid Waste Information System-Solid Waste Landfill, Incinerator or Transfer Station (SWF/LF or SWIS), BROWNFIELDS, Comprehensive, Environmental Response, Compensation and Liability Information System (CERCLIS), Compensation and Liability Information System- No Further Remedial Action Planned (CERLIS- NFRAP), RCRA Transporters, Storage and Disposal (RCRA TSD) and De- Listed National Priorities List (De- Listed NPL).

The following lists were searched within a 1 mile radius of the Subject Property: National Priorities List (NPL), Corrective Action Report (RCRA CORRACTS), CAL SITES, Department of Toxic Substances Control's Site Mitigation and Brownfields Reuse Program (ENVIROSTOR), Department of Defense Site (DOD) and Records of Decision (ROD) sites.

Agency List	Search Radius	Number of Sites
ERNS	Site	0
NPL-Liens	Site	0
US Institutional Controls	Site	0
US Engineering Controls	Site	0
RCRA Generator	Site & Adjacent	0
UST	Site & Adjacent	0
Historical UST	Site & Adjacent	0
HWIS	Site & Adjacent	0
Tribal UST	¼ mile	0
Tribal LUST	½ mile	0

LUST	½ mile	1
SLIC	½ mile	1
SWF/LF (SWIS)	½ mile	0
SWRCY	½ mile	0
BROWNFIELDS	½ mile	0
CERCLIS	½ mile	0
CERCLIS – NFRAP	½ mile	0
RCRA non-CORRACTS TSD	½ mile	0
De-listed NPL	½ mile	0
NPL	1 mile	0
State & Tribal Equivalent NPL	1 mile	0
RCRA CORRACTS	1 mile	0
CAL SITES Hist	¼ mile	0
ENVIROSTOR	1 mile	0
DOD	1 mile	0
ROD	1 mile	0

According to the environmental database list review, there is one LUST site and one SLIC site within a ½-mile radius of the property.

LUST: There is one closed LUST site within a ½-mile radius of the subject property. The closed LUST case is listed at 0 Geneva Avenue (occupied by the Cow Palace), located approximately 0.21 miles to the northeast of the subject property. The case was opened in 1988 upon discovery of gasoline impacts in soil. The site was granted regulatory closure status by San Francisco Bay (SFB) Regional Water Quality Control Board (RWQCB) on January 4, 1995. A copy of the closure letter document was not available, and no additional details regarding the LUST case were listed. Based on the distance from the site, direction of local groundwater flow, and regulatory closure status, the former LUST case at 0 Geneva Avenue is considered unlikely to impact subject property soil or groundwater resources, and is not likely to represent a significant environmental concern.

SLIC: There is one closed SLIC site located within a ½-mile radius of the subject property. The SLIC site is at 0 Carter and Martin Streets, located 0.14 miles to the southeast of the subject property. The SLIC case was opened on January 28, 1993. Contaminants of concern included motor, hydraulic, lubricating, and waste oil. An unspecified amount of excavation was performed following the start of the case. 0 Carter and Martin Streets was granted regulatory closure status by SFB RWQCB on March 16, 1993. Based on the distance from the property, direction of local groundwater flow, and short duration of the case (less than two months), the closed SLIC site at 0 Carter and Martin Streets is considered unlikely to impact the subject property, and is not likely to represent a significant environmental concern.

SUBJECT PROPERTY

The subject property did not appear on any of the reviewed environmental databases.

5.2 PHYSICAL SETTINGS SOURCE(S)

5.2.1 TOPOGRAPHY

According to the San Francisco South quadrangle, the site is located on the west side of Carter Street in Daly City, California. The elevation near the property center is approximately 342 feet above mean sea level. The topographic gradient on the property is from the west to east.

5.2.2 SOILS

According to nearby site investigation reports, soils underlying the subject property likely include sandy clay, silts, clayey sands, and clayey gravels.

5.2.3 VEGETATION

Tall grass, trees, and shrubs grow throughout the subject property.

5.2.4 GEOLOGY

According to the Geologic Map of San Mateo County, California, Cenozoic era Quaternary aged hillslope deposits and Mesozoic era Cretaceous/Jurassic aged Great Valley Complex sedimentary rocks.

5.2.5 HYDROLOGY

Small amounts of surface runoff were observed flowing downslope from west to east on the property. Based on regional topography and a nearby groundwater-monitoring site, the regional groundwater flow is to the east. The site does not fall under the requirements of the National Pollutant Discharge Elimination System (NPDES). Depth to groundwater in area of subject property is approximately 15-20 feet below ground surface (bgs) according to nearby groundwater monitoring reports.

5.2.6 AIR

The subject property did not appear on any air resource regulatory databases.

5.2.7 SOIL AND GROUNDWATER

There are no documented historical soil and groundwater investigations recorded at the subject property.

5.2.8 FLOOD ZONE

According to FEMA map information provided by ERS, the subject property is located in an area of minimal flood hazard, above the 500-year flood level.

5.2.9 SEISMIC

According to the Geologic Map of San Mateo County, no active faults are mapped on the site. Fault rupture is therefore not anticipated. Strong ground shaking can be expected at the site during moderate to severe earthquakes in the general region.

5.2.10 RADON

Radon gas is a by-product of uranium. The gas forms as uranium molecules eject some protons and neutrons from their nuclei changing first into thorium, then radium, and finally radon. Radon tends to accumulate in uranium-rich metamorphic rocks, glacial moraines and till deposits derived from uranium-bearing rocks, marine organic shales, soils derived from carbonate rocks, and uranium-containing alluvial sediments deposited by rivers, deltas, lakes, etc. Outgassing of radon has not been identified as a problem in this region of San Mateo County. According to radon survey results provided by the ERS, the subject property is located within Region 2 with average radon gas at 2-pico curies per liter of air (pCi/l). The level above which the U.S. Environmental Protection Agency recommends that action be taken to reduce radon levels is 4 pCi/l.

5.2.11 SENSITIVE ECOLOGICAL AREAS

There are no ecologically sensitive areas located within a 1/4-mile radius of the subject property.

5.2.12 MASS WASTING

No physical evidence of mass wasting, such as landslides, was observed at the subject property.

5.3 HISTORICAL USE INFORMATION ON THE PROPERTY

The historic use of the property was determined by the review of aerial photographs, Pacific Bell phonebooks/Haines Criss Cross City directories, owner interview, and local agency records. The city directory findings are summarized in the following table:

730 Carter Street, Daly City (Subject property)	
Date	
Present	Undeveloped Land
1990-2007	Address appears in directory, but no occupant listed
1981	K.A. Gordon

AERIAL PHOTOGRAPHS

Aerial photographs for the years of 1946, 1956, 1968, 1980, 1987, 1993, 2005, and 2015 were reviewed to establish prior land use at the site. Photograph dates and corresponding property descriptions are presented in the following table:

Date	Aerial Photograph Property Description
2015	The subject property appears as an undeveloped area covered with vegetation. Several piles of debris, a graded soil stockpile, and a small shed are visible, as they exist in present day.
2005	There appear to be no significant changes from the 2015 photograph, except that several vehicles are parked on the northeast corner of the property and more debris appears on the east side of the property.
1993	One residence and approximately six small storage shed structures appear on the eastern side of the property. The soil stockpile is not visible.
1987	There appear to be no significant changes from the 1993 photograph.
1980	There appear to be no significant changes from the 1987 photograph, except that several small shed-like structures appear near the southeast side of the property.
1968	There appear to be no significant changes from the 1980 photograph, except that some grading appears to be taking place on the southeast side of the property.
1956	There appear to be no significant changes from the 1968 photograph.
1946	There appear to be no significant changes from the 1956 photograph.

SANBORN FIRE INSURANCE MAPS

There were no available Sanborn Fire Insurance Maps covering the area of the subject property.

SAN MATEO COUNTY ENVIRONMENTAL HEALTH

EIS contacted San Mateo County Environmental Health (SMCEH) on March 16, 2016 to review any available records regarding the subject property. On March 22, 2016, SMCEH responded that they possessed no files for the property.

DALY CITY BUILDING & PLANNING DEPARTMENT

EIS conducted a file review of Daly City Building & Planning Department on March 18, 2016. Building & Planning Department records revealed that several unpermitted sheds were constructed on the eastern portion of the property in the 1960s and early 1970s. Records indicated that one residence at 730 Carter Street was demolished on October 11, 2001. An "Acknowledgement of Notification and Payment Fees" form submitted by Bay Area Air Quality Management District in October 2001 indicate that no ACMs were present in the demolished residence.

SUMMARY

The subject property has been vacant since the early 2000s. A residence and several small sheds were built on the subject property prior to the 1940s, and were demolished in approximately 2001. The graded soil stockpile observed at the property also first appeared in the early 2000s. The property was used residentially from at least the 1940s to early 2000s, with some livestock storage; review of building and planning department records revealed that some of the previous structures were used as a hay barn and for trailer storage.

5.4 HISTORICAL USE OF NEIGHBORING PROPERTIES

Surrounding property usages were reviewed using aerial photographs and city directories. According to the ERS City Directories report including review of Pacific Bell phone books

and Haines Criss Cross City directories, surrounding properties were occupied by the following tenants:

Farrier Place Addresses (adjacent southeast of the Site)	
Date	
2007-Present	Multiple residences
1972-1995	Street not listed in directory

Mira Vista Terrace Addresses (adjacent northwest of the Site)	
Date	
1990-Present	Multiple residences
1981	Multiple residences, Chiatello Limo Service
1972-1975	Street not listed in directory

Oakridge Drive Addresses (adjacent west of the Site)	
Date	
Present	Multiple residences
2007	Multiple Residences, JC's Moving Storage and Services, Duggan Plumbing, Inc.
1995	Multiple Residences, Andreoli Taxi Service
1990	Multiple residences
1981	Multiple residences, Leda Plumbing
1972-1975	Street not listed in directory

Oak Court Addresses (adjacent north of the Site)	
Date	
Present	Multiple residences
2007	Multiple residences, ABM Limousine
1981-1995	Multiple residences
1972-1975	Street not listed in city directory

Steve Courter Way (adjacent east of the Site)	
Date	
2007-Present	Multiple residences
1972-1995	Street not listed in directory

607 Carter Street (~300 ft. northeast of the Site)	
Date	
Present	Vacant land
2007	Address appears in directory, but no occupant listed
1990-1995	Geneva Drive-in Theater, Northbay Pacific Theater
1981	Geneva Drive-in Theater, Northbay Enterprises

AERIAL PHOTOGRAPHS

Aerial photographs for the years of 1946, 1956, 1968, 1980, 1987, 1993, 2005, and 2015 were reviewed. Photograph dates and corresponding surrounding property descriptions are presented in the table below:

Date	Surrounding Property Aerial Photograph Descriptions
2015	Properties to the to southeast, southwest, west, and north appear as residential, while areas to the south and east of the site appear as either vacant or undeveloped
2005	There appear to be no significant changes from the 2015 photograph.
1993	Roads for Steve Courter Way, Farrier Place, and Martin Terrace, located adjacent to the east of the site, appear as vacant.
1987	The area of Oak Court, adjacent north of the site, appears to as vacant land.
1980	There appear to be no significant changes from the 1987 photograph, except that several small storage structures appear adjacent to the southeast of the site.
1968	There appear to be no significant changes from the 1980 photograph.
1956	All areas surrounding the site appear as undeveloped fields.
1946	There appear to be no significant changes from the 1956 photograph.

SANBORN FIRE INSURANCE MAPS

There are no Sanborn Fire Insurance Maps covering areas surrounding the subject property.

SUMMARY

Areas surrounding the subject property are currently residential or undeveloped. Residences at Steve Courter Way and Farrier Place, respectively located adjacent to the east and southeast of the site, were constructed in the 2000s, and were previously undeveloped. Residences at Oak Court, adjacent to the north of the site, were constructed in the 1980s, and were previously vacant land. Residences at Oakridge Drive, adjacent west and southwest of the site, were built between the late 1950s to mid-1960s. All areas surrounding the property appeared as undeveloped fields from the 1940s through mid-1950s.

6.0 SITE RECONNAISSANCE

6.1 METHODOLOGY AND LIMITING CONDITIONS

EIS had access to all interior property areas. EIS did not access the shed on the east side of the property due to unsafe building conditions.

6.2 GENERAL SITE SETTING

The subject property is located in Daly City, on the west side of Carter Street.

6.3 EXTERIOR OBSERVATIONS

The subject property area covers approximately 18 acres. The property is currently vacant. The majority of the property area is covered by weeds, trees, and shrubs. The site is located

on a hillside, which slopes downwards from west to east; the elevation difference between the west and east side of the property is approximately 285 feet. A graded soil stockpile roughly 50-feet in width and 225-feet in length was observed near the east-central property. The weeds observed on the stockpile during the site visit suggests that the feature has not been disturbed recently. The stockpile originated from grading activities previously completed for a nearby subdivision. Small amounts of surface water were observed flowing downslope from west to east on the central property. Much of the water is channeled into the two concrete drainage swales installed on the eastern side of the property. The drainage swales eventually discharge water into storm drains installed along Steve Courter Way. A dilapidated wood and sheet-metal shed is located on the eastern edge of the property. Piles of wood and metal demolition debris were observed next to the shed. Several other debris piles were observed throughout the west, central, and eastern portions of the property. A demolition debris pile near the central property contained scrap wood, a rusted refrigerator, and bathtub. A rusted bulldozer bucket was also observed near the east-central property. A wooden debris pile located near the eastern edge of the site adjacent to Steve Courter Way contained one rusted and empty 55-gallon drum. A pile of roughly six used tires was also observed on the east side of the property. Garbage and refuse including a shopping cart and furniture are strewn throughout the steep slope adjacent to the west side of the property. Debris including a shopping cart, furniture, and mattress appear to sit within the property boundary. The refuse appears to have been dumped over the guardrail of adjacent street Oakridge Drive. One empty and rusted drum of roughly 100-gallons was observed in the bushes adjacent to the southwestern property slope, several feet outside of the property boundary. The debris and refuse scattered throughout the property represents a potential area of concern.

6.4 INTERIOR OBSERVATIONS

The only structure at the subject property is a small shed located on the east side of the site. EIS did not enter the shack due to unsafe building conditions.

6.5 UNDERGROUND STORAGE TANKS

No physical signs or evidence of current or previous USTs were observed during the site inspection. There was no evidence of USTs associated with the subject property revealed in the environmental database review.

6.6 ABOVE GROUND STORAGE TANKS

There was no evidence of ASTs on the property. There were no records of current or historical ASTs revealed during the environmental database list review.

6.7 STORAGE

No storage of hazardous materials or waste was observed at the subject property during the site visit.

6.8 DISPOSAL

There is no record or sign of onsite disposal of hazardous waste at this site. However, various debris including a rusted 55-gallon drum was observed throughout the property. Refer to Section 6.3 of this report for a full listing of items observed in debris piles.

7.0 INTERVIEWS

7.1 INTERVIEW WITH PROPERTY REPRESENTATIVE

EIS corresponded via phone and e-mail with Mr. David Beaumont, a representative of the subject property. Mr. Beaumont detailed specifics regarding the boundaries and specific parcels belonging to the subject property, and clarified the origins of the graded soil stockpile observed at the property by providing excerpts from a geotechnical investigation completed by ENGEO in 2015. Mr. Beaumont also completed a copy of the useful environmental questionnaire, responding “no” or “unknown” to all questions. Mr. Beaumont stated no knowledge of any environmental concerns in connection with the property.

8.0 FINDINGS

The subject property is composed of 34 individual parcels, covering approximately 18 acres in a residential area of Daly City. The property is bounded by Carter Street to the east, Oak Court to the north, and Oakridge Drive to the west. The property is located on a vegetated hillside, which slopes downwards from west to east. The elevation difference between the west and east sides of the property is approximately 285 feet. The property is currently vacant, covered by weeds, trees, and shrubs. A graded soil stockpile of roughly 50-foot width and 225-foot length was observed near the east-central property. The mound was covered by weeds and shrubs. The stockpile originated from grading activities previously completed for a nearby subdivision. One dilapidated wood and metal shed is located on the east side of the site. Demolition debris including scrap wood, tires, rusted appliances, and one empty 55-gallon drum were observed strewn throughout the property. The debris observed at the site represents a potential area of concern.

The subject property has been vacant since the early 2000s. A residence and several small sheds were built on the subject property prior to the 1940s, and were demolished in 2001. The graded soil stockpile observed at the property also first appeared in the early 2000s. The property was used residentially from at least the 1940s to early 2000s, with some livestock storage; review of building and planning department records revealed that some of the previous structures were used as a hay barn and for trailer storage. The historical use of the property does not represent a recognized environmental concern.

According to the environmental database list review, there is one LUST site and SLIC site within a ½-mile radius of the property. The subject property did not appear on any of the reviewed environmental databases. There are no offsite listings within the environmental database search radius that represent an offsite recognized environmental concern.

9.0 OPINION

In our professional opinion, EIS concludes that this assessment has revealed no evidence of recognized environmental concerns.

Various debris scattered throughout the subject property represents an area of potential environmental concern.

10.0 CONCLUSION & RECOMMENDATIONS

In the professional opinion of EIS “we have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E 1527 2013, this assessment has revealed no evidence of recognized environmental concerns.”

Various debris scattered throughout the subject property represents a potential area of concern.

This assessment has not identified any onsite historical recognized environmental concerns, (HREC's) or controlled recognized environmental concerns.

11.0 DEVIATIONS

No deviations were made from ASTM E 1527-2013.

12.0 ADDITIONAL SERVICES

No additional services were added to Phase I ASTM 1527-2013 standard scope of work.

13.0 DATA GAPS

No data gaps were identified.

14.0 REFERENCES

14.1 ENVIRONMENTAL STUDIES

Aerial Photographs: 1946, 1956, 1968, 1980, 1987, 1993, 2005, and 2015.
EIS Aerial Photo Package.

ERS RecCheck Database Report: Environmental Record Search
March 16, 2016. "Carter Canyon, Daly City, CA."

ERS RecCheck City Directory Research, 1972-2007.
March 22, 2016. "Carter Canyon, Daly City, CA."

"Phase I Environmental Site Assessment: Carter Canyon, Daly City, California"
ENGEO Incorporated. July 18, 2014.

"Preliminary Geotechnical Assessment – Project #11308.001" ENGEO, Inc. September
21, 2015.

14.2 ASSESSOR DEPARTMENT

Santa Mateo County Assessor's Office, Redwood City, California

14.3 ENVIRONMENTAL HEALTH

San Mateo County Environmental Health, San Mateo, California

14.4 PLANNING/BUILDING DEPARTMENT

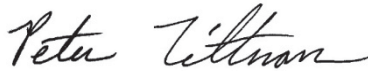
Daly City Planning & Building Department, Daly City, California

14.5 WATER QUALITY

State Water Resources Control Board's "Geotracker" Website:
<http://geotracker.swrcb.ca.gov>. Accessed on March 21, 2016.

15.0 SIGNATURE(S) OF ENVIRONMENTAL PROFESSIONAL(S)

"We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in 312.10 of 40 CFR 312" and we have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.



SR. Project Manager,

PREPARED BY:

Environmental Investigation Services, Inc.
15951 Los Gatos Blvd, Suite 17
Los Gatos, California 95032

16.0 QUALIFICATIONS OF ENVIRONMENTAL PROFESSIONAL(S)

Mr. Peter Littman, Project Manager has 20 years of experience managing environmental due diligence investigations as a Cal/EPA Registered Environmental Assessor (#03829) for property transactions including a large variety of commercial, industrial, and agricultural properties.

Mr. Littman excels at assessing property to determine whether further investigations are necessary to ensure compliance with laws or to complete due diligence and estimating the investigation and cleanup costs. He has successfully coordinated and completed numerous complex due diligence investigations within tight budget and time constraints.

Prior to forming EIS in 1996, Mr. Littman provided environmental consulting services for four years. As a Cal/EPA Registered Environmental Assessor, Mr. Littman has performed over 650 Phase 1 Environmental Assessments. As a project manager, he has completed over 120 soil and groundwater investigations, 60 tank removals, 25 soil remediation projects, 80 asbestos inspections, 50 lead paint inspections, and 30 Hazardous Material Management Plans. Mr. Littman has assisted clients in qualifying for the state tank fund and under guidance of professional staff has helped design site characterization and site remediation at tank fund sites.

As a project manager with C.E.T., Inc. he managed tank removal operations, soil and groundwater investigations, and Phase I assessments. He has also held a position as Corporate Health and Safety Officer for EVAX Technologies Inc., an Environmental Engineering/Contracting firm where he performed Phase I's and site safety plans for Hazardous Waste clean-up operations, and conducted Federal OSHA 40 Hour Training Sessions. As a Health & Safety Officer he worked with a team designing underground tank removals, building decontamination of solvents, excavations, soil and groundwater sampling, and installation of remedial equipment.

Credentials

- Cal/EPA Registered Environmental Assessor REA #03829
- Federal OSHA Hazardous Waste Operation & Emergency Response 40 Hr and 8 Hr Supervisor

17.0 APPENDICES

17.1 FIGURES

17.2 SITE PHOTOGRAPHS 1-21

17.3 PROPERTY REPRESENTATIVE QUESTIONNAIRE

17.4 ERS DATABASE REPORT



Aerial imagery: 03/28/2015

**ENVIRONMENTAL
INVESTIGATION SERVICES, INC.**
15951 Los Gatos Ave, Suite 17, Los Gatos, CA 95032
(408) 402-9800 Fax: (408) 402-9830

EIS Project #1609-1

April 28, 2016

Site Location
Carter Street Properties
Daly City, California

Figure 1



Aerial imagery: 03/28/2015

**ENVIRONMENTAL
INVESTIGATION SERVICES, INC.**
15951 Los Gatos Ave, Suite 17, Los Gatos, CA 95032
(408) 402-9800 Fax: (408) 402-9830

EIS Project #1609-1

April 28, 2016

Site Map
Carter Street Properties
Daly City, California

Figure 2



1. View of subject property entrance and dead-end road, northeast side.



2. View of abandoned concrete pad, northeast property.



3. View of hillside and barbed wire fencing, northeast property.



4. View of dilapidated shed on east property.



5. View of a demolition debris pile and dilapidated shed, east side.



6. View of a demolition debris pile, east side.



7. View of demolition debris pile with visible empty 55-gallon drum, east property.



8. Close view of empty 55-gallon drum, east property.



9. View of demolition debris pile containing empty 55-gallon drum, east property.



10. View of undocumented stockpile covered in vegetation, central property.



11. View of central and south property.



12. View of drainage swale discharging runoff to storm drains on Steve Courter Way, east property.



13. View of central and western portions of property.



14. View of various refuse dumped on west property area.



15. View of brush and hillside, south section of property.



16. View of rusted 100-gallon barrel left in bushes adjacent to the southwest of the property.



17. View of neighboring residences along Oakridge Drive, adjacent west and southwest of the site.



18. View of adjoining vacant lot property, located northeast of the site across Carter Street.



19. View of neighboring residences along Steve Courter Way, adjacent east of the site.



20. View of neighboring residences at Oak Court, adjacent north of the site.



21. View of neighboring hillside property adjacent to the south of the site.

Owner Questionnaire

Site Address: CARTER Street, Daly City. vacant land site

Question:

- | | | | | |
|----|---|-----|-------------------------------------|--------------------------------------|
| 1. | Is the property used for an industrial use? | Yes | ☒ No | Unk |
| 2. | Is any adjoining property used for an industrial use? | Yes | ☒ No | Unk |
| 3. | Did you observe evidence or do you have any prior knowledge that the property has been used for an industrial use in the past? | Yes | ☒ No | Unk |
| 4. | Did you observe evidence or do you have any prior knowledge that any adjoining property has been used for industrial use in the past? | Yes | ☒ No | Unk |
| 5. | Is the property used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)? | Yes | ☒ No | Unk |
| 6. | Is any adjoining property used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or a waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)? | Yes | ☒ No | Unk |
| 7. | Did you observe evidence or do you have any prior knowledge that the property has been used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)? | Yes | No | ☒ Unk |

- | | | | | |
|-----|---|-----|-------------------------------------|--------------------------------------|
| 8. | Did you observe evidence or do you have any prior knowledge that the adjoining property has been used as a gasoline station, motor repair facility, commercial printing facility, dry cleaners, photo developing laboratory, junkyard or landfill, or as a waste treatment, storage, disposal, processing, or recycling facility (if applicable, identify which)? | Yes | ☒ No | Unk |
| 9. | Are there currently any damaged or discarded automotive or industrial batteries, pesticides, paints, or other chemicals in individual containers of >5 gal (19 L) in volume or 50 gal (190 L) in the aggregate, stored on or used at the property or at the facility? | Yes | ☒ No | Unk |
| 10. | Did you observe evidence or do you have any prior knowledge that there have been previously any damaged or discarded automotive or industrial batteries, or pesticides, paints, or other chemicals in individual containers of >5 gal (19 L) in volume or 50 gal (190 L) in the aggregate, stored on or used at the property or at the facility? | Yes | ☒ No | Unk |
| 11. | Are there currently any industrial drums (typically 55 gal (208 L)) or sacks of chemicals located on the property or at the facility? | Yes | ☒ No | Unk |
| 12. | Did you observe evidence or do you have any prior knowledge that there have been previously any industrial drums (typically 55 gal (208 L)) or sacks of chemicals located on the property or at the facility? | Yes | ☒ No | Unk |
| 13. | Did you observe evidence or do you have any prior knowledge that fill dirt has been brought onto the property that originated from a contaminated site? | Yes | No | ☒ Unk |
| 14. | Did you observe evidence or do you have any prior knowledge that fill dirt has been brought onto the property that is of an unknown origin? | Yes | No | ☒ Unk |
| 15. | Are there currently any pits, ponds, or lagoons located on the property in connection with waste treatment or waste disposal? | Yes | ☒ No | Unk |

- | | | | | |
|-----|--|-----|-------------------------------------|--------------------------------------|
| 16. | Did you observe evidence or do you have any prior knowledge that there have been previously, any pits, ponds, or lagoons located on the property in connection with waste treatment or waste disposal? | Yes | ☒ No | Unk |
| 17. | Is there currently any stained soil on the property? | Yes | No | ☒ Unk |
| 18. | Did you observe evidence or do you have any prior knowledge that there has been previously any stained soil on the property? | Yes | ☒ No | Unk |
| 19. | Are there currently any registered or unregistered storage tanks (above or underground) located on the property? | Yes | ☒ No | Unk |
| 20. | Did you observe evidence or do you have any prior knowledge that there have been previously, any registered or unregistered storage tanks (above or underground) located on the property? | Yes | ☒ No | Unk |
| 21. | Are there currently any vent pipes, fill pipes or access ways indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property? | Yes | ☒ No | Unk |
| 22. | Did you observe evidence or do you have any prior knowledge that there have been previously, any vent pipes, fill pipes, or access ways indicating a fill pipe protruding from the ground on the property or adjacent any structure located on the property? | Yes | ☒ No | Unk |
| 23. | Is there currently evidence of leaks, spills or staining by substances other than water, or foul odors, associated with any flooring, drains, walls, ceilings, or exposed grounds on the property? | Yes | ☒ No | Unk |
| 24. | Did you observe evidence or do you have any prior knowledge that there have been previously any leaks, spills, or staining by substances other than water, or foul odors, associated with any flooring drains, walls, ceilings or exposed grounds on the property? | Yes | ☒ No | Unk |

- | | | | | |
|-----|--|-----|-------------------------------------|--------------------------------------|
| 25. | If the property is served by a private well or no-public water system, is there evidence or do you have prior knowledge that contaminants have been identified in the well or system that exceed guidelines applicable to the water system? | Yes | ☒ No | Unk |
| 26. | If the property is served by a private well or non-public water system, is there evidence or do you have prior knowledge that the well has been designated as contaminated by any government environmental/health agency? | Yes | ☒ No | Unk |
| 27. | Does the owner or occupant of the property have any knowledge of environmental liens or governmental notification relating to past or recurrent violations of environmental laws with respect to the property or any facility located on the property? | Yes | ☒ No | Unk |
| 28. | Has the owner or occupant of the property been informed of the past existence of hazardous substances or petroleum products with respect to the property or any facility located on the property? | Yes | No | ☒ Unk |
| 29. | Has the owner or occupant of the property been informed of the current existence of hazardous substances or petroleum products with respect to the property or any facility located on the property? | Yes | ☒ No | Unk |
| 30. | Has the owner or occupant of the property been informed of the past existence of environmental violations with respect to the property or any facility located on the property? | Yes | ☒ No | Unk |
| 31. | Has the owner or occupant of the property been informed of the current existence of environmental violations with respect to the property or any facility located on the property? | Yes | ☒ No | Unk |
| 32. | Does the owner or occupant of the property have any knowledge of any environmental site assessment of the property or facility that indicated the presence of hazardous | Yes | ☒ No | Unk |

substances or petroleum products on, or contamination of, the property or recommended further assessment of the property?

- | | | | | |
|-----|---|-----|-------------------------------------|--------------------------------------|
| 33. | Does the owner or occupant of the property know of the property know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any hazardous substance petroleum products involving the property by any owner or occupant of the property? | Yes | ☒ No | Unk |
| 34. | Does the property discharge waste water (not including sanitary waste or storm water) onto or adjacent to the property and/or into a storm water system? | Yes | ☒ No | Unk |
| 35. | Does the property discharge waste water (not including sanitary waste water or storm water) onto or adjacent to the property and/or into a sanitary sewer system? | Yes | ☒ No | Unk |
| 36. | Did you observe evidence or do you have any prior knowledge that any hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries, or any other waste materials have been dumped above grade, buried and/or burned on the property? | Yes | No | ☒ Unk |
| 37. | Are their any septic systems on the property? | Yes | ☒ No | Unk |

The Owner Questionnaire was completed by:

Name: David Beaumont

Title: Planner/Project Manager

Address: Box 927, Pacifica, Ca 94044



RecCheck

Area

Report Results

The Standard for ASTM/AAI Radius Searches

(One Mile Environmental Records Search, Exceeds ASTM 1527/1528 and EPA AII Appropriate Inquiry)

REPORT RESULTS



Site Location:

Carter Canyon

Daly City, CA 94014

(N 37-42-18, W 122-25-36) NAD83

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EXECUTIVE SUMMARY

INFORMATION ON THE REQUESTED LOCATION

Site Address:	Carter Canyon Daly City, CA 94014
Client Project Name/Number:	1609-1
Coordinates:	N 37-42-18, W 122-25-36 (NAD 83) 37.7050972443028, -122.426643390623
Date of Report	March 16, 2016
ERS Project Number:	2104662232
Subject Site Listed on the following lists:	Not Listed
Subject Site Listed as Map ID#:	N/A
USGS 7.5 Minute Quad Map:	San Francisco South
Subject Site Located within a Potential Area of Concern:	No
Township, Section and Range:	Township: 03S Range: 05W Section: 05 Baseline: Mt. Diablo
Site Elevation: (feet above or below (-) mean sea level)	Approximately 342 ft near the center of the area.
Flood Zone: (FEMA Q3 Digital Data)	Panel: 06081C0035E, Effective Date: 10/16/2012 Zone X - Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level.
Fire Insurance Map Coverage:	No
Radon Information:	EPA Radon Zone: 2 (Predicted avg for county: 2 to 4 pCi/L)For zip code 94014: Number of tests per zip code: 10 Number of tests where radon is > 4 pCi/L: 0 Percentage of test where radon is > 4 pCi/L: 0.00%
Search Radius Expansion Size: (In Miles)	0

Soil Type: (USDA Soil Survey Geographic Database) (SSURGO)	Candlestick-Kron-Buriburi complex, 30 to 75 percent slopes Map Unit Type: Complex Hydric: No Drainage Class: Well drained General Information: Fine-loamy, mixed, isomesic Pachic Argiustolls
Zip Codes Searched for "Un-Mappable" Sites:	Not Researched
Occurrence Count:	8

SUMMARY OF OCCURRENCES

MAP ID	ID/SITE NAME	ADDRESS	DATABASE	STATUS	DISTANCE (MILES)	ELEV DIFF (FEET)
<u>1</u> Maps: <u>1, 3</u>	680248 Pacific Gas and Electric	607 Carter Street Daly City	CHMIRS-CA	Listed	0.05 NE	N/A
<u>2</u> Maps: <u>1, 3</u>	229047-SMT HILLSIDE VILLAGE AKA SCH	0 CARTER & MARTIN DALY CITY	County-LUST- Closed-CA	Closed	0.1 SE	N/A
<u>3</u> Maps: <u>1, 3</u>	T0608100352 COW PALACE	0 GENEVA DALY CITY	ENF-CA	Listed	0.21 NE	N/A
<u>1</u> Maps: <u>1, 3</u>	CAC002620405 P G & E	607 CARTER ST DALY CITY	HWIS-CA	Listed	0.05 NE	N/A
<u>1</u> Maps: <u>1, 3</u>	CAC002552242 SYUFY ENTERPRISES	607 CARTER ST DALY CITY	HWIS-CA	Listed	0.05 NE	N/A
<u>3</u> Maps: <u>1, 3</u>	T0608100352 COW PALACE	0 GENEVA DALY CITY	LUST-Closed-CA	Completed - Case Closed	0.21 NE	N/A
<u>1</u> Maps: <u>1, 3</u>	CAD982512741 NORTH BAY PACIFIC THEATER AND	607 CARTER STREET DALY CITY	RCRA-SQG-US	Listed	0.05 NE	N/A
<u>2</u> Maps: <u>1, 3</u>	T0608130089 HILLSIDE VILLAGE AKA SCHINDEL PROPERTY	0 CARTER & MARTIN DALY CITY	SLIC-Closed-CA	Completed - Case Closed	0.1 SE	N/A

POTENTIAL AREAS OF CONCERN/CONTAMINATION SUMMARY DATABASE OCCURRENCE SUMMARY

HIGH RISK* OCCURRENCES IDENTIFIED IN REQUESTED SEARCH RADIUS		
DATABASE SEARCHED	DISTANCE SEARCHED (MILES)	HIGH RISK OCCURRENCES FOUND
Cal-CorAct-Open-CA	0.5	0
Cal-Military-Active	1	0
Cal-School-Active	0.5	0
Cal-State-Response-Active	1	0
Cal-Superfund-Active	1	0
Cal-VCP-Active	0.5	0
CERCLIS-US	0.5	0
County-LUST-Open-CA	0.5	0
County-SLIC-Open-CA	0.5	0
LUST-Open-CA	0.5	0
NPL-US	1	0
Proposed-NPL-US	1	0
SAA-Agreements-US	1	0
SLIC-Open-CA	0.5	0
SML-Open-CA	0.5	0
Tribal-LUST-Open-Reg9	0.5	0
UST-Cleanup-CA	0.5	0

* For the purposes of this report, "high risk" occurrences are those that have known contamination and have not received a "case closed" or "no further action" status from the agency that maintains the records.

ASTM/AAI STANDARD RECORD SOURCES SUMMARY				
STANDARD ENVIRONMENTAL RECORD SOURCES	ASTM MIN. SEARCH DIST. / ERS SEARCH DIST. (MILES)	ERS DATABASE NAME	TOTAL LISTINGS	MAP ID #'S
Federal NPL site list	1.0 / 1.0	NPL-US	0	None Listed
		Proposed-NPL-US	0	None Listed
Federal Delisted NPL site list	0.5 / 1.0	Delisted-NPL-US	0	None Listed
Federal CERCLIS list	0.5 / 0.5	CERCLIS-US	0	None Listed
Federal CERCLIS NFRAP site list	0.5 / 0.5	CERCLIS-Archived-US	0	None Listed
Federal RCRA CORRACTS facilities list	1.0 / 1.0	RCRA-COR-US	0	None Listed
Federal RCRA non-CORRACTS TSD facilities list	0.5 / 0.5	RCRA-TSD-US	0	None Listed
Federal RCRA generators list	Property and adjoining properties / 0.25	RCRA-CESQG-US	0	None Listed
		RCRA-LQG-US	0	None Listed
		RCRA-NON-US	0	None Listed
		RCRA-SQG-US	1	<u>1</u>

Federal Inst/Eng control registries	Property Only / 0.25	Controls-RCRA-US	0	None Listed
		Controls-US	0	None Listed
		Hist-US-EC	0	None Listed
		Hist-US-IC	0	None Listed
		LIENS-US	0	None Listed
Federal ERNS list	Property Only / 0.0625	ERNS-US	0	None Listed
State and Tribal-Equivalent NPL	1.0 / 1.0	Cal-State-Response-Active	0	None Listed
		Cal-State-Response-NFA	0	None Listed
		Cal-State-Response-Other	0	None Listed
State and Tribal-Equivalent CERCLIS	0.5 / 0.5	Cal-Superfund-Active	0	None Listed
		Cal-Superfund-NFA	0	None Listed
		Cal-Superfund-Other	0	None Listed
State and Tribal landfill and/or solid waste disposal sites	0.5 / 0.5	County-SWF-CA	0	None Listed
		Debris-US	0	None Listed
		Hist-Dumps-US	0	None Listed
		Hist-SWF-CA	0	None Listed
		Land-Disposal-CA	0	None Listed
		SWIS-CA	0	None Listed
		Tribal-ODI-US	0	None Listed
State and Tribal Leaking Storage Tank Lists	0.5 / 0.5	County-LUST-CA	0	None Listed
		County-LUST-Closed-CA	1	2
		County-LUST-Open-CA	0	None Listed
		LUST-Closed-CA	1	3
		LUST-Open-CA	0	None Listed
		Tribal-LUST-Closed-Reg9	0	None Listed
		Tribal-LUST-Open-Reg9	0	None Listed
		UST-Cleanup-CA	0	None Listed
State and Tribal Registered Storage Tank Lists	Property and adjoining properties / 0.25	AST-CA	0	None Listed
		City-AST-CA	0	None Listed
		City-UST-CA	0	None Listed
		County-AST-CA	0	None Listed
		County-UST-CA	0	None Listed
		FEMA-UST-US	0	None Listed
		Hist-UST-CA	0	None Listed
		Tribal-UST-Reg9	0	None Listed
		UST-Abandoned-CA	0	None Listed
		UST-CA	0	None Listed
		UST-Closed-CA	0	None Listed

State and Tribal Inst/Eng Control Registries	Property Only / 0.5	UST-Comp-CA	0	None Listed
		UST-Priority-CA	0	None Listed
		UST-Proposed-CA	0	None Listed
		Controls-CA	0	None Listed
		Deed-CA	0	None Listed
		Hist-Controls-CA	0	None Listed
State and Tribal Voluntary Cleanup Sites	0.5 / 0.5	Liens-CA	0	None Listed
		Cal-Eval-Hist	0	None Listed
		Cal-Eval-Hist-NFA	0	None Listed
		Cal-Military-Active	0	None Listed
		Cal-Military-NFA	0	None Listed
		Cal-Military-Other	0	None Listed
		Cal-School-Active	0	None Listed
		Cal-School-NFA	0	None Listed
		Cal-School-Other	0	None Listed
		Cal-VCP-Active	0	None Listed
		Cal-VCP-NFA	0	None Listed
		Cal-VCP-Other	0	None Listed
		Tribal-VCP-US	0	None Listed
State and Tribal Brownfield Sites	0.5 / 0.5	BF-US	0	None Listed
		Tribal-BF-US	0	None Listed

FEDERAL ASTM/AAI DATABASES							
DATABASE SEARCHED	DISTANCE SEARCHED	SUBJECT SITE	0.125 MILES	0.25 MILES	0.5 MILES	1.0 MILES	TOTAL
BF-US	0.5	0	0	0	0	-	0
CERCLIS-Archived-US	0.5	0	0	0	0	-	0
CERCLIS-US	0.5	0	0	0	0	-	0
Controls-RCRA-US	0.5	0	0	0	0	-	0
Controls-US	0.5	0	0	0	0	-	0
Debris-US	0.5	0	0	0	0	-	0
Delisted-NPL-US	1	0	0	0	0	0	0
ERNS-US	0.0625	0	0	-	-	-	0
FEMA-UST-US	0.25	0	0	0	-	-	0
FTTS-ENF-US	0.0625	0	0	-	-	-	0
Hist-Dumps-US	0.5	0	0	0	0	-	0
Hist-US-EC	0.5	0	0	0	0	-	0
Hist-US-IC	0.5	0	0	0	0	-	0
HMIS-US	0.0625	0	0	-	-	-	0
LIENS-US	0.0625	0	0	-	-	-	0
NPL-US	1	0	0	0	0	0	0
PADS-US	0.0625	0	0	-	-	-	0
PCB-US	0.25	0	0	0	-	-	0
Proposed-NPL-US	1	0	0	0	0	0	0
RCRA-CESQG-US	0.25	0	0	0	-	-	0
RCRA-COR-US	1	0	0	0	0	0	0
RCRA-LQG-US	0.25	0	0	0	-	-	0
RCRA-NON-US	0.25	0	0	0	-	-	0
RCRA-SQG-US	0.25	0	1	0	-	-	1
RCRA-TSD-US	0.5	0	0	0	0	-	0
SAA-Agreements-US	1	0	0	0	0	0	0
Tribal-BF-US	0.5	0	0	0	0	-	0

FEDERAL ASTM/AAI DATABASES							
DATABASE SEARCHED	DISTANCE SEARCHED	SUBJECT SITE	0.125 MILES	0.25 MILES	0.5 MILES	1.0 MILES	TOTAL
Tribal-LUST-Closed-Reg9	0.5	0	0	0	0	-	0
Tribal-LUST-Open-Reg9	0.5	0	0	0	0	-	0
Tribal-ODI-US	0.5	0	0	0	0	-	0
Tribal-UST-Reg9	0.25	0	0	0	-	-	0
Tribal-VCP-US	0.5	0	0	0	0	-	0

STATE ASTM/AAI DATABASES							
DATABASE SEARCHED	DISTANCE SEARCHED	SUBJECT SITE	0.125 MILES	0.25 MILES	0.5 MILES	1.0 MILES	TOTAL
AST-CA	0.25	0	0	0	-	-	0
Cal-BZ-HazWaste-CA	0.5	0	0	0	0	-	0
Cal-CorAct-Closed-CA	0.5	0	0	0	0	-	0
Cal-CorAct-Open-CA	0.5	0	0	0	0	-	0
Cal-Eval-Hist	0.5	0	0	0	0	-	0
Cal-Eval-Hist-NFA	0.5	0	0	0	0	-	0
Cal-Military-Active	1	0	0	0	0	0	0
Cal-Military-NFA	0.5	0	0	0	0	-	0
Cal-Military-Other	1	0	0	0	0	0	0
Cal-School-Active	0.5	0	0	0	0	-	0
Cal-School-NFA	0.5	0	0	0	0	-	0
Cal-School-Other	0.5	0	0	0	0	-	0
Cal-State-Response-Active	1	0	0	0	0	0	0
Cal-State-Response-NFA	0.5	0	0	0	0	-	0
Cal-State-Response-Other	0.5	0	0	0	0	-	0
Cal-Superfund-Active	1	0	0	0	0	0	0
Cal-Superfund-NFA	1	0	0	0	0	0	0
Cal-Superfund-Other	1	0	0	0	0	0	0
Cal-VCP-Active	0.5	0	0	0	0	-	0
Cal-VCP-NFA	0.5	0	0	0	0	-	0
Cal-VCP-Other	0.5	0	0	0	0	-	0
CBF-CA	0.5	0	0	0	0	-	0
CHMIRS-CA	0.0625	0	1	-	-	-	1
City-AST-CA	0.25	0	0	0	-	-	0
City-CUPA-CA	0.25	0	0	0	-	-	0
City-Others-CA	0.25	0	0	0	-	-	0
City-UST-CA	0.25	0	0	0	-	-	0
Controls-CA	0.5	0	0	0	0	-	0
CORTESE-CA	0.25	0	0	0	-	-	0
County-AST-CA	0.25	0	0	0	-	-	0
County-Hist-CA	0.25	0	0	0	-	-	0
County-LUST-CA	0.5	0	0	0	0	-	0
County-LUST-Closed-CA	0.25	0	1	0	-	-	1
County-LUST-Open-CA	0.5	0	0	0	0	-	0
County-Others-CA	0.25	0	0	0	-	-	0
County-SLIC-Closed-CA	0.25	0	0	0	-	-	0
County-SLIC-Open-CA	0.5	0	0	0	0	-	0
County-SML-CA	0.5	0	0	0	0	-	0
County-SWF-CA	0.5	0	0	0	0	-	0
County-UST-CA	0.25	0	0	0	-	-	0
CUPA-CA	0.25	0	0	0	-	-	0
Deed-CA	0.5	0	0	0	0	-	0
ENF-CA	0.25	0	0	1	-	-	1
HazWaste-CA	0.25	0	0	0	-	-	0

STATE ASTM/AAI DATABASES

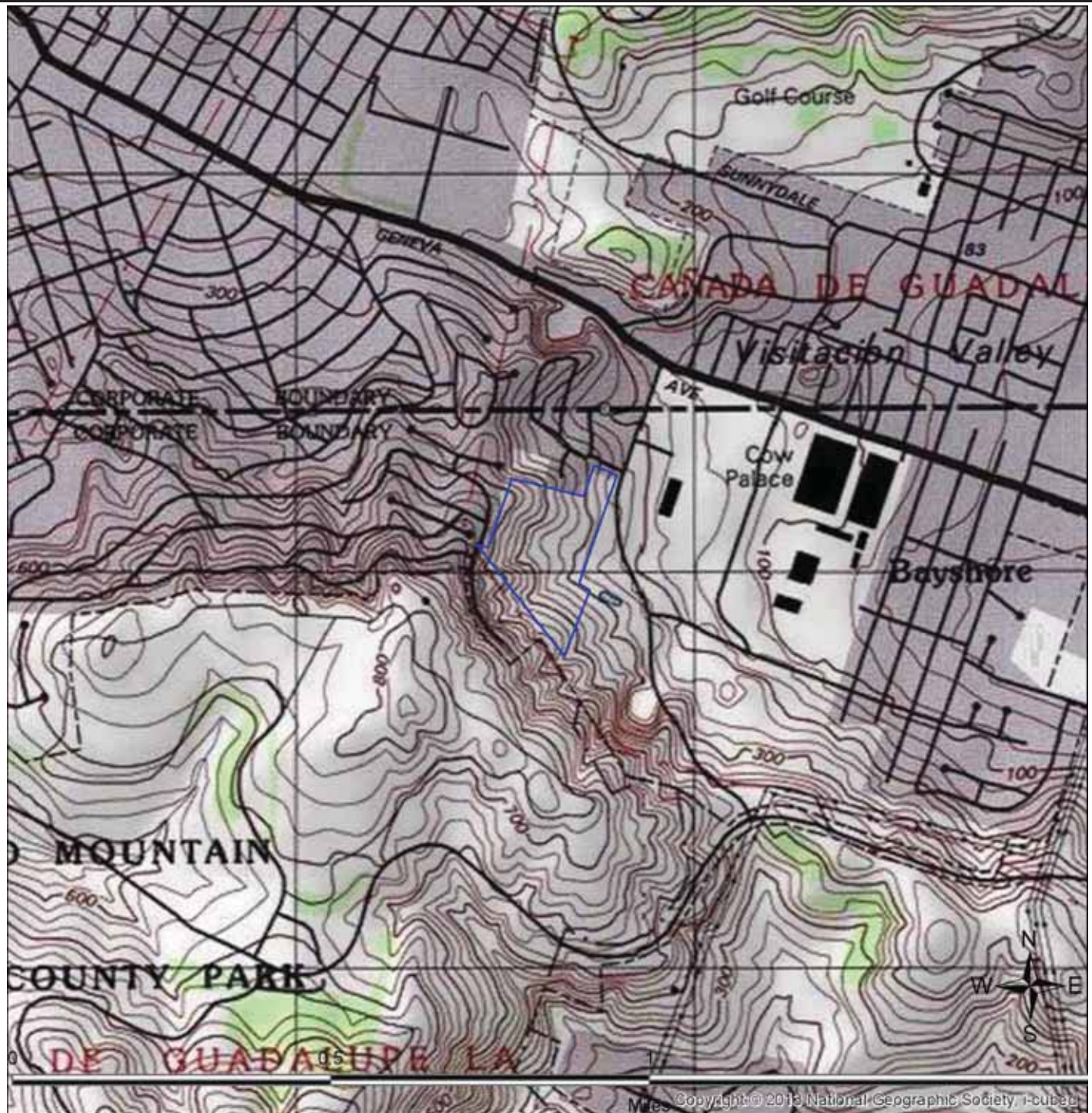
DATABASE SEARCHED	DISTANCE SEARCHED	SUBJECT SITE	0.125 MILES	0.25 MILES	0.5 MILES	1.0 MILES	TOTAL
Hist-Controls-CA	0.5	0	0	0	0	-	0
Hist-Cort-CA	0.25	0	0	0	-	-	0
HIST-R4-CA	0.25	0	0	0	-	-	0
Hist-SWF-CA	0.5	0	0	0	0	-	0
Hist-UST-CA	0.25	0	0	0	-	-	0
Hist-WIP-Active-CA	0.5	0	0	0	0	-	0
Hist-WIP-Backlog-CA	0.5	0	0	0	0	-	0
Hist-WIP-Historical-CA	0.5	0	0	0	0	-	0
HWIS-CA	0.0625	0	2	-	-	-	2
ICE-CA	0.25	0	0	0	-	-	0
Land-Disposal-CA	0.5	0	0	0	0	-	0
Liens-CA	0.0625	0	0	-	-	-	0
LUST-Closed-CA	0.25	0	0	1	-	-	1
LUST-Open-CA	0.5	0	0	0	0	-	0
Manifest2-NY	0.0625	0	0	-	-	-	0
Manifest2-RI	0.0625	0	0	-	-	-	0
PR-MOA-CA	0.25	0	0	0	-	-	0
SLIC-Closed-CA	0.5	0	1	0	0	-	1
SLIC-CV-CLOSED-CA	0.5	0	0	0	0	-	0
SLIC-CV-OPEN-CA	0.5	0	0	0	0	-	0
SLIC-Open-CA	0.5	0	0	0	0	-	0
SML-Closed-CA	0.5	0	0	0	0	-	0
SML-Open-CA	0.5	0	0	0	0	-	0
SML-Other-CA	0.5	0	0	0	0	-	0
SWIS-CA	0.5	0	0	0	0	-	0
SWRCY-CA	0.5	0	0	0	0	-	0
UST-Abandoned-CA	0.25	0	0	0	-	-	0
UST-CA	0.25	0	0	0	-	-	0
UST-Cleanup-CA	0.5	0	0	0	0	-	0
UST-Closed-CA	0.25	0	0	0	-	-	0
UST-Comp-CA	0.25	0	0	0	-	-	0
UST-Priority-CA	0.5	0	0	0	0	-	0
UST-Proposed-CA	0.25	0	0	0	-	-	0

SUPPLEMENTAL DATABASES

DATABASE SEARCHED	DISTANCE SEARCHED	SUBJECT SITE	0.125 MILES	0.25 MILES	0.5 MILES	1.0 MILES	TOTAL
Not Searched							

PROPRIETARY HISTORIC DATABASES

DATABASE SEARCHED	DISTANCE SEARCHED	SUBJECT SITE	0.125 MILES	0.25 MILES	0.5 MILES	1.0 MILES	TOTAL
Not Searched							



SITE LOCATION TOPOGRAPHIC MAP

U.S. Geological Survey. San Francisco South Quadrangle, 7.5 Minute Series

Environmental Investigation
Services, Inc

Carter Canyon
Daly City, CA 94014

FIGURE: 1
JOB: 1609-1
DATE: 3/16/2016



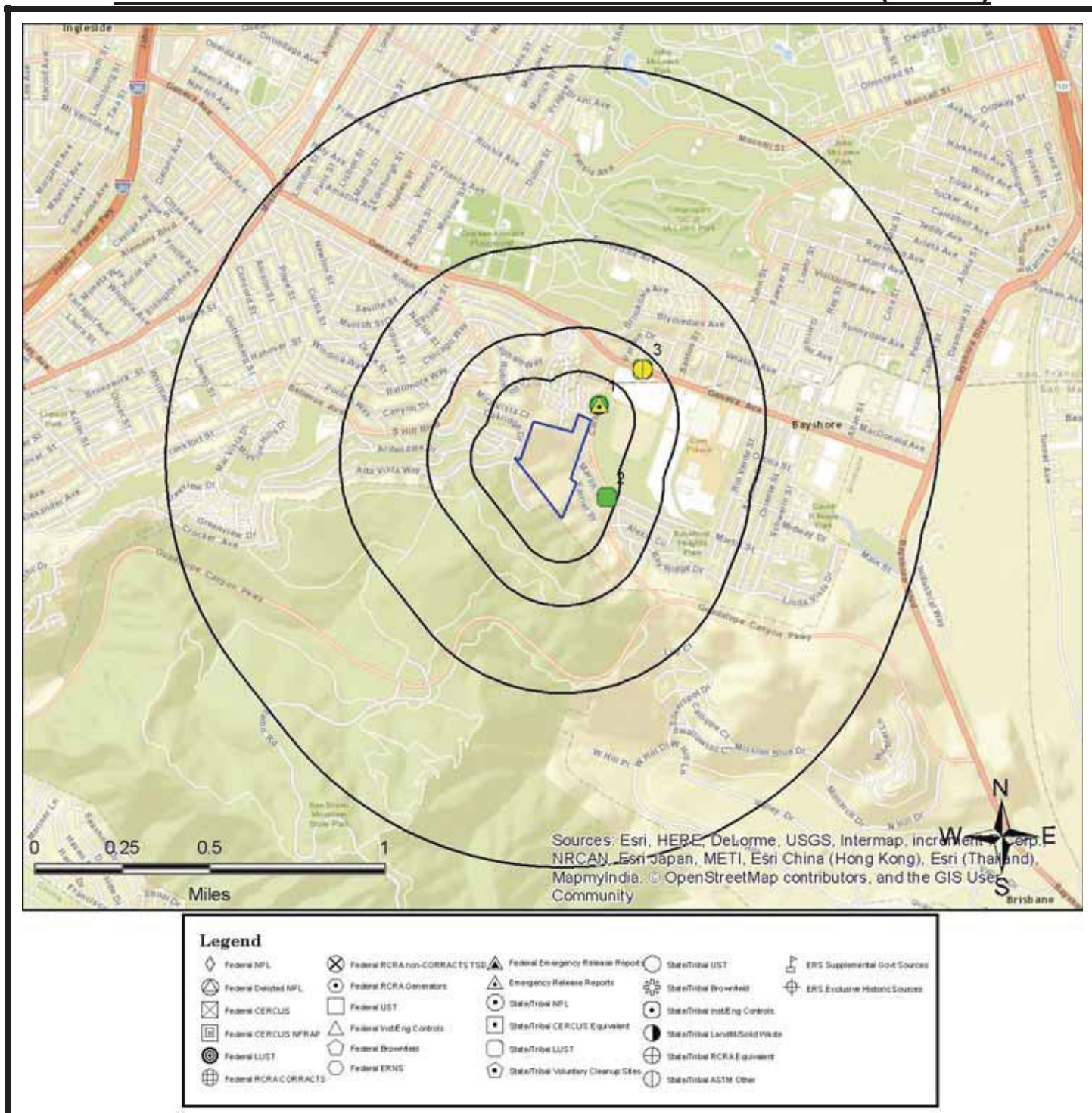
SITE LOCATION MAP

Environmental Investigation
Services, Inc

Carter Canyon
Daly City, CA 94014

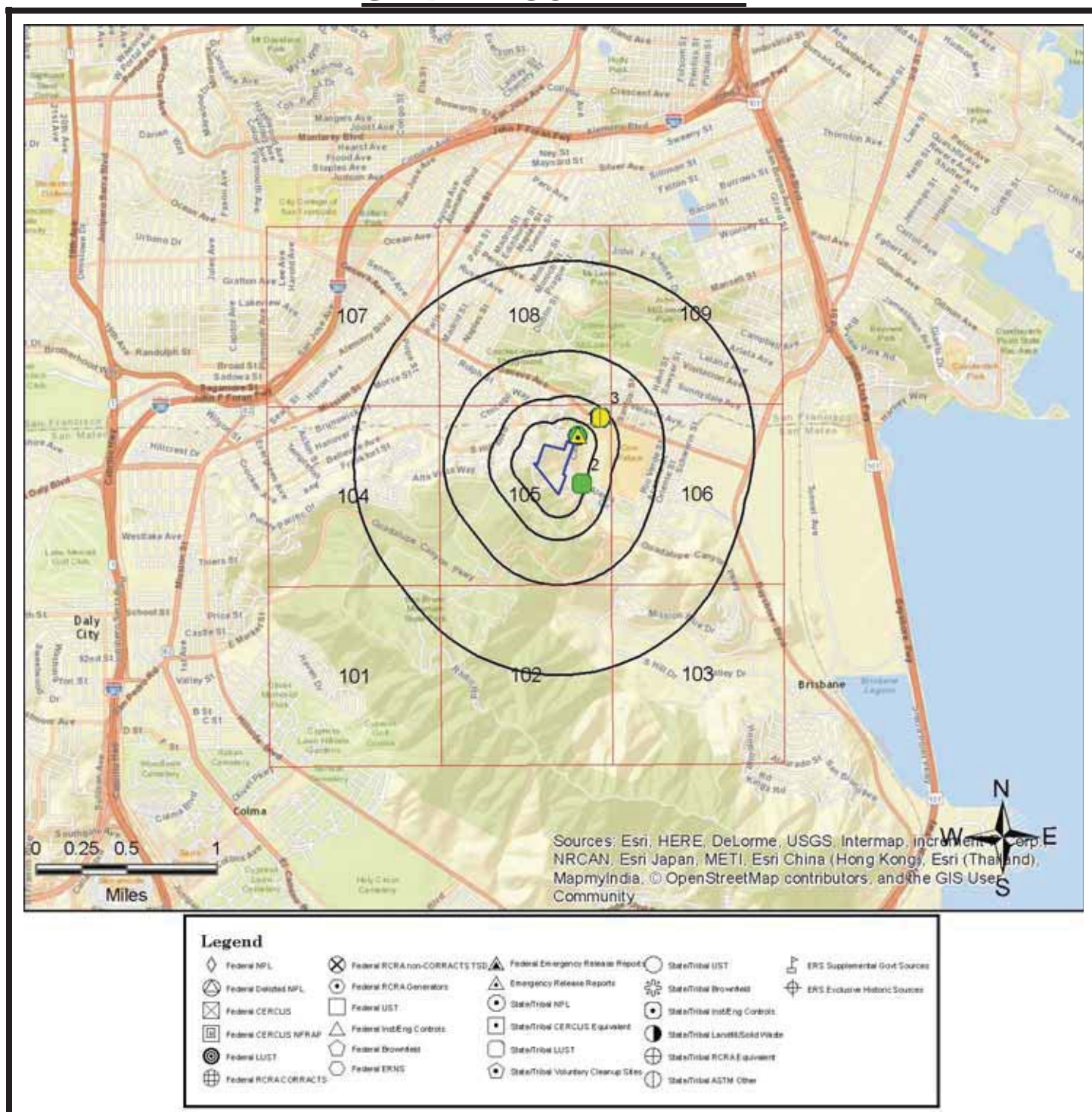
FIGURE: 2
JOB: 1609-1
DATE: 3/16/2016

1-MILE RADIUS STREET MAP W/OCCURRENCES (MAP1)



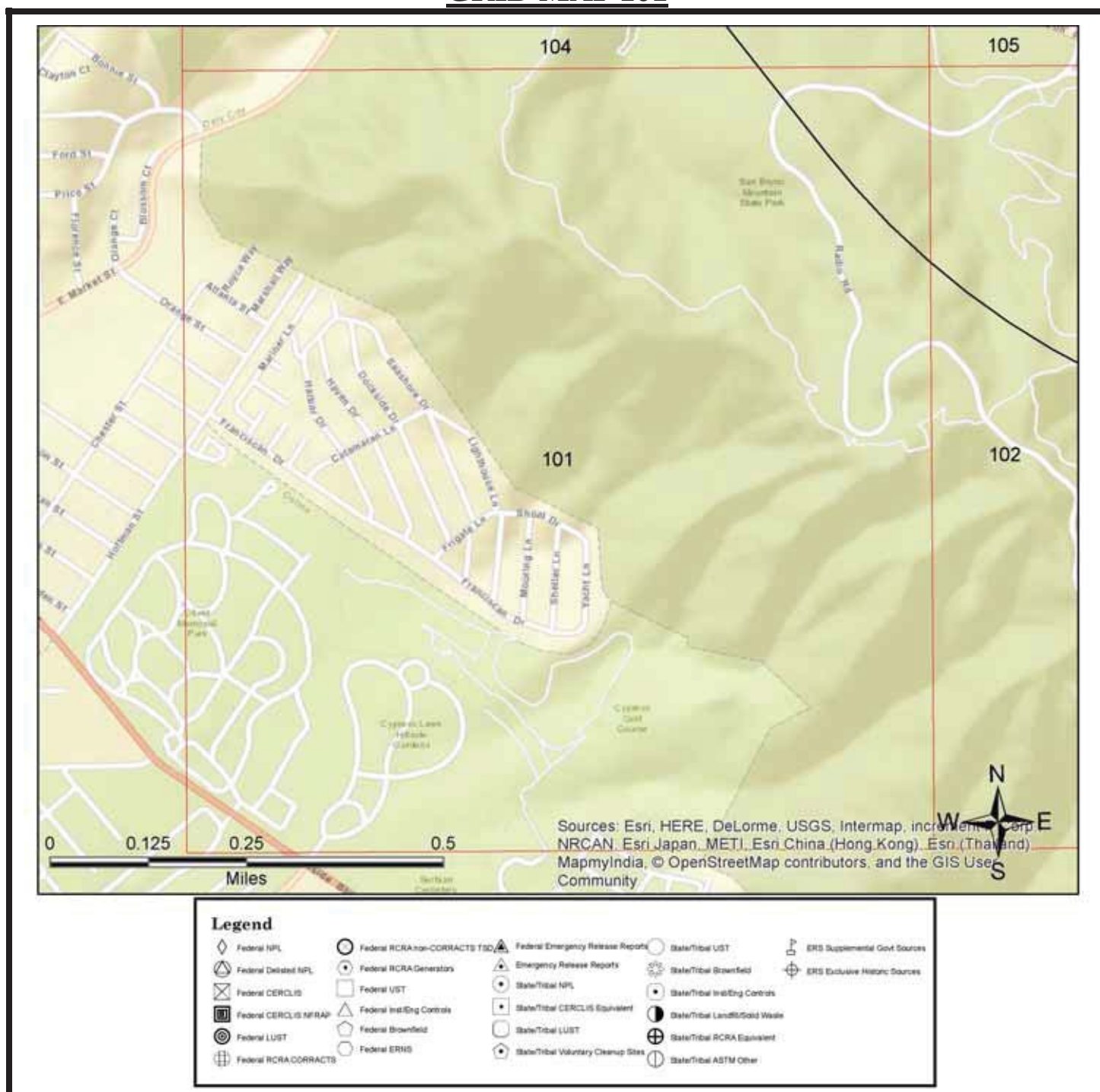
All plotted occurrences represent approximate locations based on geographic information provided by the respective agency. Actual locations may vary due to numerous reasons such as: the size of the property, accuracy of the provided location, accuracy of the software used to determine the location, etc. Occurrences are shown in three colors to give a visual indication of the potential risk of the listed occurrence based on the type of list and the current status of the occurrence. Occurrences shown in **RED** are locations with known contamination that have not received a "case closed" or "no further action" status. Occurrences shown in **YELLOW** have been listed by the respective agency, but do not always represent an environmental risk. The detailed status information and description of the listing should be reviewed for further information. Occurrences shown in **GREEN** are occurrences that have active permits or have had contamination in the past but have received a "case closed" or "no further action" status and therefore, do not likely present an environmental risk.

GRID LAYOUT MAP KEY



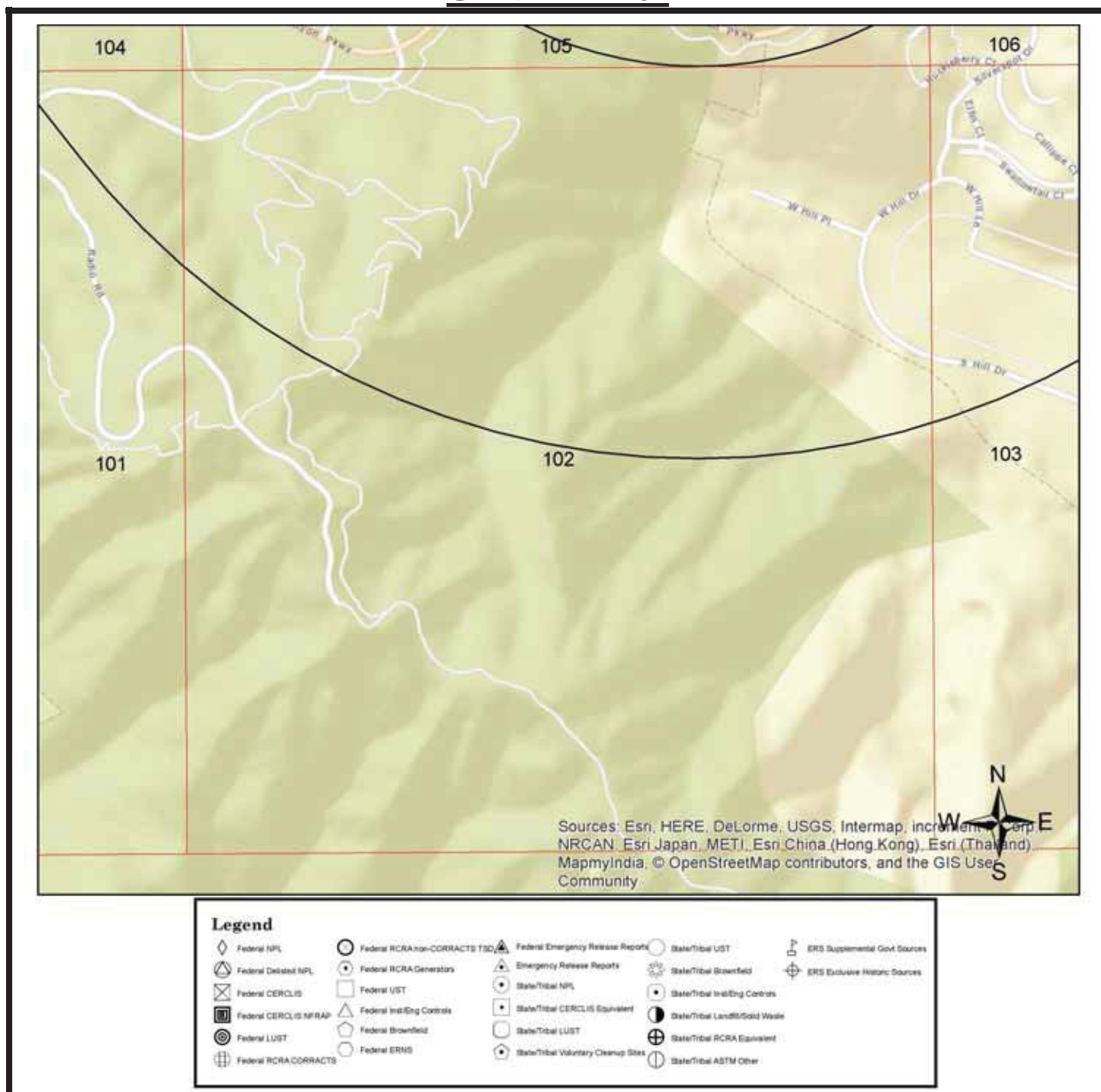
All plotted occurrences represent approximate locations based on geographic information provided by the respective agency. Actual locations may vary due to numerous reasons such as: the size of the property, accuracy of the provided location, accuracy of the software used to determine the location, etc. Occurrences are shown in three colors to give a visual indication of the potential risk of the listed occurrence based on the type of list and the current status of the occurrence. Occurrences shown in **RED** are locations with known contamination that have not received a "case closed" or "no further action" status. Occurrences shown in **YELLOW** have been listed by the respective agency, but do not always represent an environmental risk. The detailed status information and description of the listing should be reviewed for further information. Occurrences shown in **GREEN** are occurrences that have active permits or have had contamination in the past but have received a "case closed" or "no further action" status and therefore, do not likely present an environmental risk.

GRID MAP 101



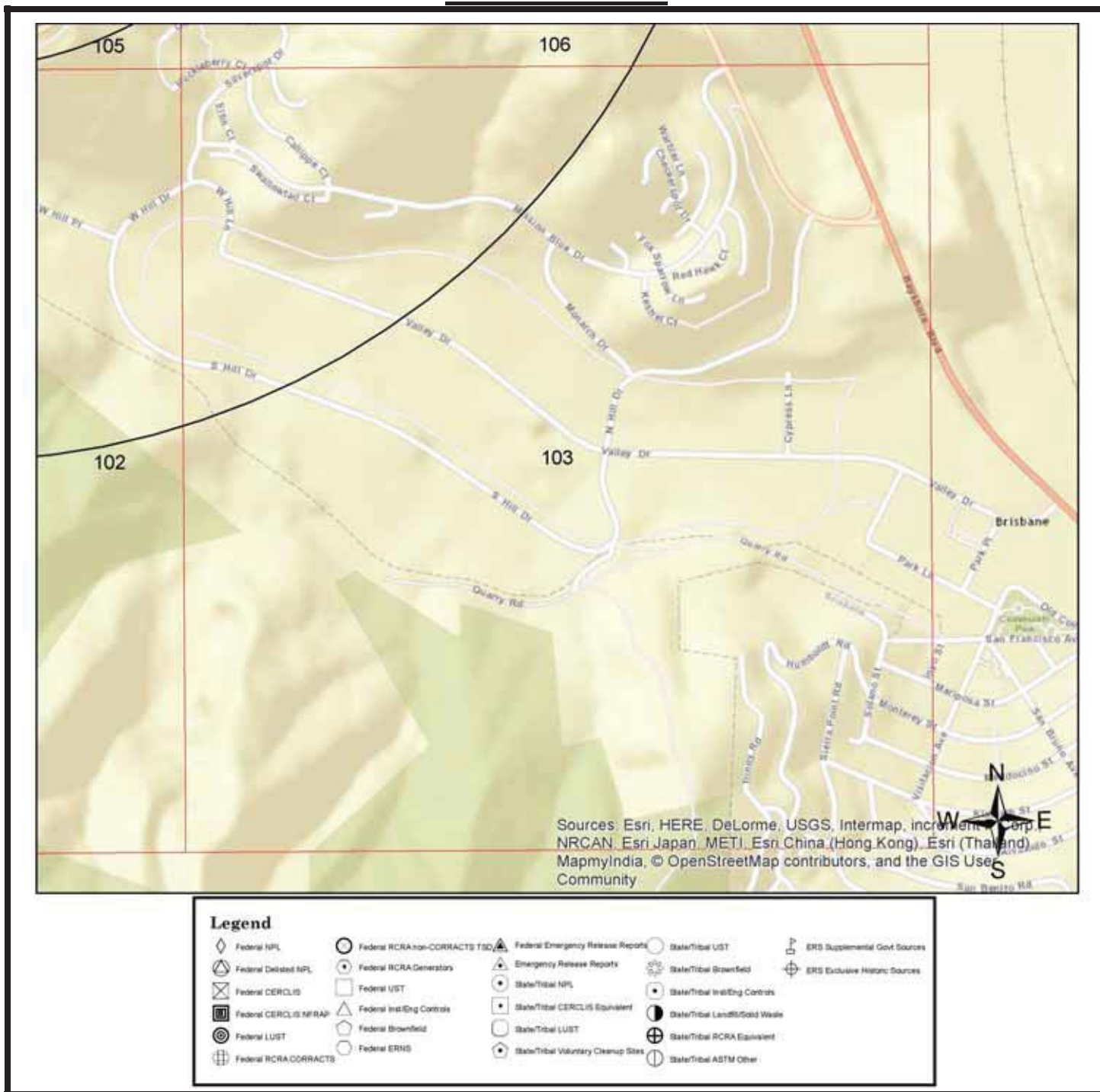
All plotted occurrences represent approximate locations based on geographic information provided by the respective agency. Actual locations may vary due to numerous reasons such as: the size of the property, accuracy of the provided location, accuracy of the software used to determine the location, etc. Occurrences are shown in three colors to give a visual indication of the potential risk of the listed occurrence based on the type of list and the current status of the occurrence. Occurrences shown in **RED** are locations with known contamination that have not received a "case closed" or "no further action" status. Occurrences shown in **YELLOW** have been listed by the respective agency, but do not always represent an environmental risk. The detailed status information and description of the listing should be reviewed for further information. Occurrences shown in **GREEN** are occurrences that have active permits or have had contamination in the past but have received a "case closed" or "no further action" status and therefore, do not likely present an environmental risk.

GRID MAP 102



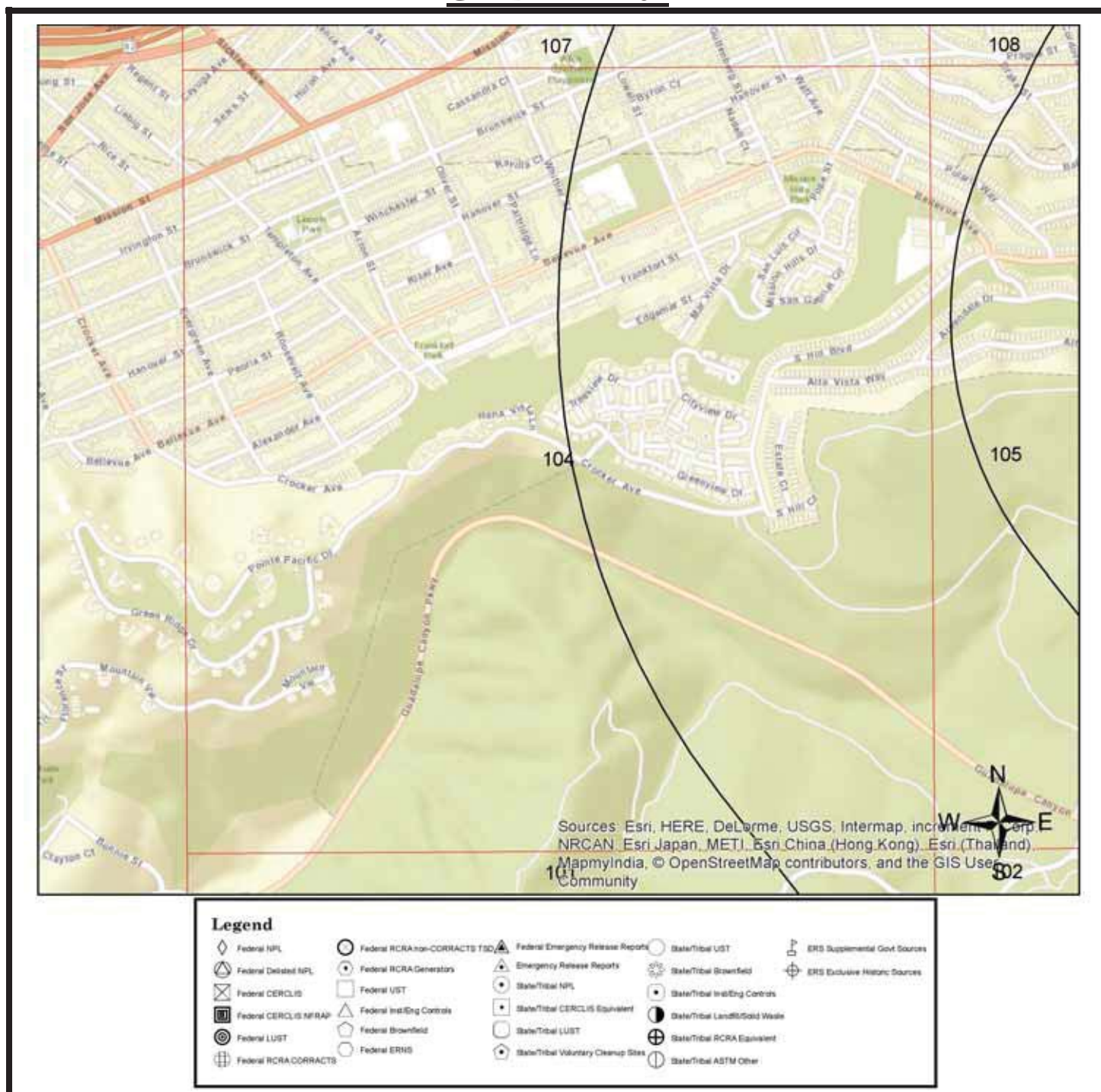
All plotted occurrences represent approximate locations based on geographic information provided by the respective agency. Actual locations may vary due to numerous reasons such as: the size of the property, accuracy of the provided location, accuracy of the software used to determine the location, etc. Occurrences are shown in three colors to give a visual indication of the potential risk of the listed occurrence based on the type of list and the current status of the occurrence. Occurrences shown in **RED** are locations with known contamination that have not received a "case closed" or "no further action" status. Occurrences shown in **YELLOW** have been listed by the respective agency, but do not always represent an environmental risk. The detailed status information and description of the listing should be reviewed for further information. Occurrences shown in **GREEN** are occurrences that have active permits or have had contamination in the past but have received a "case closed" or "no further action" status and therefore, do not likely present an environmental risk.

GRID MAP 103



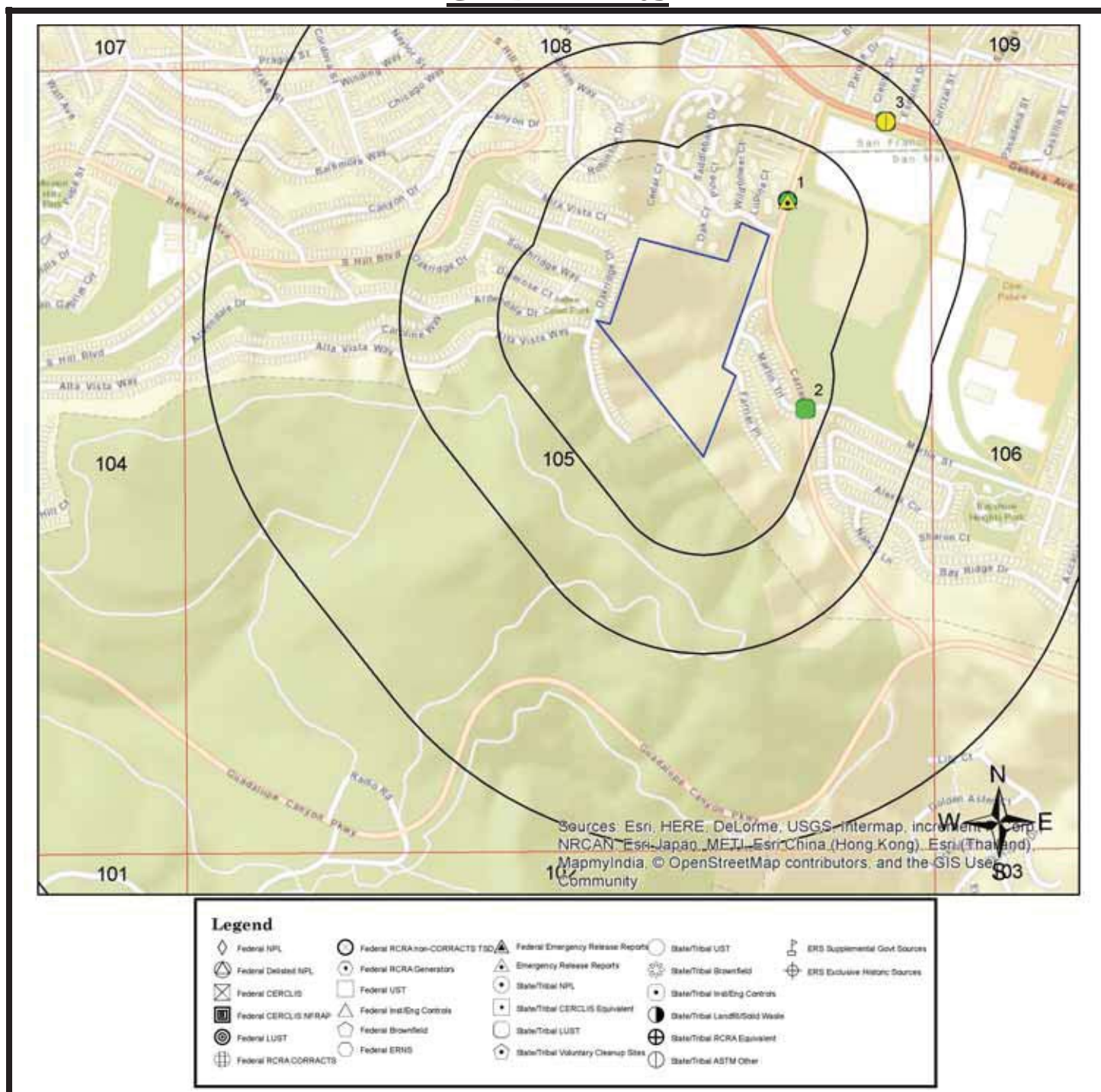
All plotted occurrences represent approximate locations based on geographic information provided by the respective agency. Actual locations may vary due to numerous reasons such as: the size of the property, accuracy of the provided location, accuracy of the software used to determine the location, etc. Occurrences are shown in three colors to give a visual indication of the potential risk of the listed occurrence based on the type of list and the current status of the occurrence. Occurrences shown in **RED** are locations with known contamination that have not received a "case closed" or "no further action" status. Occurrences shown in **YELLOW** have been listed by the respective agency, but do not always represent an environmental risk. The detailed status information and description of the listing should be reviewed for further information. Occurrences shown in **GREEN** are occurrences that have active permits or have had contamination in the past but have received a "case closed" or "no further action" status and therefore, do not likely present an environmental risk.

GRID MAP 104



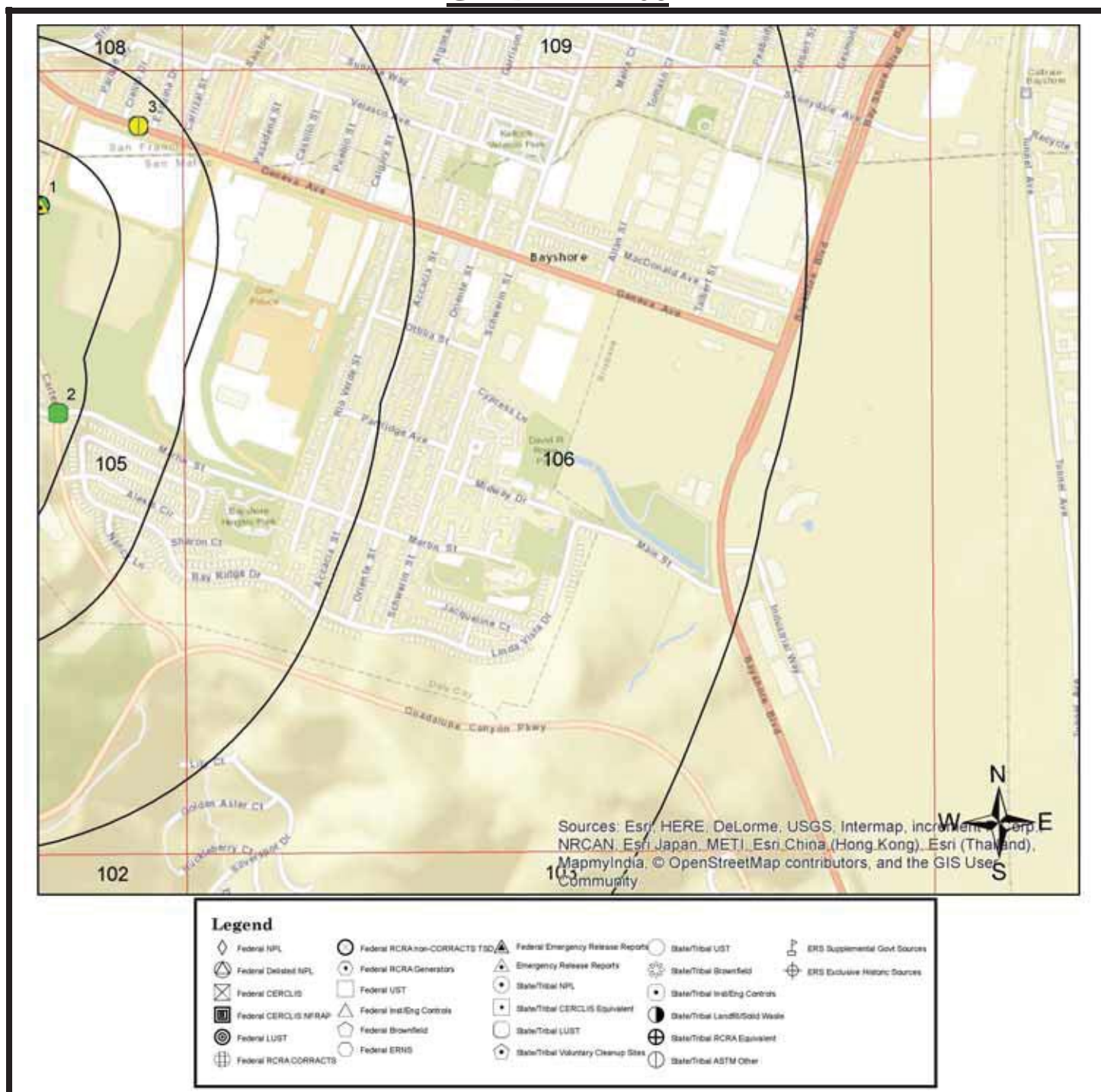
All plotted occurrences represent approximate locations based on geographic information provided by the respective agency. Actual locations may vary due to numerous reasons such as: the size of the property, accuracy of the provided location, accuracy of the software used to determine the location, etc. Occurrences are shown in three colors to give a visual indication of the potential risk of the listed occurrence based on the type of list and the current status of the occurrence. Occurrences shown in **RED** are locations with known contamination that have not received a "case closed" or "no further action" status. Occurrences shown in **YELLOW** have been listed by the respective agency, but do not always represent an environmental risk. The detailed status information and description of the listing should be reviewed for further information. Occurrences shown in **GREEN** are occurrences that have active permits or have had contamination in the past but have received a "case closed" or "no further action" status and therefore, do not likely present an environmental risk.

GRID MAP 105



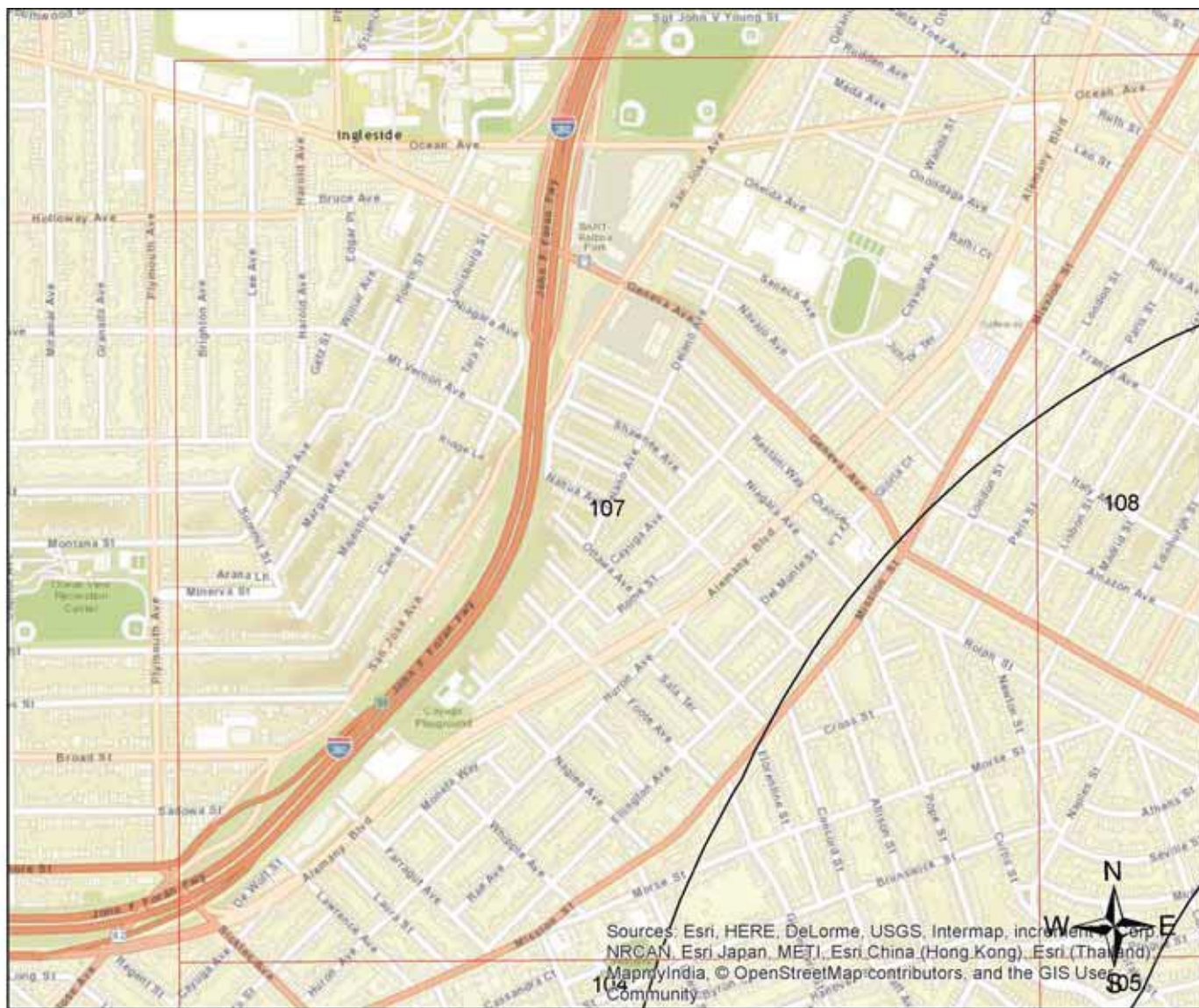
All plotted occurrences represent approximate locations based on geographic information provided by the respective agency. Actual locations may vary due to numerous reasons such as: the size of the property, accuracy of the provided location, accuracy of the software used to determine the location, etc. Occurrences are shown in three colors to give a visual indication of the potential risk of the listed occurrence based on the type of list and the current status of the occurrence. Occurrences shown in **RED** are locations with known contamination that have not received a "case closed" or "no further action" status. Occurrences shown in **YELLOW** have been listed by the respective agency, but do not always represent an environmental risk. The detailed status information and description of the listing should be reviewed for further information. Occurrences shown in **GREEN** are occurrences that have active permits or have had contamination in the past but have received a "case closed" or "no further action" status and therefore, do not likely present an environmental risk.

GRID MAP 106



All plotted occurrences represent approximate locations based on geographic information provided by the respective agency. Actual locations may vary due to numerous reasons such as: the size of the property, accuracy of the provided location, accuracy of the software used to determine the location, etc. Occurrences are shown in three colors to give a visual indication of the potential risk of the listed occurrence based on the type of list and the current status of the occurrence. Occurrences shown in **RED** are locations with known contamination that have not received a "case closed" or "no further action" status. Occurrences shown in **YELLOW** have been listed by the respective agency, but do not always represent an environmental risk. The detailed status information and description of the listing should be reviewed for further information. Occurrences shown in **GREEN** are occurrences that have active permits or have had contamination in the past but have received a "case closed" or "no further action" status and therefore, do not likely present an environmental risk.

GRID MAP 107



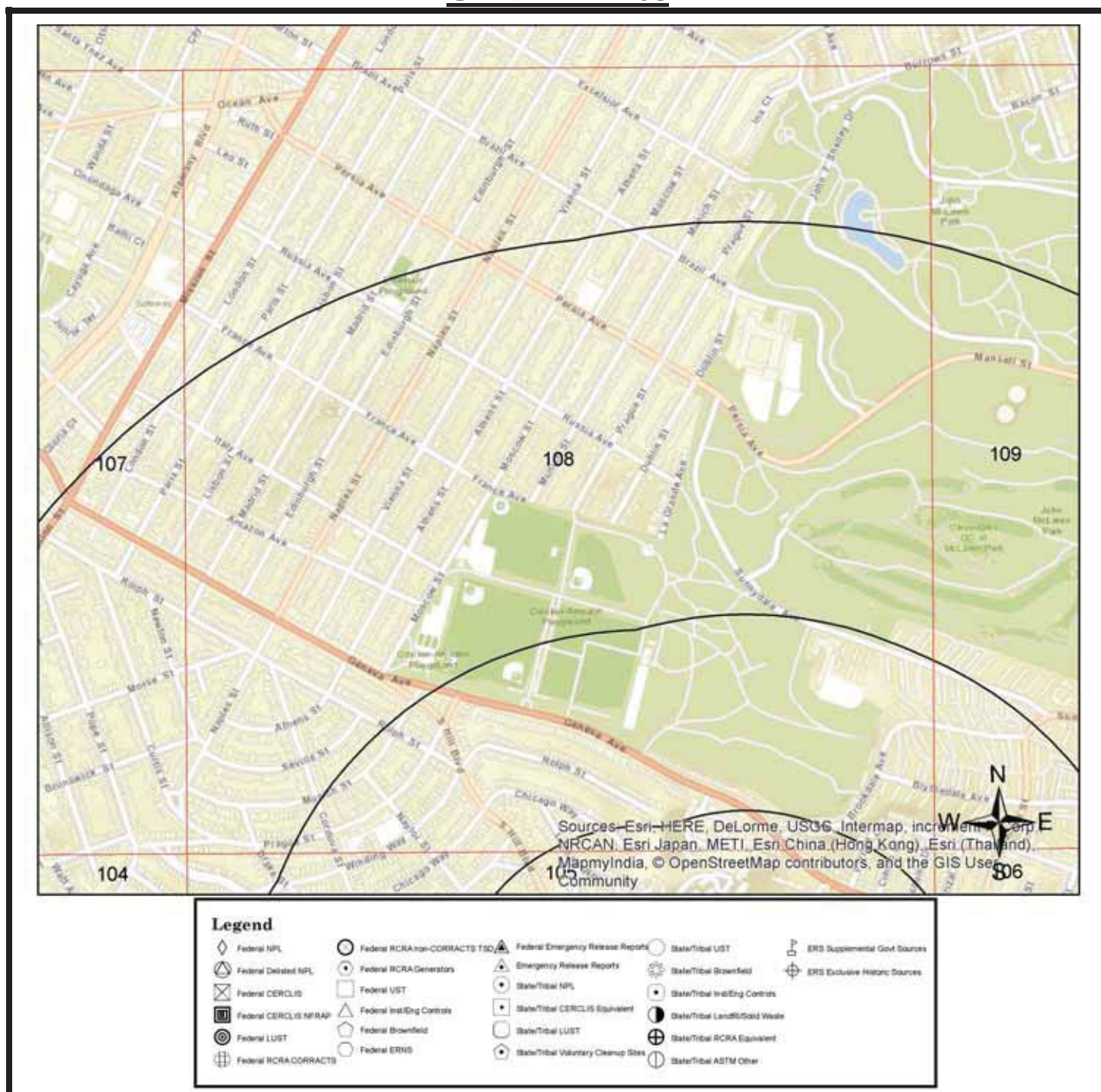
Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Legend

- | | | | | |
|-----------------------|-------------------------------|--------------------------------------|-----------------------------------|--------------------------------|
| Federal NPL | Federal RCRA non-CORRACTS TSD | Federal Emergency Release Reports | State/Tribal UST | ERS Supplemental Govt Sources |
| Federal Deleted NPL | Federal RCRA Generators | Emergency Release Reports | State/Tribal Greenfield | ERS Exclusive Historic Sources |
| Federal CERCLIS | Federal UST | State/Tribal NPL | State/Tribal Ind/Eng Controls | |
| Federal CERCLIS MFRAP | Federal Ind/Eng Controls | State/Tribal CERCLIS Equivalent | State/Tribal Landfill/Solid Waste | |
| Federal LUST | Federal Brownfield | State/Tribal LUST | State/Tribal RCRA Equivalent | |
| Federal RCRA CORRACTS | Federal ERHS | State/Tribal Voluntary Cleanup Sites | State/Tribal ASTM Other | |

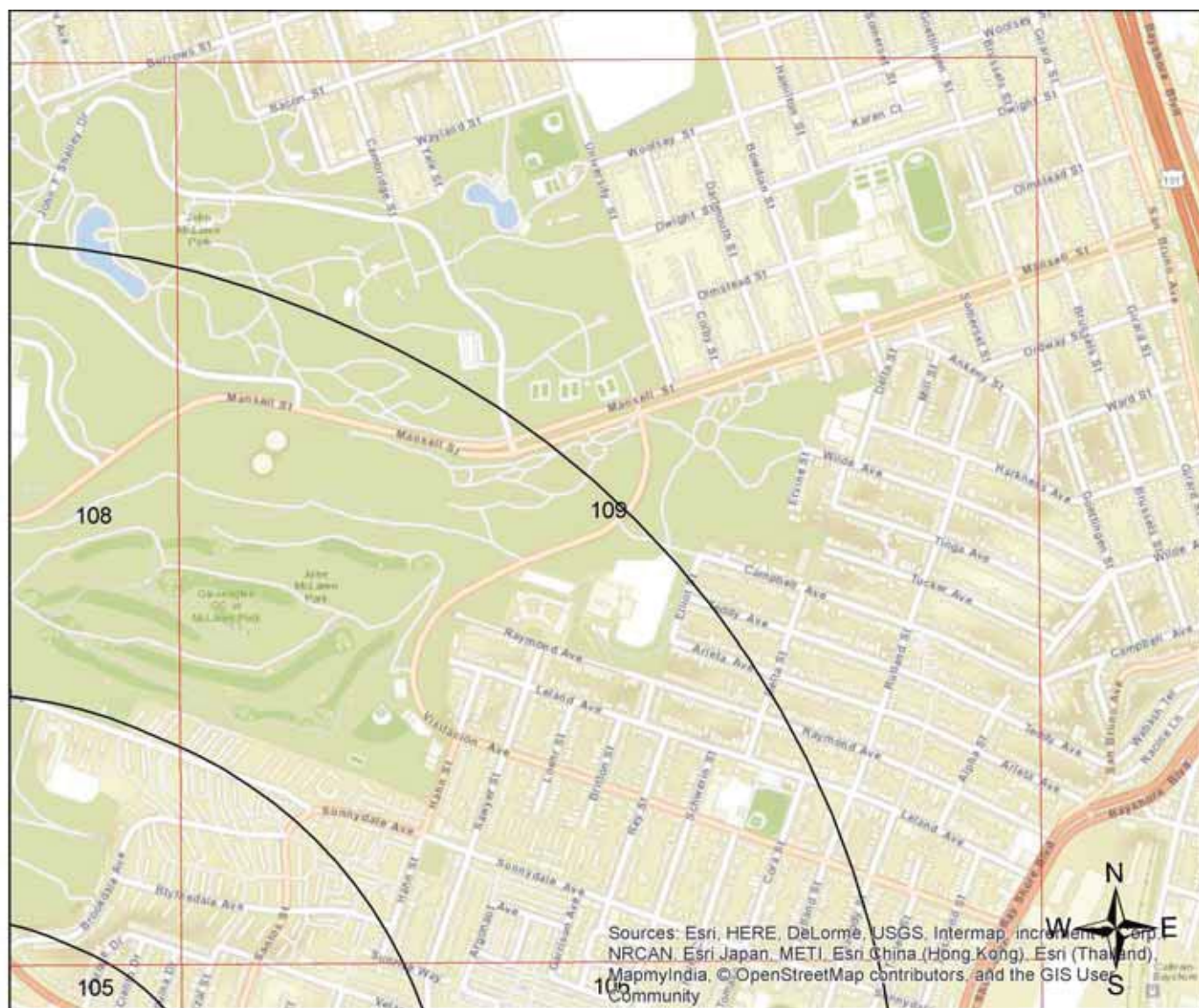
All plotted occurrences represent approximate locations based on geographic information provided by the respective agency. Actual locations may vary due to numerous reasons such as: the size of the property, accuracy of the provided location, accuracy of the software used to determine the location, etc. Occurrences are shown in three colors to give a visual indication of the potential risk of the listed occurrence based on the type of list and the current status of the occurrence. Occurrences shown in **RED** are locations with known contamination that have not received a "case closed" or "no further action" status. Occurrences shown in **YELLOW** have been listed by the respective agency, but do not always represent an environmental risk. The detailed status information and description of the listing should be reviewed for further information. Occurrences shown in **GREEN** are occurrences that have active permits or have had contamination in the past but have received a "case closed" or "no further action" status and therefore, do not likely present an environmental risk.

GRID MAP 108



All plotted occurrences represent approximate locations based on geographic information provided by the respective agency. Actual locations may vary due to numerous reasons such as: the size of the property, accuracy of the provided location, accuracy of the software used to determine the location, etc. Occurrences are shown in three colors to give a visual indication of the potential risk of the listed occurrence based on the type of list and the current status of the occurrence. Occurrences shown in **RED** are locations with known contamination that have not received a "case closed" or "no further action" status. Occurrences shown in **YELLOW** have been listed by the respective agency, but do not always represent an environmental risk. The detailed status information and description of the listing should be reviewed for further information. Occurrences shown in **GREEN** are occurrences that have active permits or have had contamination in the past but have received a "case closed" or "no further action" status and therefore, do not likely present an environmental risk.

GRID MAP 109

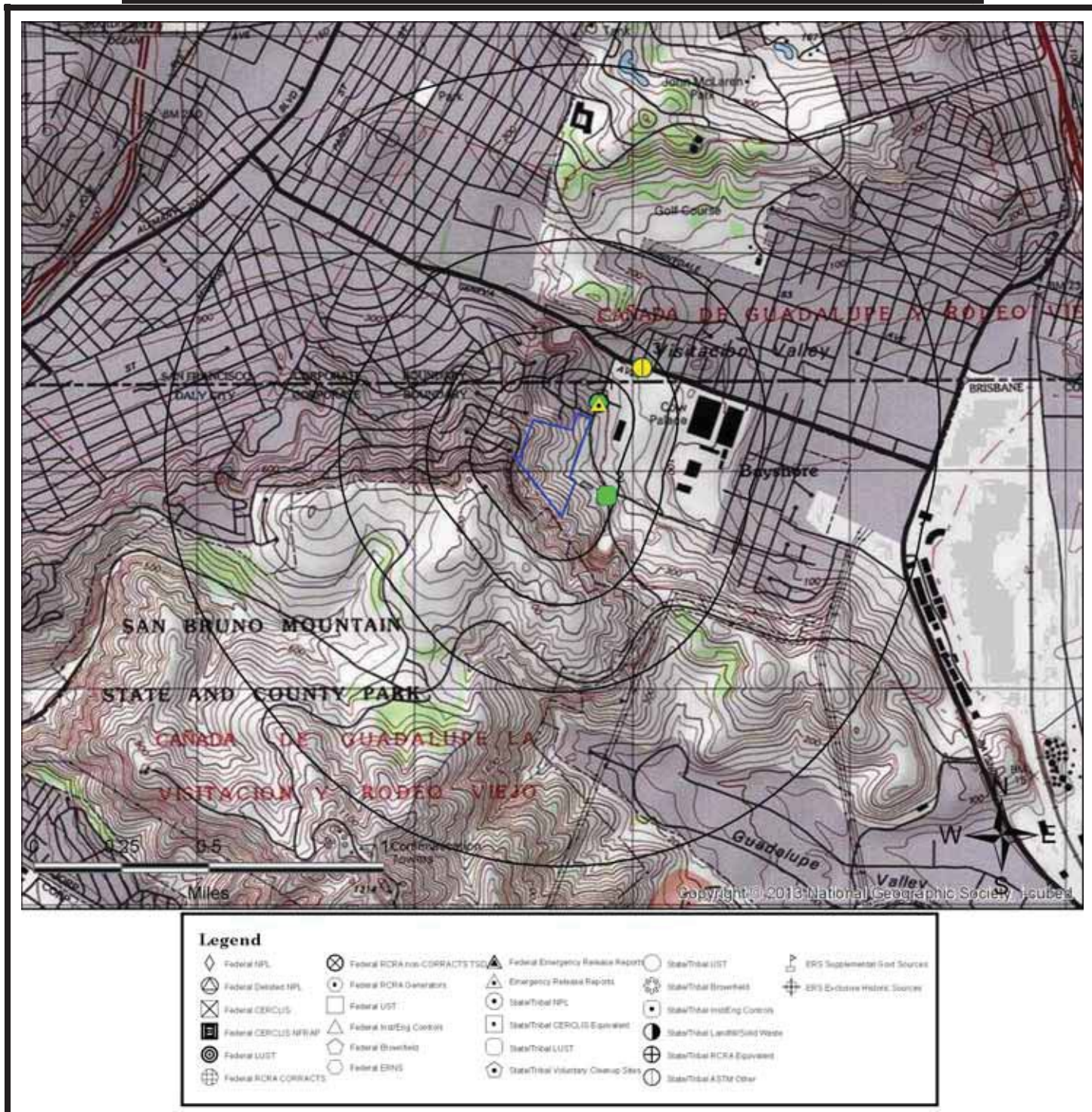


Legend

Federal NPL	Federal RCRA non-CORRACTS TSD	Federal Emergency Release Reports	State/Tribal UST	ERS Supplemental Govt Sources
Federal Deleted NPL	Federal RCRA Generators	Emergency Release Reports	State/Tribal Greenfield	ERS Exclusive Historic Sources
Federal CERCLIS	Federal UST	State/Tribal NPL	State/Tribal Ind/Eng Controls	
Federal CERCLIS MFRAP	Federal Ind/Eng Controls	State/Tribal CERCLIS Equivalent	State/Tribal Landfill/Solid Waste	
Federal LUST	Federal Brownfield	State/Tribal LUST	State/Tribal RCRA Equivalent	
Federal RCRA CORRACTS	Federal ERHS	State/Tribal Voluntary Cleanup Sites	State/Tribal ASTM Other	

All plotted occurrences represent approximate locations based on geographic information provided by the respective agency. Actual locations may vary due to numerous reasons such as: the size of the property, accuracy of the provided location, accuracy of the software used to determine the location, etc. Occurrences are shown in three colors to give a visual indication of the potential risk of the listed occurrence based on the type of list and the current status of the occurrence. Occurrences shown in **RED** are locations with known contamination that have not received a "case closed" or "no further action" status. Occurrences shown in **YELLOW** have been listed by the respective agency, but do not always represent an environmental risk. The detailed status information and description of the listing should be reviewed for further information. Occurrences shown in **GREEN** are occurrences that have active permits or have had contamination in the past but have received a "case closed" or "no further action" status and therefore, do not likely present an environmental risk.

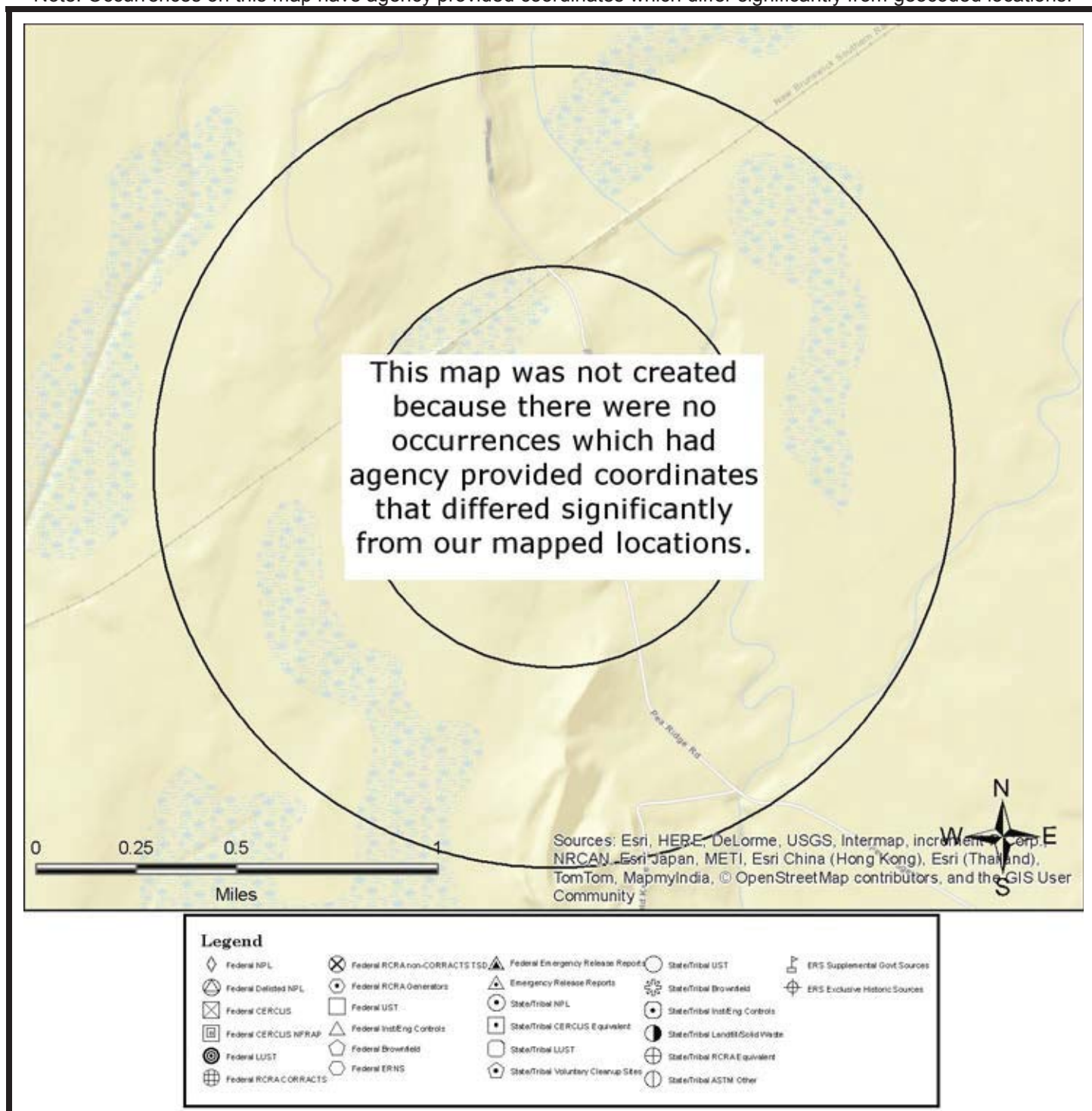
1-MILE TOPOGRAPHIC MAP W/OCCURRENCES (MAP3)



All plotted occurrences represent approximate locations based on geographic information provided by the respective agency. Actual locations may vary due to numerous reasons such as: the size of the property, accuracy of the provided location, accuracy of the software used to determine the location, etc. Occurrences are shown in three colors to give a visual indication of the potential risk of the listed occurrence based on the type of list and the current status of the occurrence. Occurrences shown in **RED** are locations with known contamination that have not received a "case closed" or "no further action" status. Occurrences shown in **YELLOW** have been listed by the respective agency, but do not always represent an environmental risk. The detailed status information and description of the listing should be reviewed for further information. Occurrences shown in **GREEN** are occurrences that have active permits or have had contamination in the past but have received a "case closed" or "no further action" status and therefore, do not likely present an environmental risk.

AGENCY DIFFERENCES IN MAPPED LOCATIONS (MAP4)

Note: Occurrences on this map have agency provided coordinates which differ significantly from geocoded locations.



This "AGENCY DIFFERENCES IN MAPPED LOCATIONS (MAP 4)" is fully protected against reproduction in any way, shape or form by ERS Environmental Record Search. ALL applicable laws, copyrights, pending copyrights, trademarks, and any and all applicable Federal and State laws apply at all times. These protections include the concept, procedures, processes, layout, vision, color scheme, mapping layout, legends, data, any and all verbiage, and the entire concept.

SUMMARY OF AGENCY DIFFERENCES

MAP ID	ID / SITE NAME	ADDRESS / DATABASE	AGENCY COORDINATES	DISTANCE (MILES)	DIRECTION
N/A	No occurrences were identified where the agency provided coordinates that differed significantly from our mapped locations.				

LISTED OCCURRENCE DETAILS

DATABASE	STATUS	DISTANCE	ELEVATION	MAP ID
CHMIRS-CA	Listed	0.05 miles NE	212 ft	1
SITE NAME			MAPS	ID
Pacific Gas and Electric			1 , 3	680248
ADDRESS			CITY	ZIP
607 Carter Street			Daly City	
DETAILS				
Control#: '07-4937 Notified Date: 8/17/2007 3:38:00 PM Agency: Pacific Gas and Electric 1# Substance: Transformer Oil, Unknown PCB 1# Quantity: 100 1# Measure: Gal(s) 1# Type: PETROLEUM 1# Other: Not Reported 1# Pipeline: Not Reported 1# Vessel >= 300 Tons: Not Reported 2# Substance: Not Reported 2# Quantity: Not Reported 2# Measure: Not Reported 2# Type: Not Reported 2# Other: Not Reported 2# Pipeline: Not Reported 2# Vessel >= 300 Tons: Not Reported 3# Substance: Not Reported 3# Quantity: Not Reported 3# Measure: Not Reported 3# Type: Not Reported 3# Other: Not Reported 3# Pipeline: Not Reported 3# Vessel >= 300 Tons: Not Reported Description: Caller states 3 transformers were vandalized by the poles being cut and the transformers being taken to wooded area and set on fire. Contained: Yes Water?: No More Details Link				

DATABASE	STATUS	DISTANCE	ELEVATION	MAP ID
County-LUST-Closed-CA	Closed	0.1 miles SE	233 ft	2
SITE NAME			MAPS	ID
HILLSIDE VILLAGE AKA SCH			1 , 3	229047-SMT
ADDRESS			CITY	ZIP
0 CARTER & MARTIN			DALY CITY	
DETAILS				
County: San Mateo CASE #: 229047 Global ID: T0608130089 Assessor's Parcel Number: Not Reported STATUS: 9- Case Closed CASE TYPE: Soil only affected				

DATABASE	STATUS	DISTANCE	ELEVATION	MAP ID
ENF-CA	Listed	0.21 miles NE	135 ft	3
SITE NAME			MAPS	ID
COW PALACE			1 , 3	T0608100352
ADDRESS			CITY	ZIP
0 GENEVA			DALY CITY	94015

DETAILS

Regulatory Activities URL: http://geotracker.waterboards.ca.gov/profile_report_include.asp?global_id=T0608100352&tabname=regulatoryactivities
 URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0608100352
 Global ID: T0608100352
 County: San Mateo
 Site History: Not Reported
 Case Type: LUST Cleanup Site
 Status: Completed - Case Closed
 Lead Agency: SAN MATEO COUNTY LOP
 Case Worker: JM
 Local Agency: SAN MATEO COUNTY LOP
 RB Case Number: 41-0370
 Loc Case Number: 220022
 File Location: Local Agency
 Potential Contaminants of Concern: Gasoline
 Potential Media of Concern: Soil
 Action Date: 1992-11-25
 Action Type: ENFORCEMENT
 Action: Notice of Responsibility - #1

DATABASE	STATUS	DISTANCE	ELEVATION	MAP ID
HWIS-CA	Listed	0.05 miles NE	212 ft	1
SITE NAME			MAPS	ID
P G & E			1 , 3	CAC002620405
ADDRESS			CITY	ZIP
607 CARTER ST			DALY CITY	94014

DETAILS

Year: 2007
 CAT_DESC: Polychlorinated biphenyls and material containing PCBs
 CODE_VALUE_DESC: LANDFILL OR SURFACE IMPOUNDMENT THAT WILL BE CLOSED AS LANDFILL(TO INCLUDE ON-SITE TREATMENT AND/OR STABILIZATION)
 TONS: 40.4544

DATABASE	STATUS	DISTANCE	ELEVATION	MAP ID
HWIS-CA	Listed	0.05 miles NE	212 ft	1
SITE NAME			MAPS	ID
SYUFY ENTERPRISES			1 , 3	CAC002552242
ADDRESS			CITY	ZIP
607 CARTER ST			DALY CITY	94014
DETAILS				
Year: 2002 CAT_DESC: Asbestos containing waste CODE_VALUE_DESC: LANDFILL TONS: 63.21 Year: 2002 CAT_DESC: Polychlorinated biphenyls and material containing PCBs CODE_VALUE_DESC: RECYCLER TONS: 0.02204 Year: 2002 CAT_DESC: Other organic solids CODE_VALUE_DESC: TRANSFER STATION TONS: 0.345 Year: 2002 CAT_DESC: Other inorganic solid waste CODE_VALUE_DESC: TRANSFER STATION TONS: 0.04 Year: 2002 CAT_DESC: Asbestos containing waste CODE_VALUE_DESC: DISPOSAL, LAND FILL TONS: 63.21				

DATABASE	STATUS	DISTANCE	ELEVATION	MAP ID
LUST-Closed-CA	Completed - Case Closed	0.21 miles NE	135 ft	3
SITE NAME			MAPS	ID
COW PALACE			1 , 3	T0608100352
ADDRESS			CITY	ZIP
0 GENEVA			DALY CITY	94015

DETAILS

Sites Details

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0608100352

Global ID: T0608100352

Case Type: LUST Cleanup Site

Status: Completed - Case Closed

Status Date: 1/4/1995 0:00

Lead Agency: SAN MATEO COUNTY LOP

Case Worker: JM

Local Agency: SAN MATEO COUNTY LOP

RB Case Number: 41-0370

Loc Case Number: 220022

File Location: Local Agency

Potential Contaminants of Concern: Gasoline

Potential Media of Concern: Soil

Site History: Not Reported

Agency Provided Latitude: 37.7067959

Agency Provided Longitude: -122.4188601

MTBE/Region Details

: Not Reported

Regulatory Activities Details

Action Date: 1992-12-08 00:00:00

Action Type: Other

Action: Leak Discovery

Action Date: 1992-11-25 00:00:00

[More Details Link](#)

DATABASE	STATUS	DISTANCE	ELEVATION	MAP ID
RCRA-SQG-US	Listed	0.05 miles NE	212 ft	1
SITE NAME			MAPS	ID
NORTH BAY PACIFIC THEATER AND			1 , 3	CAD982512741
ADDRESS			CITY	ZIP
607 CARTER STREET			DALY CITY	94014

DETAILS

Additional details may be found online using the following link:
http://oaspub.epa.gov/enviro/fii_query_dtl_disp_program_facility?pgm_sys_id_in=CAD982512741&pgm_sys_acrnm_in=RCRAINFO
 Source Type: Notification
 Generator Status Universe: SQG
 Generator Status: Small Quantity Generator
 NAICS1: OTHER COMMERCIAL EQUIPMENT WHOLESALERS
 Active Site Indicator: H----
 Owner Name: RAYMOND J. SYUFY
 Operator Name: NOT REQUIRED
 In Handler Universes: Y
 In a Universe: Y
 Short Term Generator: N
 Importer Activity: N
 Mixed Waste Generator: N
 Transporter Activity: N
 Transfer Facility: N
 Recycler Activity: N
 Onsite Burner Exemption: N
 Furnace Exemption: N
 Underground Injection Activity: N
 Receives Waste From Off-site: N
 Universal Waste: N
 Universal Waste Destination Facility: N
 Used Oil Universe: NNNNNNN
 Federal Universal Waste: N
 Active Site Federally Regulated TSDF: -----
 Active Site Converter TSDF: -----

[More Details Link](#)

DATABASE	STATUS	DISTANCE	ELEVATION	MAP ID
SLIC-Closed-CA	Completed - Case Closed	0.1 miles SE	233 ft	2
SITE NAME			MAPS	ID
HILLSIDE VILLAGE AKA SCHINDEL PROPERTY			1 , 3	T0608130089
ADDRESS			CITY	ZIP
0 CARTER & MARTIN			DALY CITY	94015

DETAILS

Sites Details

URL: http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0608130089

Global ID: T0608130089

Case Type: Cleanup Program Site

Status: Completed - Case Closed

Status Date: 3/16/1993 0:00

Lead Agency: SAN MATEO COUNTY LOP

Case Worker: JM

Local Agency: SAN MATEO COUNTY LOP

RB Case Number: 41-0740

Loc Case Number: 229047

File Location: Local Agency

Potential Contaminants of Concern: Waste Oil / Motor / Hydraulic / Lubricating

Potential Media of Concern: Soil

Site History: Not Reported

Agency Provided Latitude: 37.70368604

Agency Provided Longitude: -122.4237013

MTBE/Region Details

: Not Reported

Regulatory Activities Details

Action Date: 1993-01-28 00:00:00

Action Type: Other

Action: Leak Reported

[More Details Link](#)

APPENDIX E

HYDRAULIC CALCULATIONS

Hydraulic Calculations
for
Point Martin II
City of Daly City, California

Prepared For:

Point Martin LLC
One Bush Street, 16th Floor,
San Francisco, CA 94104
(415) 295-4501
Contact: Chris Hawke (chawke@maracordev.com)

Prepared by:



4690 Chabot Drive, Suite 200
Pleasanton, CA 94588
(925) 227-9100

February 1, 2017

**Preliminary Hydraulic Calculations
For
Point Martin II
City of Daly City, San Mateo County, California**

A. Design Criteria

1. The criteria used for these hydraulic calculations are based on the City of Daly City “Design Standards”, dated February 1990.
2. The rational method was used.

$Q = CIA$ where:

Q – runoff in feet per cubic second

C – runoff coefficient percent

I – I Rainfall intensity in inches per hour

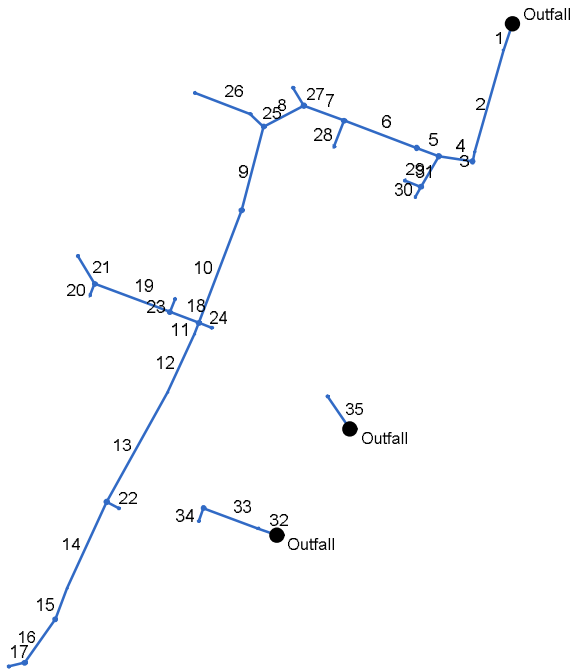
A – Drainage area in Acres

For the site a C factor of 0.75 was used and a C factor of 0.3 was used for the undeveloped hillside running onto our site.

3. Per the City of Daly City “Design Standards”, dated February 1990, the hydraulic grade line shall be a minimum of 0.50 feet below the elevation of inlet grates and manhole covers.
4. Per the City of Daly City “Design Standards”, the minimum time of concentration (Tc) is 10 minutes. For the undeveloped hillside running onto our site, the Tc was calculated using Table 2 in the “Design Standards”.
5. Total Site Area = 19.2± Acres

Hydrology & Hydraulic Calculations

Hydraflow Storm Sewers Extension for Autodesk® AutoCAD® Civil 3D® Plan



Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	32.982	109.643	None	0.00	0.00	0.00	0.0	219.10	6.61	221.28	18	Cir	0.012	0.15	230.80	NULL#5 TO OUTFALL
2	1	122.328	-3.897	None	0.00	0.00	0.00	0.0	221.28	6.60	229.35	18	Cir	0.012	0.15	236.60	NULL#4 TO NULL#5
3	2	11.409	-3.700	MH	0.00	0.00	0.00	0.0	229.35	6.57	230.10	18	Cir	0.012	1.00	237.00	SDMH#19 TO NULL#4
4	3	39.313	86.756	MH	0.00	0.00	0.00	0.0	230.10	0.99	230.49	18	Cir	0.012	0.95	238.09	SDMH#1 TO SDMH#19
5	4	27.389	11.803	MH	0.00	0.00	0.00	0.0	230.49	1.83	230.99	18	Cir	0.012	0.15	239.73	SDMH#2 TO SDMH#1
6	5	89.526	0.000	MH	0.00	0.16	0.75	10.0	230.99	16.77	246.00	18	Cir	0.012	1.00	254.62	SDMH#3 TO SDMH#2
7	6	49.712	0.000	MH	0.00	0.00	0.00	0.0	246.00	23.13	257.50	15	Cir	0.012	0.79	263.79	SDMH#4 TO SDMH#3
8	7	52.513	-48.376	MH	0.00	0.00	0.00	0.0	257.50	19.04	267.50	15	Cir	0.012	0.96	273.58	SDMH#5 TO SDMH#4
9	8	100.459	-47.325	MH	0.00	0.00	0.00	0.0	267.50	10.45	278.00	15	Cir	0.012	0.15	284.46	SDMH#6 TO SDMH#5
10	9	139.755	5.701	MH	0.00	0.00	0.00	0.0	278.00	8.23	289.50	15	Cir	0.012	1.00	295.02	SDMH#7 TO SDMH#6
11	10	14.288	0.000	None	0.00	0.00	0.00	0.0	288.50	3.64	289.02	15	Cir	0.012	0.15	295.38	NULL#3 TO SDMH#7
12	11	73.972	4.208	None	0.00	0.00	0.00	0.0	289.02	3.66	291.73	15	Cir	0.012	0.15	297.22	NULL#2 TO NULL#3
13	12	145.616	4.198	MH	0.00	0.00	0.00	0.0	291.73	3.67	297.07	15	Cir	0.012	1.00	303.24	SDMH#8 TO NULL#2
14	13	110.286	-4.434	None	0.00	0.00	0.00	0.0	297.07	6.00	303.69	15	Cir	0.012	0.15	305.21	NULL#1 TO SDMH#8
15	14	38.510	-3.972	MH	0.00	0.00	0.00	0.0	303.69	6.00	306.00	15	Cir	0.012	0.29	312.07	SDMH#9 TO NULL#1
16	15	61.809	14.356	MH	0.00	0.00	0.00	0.0	306.00	6.80	310.20	15	Cir	0.012	0.71	316.34	SDMH#10 TO SDMH#9
17	16	18.962	41.701	MH	0.00	0.46	0.75	10.0	310.20	4.22	311.00	15	Cir	0.012	1.00	317.99	SWI#1 TO SDMH#10
18	10	35.661	90.000	MH	0.00	0.62	0.75	10.0	288.75	3.51	290.00	15	Cir	0.012	1.00	296.35	SDMH#11 TO SDMH#7
19	18	93.400	0.000	MH	0.00	0.00	0.00	0.0	290.00	14.45	303.50	15	Cir	0.012	1.00	309.80	SDMH#12 TO SDMH#11
20	19	14.000	-90.000	MH	0.00	0.87	0.75	10.0	303.60	2.00	303.88	15	Cir	0.012	1.00	310.76	SWI#8 TO SDMH#12
21	19	37.623	38.622	MH	0.00	7.46	0.31	17.0	303.50	13.02	308.40	15	Cir	0.012	1.00	315.29	SWI#9 TO SDMH#12
22	13	16.000	-90.462	MH	0.00	0.58	0.75	10.0	297.07	1.00	297.23	15	Cir	0.012	1.00	303.07	SWI#5 TO SDMH#8
23	18	16.038	90.113	MH	0.00	0.09	0.75	10.0	290.10	1.00	290.26	15	Cir	0.012	1.00	296.23	SWI#7 TO SDMH#11
Project File: HYDRO.stm												Number of lines: 35				Date: 5/27/2016	

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
24	10	16.000	-90.000	MH	0.00	0.58	0.75	10.0	288.34	1.00	288.50	15	Cir	0.012	1.00	294.88	SWI#4 TO SDMH#7
25	8	21.811	71.361	MH	0.00	0.00	0.00	0.0	267.75	1.01	267.97	15	Cir	0.012	0.45	273.30	DI#6 TO SDMH#5
26	25	68.335	-22.990	MH	0.00	0.80	0.75	10.0	266.69	1.99	268.05	12	Cir	0.012	1.00	273.40	DI#7 TO DI#6
27	7	24.212	38.666	MH	0.00	0.16	0.75	10.0	257.75	0.99	257.99	15	Cir	0.012	1.00	265.50	DI#5 TO SDMH#5
28	6	32.368	-90.000	MH	0.00	0.74	0.75	10.0	247.35	2.01	248.00	15	Cir	0.012	1.00	254.20	SWI#3 TO SDMH#3
29	4	41.154	-68.964	MH	0.00	0.00	0.00	0.0	230.74	11.47	235.46	15	Cir	0.012	0.99	239.73	SDMH#18 TO SDMH#1
30	29	13.453	0.000	MH	0.00	0.40	0.75	10.0	235.46	11.45	237.00	15	Cir	0.012	1.00	244.00	DI#1 TO SDMH#18
31	29	20.355	80.766	MH	0.00	0.44	0.75	10.0	235.46	2.01	235.87	12	Cir	0.012	1.00	244.00	DI#11 TO SDMH#18
32	End	22.606	200.605	MH	0.00	0.00	0.00	0.0	254.40	1.99	254.85	18	Cir	0.012	0.15	261.20	DI#8 TO SDMH13
33	32	67.152	0.000	MH	0.00	0.86	0.75	10.0	254.85	34.47	278.00	18	Cir	0.012	1.00	285.00	SDMH#14 TO DI#8
34	33	16.092	-90.000	MH	0.00	0.14	0.75	10.0	278.10	24.24	282.00	18	Cir	0.012	1.00	288.00	DI#9 TO DMH#14
35	End	45.923	236.027	MH	0.00	0.28	0.75	10.0	242.20	2.00	243.12	12	Cir	0.012	1.00	250.70	DI#12 TO SDMH#17
Project File: HYDRO.stm												Number of lines: 35				Date: 5/27/2016	

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	NULL#5 TO OUTFALL	11.47	18	Cir	32.982	219.10	221.28	6.610	227.90*	228.24*	0.10	228.33	End	None
2	NULL#4 TO NULL#5	11.55	18	Cir	122.328	221.28	229.35	6.597	228.33	230.64	n/a	230.64 j	1	None
3	SDMH#19 TO NULL#4	11.56	18	Cir	11.409	229.35	230.10	6.574	230.64	231.39	0.79	231.39	2	Manhole
4	SDMH#1 TO SDMH#19	11.59	18	Cir	39.313	230.10	230.49	0.992	231.39	231.79	n/a	231.79	3	Manhole
5	SDMH#2 TO SDMH#1	10.52	18	Cir	27.389	230.49	230.99	1.826	231.79	232.24	n/a	232.24 j	4	Manhole
6	SDMH#3 TO SDMH#2	10.58	18	Cir	89.526	230.99	246.00	16.766	232.24	247.25	0.70	247.25	5	Manhole
7	SDMH#4 TO SDMH#3	9.44	15	Cir	49.712	246.00	257.50	23.133	247.25	258.67	n/a	258.67 j	6	Manhole
8	SDMH#5 TO SDMH#4	9.25	15	Cir	52.513	257.50	267.50	19.043	258.67	268.66	n/a	268.66 j	7	Manhole
9	SDMH#6 TO SDMH#5	8.26	15	Cir	100.459	267.50	278.00	10.452	268.66	279.13	n/a	279.13 j	8	Manhole
10	SDMH#7 TO SDMH#6	8.33	15	Cir	139.755	278.00	289.50	8.229	279.13	290.63	n/a	291.42	9	Manhole
11	NULL#3 TO SDMH#7	1.60	15	Cir	14.288	288.50	289.02	3.639	291.42*	291.43*	0.00	291.43	10	None
12	NULL#2 TO NULL#3	1.63	15	Cir	73.972	289.02	291.73	3.664	291.43	292.24	n/a	292.24 j	11	None
13	SDMH#8 TO NULL#2	1.67	15	Cir	145.616	291.73	297.07	3.667	292.24	297.58	n/a	297.58	12	Manhole
14	NULL#1 TO SDMH#8	0.77	15	Cir	110.286	297.07	303.69	6.003	297.58	304.03	n/a	304.03 j	13	None
15	SDMH#9 TO NULL#1	0.77	15	Cir	38.510	303.69	306.00	5.998	304.03	306.34	0.04	306.34	14	Manhole
16	SDMH#10 TO SDMH#9	0.79	15	Cir	61.809	306.00	310.20	6.795	306.34	310.55	n/a	310.55	15	Manhole
17	SWI#1 TO SDMH#10	0.79	15	Cir	18.962	310.20	311.00	4.219	310.55	311.35	n/a	311.35	16	Manhole
18	SDMH#11 TO SDMH#7	6.20	15	Cir	35.661	288.75	290.00	3.505	291.42*	291.70*	0.40	292.10	10	Manhole
19	SDMH#12 TO SDMH#11	5.30	15	Cir	93.400	290.00	303.50	14.454	292.10	304.43	n/a	304.43 j	18	Manhole
20	SWI#8 TO SDMH#12	1.49	15	Cir	14.000	303.60	303.88	2.000	304.43	304.36	0.18	304.36	19	Manhole
21	SWI#9 TO SDMH#12	4.15	15	Cir	37.623	303.50	308.40	13.024	304.43	309.22	n/a	309.22 j	19	Manhole
22	SWI#5 TO SDMH#8	1.00	15	Cir	16.000	297.07	297.23	1.000	297.58	297.62	n/a	297.62 j	13	Manhole
23	SWI#7 TO SDMH#11	0.15	15	Cir	16.038	290.10	290.26	0.998	292.10*	292.10*	0.00	292.10	18	Manhole
24	SWI#4 TO SDMH#7	1.00	15	Cir	16.000	288.34	288.50	1.000	291.42*	291.43*	0.01	291.44	10	Manhole

Project File: HYDRO.stm

Number of lines: 35

Run Date: 5/27/2016

NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
25	DI#6 TO SDMH#5	1.35	15	Cir	21.811	267.75	267.97	1.009	268.66	268.43	n/a	268.50	8	Manhole
26	DI#7 TO DI#6	1.37	12	Cir	68.335	266.69	268.05	1.990	268.50	268.58	0.17	268.74	25	Manhole
27	DI#5 TO SDMH#5	0.27	15	Cir	24.212	257.75	257.99	0.991	258.67	258.19	0.07	258.19	7	Manhole
28	SWI#3 TO SDMH#3	1.27	15	Cir	32.368	247.35	248.00	2.008	247.65	248.44	0.16	248.44	6	Manhole
29	SDMH#18 TO SDMH#1	1.43	15	Cir	41.154	230.74	235.46	11.469	231.79	235.93	n/a	235.93 j	4	Manhole
30	DI#1 TO SDMH#18	0.69	15	Cir	13.453	235.46	237.00	11.447	235.93	237.32	n/a	237.32 j	29	Manhole
31	DI#11 TO SDMH#18	0.76	12	Cir	20.355	235.46	235.87	2.014	235.93	236.23	n/a	236.23 j	29	Manhole
32	DI#8 TO SDMH13	1.68	18	Cir	22.606	254.40	254.85	1.991	254.73	255.34	0.03	255.34	End	Manhole
33	SDMH#14 TO DI#8	1.70	18	Cir	67.152	254.85	278.00	34.474	255.34	278.49	n/a	278.49	32	Manhole
34	DI#9 TO DMH#14	0.24	18	Cir	16.092	278.10	282.00	24.235	278.49	282.18	n/a	282.18 j	33	Manhole
35	DI#12 TO SDMH#17	0.48	12	Cir	45.923	242.20	243.12	2.003	242.40	243.41	n/a	243.41	End	Manhole
Project File: HYDRO.stm									Number of lines: 35			Run Date: 5/27/2016		
NOTES: Return period = 10 Yrs. ; *Surcharged (HGL above crown). ; j - Line contains hyd. jump.														

Hydraulic Grade Line Computations

Line	Size (in)	Q (cfs)	Downstream								Len (ft)	Upstream								Check		JL coeff (K)	Minor loss (ft)
			Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)		Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)		
1	18	11.47	219.10	227.90	1.50	1.77	6.49	0.66	228.56	1.017	32.982	221.28	228.24	1.50	1.77	6.49	0.65	228.89	1.016	1.017	0.335	0.15	0.10
2	18	11.55	221.28	228.33	1.50	1.62	6.54	0.66	229.00	1.032	122.328	229.35	230.64 j	1.29**	1.62	7.13	0.79	231.43	0.951	0.991	n/a	0.15	n/a
3	18	11.56	229.35	230.64	1.29	1.62	7.13	0.79	231.43	0.000	11.409	230.10	231.39	1.29**	1.62	7.13	0.79	232.18	0.000	0.000	n/a	1.00	0.79
4	18	11.59	230.10	231.39	1.29	1.62	7.14	0.79	232.19	0.000	39.313	230.49	231.79	1.30**	1.62	7.14	0.79	232.58	0.000	0.000	n/a	0.95	n/a
5	18	10.52	230.49	231.79	1.30	1.57	6.48	0.70	232.49	0.000	27.389	230.99	232.24 j	1.25**	1.57	6.71	0.70	232.94	0.000	0.000	n/a	0.15	n/a
6	18	10.58	230.99	232.24	1.25	1.57	6.75	0.70	232.94	0.000	89.526	246.00	247.25	1.25**	1.57	6.73	0.70	247.95	0.000	0.000	n/a	1.00	0.70
7	15	9.44	246.00	247.25	1.25	1.19	7.69	0.97	248.22	0.000	49.712	257.50	258.67 j	1.17**	1.19	7.91	0.97	259.64	0.000	0.000	n/a	0.79	0.77
8	15	9.25	257.50	258.67	1.17	1.19	7.75	0.94	259.61	0.000	52.513	267.50	268.66 j	1.16**	1.19	7.78	0.94	269.60	0.000	0.000	n/a	0.96	n/a
9	15	8.26	267.50	268.66	1.16	1.16	6.94	0.78	269.45	0.000	100.459	278.00	279.13 j	1.13**	1.16	7.09	0.78	279.91	0.000	0.000	n/a	0.15	0.12
10	15	8.33	278.00	279.13	1.13	1.16	7.15	0.79	279.92	0.000	139.755	289.50	290.63	1.13**	1.17	7.14	0.79	291.42	0.000	0.000	n/a	1.00	n/a
11	15	1.60	288.50	291.42	1.25	1.23	1.30	0.03	291.45	0.052	14.288	289.02	291.43	1.25	1.23	1.30	0.03	291.46	0.052	0.052	0.007	0.15	0.00
12	15	1.63	289.02	291.43	1.25	0.47	1.33	0.03	291.46	0.054	73.972	291.73	292.24 j	0.51**	0.47	3.50	0.19	292.43	0.458	0.256	n/a	0.15	0.03
13	15	1.67	291.73	292.24	0.51	0.47	3.60	0.19	292.43	0.000	145.616	297.07	297.58	0.51**	0.47	3.53	0.19	297.78	0.000	0.000	n/a	1.00	n/a
14	15	0.77	297.07	297.58	0.51	0.27	1.62	0.12	297.71	0.000	110.286	303.69	304.03 j	0.34**	0.27	2.81	0.12	304.16	0.000	0.000	n/a	0.15	0.02
15	15	0.77	303.69	304.03	0.34	0.27	2.84	0.12	304.16	0.000	38.510	306.00	306.34	0.34**	0.27	2.82	0.12	306.47	0.000	0.000	n/a	0.29	0.04
16	15	0.79	306.00	306.34	0.34	0.27	2.86	0.12	306.47	0.000	61.809	310.20	310.55	0.35**	0.28	2.83	0.12	310.67	0.000	0.000	n/a	0.71	n/a
17	15	0.79	310.20	310.55	0.35	0.28	2.85	0.12	310.67	0.000	18.962	311.00	311.35	0.35**	0.28	2.83	0.12	311.47	0.000	0.000	n/a	1.00	n/a
18	15	6.20	288.75	291.42	1.25	1.23	5.05	0.40	291.82	0.786	35.661	290.00	291.70	1.25	1.23	5.05	0.40	292.10	0.786	0.786	0.280	1.00	0.40
19	15	5.30	290.00	292.10	1.25	0.98	4.32	0.29	292.39	0.575	93.400	303.50	304.43 j	0.93**	0.98	5.40	0.45	304.89	0.699	0.637	n/a	1.00	0.45
20	15	1.49	303.60	304.43	0.83	0.44	1.72	0.18	304.61	0.000	14.000	303.88	304.36	0.48**	0.44	3.41	0.18	304.54	0.000	0.000	n/a	1.00	0.18
21	15	4.15	303.50	304.43	0.93	0.86	4.23	0.36	304.80	0.000	37.623	308.40	309.22 j	0.82**	0.86	4.84	0.36	309.59	0.000	0.000	n/a	1.00	n/a
22	15	1.00	297.07	297.58	0.51	0.33	2.10	0.14	297.73	0.000	16.000	297.23	297.62 j	0.39**	0.33	3.03	0.14	297.76	0.000	0.000	n/a	1.00	n/a

Project File: HYDRO.stm

Number of lines: 35

Run Date: 5/27/2016

Notes: ; ** Critical depth.; j-Line contains hyd. jump. ; c = cir e = ellip b = box

Hydraulic Grade Line Computations

Line	Size (in)	Q (cfs)	Downstream								Len (ft)	Upstream								Check		JL coeff (K)	Minor loss (ft)
			Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)		Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)		
23	15	0.15	290.10	292.10	1.25	1.23	0.13	0.00	292.10	0.000	16.038	290.26	292.10	1.25	1.23	0.13	0.00	292.10	0.000	0.000	0.000	1.00	0.00
24	15	1.00	288.34	291.42	1.25	1.23	0.81	0.01	291.43	0.020	16.000	288.50	291.43	1.25	1.23	0.81	0.01	291.44	0.020	0.020	0.003	1.00	0.01
25	15	1.35	267.75	268.66	0.91	0.41	1.40	0.17	268.83	0.000	21.811	267.97	268.43	0.46**	0.41	3.31	0.17	268.60	0.000	0.000	n/a	0.45	n/a
26	12	1.37	266.69	268.50	1.00	0.79	1.75	0.05	268.55	0.127	68.335	268.05	268.58	0.53	0.42	3.29	0.17	268.74	0.429	0.278	0.190	1.00	0.17
27	15	0.27	257.75	258.67	0.92	0.13	0.28	0.07	258.74	0.000	24.212	257.99	258.19	0.20**	0.13	2.13	0.07	258.26	0.000	0.000	n/a	1.00	0.07
28	15	1.27	247.35	247.65	0.30*	0.23	5.55	0.16	247.82	0.000	32.368	248.00	248.44	0.44**	0.39	3.25	0.16	248.61	0.000	0.000	n/a	1.00	0.16
29	15	1.43	230.74	231.79	1.05	0.43	1.31	0.18	231.96	0.000	41.154	235.46	235.93 j	0.47**	0.43	3.37	0.18	236.11	0.000	0.000	n/a	0.99	0.17
30	15	0.69	235.46	235.93	0.47	0.25	1.61	0.12	236.05	0.000	13.453	237.00	237.32 j	0.32**	0.25	2.72	0.12	237.44	0.000	0.000	n/a	1.00	0.12
31	12	0.76	235.46	235.93	0.47	0.26	2.06	0.13	236.07	0.000	20.355	235.87	236.23 j	0.36**	0.26	2.94	0.13	236.37	0.000	0.000	n/a	1.00	0.13
32	18	1.68	254.40	254.73	0.33*	0.29	5.88	0.18	254.90	0.000	22.606	254.85	255.34	0.49**	0.50	3.38	0.18	255.51	0.000	0.000	n/a	0.15	0.03
33	18	1.70	254.85	255.34	0.49	0.50	3.43	0.18	255.52	0.000	67.152	278.00	278.49	0.49**	0.50	3.39	0.18	278.67	0.000	0.000	n/a	1.00	n/a
34	18	0.24	278.10	278.49	0.39	0.12	0.66	0.06	278.55	0.000	16.092	282.00	282.18 j	0.18**	0.12	1.99	0.06	282.24	0.000	0.000	n/a	1.00	0.06
35	12	0.48	242.20	242.40	0.20*	0.11	4.28	0.10	242.50	0.000	45.923	243.12	243.41	0.29**	0.19	2.58	0.10	243.51	0.000	0.000	n/a	1.00	n/a

Project File: HYDRO.stm

Number of lines: 35

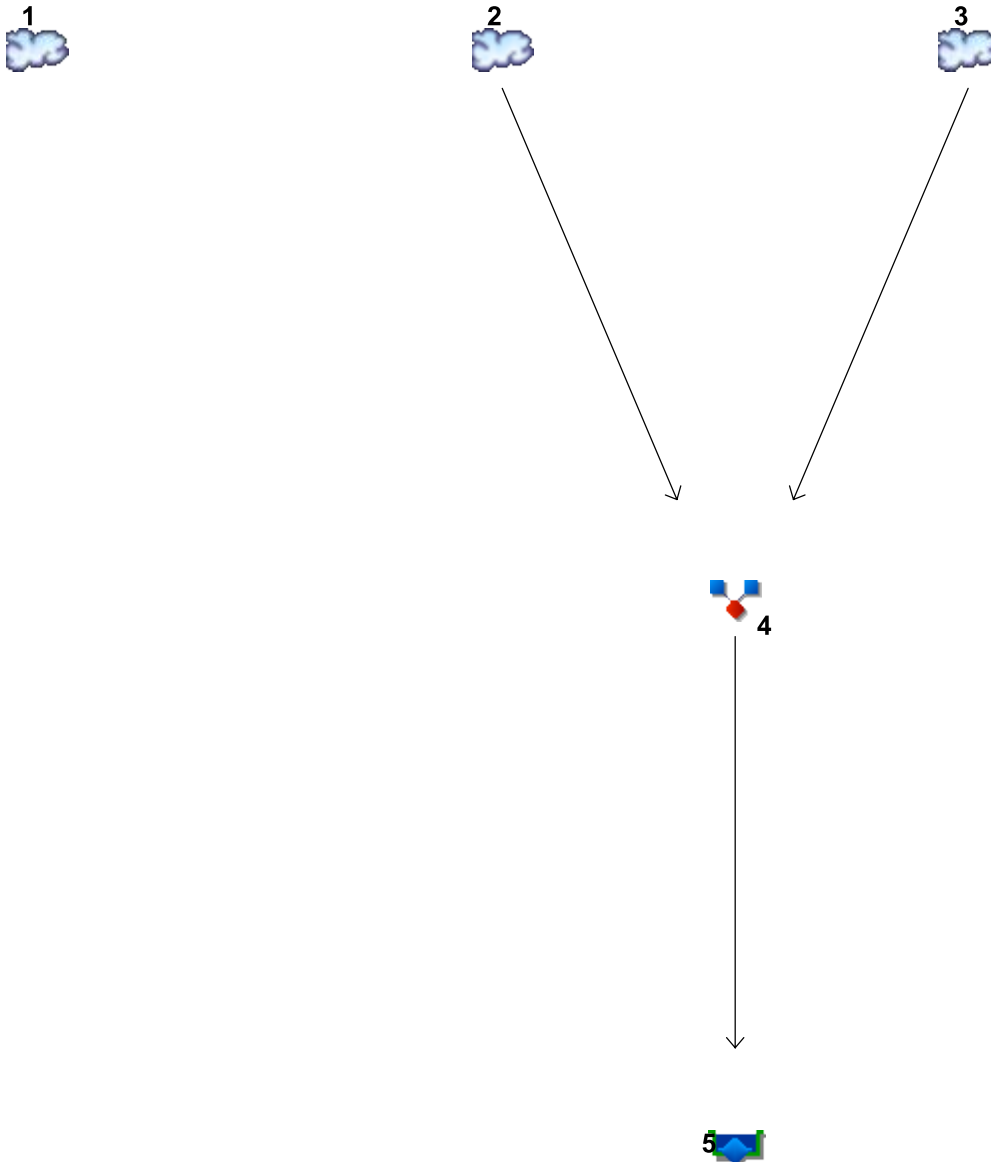
Run Date: 5/27/2016

Notes: * depth assumed.; ** Critical depth.; j-Line contains hyd. jump. ; c = cir e = ellip b = box

Storage Calculation

Watershed Model Schematic

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3



Legend

<u>Hyd.</u>	<u>Origin</u>	<u>Description</u>
1	SCS Runoff	existing
2	SCS Runoff	Proposed Development
3	SCS Runoff	open space
4	Combine	<no description>
5	Reservoir	<no description>

Hydrograph Summary Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	11.13	2	150	48,453	-----	-----	-----	existing
2	SCS Runoff	7.180	2	152	31,805	-----	-----	-----	Proposed Development
3	SCS Runoff	5.567	2	150	24,226	-----	-----	-----	open space
4	Combine	12.69	2	152	56,031	2, 3	-----	-----	<no description>
5	Reservoir	11.11	2	158	56,030	4	234.97	4,566	<no description>
G:\job2015\151074\Hydro\Construction\HYDRO\151074.dwg					Return Period 10 Year			Wednesday, 02 / 1 / 2017	

Hydrograph Report

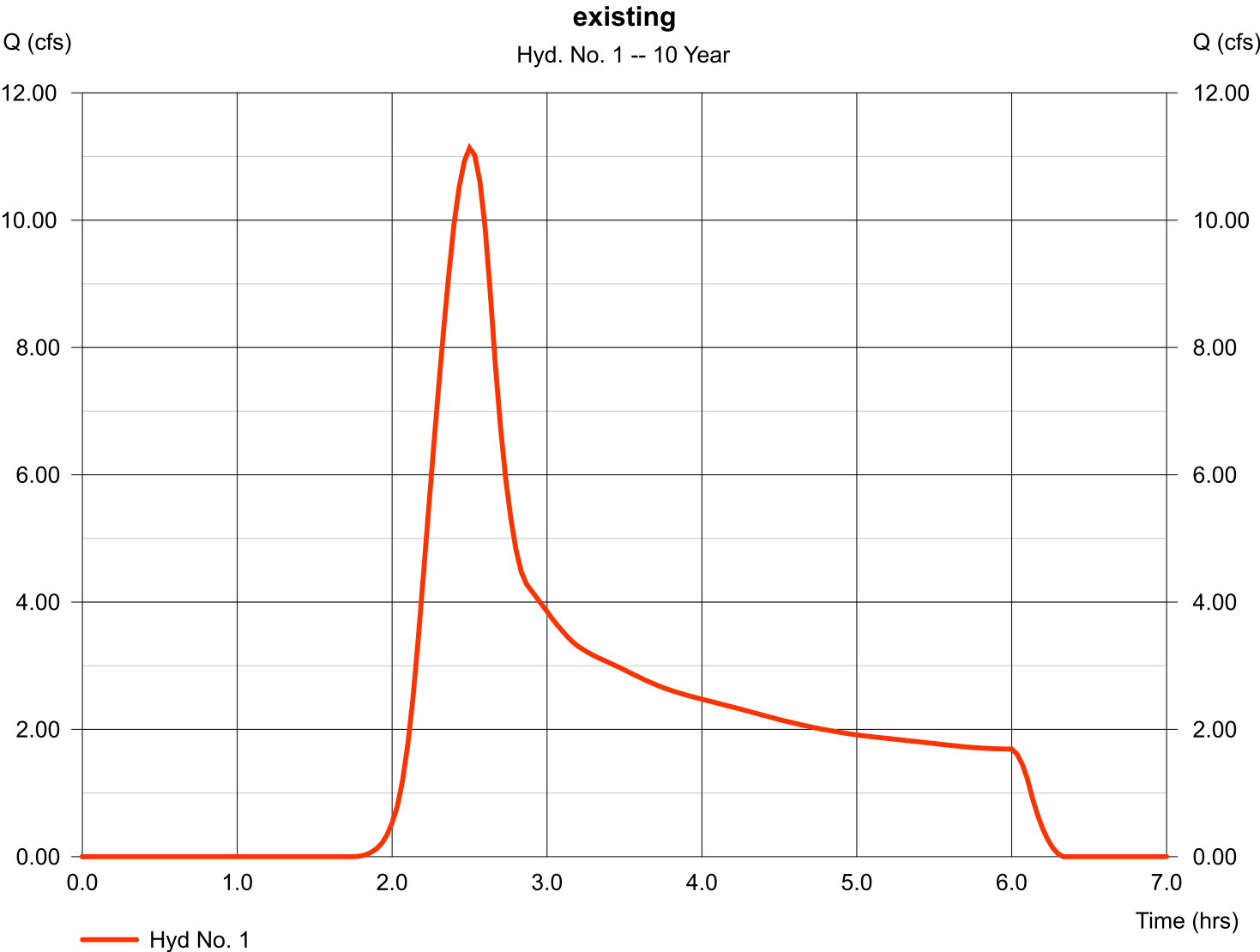
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3

Wednesday, 02 / 1 / 2017

Hyd. No. 1

existing

Hydrograph type	= SCS Runoff	Peak discharge	= 11.13 cfs
Storm frequency	= 10 yrs	Time to peak	= 2.50 hrs
Time interval	= 2 min	Hyd. volume	= 48,453 cuft
Drainage area	= 14.640 ac	Curve number	= 85
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.00 min
Total precip.	= 2.12 in	Distribution	= SCS 6-Hr
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

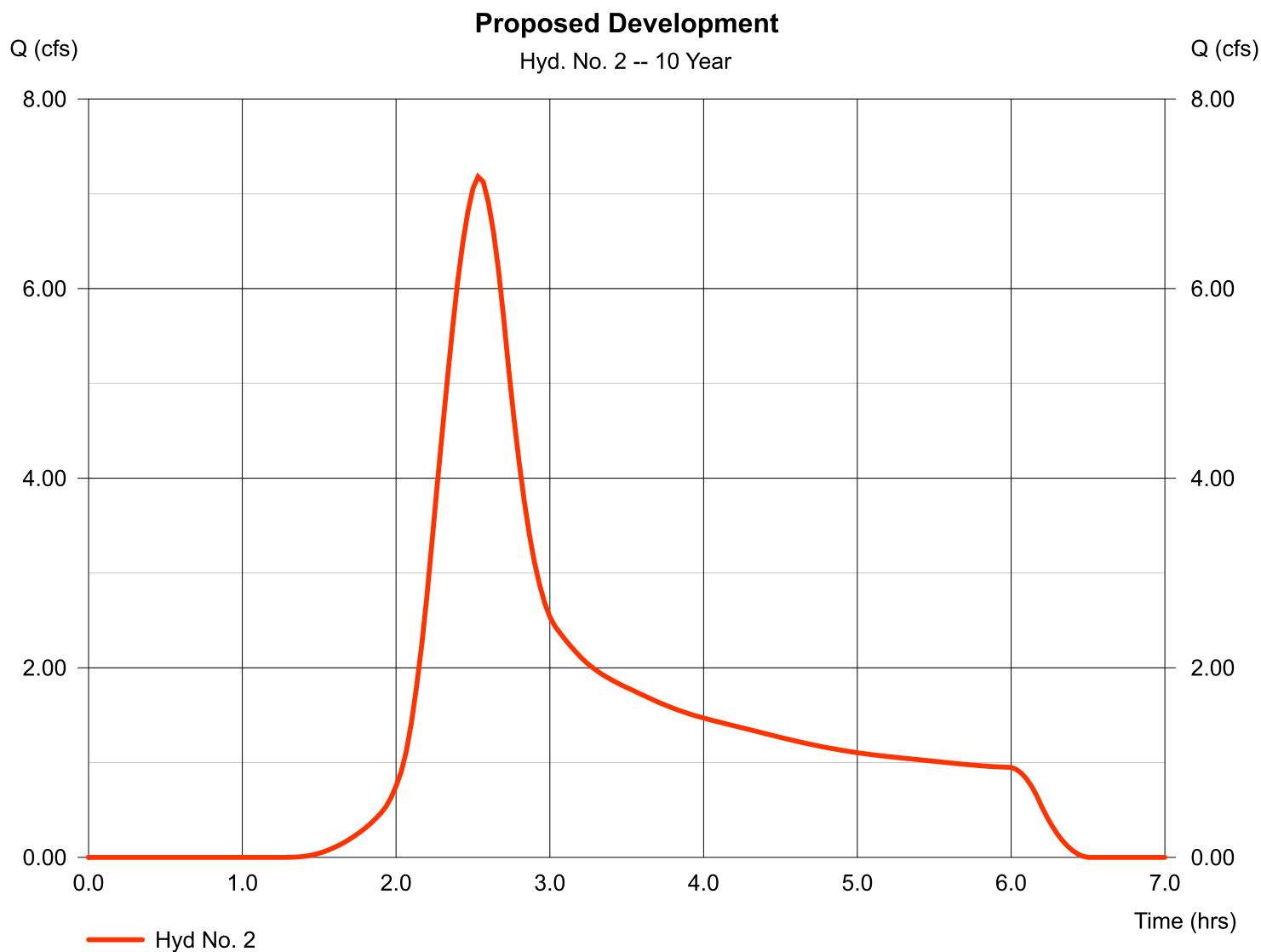
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3

Wednesday, 02 / 1 / 2017

Hyd. No. 2

Proposed Development

Hydrograph type	= SCS Runoff	Peak discharge	= 7.180 cfs
Storm frequency	= 10 yrs	Time to peak	= 2.53 hrs
Time interval	= 2 min	Hyd. volume	= 31,805 cuft
Drainage area	= 7.320 ac	Curve number	= 90
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 20.00 min
Total precip.	= 2.12 in	Distribution	= SCS 6-Hr
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

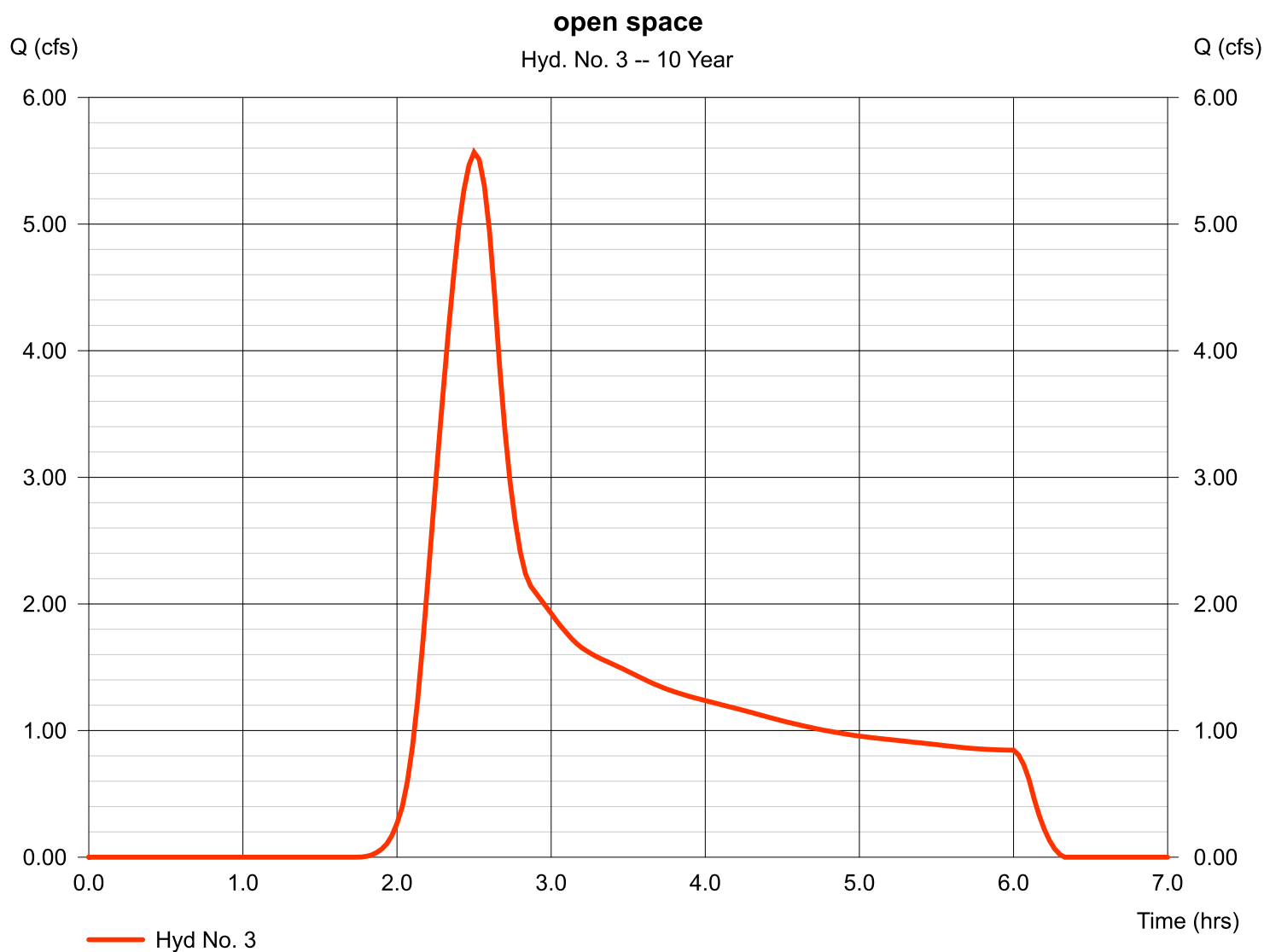
Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3

Wednesday, 02 / 1 / 2017

Hyd. No. 3

open space

Hydrograph type	= SCS Runoff	Peak discharge	= 5.567 cfs
Storm frequency	= 10 yrs	Time to peak	= 2.50 hrs
Time interval	= 2 min	Hyd. volume	= 24,226 cuft
Drainage area	= 7.320 ac	Curve number	= 85
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
Tc method	= User	Time of conc. (Tc)	= 12.00 min
Total precip.	= 2.12 in	Distribution	= SCS 6-Hr
Storm duration	= 6.00 hrs	Shape factor	= 484



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3

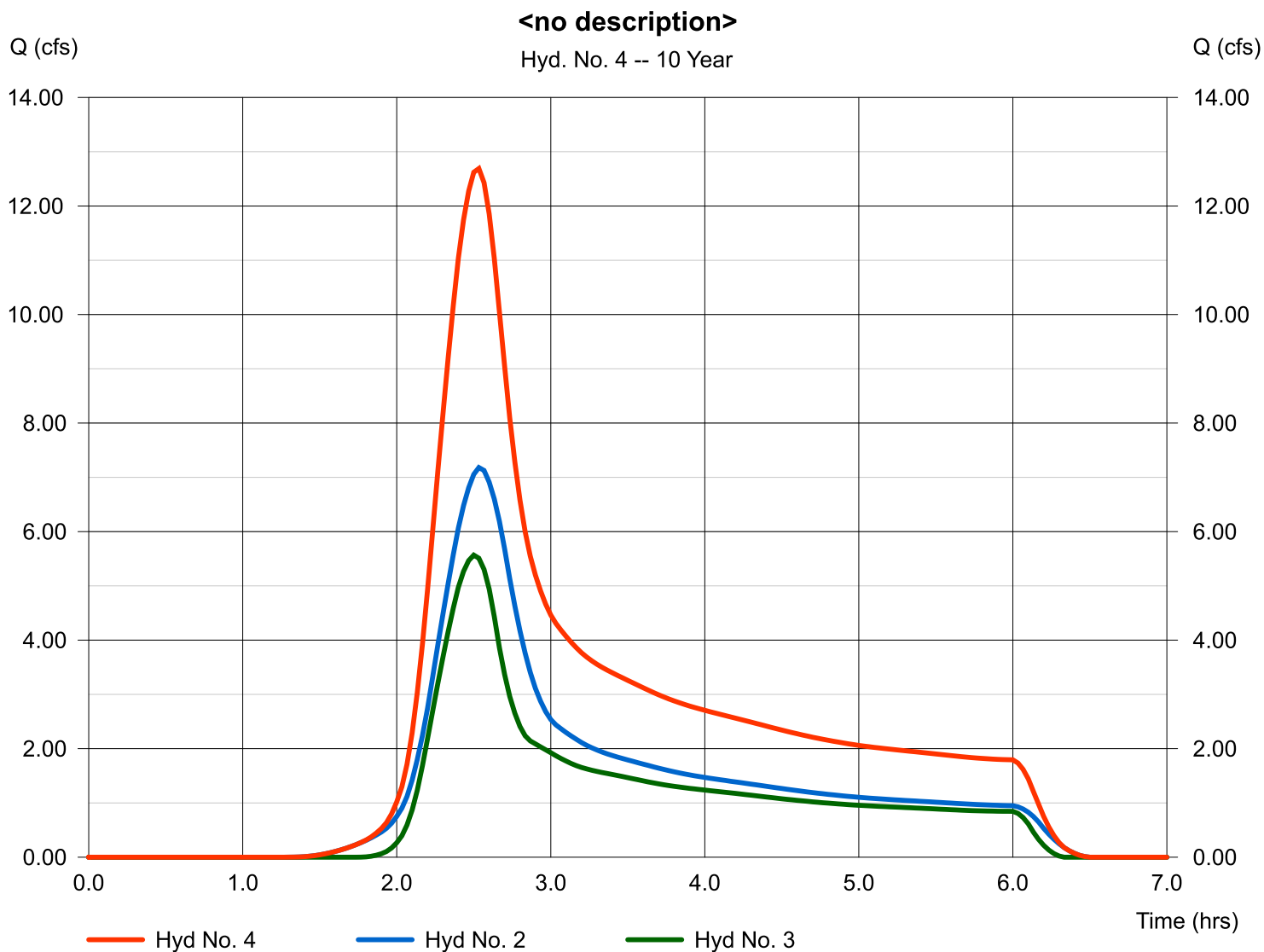
Wednesday, 02 / 1 / 2017

Hyd. No. 4

<no description>

Hydrograph type = Combine
Storm frequency = 10 yrs
Time interval = 2 min
Inflow hyds. = 2, 3

Peak discharge = 12.69 cfs
Time to peak = 2.53 hrs
Hyd. volume = 56,031 cuft
Contrib. drain. area = 14.640 ac



Hydrograph Report

Hydraflow Hydrographs Extension for AutoCAD® Civil 3D® 2014 by Autodesk, Inc. v10.3

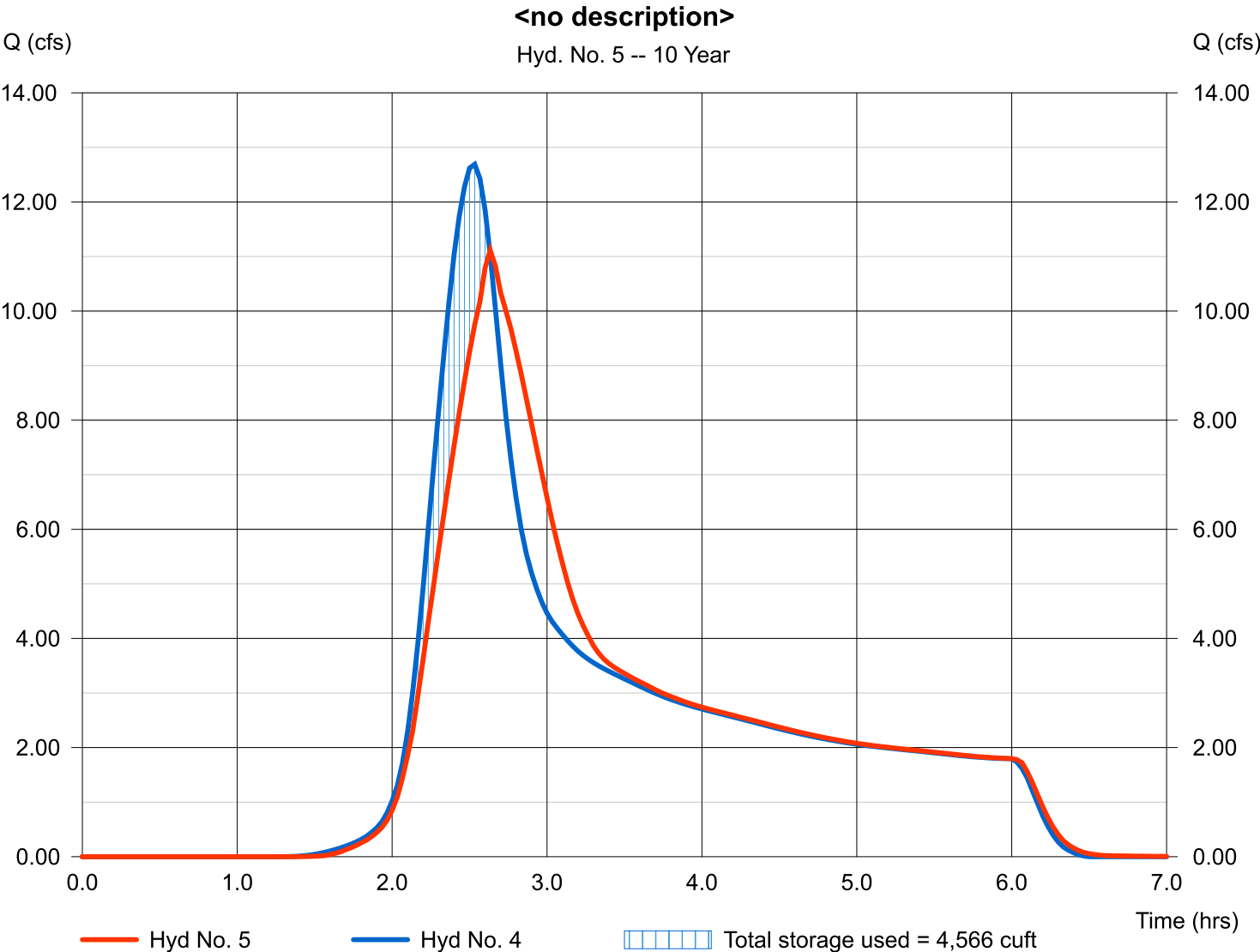
Wednesday, 02 / 1 / 2017

Hyd. No. 5

<no description>

Hydrograph type	= Reservoir	Peak discharge	= 11.11 cfs
Storm frequency	= 10 yrs	Time to peak	= 2.63 hrs
Time interval	= 2 min	Hyd. volume	= 56,030 cuft
Inflow hyd. No.	= 4 - <no description>	Max. Elevation	= 234.97 ft
Reservoir name	= <New Pond>	Max. Storage	= 4,566 cuft

Storage Indication method used.



Pond Report

Pond No. 1 - <New Pond>

Pond Data

UG Chambers -Invert elev. = 230.50 ft, Rise x Span = 5.00 x 5.00 ft, Barrel Len = 125.00 ft, No. Barrels = 2, Slope = 0.10%, Headers = No

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	230.50	n/a	0	0
0.51	231.01	n/a	219	219
1.02	231.52	n/a	443	662
1.54	232.04	n/a	549	1,211
2.05	232.55	n/a	608	1,819
2.56	233.06	n/a	636	2,455
3.08	233.57	n/a	636	3,092
3.59	234.09	n/a	608	3,700
4.10	234.60	n/a	548	4,248
4.61	235.11	n/a	442	4,691
5.12	235.63	n/a	219	4,910

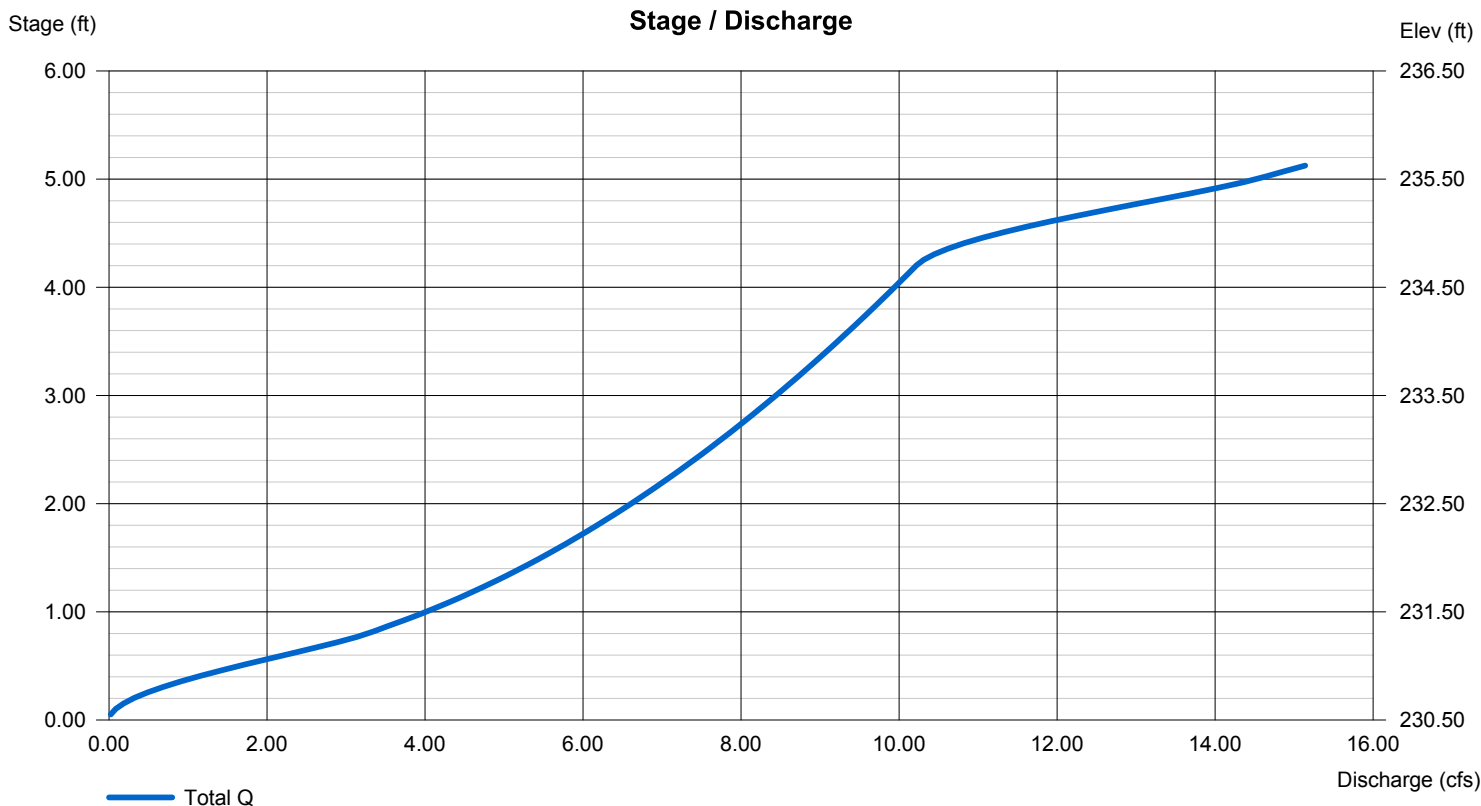
Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 10.00	10.00	0.00	0.00
Span (in)	= 10.00	10.00	0.00	0.00
No. Barrels	= 2	2	1	0
Invert El. (ft)	= 230.50	234.70	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

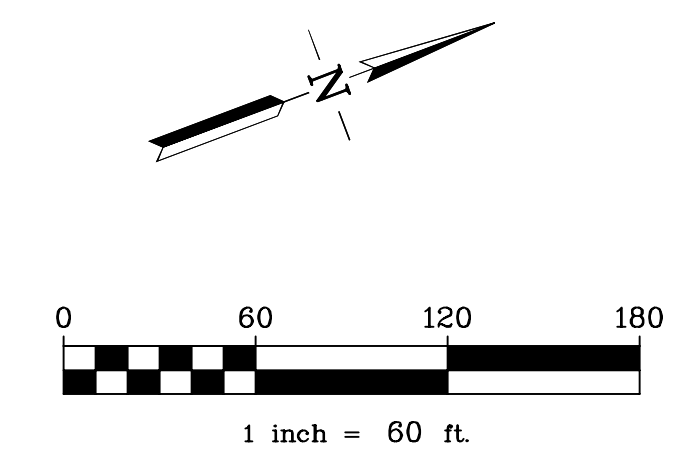
Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 4.00	Inactive	Inactive	Inactive
Crest El. (ft)	= 235.70	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= Rect	---	---	---
Multi-Stage	= No	No	No	No
Exfil.(in/hr)	= 0.000 (by Contour)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



Drainage Area Map



LEGEND

- DRAINAGE BOUNDARY
- TRACT BOUNDARY
- BIO-RETENTION AREA
- DRAINAGE AREA ID
- DRAINAGE AREA
- CONCENTRATION POINT (RECEIVING STRUCTURE)
- DROP INLET
- STORM DRAIN MANHOLE
- STORM WATER INLET

DRAINAGE AREA MAP

POINT MARTIN II

CITY OF DALY CITY, SAN MATEO COUNTY, CALIFORNIA
FOR: POINT MARTIN LLC

RJA
RUGGERI-JENSEN-AZAR
ENGINEERS • PLANNERS • SURVEYORS
4690 CHABOT DRIVE, SUITE 200 PLEASANTON, CA 94588
PHONE: (925) 227-9100 FAX: (925) 227-9300

Q:\020205\151074 HYDRO CONSTRUCTION\HYDRO\151074-DRAINAGE AREA MAP.DWG 2/2/2017 3:22:26 PM ROGER TONG

APPENDIX F
TRANSPORTATION IMPACT
ANALYSIS



Civil and Transportation Engineering

D R A F T

TRAFFIC IMPACT ANALYSIS

**POINT MARTIN II
DALY CITY, CALIFORNIA**

**August 18, 2016
Revised December 26, 2016**

Prepared for -
Point Martin, LLC
268 Bush Street, #2927
San Francisco, CA 94104

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3. Project Conditions	8
4. Year 2035 Cumulative Conditions	12
5. Site Access, Circulation, Parking & Transit	16
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- B. Levels of Service Calculation Worksheets
- C. Traffic Analysis Worksheets

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INTRODUCTION

SECTION 1.

STUDY PURPOSE

The purpose of this study is to quantify and analyze the traffic impacts of a proposed 117 unit residential subdivision consisting of 67 single family detached dwelling units and 50 townhouse dwelling units located off of Carter Street. See Figure 1, Location Map, page 2.

ANALYSIS METHODOLOGIES

Six intersections have been designated by the City of Daly City for analysis in this study. They are –

- 1) Guadalupe Canyon Parkway & Carter Street
- 2) Carter Street & Martin Street/Martin Trail
- 3) Carter Street & Steve Courter Way
- 4) Geneva Avenue & Carter Street
- 5) Geneva Avenue & Schwerin Street
- 6) Geneva Avenue & Bayshore Boulevard

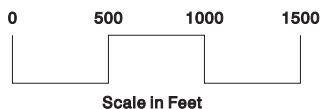
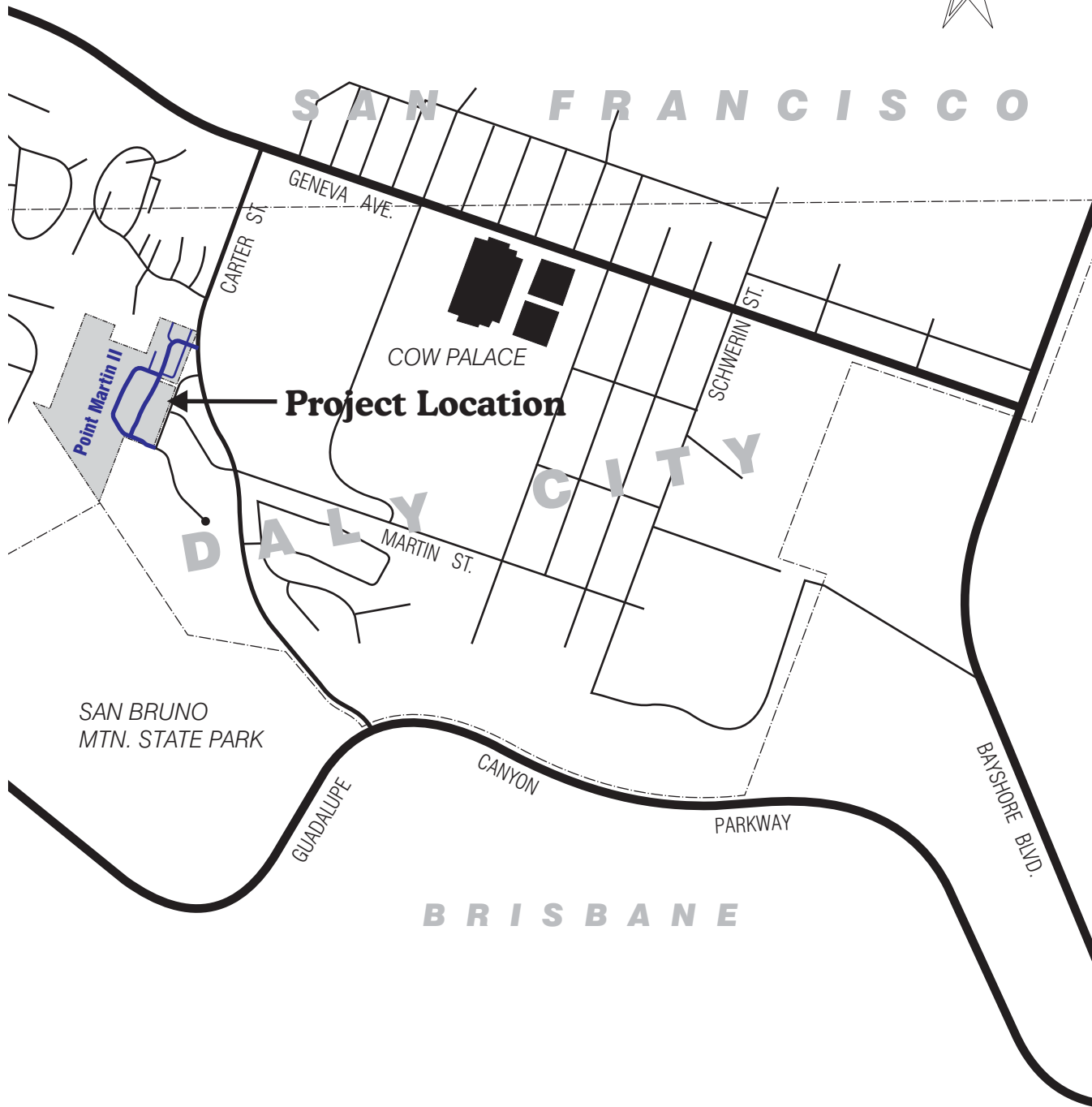
The six designated study area intersections have been analyzed according to the methodologies contained in the 2000 edition of the *Highway Capacity Manual*. The Synchro¹ intersection analysis program was used to analyze the Levels of Service (LOS) of the intersections within the project study area.

ANALYSIS SCENARIOS

Three scenarios have been designated by the City for analysis in this study.

1. **Existing Conditions.** Current (2015) traffic volumes within the study area.
2. **Project Conditions. (Existing + Project)** Project trips are estimated based on the proposed land use and are then added to Existing Conditions traffic in order to obtain the Project Conditions traffic scenario.
3. **Year 2035 Cumulative Conditions.** Cumulative traffic is that traffic expected to be present by the year 2035. The 2035 intersection peak hour traffic volumes were provided by the City of Daly City. This scenario is analyzed without and with the project.

¹ Trafficware Corporation, Synchro 6 & SimTraffic 6, ©2003



EXISTING CONDITIONS

SECTION 2.

ROADWAY NETWORK

Guadalupe Canyon Parkway. This 4-lane, divided collector street connects westerly areas of the city with Bayshore Boulevard to the east. The street runs generally east-west through the project study area.

Carter Street. This local street is 2-lanes running generally north-south through the study area with no parking allowed on the street. Parking is allowed on the west side of the street north of Saddleback Drive.

Geneva Avenue. Geneva Avenue is a 4-lane, divided arterial street running generally east-west through the study area with parking allowed in some areas on both sides of the street. There are Class II bike lanes on the street between Santos Street and Bayshore Boulevard.

Bayshore Boulevard. The street is a 4-lane, divided arterial street and runs generally north-south through the study area. There are Class II bike lanes on the street in the vicinity of Geneva Avenue.

Steve Courter Way. Steve Courter Way is a 2-lane residential street with parking allowed on both sides of the street and connects Carter Street to Farrier Place.

Martin Trail. The street is a 2-lane residential street with parking allowed on both sides of the street between Steve Courter Way and Carter Street.

INTERSECTION LANE CONFIGURATIONS

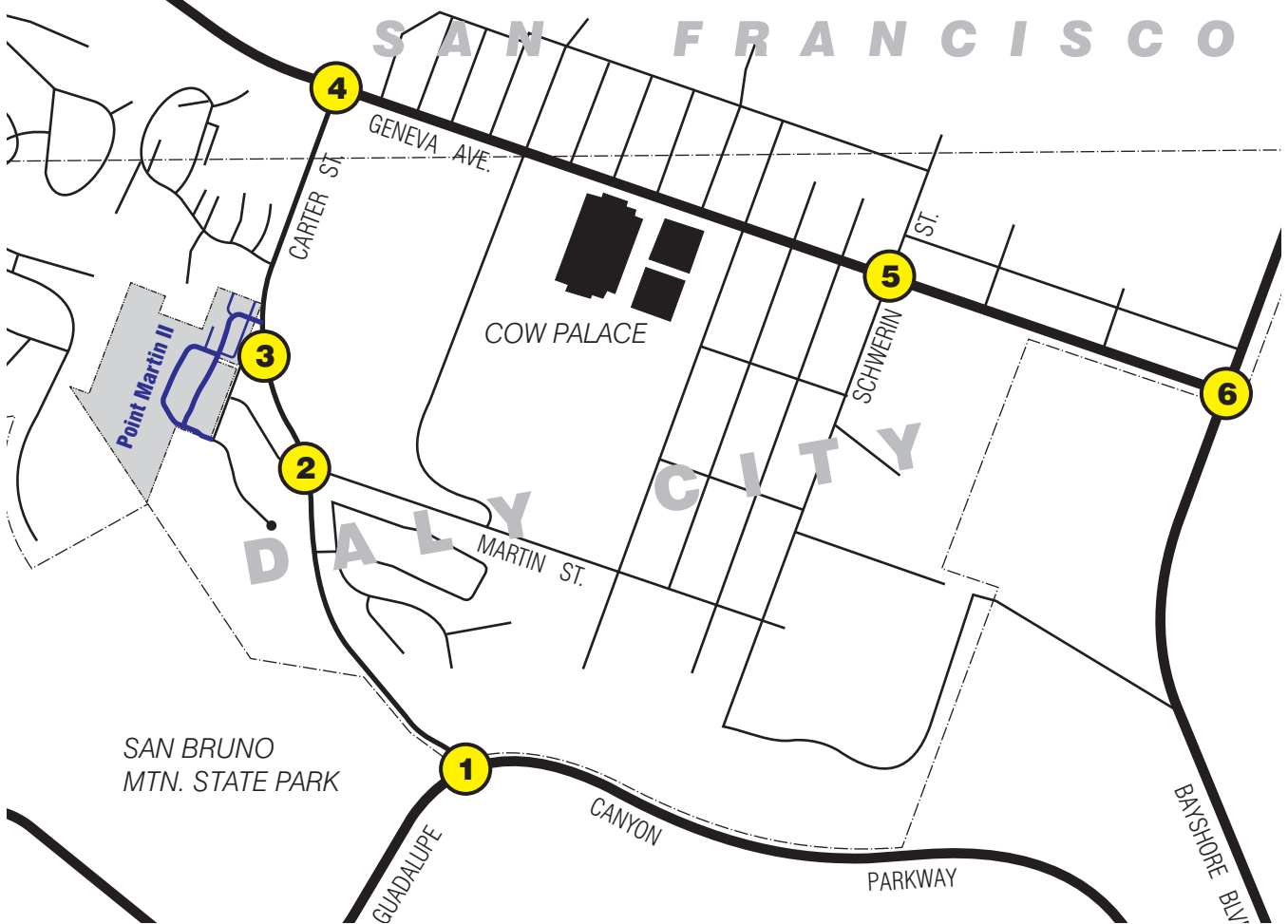
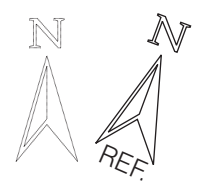
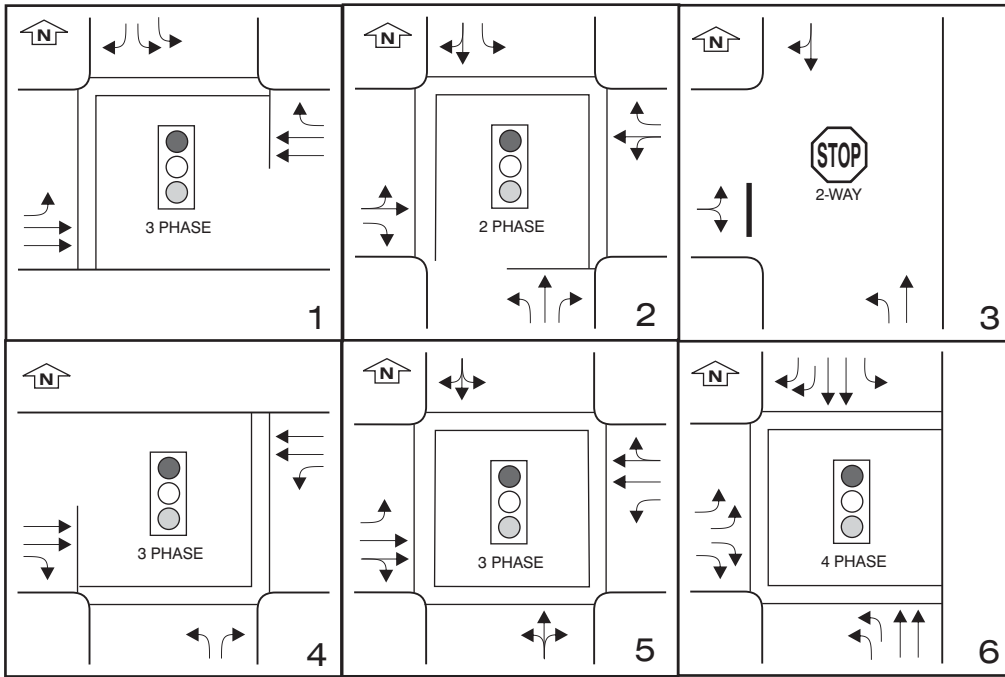
The lane configurations and controls of the six study area intersections are shown on Figure 2, Existing Intersection Lane Configurations, page 4.

EXISTING TRAFFIC VOLUMES

Existing 2015 peak hour traffic volumes through the study area intersections are shown on Figure 3, Existing Peak Hour Traffic Volumes, page 5. Peak hours for purposes of this study are those that occur between 7 and 9 a.m. and between 4 and 6 p.m. on an average weekday. See Appendix A for traffic count data.

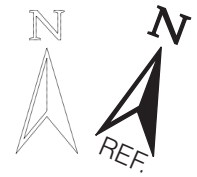
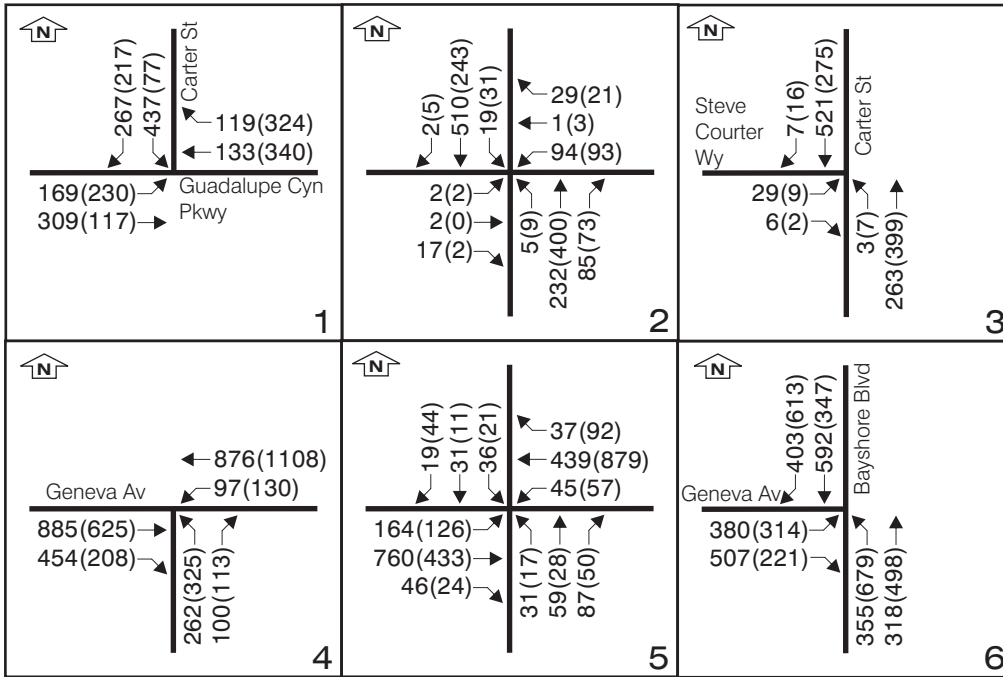
LEVELS OF SERVICE DEFINED

LOS (Levels of Service) methodologies are described in Section 1. Levels of Service define how well or how poorly a traffic facility (a street or an intersection) is operating. There are by definition six Levels of Service. These definitions are presented in Table A on page 6.

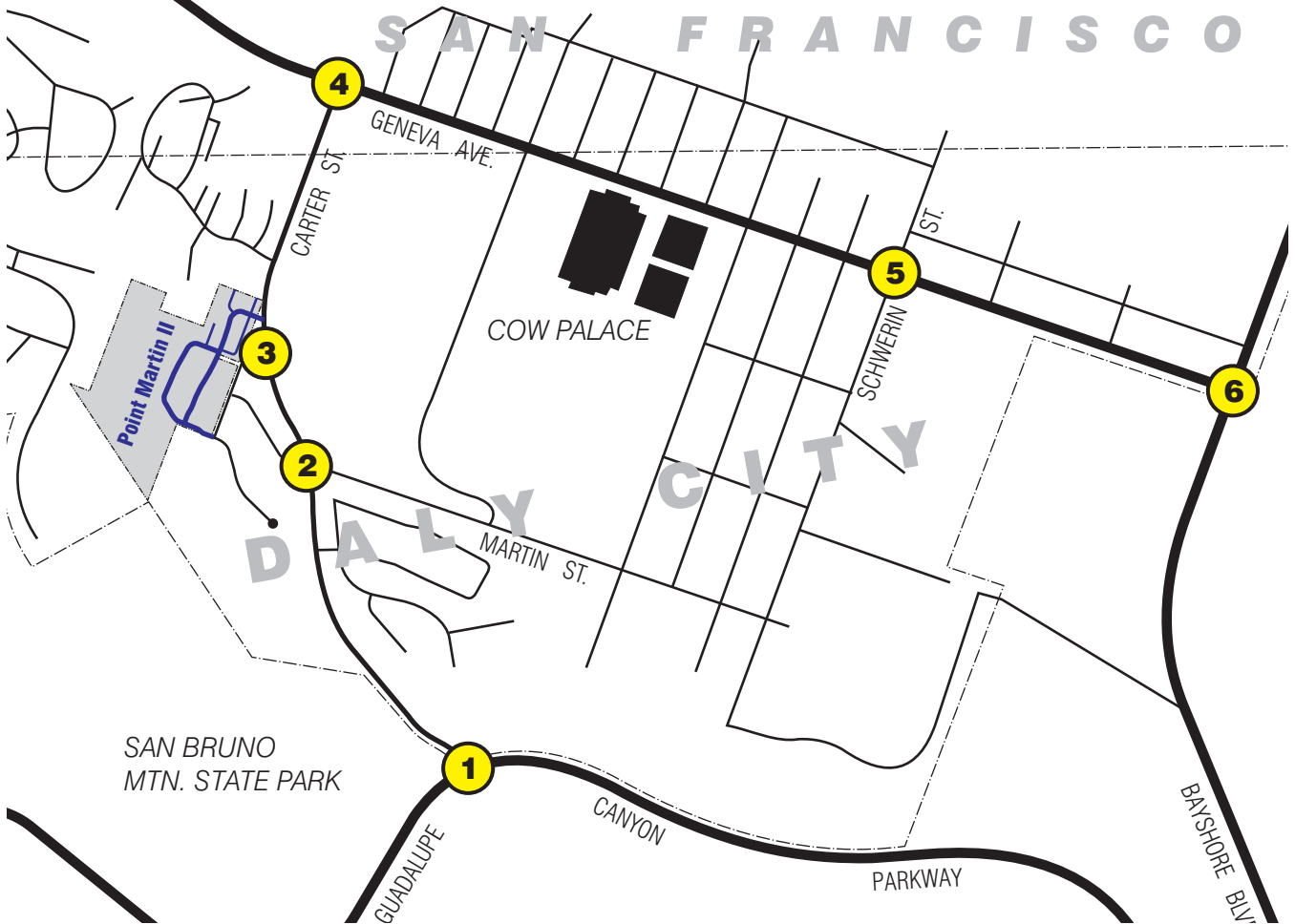


Intersections are oriented to reference north.

**INTERSECTION CONFIGURATION
AND CONTROL
FIGURE 2**



Intersections are oriented to reference north.



KEY:
 000(000) = AM(PM) Peak Hour Traffic Volumes
 AM Peak Hour Between 7 and 9 AM
 PM Peak Hour Between 4 and 6 PM

**EXISTING PEAK HOUR
 TRAFFIC VOLUMES
 FIGURE 3**

TABLE A1: Intersection Levels of Service Definitions for Signalized Intersections		
Level of Service	Traffic Flow Conditions	Control Delay per Vehicle (sec./veh)
A	Conditions of free flow; speed is controlled by driver's desires, stipulated speed limits, or physical roadway conditions.	≤10
B	Conditions of stable flow; operating speeds beginning to be restricted; little or no restrictions on maneuverability from other vehicles.	>10-20
C	Conditions of stable flow; speeds and maneuverability more closely restricted; occasional backups behind left-turning vehicles at intersections.	>20-35
D	Conditions approach unstable flow; tolerable speeds can be maintained but temporary restrictions may cause extensive delays; little freedom to maneuver; comfort and convenience low; at intersections some motorists, especially those making left turns, may wait through one or more signal changes.	>35-55
E	Conditions approach capacity; unstable flow with stoppages of momentary duration; maneuverability severely limited.	>55-80
F	Forced flow conditions; stoppages for long periods; low operating speeds. Delays at intersections average 60 seconds or more.	>80

Source: Exhibit 16-2, *Highway Capacity Manual*, 2000 Edition.

TABLE A2: Intersection Levels of Service Definitions for 2-Way and All-Way STOP Controlled Intersections	
Level of Service	Traffic Conditions
A	Very low delay, less than or equal to 10.0 seconds of average control delay per vehicle.
B	Average control delay in the range of 10.1 to 15.0 seconds per vehicle
C	Average control delay in the range of 15.1 to 25.0 seconds per vehicle
D	Average control delay in the range of 25.1 to 35.0 seconds per vehicle
E	Average control delay in the range of 35.1 to 50.0 seconds per vehicle
F	Average control delay in excess of 50 seconds per vehicle.

Reference: *Highway Capacity Manual*, Chapter 17, HCM2000.

LEVELS OF SERVICE STANDARDS

The City of Daly City has set LOS D as the standard for signalized and unsignalized intersections on arterial streets. The City of Brisbane LOS standard for arterial streets is D. The City of San Francisco is changing its standards as they relate to environmental impact metrics from LOS to VMT (vehicle miles traveled). The change is presently under way. The old standard, still in effect until the new metric is adopted, is LOS D. If a project degrades the intersection LOS to E or F it is a significant impact.

EXISTING CONDITIONS LEVELS OF SERVICE

Levels of Service have been calculated for the existing conditions scenario using the analysis methods contained in the *2000 Highway Capacity Manual*. The results of the LOS calculations are summarized in Table B below. The calculation worksheets are provided in Appendix B.

TABLE B: Intersection Levels of Service Existing Conditions				
Signalized Intersections	Peak Hour	V/C	Delay	LOS
1 - Guadalupe Cyn. Pkwy. & Carter St., Brisbane	AM	0.42	10.4	B
	PM	0.63	12.8	B
2 - Carter St. & Martin St./Martin Trail, Daly City	AM	0.40	6.3	A
	PM	0.33	6.0	A
4 - Carter St. & Geneva Av., San Francisco	AM	0.56	21.1	C
	PM	0.55	19.8	B
5 - Geneva Av. & Schwerin St., Daly City	AM	0.39	8.0	A
	PM	0.44	7.3	A
6 - Geneva Av. & Bayshore Bl., Daly City	AM	0.60	14.6	B
	PM	0.66	14.6	B
STOP Controlled Intersections	Controlled Approach	Peak Hour	Delay	LOS
3 - Carter St. & Steve Courter Wy., Daly City	Steve Courter Wy.	AM	15.5	C
		PM	13.3	B

Delay is average control delay in seconds per vehicle. V/C is critical volume-to-capacity ratio.

LOS is Level of Service. See Tables A1 and A2 for definitions.

All intersections operate at LOS C or better during the peak weekday traffic hours.

SECTION 3.

PROJECT DESCRIPTION

The project is a 117 unit residential subdivision consisting of 67 single family detached dwelling units and 50 townhouse dwelling units.

PROJECT VEHICLE TRIP GENERATION

The estimate of vehicle trips to be generated by the project is shown in Table C below. The estimate is based on data contained in *Trip Generation*.² The AM Street Peak Hour is generally between 7 a.m. and 9 a.m. and the PM Street Peak Hour is generally between 4 p.m. and 6 p.m. A detailed trip generation table can be found in Appendix C.

Table C: Project Vehicle Trip Generation								
Land Use	Size	Units	AM Street Peak Hour			PM Street Peak Hour		
			In	Out	Total	In	Out	Total
Single Family Detached	67	DU	14	42	57	46	27	73
Townhouse	50	DU	5	25	30	23	11	34
Total			19	67	86	69	38	107

Numbers may not add due to rounding up or down.

PROJECT VEHICLE TRIP DISTRIBUTION

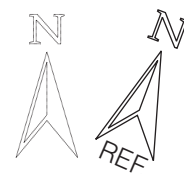
Project vehicle trips have been distributed by the City's traffic model³. The vehicle trip distribution is shown on Figure 4, Project Vehicle Trip Distribution, page 9.

PROJECT PEAK HOUR TRAFFIC VOLUMES

Figure 5, page 10, shows the Project Conditions (Existing + Project) peak hour traffic volumes at the seven study area intersections.

² Institute of Transportation Engineers, 9th Edition, © 2012.

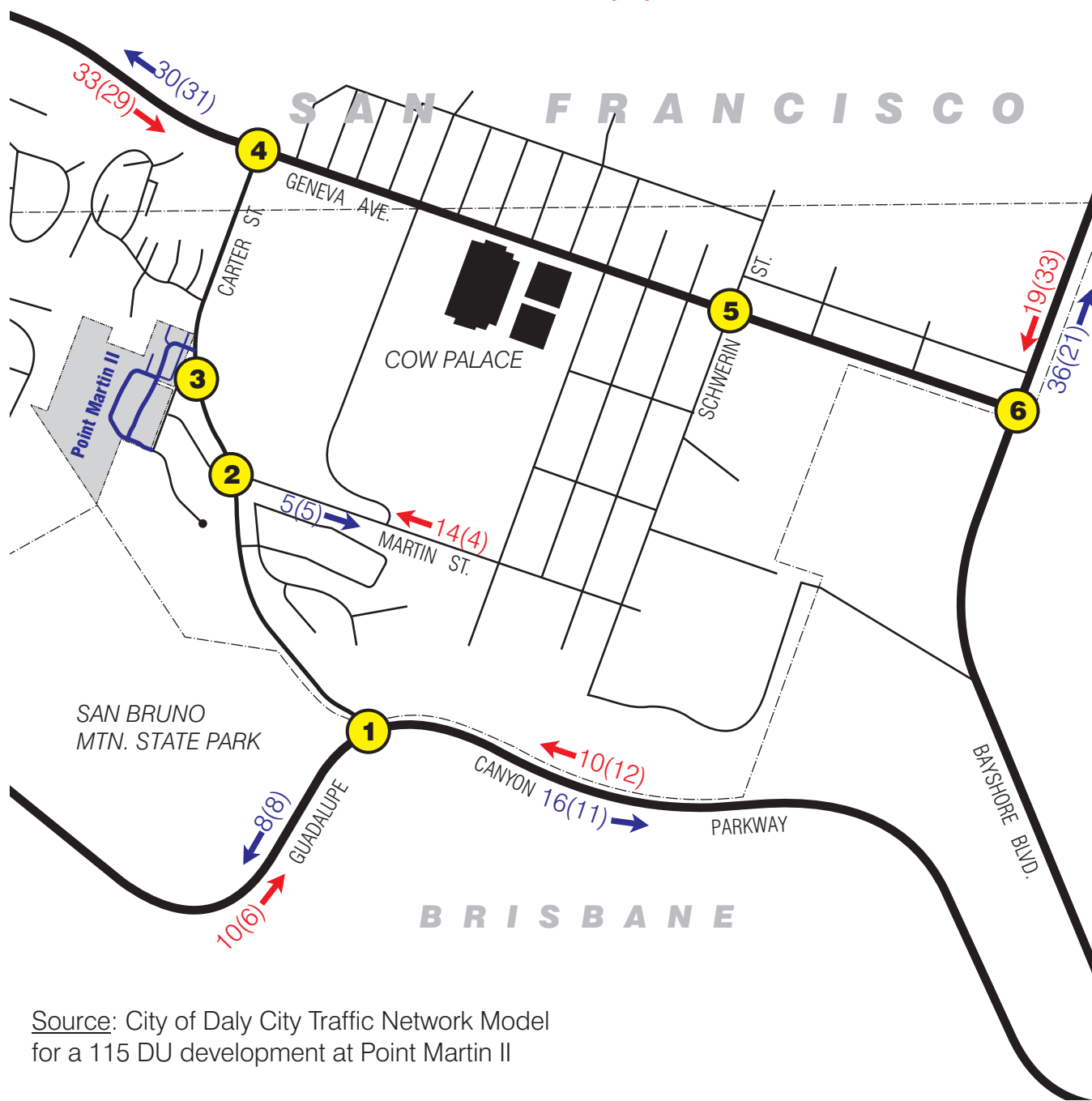
³ The traffic model distribution is based on a 115 DU residential development. The change from 115 to 117 DU has no material effect on the distribution of project generated vehicle trip ends.



Geneva Avenue local destinations, Carter St. to Bayshore Blvd.

Outbound 5(24)

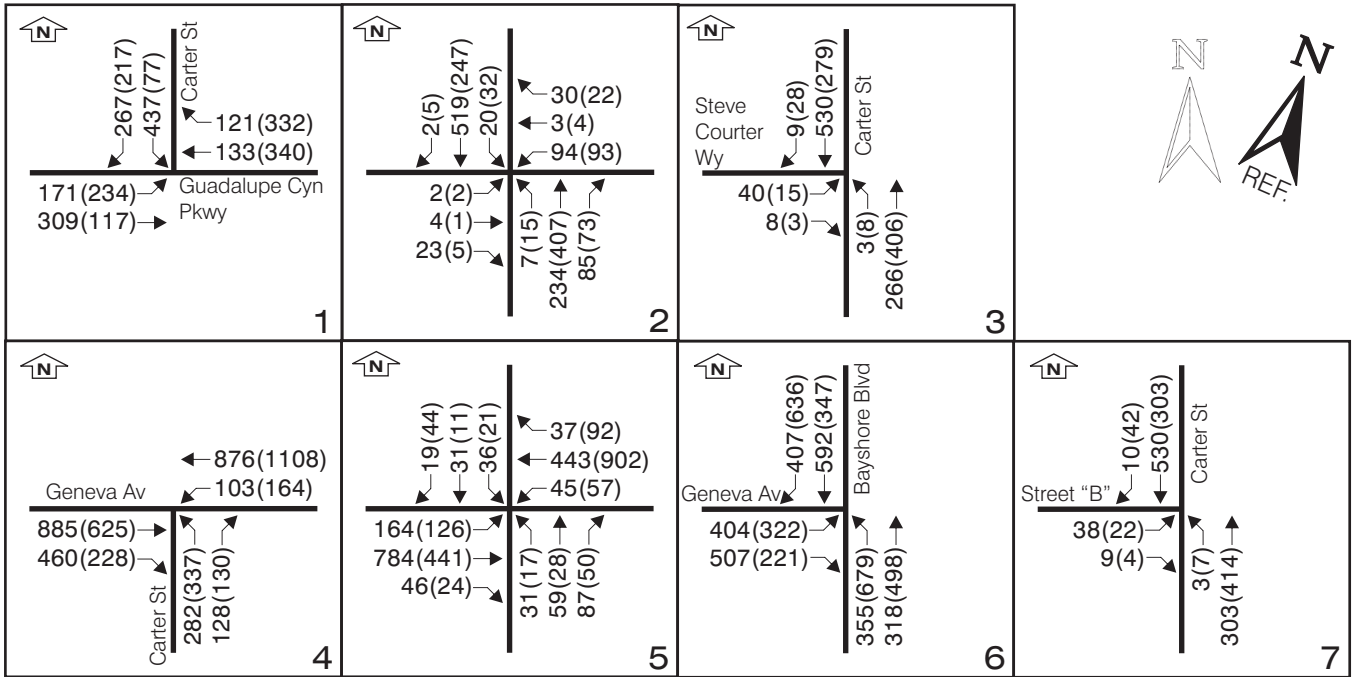
Inbound 14(16)



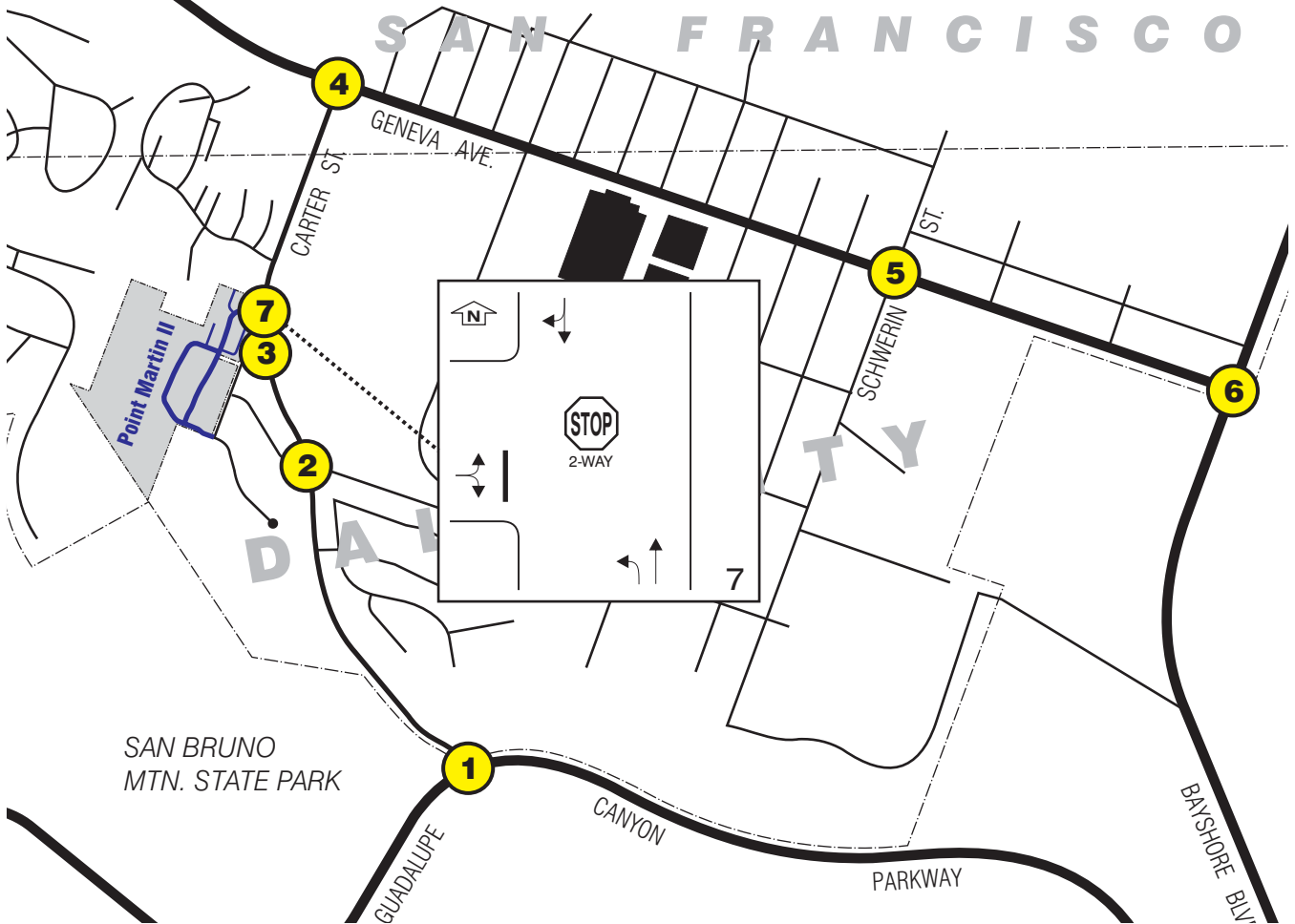
Source: City of Daly City Traffic Network Model
for a 115 DU development at Point Martin II

Inbound trip percentages in red
Outbound trip percentages in blue
00(00)=AM(PM) in percent

VEHICLE TRIP DISTRIBUTION
FIGURE 4



Intersections are oriented to reference north.



KEY:
 000(000) = AM(PM) Peak Hour Traffic Volumes
 AM Peak Hour Between 7 and 9 AM
 PM Peak Hour Between 4 and 6 PM

**EXISTING + PROJECT PEAK HOUR
 TRAFFIC VOLUMES
 FIGURE 5**

PROJECT CONDITIONS LEVELS OF SERVICE

Levels of Service have been calculated for the project conditions scenario using the analysis methods contained in the *2000 Highway Capacity Manual*. The results of the LOS calculations are summarized in Table D below. The calculation worksheets are provided in Appendix B.

Project generated traffic is expected to minimally add to the delay at some intersections. The increase in delay does not significantly worsen the LOS over that of the Existing Conditions scenario.

TABLE D: Intersection Levels of Service Project Conditions							
Signalized Intersections	Peak Hour	Existing Conditions			Existing + Project Conditions		
		V/C	Delay	LOS	V/C	Delay	LOS
1 - Guadalupe Cyn. Pkwy. & Carter St., Brisbane	AM	0.42	10.4	B	0.43	11.0	B
	PM	0.63	12.8	B	0.64	12.9	B
2 - Carter St. & Martin St./Martin Trail, Daly City	AM	0.40	6.3	A	0.41	6.4	A
	PM	0.33	6.0	A	0.34	6.0	A
4 - Carter St. & Geneva Av., San Francisco	AM	0.56	21.1	C	0.58	21.2	C
	PM	0.55	19.8	B	0.56	20.4	C
5 - Geneva Av. & Schwerin St., Daly City	AM	0.39	8.0	A	0.39	8.0	A
	PM	0.44	7.3	A	0.45	7.4	A
6 - Geneva Av. & Bayshore Bl., Daly City	AM	0.60	14.6	B	0.61	14.7	B
	PM	0.66	14.6	B	0.67	14.7	B
STOP Controlled Intersections	Controlled Approach	Peak Hour	Delay	LOS	Peak Hour	Delay	LOS
3 - Carter St. & Steve Courter Wy., Daly City	Steve Courter Wy.	AM	15.5	C	AM	16.1	C
		PM	13.3	B	PM	13.8	B
7 - Carter St. & Street "B," Daly City	Street "B"	AM			AM	18.1	C
		PM			PM	15.5	C

Delay is average control delay in seconds per vehicle. V/C is critical volume-to-capacity ratio.

LOS is Level of Service. See Tables A1 and A2 for definitions.

Intersection LOS with the project added traffic remains at LOS C or better during the weekday peak traffic hours.

YEAR 2035 CUMULATIVE CONDITIONS

SECTION 4.

CUMULATIVE CONDITIONS SCENARIO

The Cumulative Conditions scenario for purposes of this study are those that are expected by the year 2035. The City has provided the year 2035 intersection peak hour traffic volumes from their computer model.

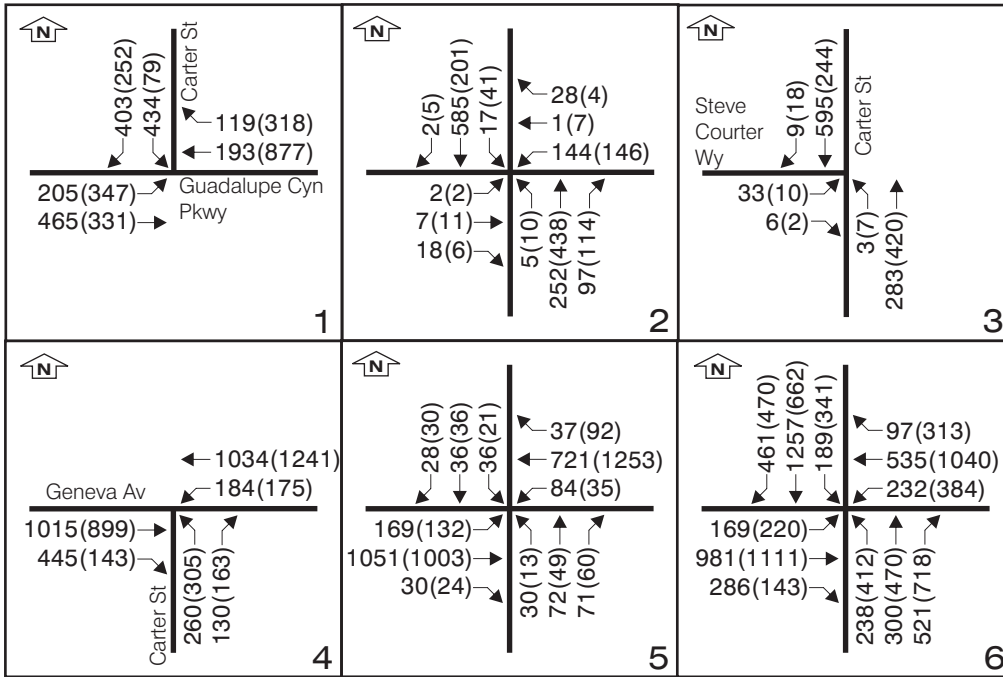
CUMULATIVE CONDITIONS PEAK HOUR TRAFFIC VOLUMES

The near-term cumulative traffic volumes are shown on Figure 6, Cumulative Conditions Peak Hour Traffic Volumes, page 13, and the Cumulative + Project Conditions Peak Hour Traffic Volumes, Figure 7, are shown on page 14.

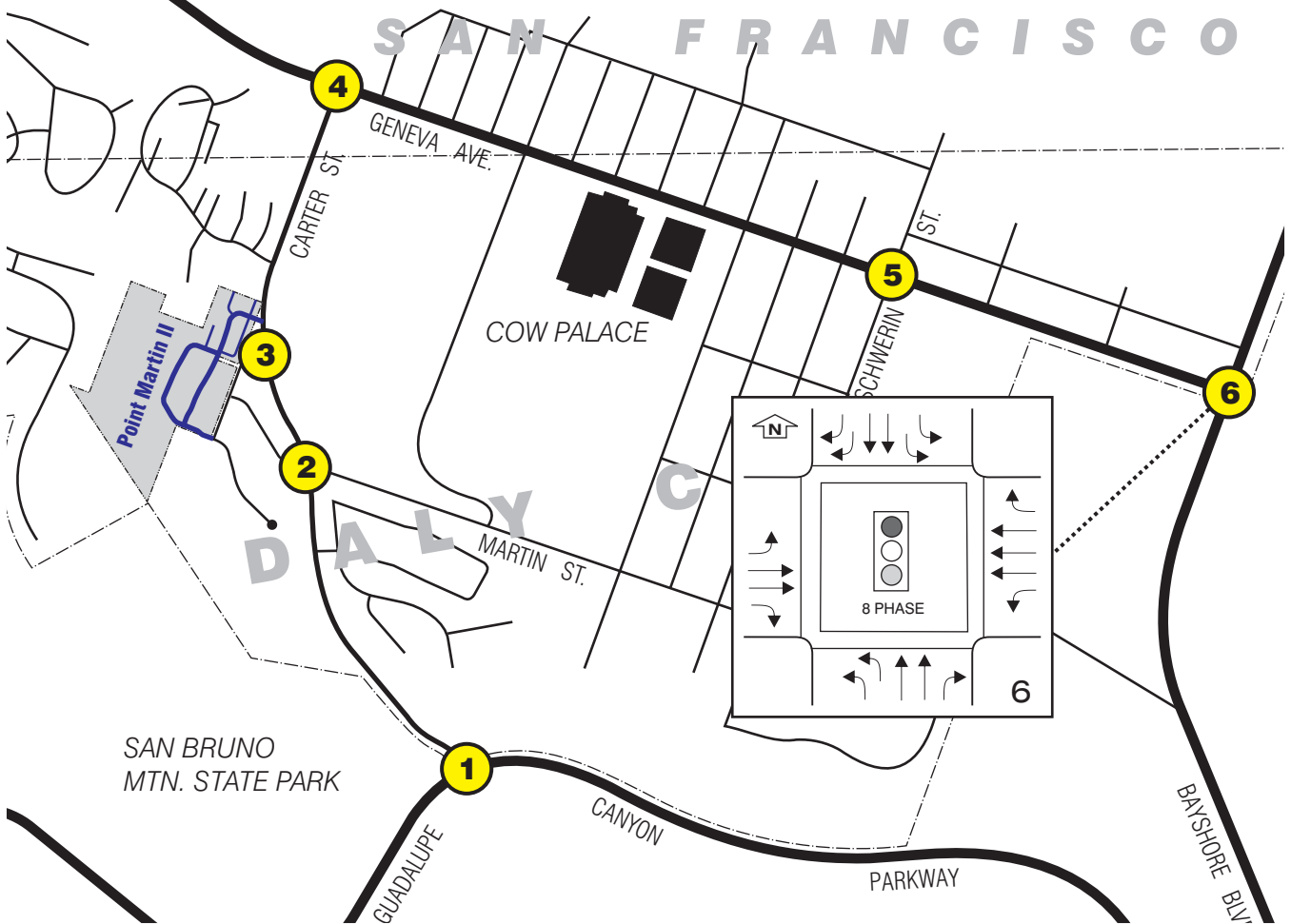
CUMULATIVE CONDITIONS LEVELS OF SERVICE

Levels of Service have been calculated for cumulative conditions scenario using the analysis methods contained in the *2000 Highway Capacity Manual*. The results of the LOS calculations are summarized in Table E on page 15.

Of the intersections analyzed, only the Bayshore/Geneva intersection is anticipated to potentially operate at a LOS below the city standard of D during the evening street peak hour. This potential is anticipated primarily due to possible development of the old Bayshore railroad yard area. If eventually approved at the 4,434 unit level, such development would add a fourth leg to the Bayshore/Geneva intersection and additional lanes to Bayshore Boulevard. The Point Martin II project itself, however, will not add measurably to the volume-to-capacity ratio or delay during the evening peak hour when the intersection may be anticipated to operate at LOS E.

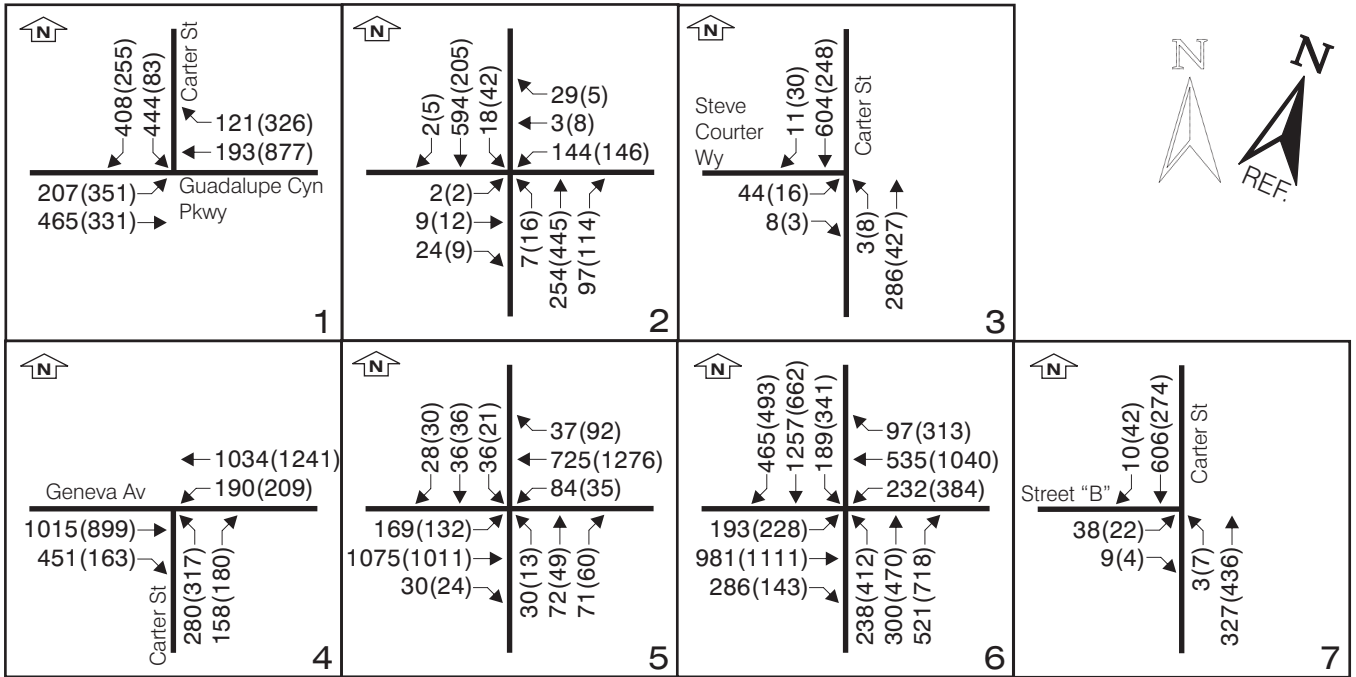


Intersections are oriented to reference north.

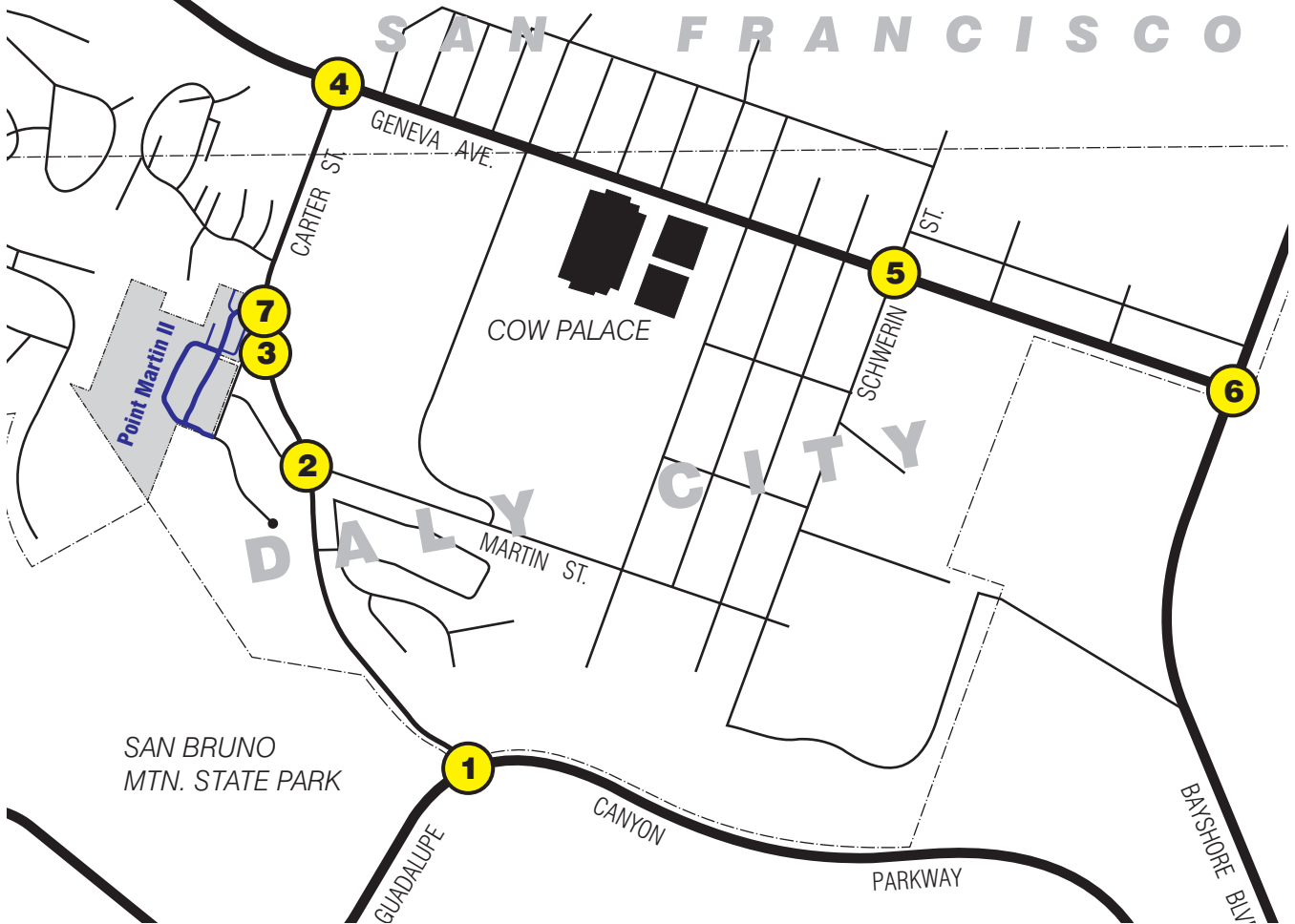


KEY:
 000(000) = AM(PM) Peak Hour Traffic Volumes
 AM Peak Hour Between 7 and 9 AM
 PM Peak Hour Between 4 and 6 PM

**CUMULATIVE PEAK HOUR
 TRAFFIC VOLUMES
 FIGURE 6**



Intersections are oriented to reference north.



KEY:
 000(000) = AM(PM) Peak Hour Traffic Volumes
 AM Peak Hour Between 7 and 9 AM
 PM Peak Hour Between 4 and 6 PM

**CUMULATIVE + PROJECT PEAK HOUR
 TRAFFIC VOLUMES
 FIGURE 7**

TABLE E: Intersection Levels of Service Cumulative Conditions							
Signalized Intersections	Peak Hour	Cumulative Conditions			Cumulative + Project Conditions		
		V/C	Delay	LOS	V/C	Delay	LOS
1 - Guadalupe Cyn. Pkwy. & Carter St., Brisbane	AM	0.56	11.2	B	0.57	11.3	B
	PM	0.81	16.8	B	0.82	17.0	B
2 - Carter St. & Martin St./Martin Trail, Daly City	AM	0.49	7.7	A	0.50	7.8	A
	PM	0.41	7.4	A	0.41	7.4	A
4 - Carter St. & Geneva Av., San Francisco	AM	0.64	29.4	C	0.66	30.2	C
	PM	0.59	22.4	C	0.64	23.6	C
5 - Geneva Av. & Schwerin St., Daly City	AM	0.47	8.8	A	0.48	8.8	A
	PM	0.59	10.2	B	0.59	10.3	B
6 - Geneva Av. & Bayshore Bl., Daly City	AM	1.14	54.2	D	1.13*	54.2	D
	PM	1.25	65.9	E	1.25	65.9	E
STOP Controlled Intersections	Controlled Approach	Peak Hour	Delay	LOS	Peak Hour	Delay	LOS
3 - Carter St. & Steve Courter Wy., Daly City	Steve Courter Wy.	AM	17.3	C	AM	18.1	C
		PM	13.3	B	PM	13.7	B
7 - Carter St. & Street "B," Daly City	Street "B"	AM			AM	20.5	C
		PM			PM	15.3	C

Delay is average control delay in seconds per vehicle. V/C is critical volume-to-capacity ratio.

LOS is Level of Service. See Tables A1 and A2 for definitions.

* Project traffic is added to non-critical movements at the intersection and this can sometimes change the V/C ratio in a positive way in the calculations.

SITE ACCESS, CIRCULATION, PARKING & TRANSIT

SECTION 5.

SITE PLAN

The site plan is shown on Figure 8, Site Plan, page 17.

SITE ACCESS

The primary access to the subdivision is Street “B” off of Carter Street. This location was originally designated by the City in the construction of Carter Street as a future intersection, and this project formalizes it. A left turn lane on Carter Street northbound should be provided. An analysis of the maximum probable peak hour queue for the Cumulative + Project conditions found the maximum queue to be one vehicle during the afternoon street peak hour. A turn lane with a storage length of 50 feet should be provided. The Street “B” approach to Carter Street should be controlled by a STOP sign.

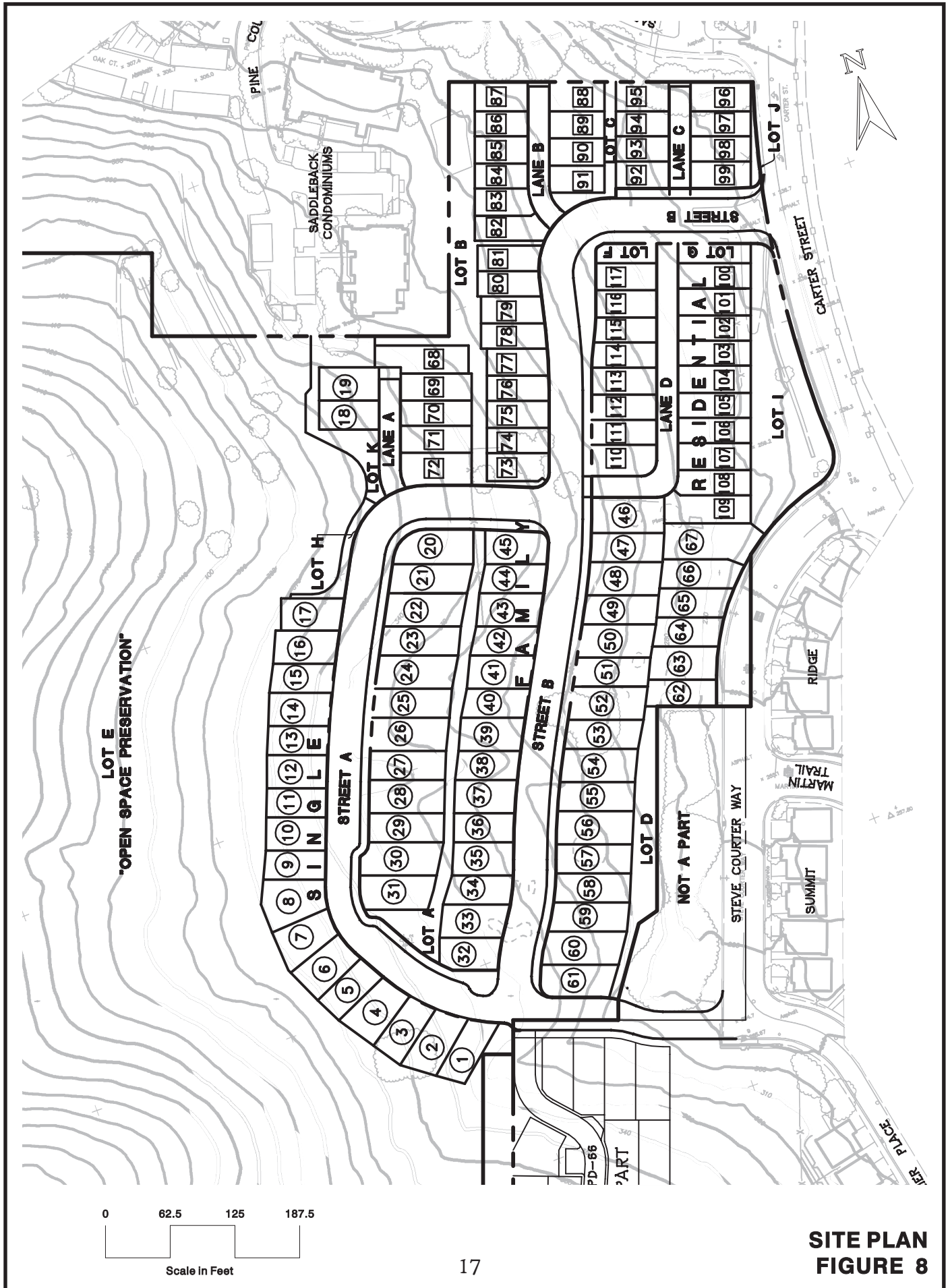
The second point of access is via Steve Courter Way from Carter Street to the intersection of Street “A”/Farrier Place. A projected 16 vehicles will use this route to access the site during the morning street peak hour and 20 vehicles during the afternoon street peak hour. There is a left turn lane on Carter Street northbound at Steve Courter Way with a length of 115 feet and the projected afternoon peak turning traffic has no measured queue.

The third point of access is via Martin Trail from Carter Street to Steve Courter Way. It is projected that 11 vehicles will use this route during the street peak hours of the day. A 150 ft. left turn lane on northbound Carter Street at Martin Street/Martin Trail exists and the afternoon peak traffic hour queue length is less than one vehicle per cycle.

CIRCULATION

The Site Plan is shown on Figure 8, Site Plan, page 17. All of the streets within the development will be private streets. The primary streets (labeled Streets A and B on the site plan) are generally 32 feet wide, curb-to-curb, providing two travel lanes, each 12 feet wide, and a parking lane 8 feet wide. Parking will be allowed on one side of the street and on the side with parking there will be a 4 ft. wide sidewalk set back approximately four feet from the face of curb.

In addition to the primary streets there are four lanes (labeled Lanes A, B, C, and D on the site plan) and they are to be 20 feet wide, curb-to-curb. These lanes serve the townhouse type of dwelling units which are both smaller in size and have a narrower, more compact building footprint than the dwelling units on the primary streets. These type of units are further distinguished in that these each derive occupant entry via “paseos”, landscaped pedestrian pathways from which each unit accesses front entry. There will be no on-street parking or sidewalks on the lanes serving these units.



There are two short radius curves on Street A, the centerline radii being 50 and 60 feet respectively that will limit travel speeds to 10 miles per hour traversing these curves. There is one curve on Street B with a centerline radius of 60 feet that will also limit the travel speed to 10 mph. These curves should be posted in both directions with advance warning signs approaching the curves.

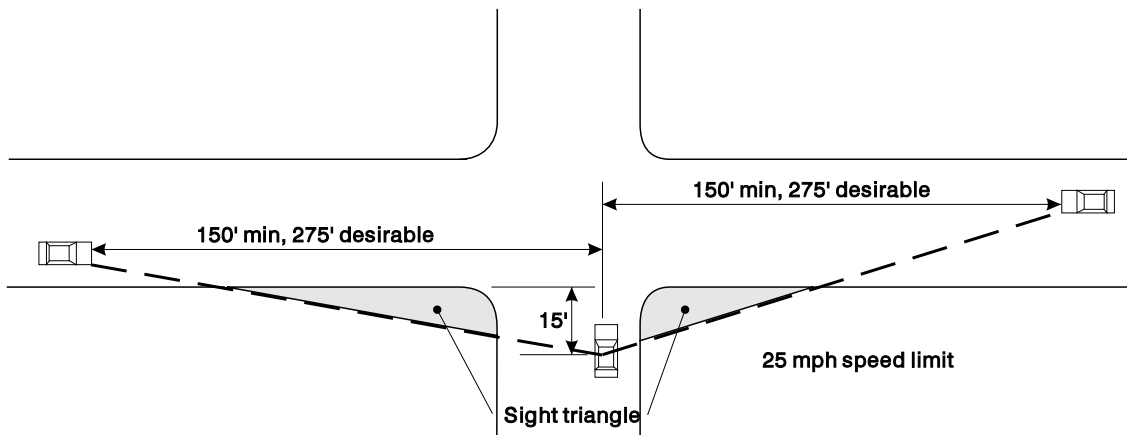
The grades on the streets vary from a low of 1% to a high of 18% and are within the City's design standards. The grades along those portions of the streets having dwelling unit frontage access are primarily limited to the range of 1% to 14%.

While the homeowners association will be responsible for determining the speed limits and traffic controls on the streets and lanes, the City will provide input on the signs and traffic controls installed. Table F below provides a suggested list of STOP sign controls at the intersections within the development

TABLE F: Intersection Control	
Intersection	Controlled Approach
Steve Courter Way/Farrier Place & Street "A"	Street "A"
Street "A" & Street "B"	Street "B"*
Street "A" & Lane "A"	Lane "A"
Street "B" & Street "A"/Lane "D"	Street "A" & Lane "D"
Street "B" & Lane "C"/Lane "D"	Lane "C" & Lane "D"
Street "B" & Lane "B"	Lane "B"
Carter Street & Street "B"	Street "B"

* And the driveway lane of Point Martin, Phase I

The corner sight distance at street intersections is determined by the speed of approaching vehicles. Figure 9 on page 19 shows the corner sight triangles for a 25 mph speed of approach the maximum recommended travel speed on the primary streets.



Corner Sight Distance, Figure 9

Within the sight triangles bounded by the limits of the street frontage there should be no shrubbery over three feet tall measured from the level of the street, no signs that would block visibility, no street trees with branches below seven feet measured from the level of the street, nor any fencing over three feet in height measured from the level of the adjacent street.

PARKING

According to the Planned Development Precise Plan there will be 67 detached single family dwelling units which will have a 2-car garage and a driveway apron that can accommodate two additional vehicles. There are to be 50 smaller, townhouse type dwelling units and each will have a 2-car garage. This type of unit will primarily be served by the private lane streets. Thirty-three of these units will also have a driveway apron capable of accommodating one additional vehicle.

The City of Daly City Zoning Code requirements for off-street parking for single family dwellings are two vehicles per unit (§17.34.020A). The City has no requirement for guest parking for single family dwellings. The total parking required by City ordinance for the development is 234 spaces and 234 on-site spaces are provided.

In addition to the required parking provisions there are 167 guest and resident parking spaces provided on parking aprons and approximately 52 parking spaces provided on streets “A” and “B” for a total of 453 parking spaces within the development. There are also two parking spaces designed into the development on Steve Courter Way which is a public street.

PEDESTRIAN AND BICYCLE CIRCULATION

On the primary streets there will be a 4 ft. wide sidewalk on the side where parking will be allowed. These sidewalks and their associated curb ramps meet ADA (The American with Disabilities Act) requirements for accessibility. There is a sidewalk on Street “A” that connects to the existing sidewalks on Steve Courter Way which in turn connect to Carter Street via Martin Trail. This will provide pedestrian access to Carter Street from the Point Martin II development. There is a sidewalk on Street “B” which will connect to the existing sidewalk on Carter Street at the Carter Street intersection. Cyclists will have easy access to the surrounding street system, although there are no designated bike lanes on Carter Street. There are designated bike lanes on Geneva Avenue some 350 yards north of the project entrance.

TRANSIT ACCESSIBILITY

A wide variety of public transit services are available at or near the project site. SamTrans provides frequent scheduled shuttle service on Carter Street to its system network including direct service to the two nearest BART stations. Also on Carter Street, Caltrain in conjunction with SamTrans provides scheduled daytime Senior service to Caltrain’s Bayshore Station as well as to the Brisbane Park & Ride and to a South San Francisco transit node serving several SamTrans countywide bus routes. SamTrans also provides an on-call booking service on Carter Street for shuttle service to both the Serramonte and Tanforan Shopping Centers and to BART stations for seniors Mondays through Fridays.

San Francisco Municipal Transportation Agency (MUNI) provides local, express and overnight bus service on Geneva Avenue some 350 yards north of the project entrance off of Carter Street. The MUNI service is provided seven days per week, 24 hours each day. The MUNI Metro Sunnydale-Visitation Valley Station on Bayshore Boulevard is some 1.4 miles from the project site. The Balboa Park BART Station on Geneva Avenue is approximately 1.8 miles from the project site.

SamTrans provides school day bus service on Routes 24 and 29 along Geneva Avenue. Route 24 operates between Brisbane and Westmoor High School in Daly City. Route 29 also operates on school days only and connects Lipmann Middle School in Brisbane to Brunswick Street & Templeton Avenue in Daly City.

Commute .Org in partnership with Caltrain, SamTrans and Bayshore area employers provides frequent morning and evening commuter shuttle services serving the Crocker-Brisbane Business Park and its many employers as well as afternoon commuter service to Caltrain’s Bayshore Station.

Future planned enhancements to nearby Transit Accessibility include planned Bus Rapid Transit (BRT) along Geneva Avenue authorized by San Francisco County Transit Authority (SFCTA) and being implemented by SFMTA. Other currently planned enhancements include augmentation of the light rail station on Bayshore Boulevard just north of Geneva Avenue and new accessibility from Bayshore Boulevard to the Caltrain Bayshore Station both as a result of

the development of the Schlage Lock Works site currently under construction.

Future anticipated enhancements to nearby Transit Accessibility include potential development of the old Bayshore railroad yard and new transit facilities which would be required as part of that development.

TRUCK AND EMERGENCY VEHICLE CIRCULATION

Delivery trucks, refuse trucks and emergency vehicles will be able to access all of the properties on the private streets within the development. Despite the steepness on some portions of these streets it will not limit accessibility by these vehicles to the dwelling units.

CONSTRUCTION TRAFFIC

The project will generate an off haul of approximately 98,000 CY (cubic yards) of excavated material. The planned restriction of the haul hours from 9 a.m. to 4 p.m. weekdays will keep the earth haul trucks out of the peak commute traffic hours of the day. This is also an economic measure because the earth haul trucks are paid by the hour and the time to complete a round trip during the peak traffic hours will be longer than during the non-peak hours, and, thus more expensive to haul during peak traffic hours.

The earth haul trucks to be used will have a capacity of 22 CY. The headway between trucks is expected to be three minutes or 20 vehicles per hour entering and 20 vehicles per hour exiting the site. The trucks have a passenger car equivalent (PCE) of 1.5⁴ so the earth haul truck effect on traffic flow on Carter Street and Geneva Avenue will be equivalent to 60 additional passengers per hour. In this location Carter Street has about an 8% grade. The loaded trucks will be going down hill and the empty trucks will be going up hill. Geneva Avenue has about a 3% grade and, again, the heavy trucks will be going down hill and the empties up hill. The export is estimated to be 3,080 CY per day to a site(s) in San Francisco (Hunters Point) with a haul distance of approximately 3.65 miles. The off haul is estimated to take 32 days, distributed across two periods of grading activity.

The construction traffic generated will be less than the trip ends per hour expected to be generated by the completed project, and, therefore, should not create an impact at any of the study area intersections.

⁴ Highway Capacity Manual, 2000 Edition, Exhibit 21-8, Passenger Car Equivalents on Extended General Highway Segments

PROJECT IMPACTS ON ADJACENT FREEWAYS

Interstate 280 at Geneva Avenue is eight lanes. Assuming a lane capacity of 2,200 vph (vehicles per hour) the freeway has a capacity of 17,600 vph. U.S. 101 at Third Street in San Francisco is also an 8-lane freeway. The project is estimated to generate a total of 86 vehicle trip ends in the morning peak hour and 107 vehicle trip ends in the afternoon peak hour of which only a lesser percentage of these trip ends would use a portion of the freeway system. A 1% addition to either freeway would be 176 vehicle trip ends. As only a portion of the project's total generated vehicle trip ends is expected to use the freeway system it can be concluded that the project will not have a significant impact on either of the two freeways near the project site.

CONCLUSIONS AND RECOMMENDATIONS

SECTION 6.

CONCLUSIONS

The 117 unit Point Martin II residential development is projected to generate 86 vehicle trips during the morning street peak hour and 107 vehicle trips during the afternoon street peak hour. The analysis of the seven study area intersections found that the project will not create a significant traffic impact at any of these intersections.

RECOMMENDATIONS

Off-site:

- 1) On Carter Street between Steve Courter Way and Street "B" restripe the centerline striping to provide a 12 foot wide left turn lane into Street "B" with a storage length of 50 feet, a bay taper of 75 feet, and an approach taper of 90 feet. See Figure 10, Striping Plan, page 23.

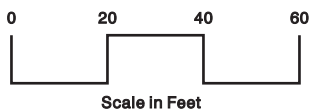
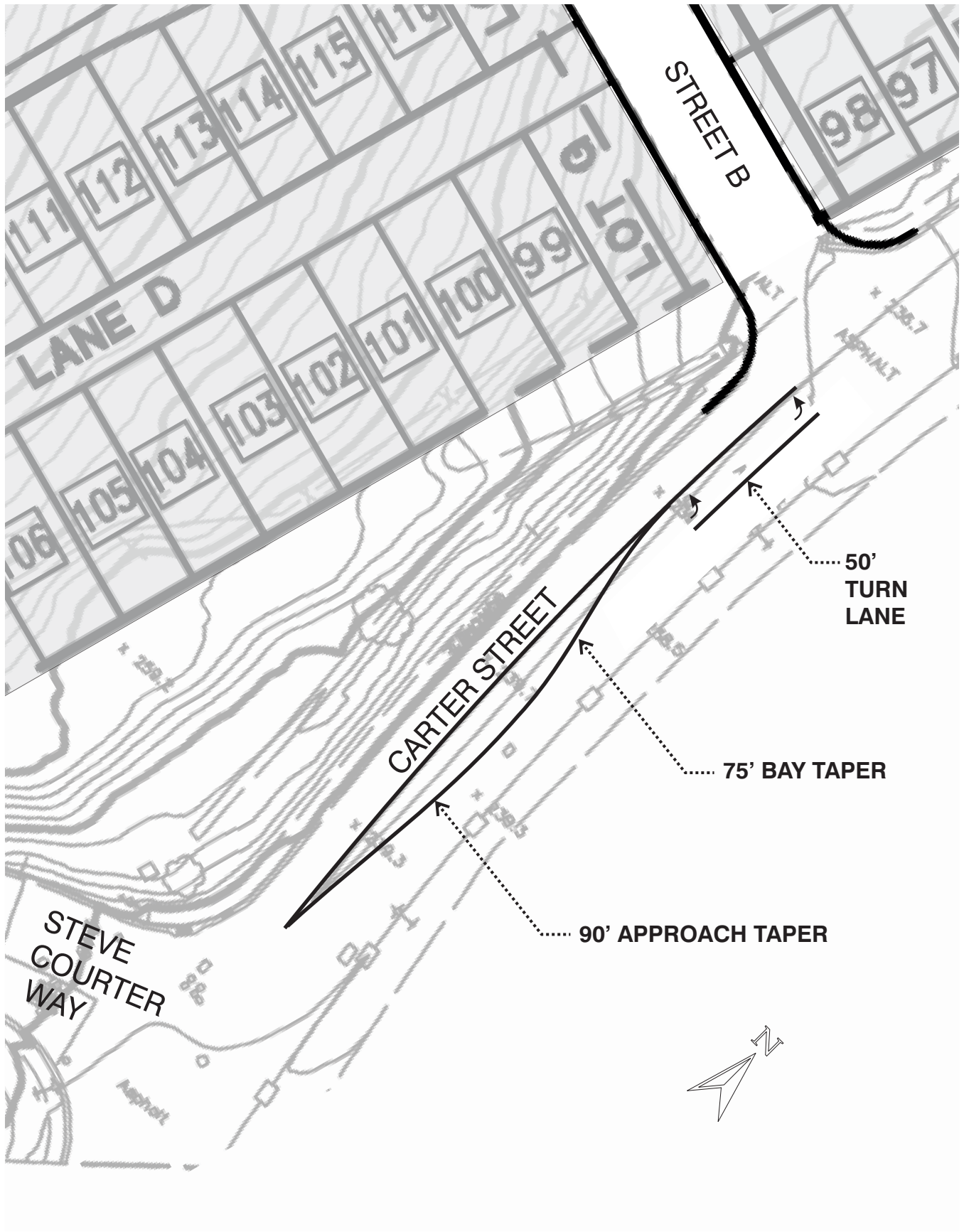
On-site:

- 2) Within the corner sight triangles and the street there should be no fencing or signs that would obstruct visibility. Trees should be planted so as to not create a "wall" effect when viewed at a shallow angle. The type of shrubbery planted within the triangles should such that it will grow no higher than three feet above the adjacent roadway surface. Trees planted within the sight triangle areas should be large enough that the lowest limbs are at least seven feet above the surface of the adjacent roadway.
- 3) Install STOP signs on Street "B" at Carter Street and on Street "A" at Steve Courter Way.

Richard K. Hopper

Richard K. Hopper, P.E.
Principal





APPENDICES
A. Traffic Count Data
B. Levels of Service Calculation Worksheets
C. Traffic Analysis Worksheets

A. Traffic Count Worksheets

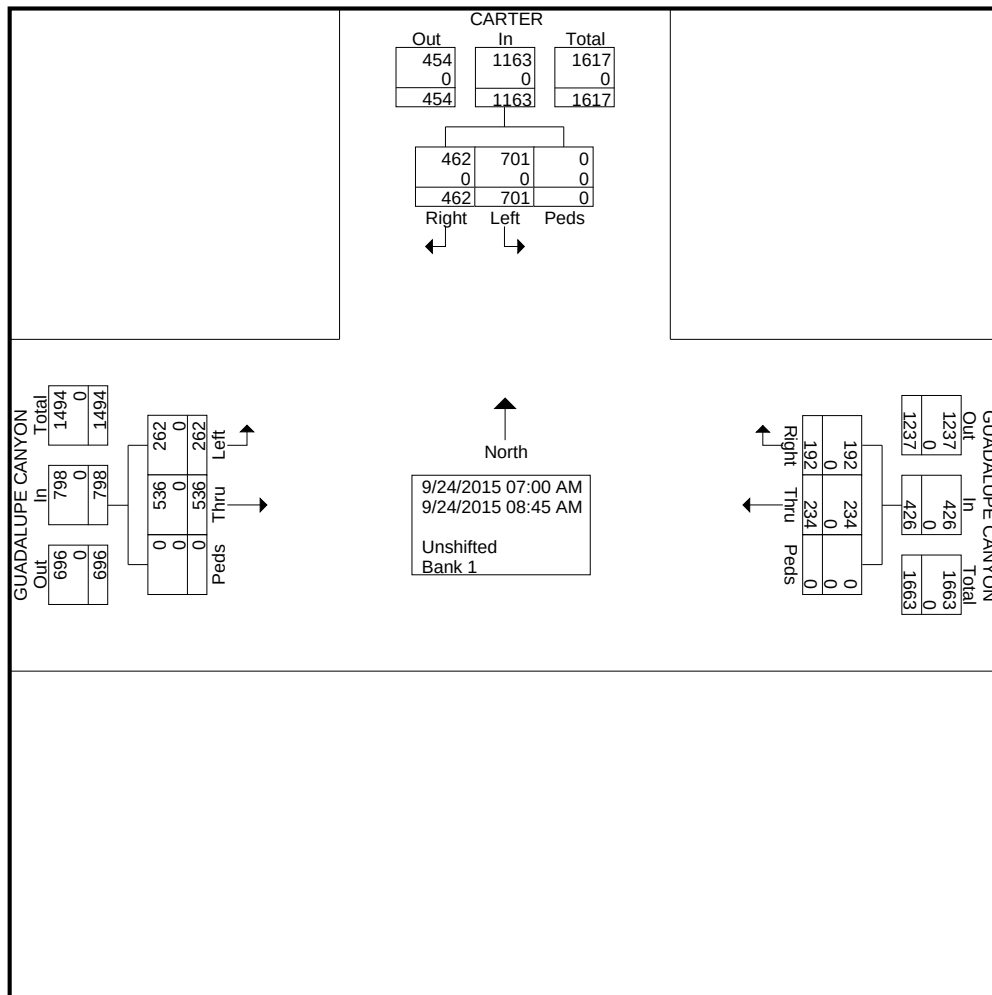
Traffic Research Assoc.

P.O.Box 4205
San Leandro, CA 94579
Data You Can Count On

File Name : Carter & Guadalupe AM
Site Code : 00000000
Start Date : 9/24/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	CARTER From North				GUADALUPE CANYON From East				GUADALUPE CANYON From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	37	57	0	94	20	26	0	46	41	15	0	56	196
07:15 AM	51	69	0	120	21	27	0	48	54	20	0	74	242
07:30 AM	77	87	0	164	21	38	0	59	68	27	0	95	318
07:45 AM	87	119	0	206	26	32	0	58	87	48	0	135	399
Total	252	332	0	584	88	123	0	211	250	110	0	360	1155
08:00 AM	59	127	0	186	34	32	0	66	75	48	0	123	375
08:15 AM	44	104	0	148	38	31	0	69	79	46	0	125	342
08:30 AM	61	78	0	139	13	30	0	43	63	29	0	92	274
08:45 AM	46	60	0	106	19	18	0	37	69	29	0	98	241
Total	210	369	0	579	104	111	0	215	286	152	0	438	1232
Grand Total	462	701	0	1163	192	234	0	426	536	262	0	798	2387
Apprch %	39.7	60.3	0		45.1	54.9	0		67.2	32.8	0		
Total %	19.4	29.4	0	48.7	8	9.8	0	17.8	22.5	11	0	33.4	
Unshifted	462	701	0	1163	192	234	0	426	536	262	0	798	2387
% Unshifted	100	100	0	100	100	100	0	100	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0

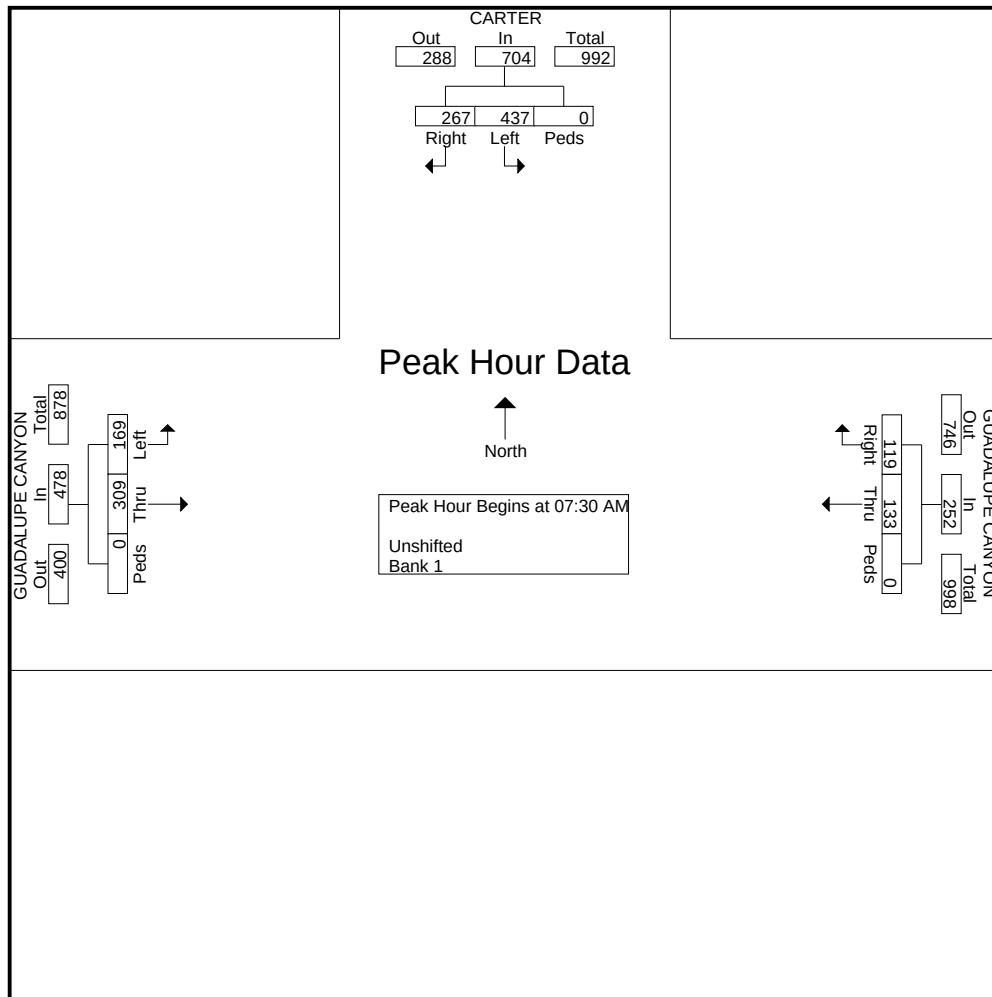


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P.O.Box 4205
San Leandro, CA 94579
Data You Can Count On

File Name : Carter & Guadalupe AM
Site Code : 00000000
Start Date : 9/24/2015
Page No : 2

	CARTER From North				GUADALUPE CANYON From East				GUADALUPE CANYON From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	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	77	87	0	164	21	38	0	59	68	27	0	95	318
07:45 AM	87	119	0	206	26	32	0	58	87	48	0	135	399
08:00 AM	59	127	0	186	34	32	0	66	75	48	0	123	375
08:15 AM	44	104	0	148	38	31	0	69	79	46	0	125	342
Total Volume	267	437	0	704	119	133	0	252	309	169	0	478	1434
% App. Total	37.9	62.1	0		47.2	52.8	0		64.6	35.4	0		
PHF	.767	.860	.000	.854	.783	.875	.000	.913	.888	.880	.000	.885	.898



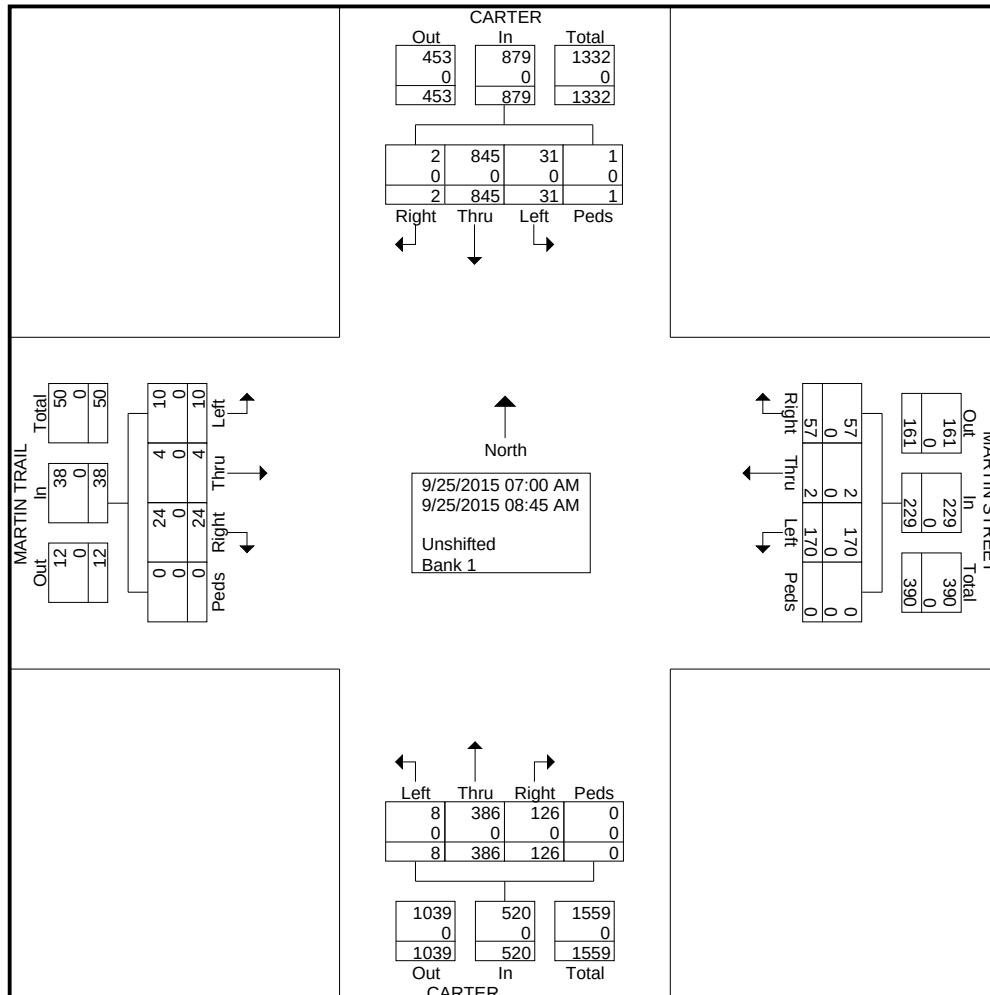
Traffic Research Assoc.

P.O.Box 4205
San Leandro, CA 94579
Data You Can Count On

File Name : Carter & Martin AM
Site Code : 00000000
Start Date : 9/25/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	CARTER From North					MARTIN STREET From East					CARTER From South					MARTIN TRAIL From West					
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	70	1	1	72	7	0	16	0	23	12	39	1	0	52	2	0	4	0	6	153
07:15 AM	0	83	3	0	86	10	0	24	0	34	6	56	1	0	63	1	2	1	0	4	187
07:30 AM	0	120	5	0	125	13	0	25	0	38	7	68	1	0	76	4	0	0	0	4	243
07:45 AM	1	129	4	0	134	9	0	27	0	36	26	51	0	0	77	3	0	1	0	4	251
Total	1	402	13	1	417	39	0	92	0	131	51	214	3	0	268	10	2	6	0	18	834
08:00 AM	0	135	4	0	139	3	0	21	0	24	25	59	1	0	85	6	2	0	0	8	256
08:15 AM	1	126	6	0	133	4	1	21	0	26	27	54	3	0	84	4	0	1	0	5	248
08:30 AM	0	99	4	0	103	5	1	17	0	23	10	32	0	0	42	2	0	0	0	2	170
08:45 AM	0	83	4	0	87	6	0	19	0	25	13	27	1	0	41	2	0	3	0	5	158
Total	1	443	18	0	462	18	2	78	0	98	75	172	5	0	252	14	2	4	0	20	832
Grand Total	2	845	31	1	879	57	2	170	0	229	126	386	8	0	520	24	4	10	0	38	1666
Apprch %	0.2	96.1	3.5	0.1		24.9	0.9	74.2	0		24.2	74.2	1.5	0		63.2	10.5	26.3	0		
Total %	0.1	50.7	1.9	0.1	52.8	3.4	0.1	10.2	0	13.7	7.6	23.2	0.5	0	31.2	1.4	0.2	0.6	0	2.3	
Unshifted	2	845	31	1	879	57	2	170	0	229	126	386	8	0	520	24	4	10	0	38	1666
% Unshifted	100	100	100	100	100	100	100	100	0	100	100	100	100	0	100	100	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

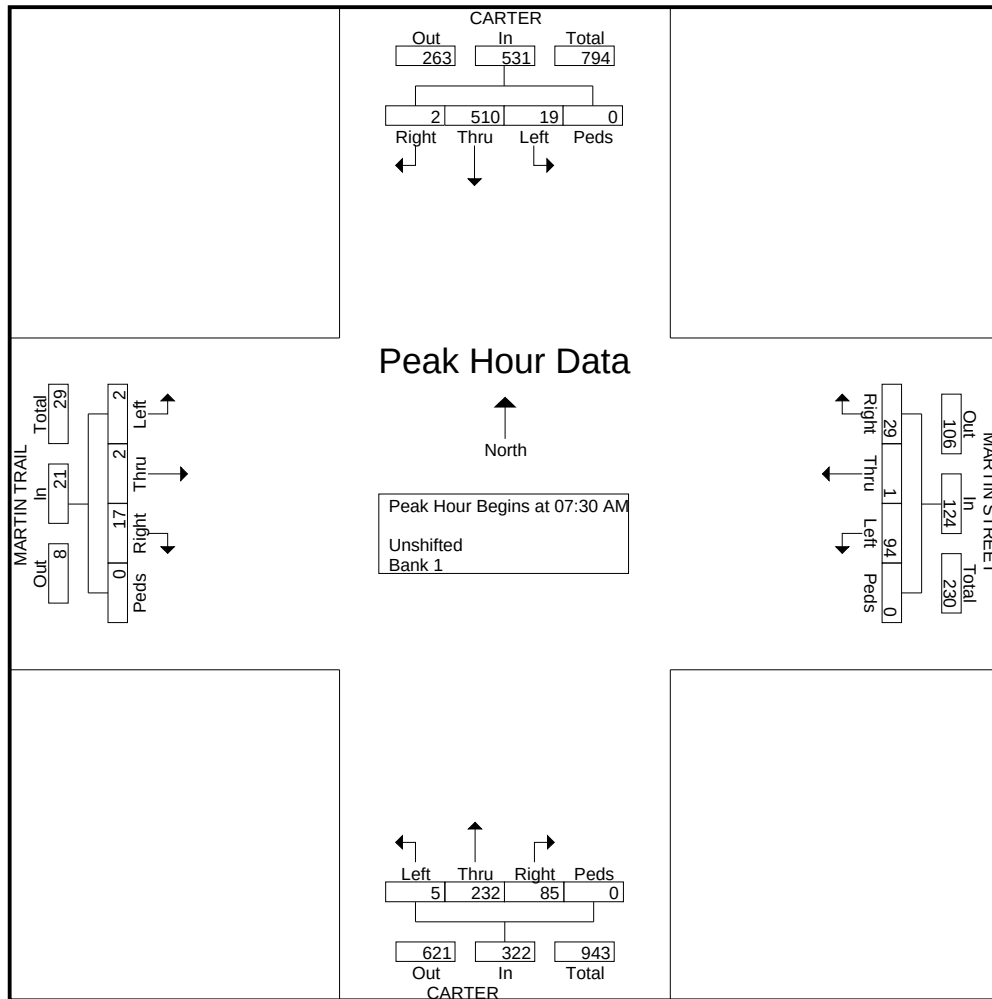


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San Leandro, CA 94579
Data You Can Count On

File Name : Carter & Martin AM
Site Code : 00000000
Start Date : 9/25/2015
Page No : 2

	CARTER From North					MARTIN STREET From East					CARTER From South					MARTIN TRAIL From West					
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
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	120	5	0	125	13	0	25	0	38	7	68	1	0	76	4	0	0	0	4	243
07:45 AM	1	129	4	0	134	9	0	27	0	36	26	51	0	0	77	3	0	1	0	4	251
08:00 AM	0	135	4	0	139	3	0	21	0	24	25	59	1	0	85	6	2	0	0	8	256
08:15 AM	1	126	6	0	133	4	1	21	0	26	27	54	3	0	84	4	0	1	0	5	248
Total Volume	2	510	19	0	531	29	1	94	0	124	85	232	5	0	322	17	2	2	0	21	998
% App. Total	0.4	96	3.6	0		23.4	0.8	75.8	0		26.4	72	1.6	0		81	9.5	9.5	0		
PHF	.500	.944	.792	.000	.955	.558	.250	.870	.000	.816	.787	.853	.417	.000	.947	.708	.250	.500	.000	.656	.975



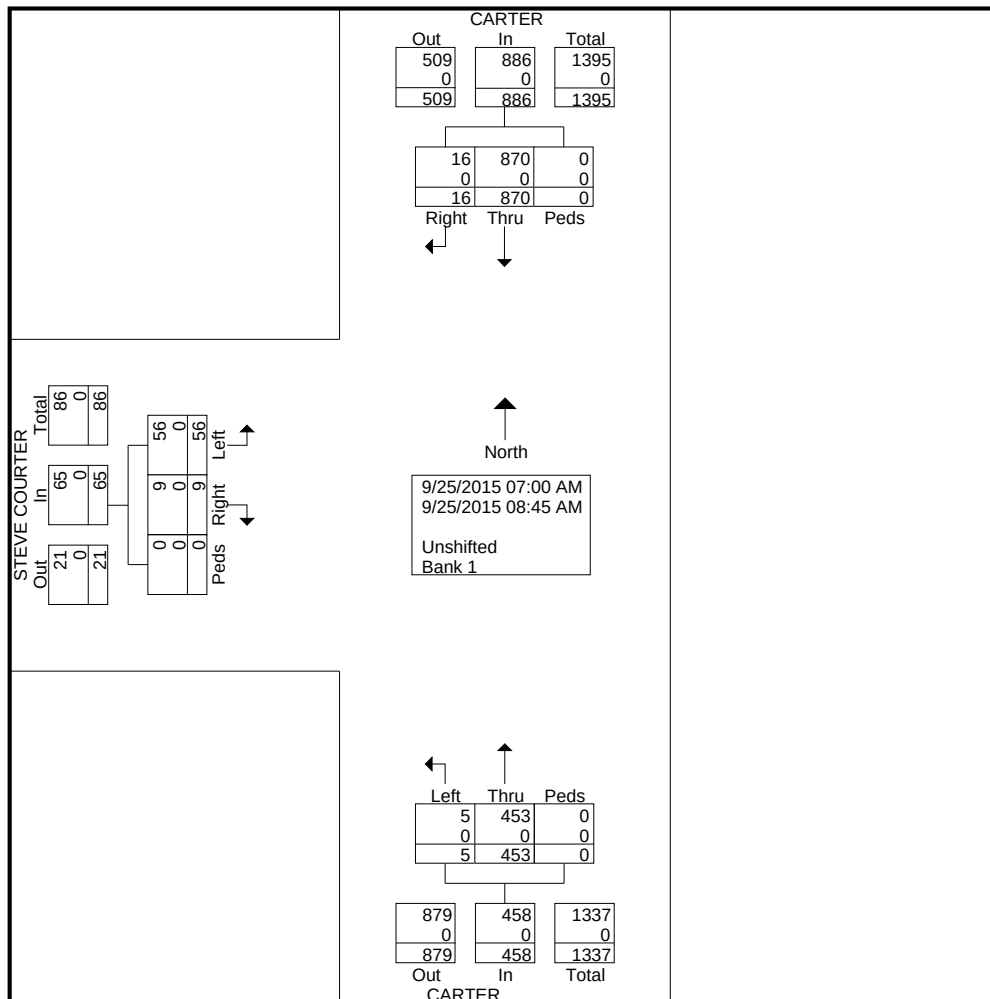
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P.O.Box 4205
San Leandro, CA 94579
Data You Can Count On

File Name : Carter & Steve Courter AM
Site Code : 00000000
Start Date : 9/25/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	CARTER From North				CARTER From South				STEVE COURTER From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
07:00 AM	0	73	0	73	50	0	0	50	0	8	0	8	131
07:15 AM	4	90	0	94	65	0	0	65	1	8	0	9	168
07:30 AM	1	119	0	120	82	0	0	82	2	13	0	15	217
07:45 AM	2	139	0	141	59	1	0	60	3	9	0	12	213
Total	7	421	0	428	256	1	0	257	6	38	0	44	729
08:00 AM	3	147	0	150	62	1	0	63	0	4	0	4	217
08:15 AM	1	116	0	117	60	1	0	61	1	3	0	4	182
08:30 AM	4	102	0	106	39	0	0	39	2	7	0	9	154
08:45 AM	1	84	0	85	36	2	0	38	0	4	0	4	127
Total	9	449	0	458	197	4	0	201	3	18	0	21	680
Grand Total	16	870	0	886	453	5	0	458	9	56	0	65	1409
Apprch %	1.8	98.2	0		98.9	1.1	0		13.8	86.2	0		
Total %	1.1	61.7	0	62.9	32.2	0.4	0	32.5	0.6	4	0	4.6	
Unshifted	16	870	0	886	453	5	0	458	9	56	0	65	1409
% Unshifted	100	100	0	100	100	100	0	100	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0

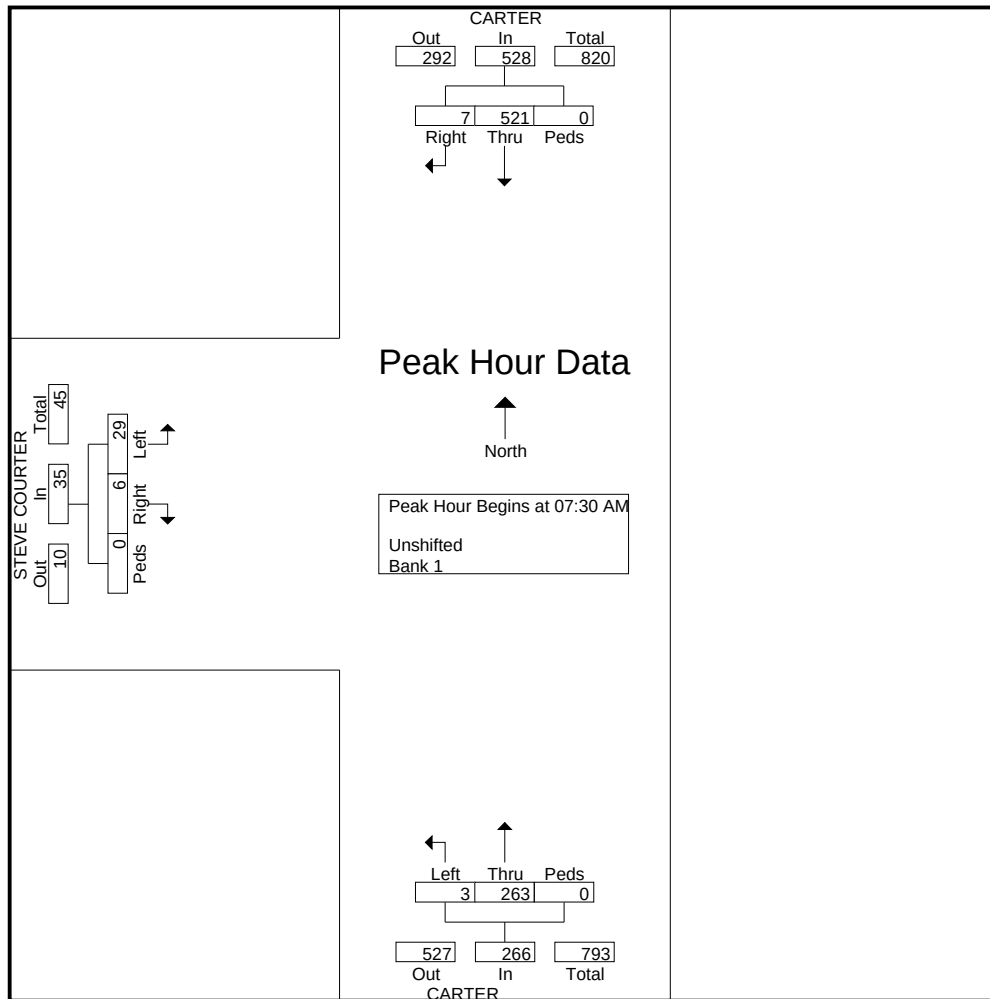


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P.O.Box 4205
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Data You Can Count On

File Name : Carter & Steve Courter AM
Site Code : 00000000
Start Date : 9/25/2015
Page No : 2

	CARTER From North				CARTER From South				STEVE COURTER From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	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	119	0	120	82	0	0	82	2	13	0	15	217
07:45 AM	2	139	0	141	59	1	0	60	3	9	0	12	213
08:00 AM	3	147	0	150	62	1	0	63	0	4	0	4	217
08:15 AM	1	116	0	117	60	1	0	61	1	3	0	4	182
Total Volume	7	521	0	528	263	3	0	266	6	29	0	35	829
% App. Total	1.3	98.7	0		98.9	1.1	0		17.1	82.9	0		
PHF	.583	.886	.000	.880	.802	.750	.000	.811	.500	.558	.000	.583	.955



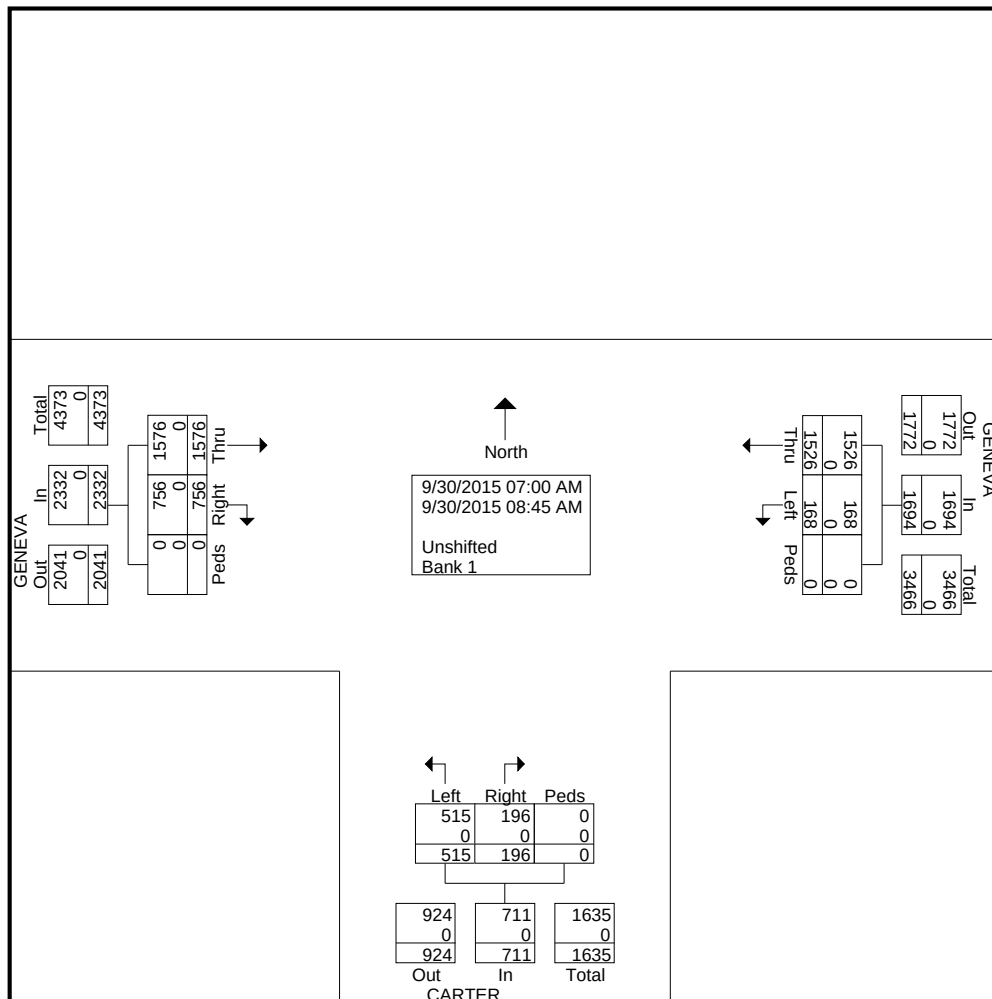
Traffic Research Assoc.

P.O.Box 4205
San Leandro, CA 94579
Data You Can Count On

File Name : Carter & Geneva AM
Site Code : 00000000
Start Date : 9/30/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	GENEVA From East				CARTER From South				GENEVA From West				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
07:00 AM	114	5	0	119	32	56	0	88	57	136	0	193	400
07:15 AM	182	23	0	205	23	88	0	111	81	131	0	212	528
07:30 AM	214	20	0	234	18	75	0	93	74	188	0	262	589
07:45 AM	213	33	0	246	30	74	0	104	141	196	0	337	687
Total	723	81	0	804	103	293	0	396	353	651	0	1004	2204
08:00 AM	207	19	0	226	22	71	0	93	98	219	0	317	636
08:15 AM	210	23	0	233	30	68	0	98	142	248	0	390	721
08:30 AM	246	22	0	268	18	49	0	67	73	222	0	295	630
08:45 AM	140	23	0	163	23	34	0	57	90	236	0	326	546
Total	803	87	0	890	93	222	0	315	403	925	0	1328	2533
Grand Total	1526	168	0	1694	196	515	0	711	756	1576	0	2332	4737
Apprch %	90.1	9.9	0		27.6	72.4	0		32.4	67.6	0		
Total %	32.2	3.5	0	35.8	4.1	10.9	0	15	16	33.3	0	49.2	
Unshifted	1526	168	0	1694	196	515	0	711	756	1576	0	2332	4737
% Unshifted	100	100	0	100	100	100	0	100	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0

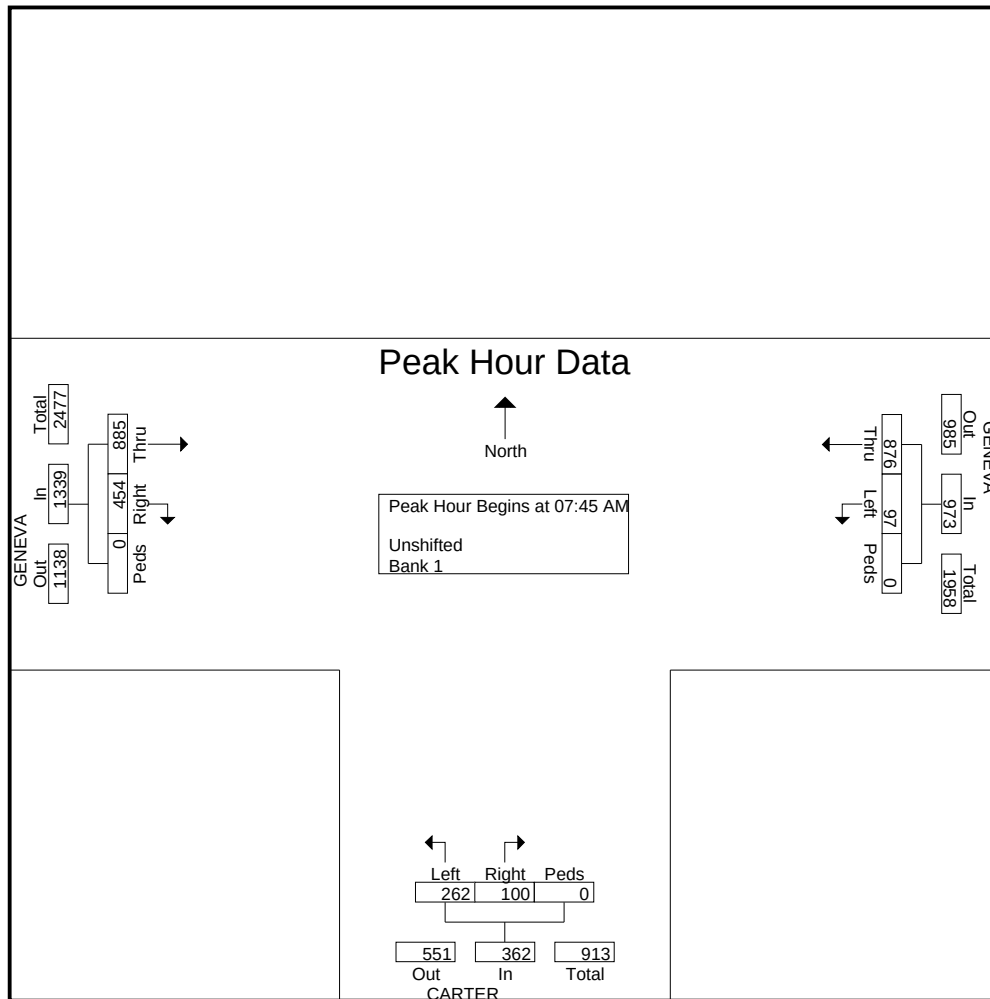


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P.O.Box 4205
San Leandro, CA 94579
Data You Can Count On

File Name : Carter & Geneva AM
Site Code : 00000000
Start Date : 9/30/2015
Page No : 2

	GENEVA From East				CARTER From South				GENEVA From West				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	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 07:45 AM													
07:45 AM	213	33	0	246	30	74	0	104	141	196	0	337	687
08:00 AM	207	19	0	226	22	71	0	93	98	219	0	317	636
08:15 AM	210	23	0	233	30	68	0	98	142	248	0	390	721
08:30 AM	246	22	0	268	18	49	0	67	73	222	0	295	630
Total Volume	876	97	0	973	100	262	0	362	454	885	0	1339	2674
% App. Total	90	10	0		27.6	72.4	0		33.9	66.1	0		
PHF	.890	.735	.000	.908	.833	.885	.000	.870	.799	.892	.000	.858	.927



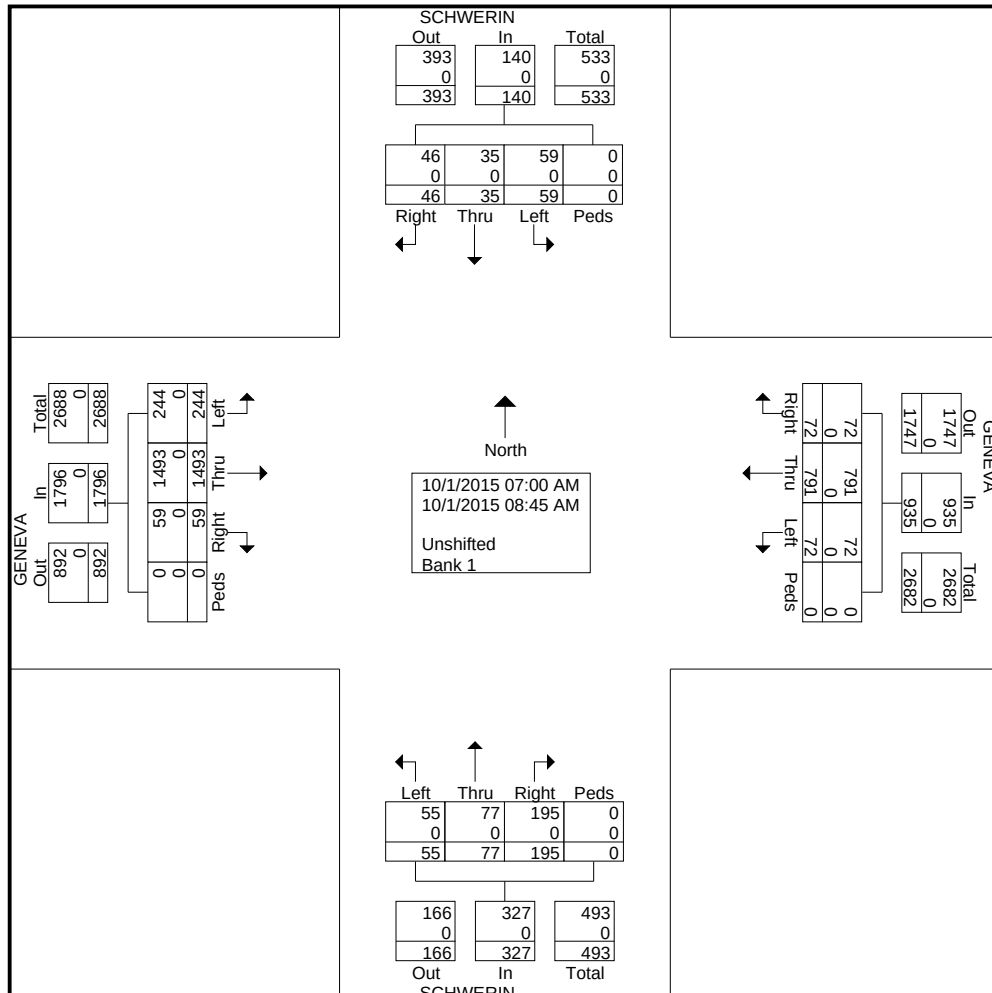
Traffic Research Assoc.

P.O.Box 4205
San Leandro, CA 94579
Data You Can Count On

File Name : Scherwin & Geneva AM
Site Code : 00000000
Start Date : 10/1/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	SCHWERIN From North					GENEVA From East					SCHWERIN From South					GENEVA From West					
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	5	1	6	0	12	5	65	7	0	77	28	4	3	0	35	2	195	8	0	205	329
07:15 AM	9	1	6	0	16	11	91	6	0	108	28	0	5	0	33	3	187	22	0	212	369
07:30 AM	9	1	6	0	16	13	99	8	0	120	26	9	9	0	44	3	202	25	0	230	410
07:45 AM	5	7	10	0	22	16	99	7	0	122	21	14	3	0	38	9	182	48	0	239	421
Total	28	10	28	0	66	45	354	28	0	427	103	27	20	0	150	17	766	103	0	886	1529
08:00 AM	2	10	10	0	22	5	108	15	0	128	17	21	10	0	48	12	171	31	0	214	412
08:15 AM	4	10	8	0	22	9	122	13	0	144	24	13	11	0	48	9	203	40	0	252	466
08:30 AM	8	4	8	0	20	7	110	10	0	127	25	11	7	0	43	16	204	45	0	265	455
08:45 AM	4	1	5	0	10	6	97	6	0	109	26	5	7	0	38	5	149	25	0	179	336
Total	18	25	31	0	74	27	437	44	0	508	92	50	35	0	177	42	727	141	0	910	1669
Grand Total	46	35	59	0	140	72	791	72	0	935	195	77	55	0	327	59	1493	244	0	1796	3198
Apprch %	32.9	25	42.1	0		7.7	84.6	7.7	0		59.6	23.5	16.8	0		3.3	83.1	13.6	0		
Total %	1.4	1.1	1.8	0	4.4	2.3	24.7	2.3	0	29.2	6.1	2.4	1.7	0	10.2	1.8	46.7	7.6	0	56.2	
Unshifted	46	35	59	0	140	72	791	72	0	935	195	77	55	0	327	59	1493	244	0	1796	3198
% Unshifted	100	100	100	0	100	100	100	100	0	100	100	100	100	0	100	100	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

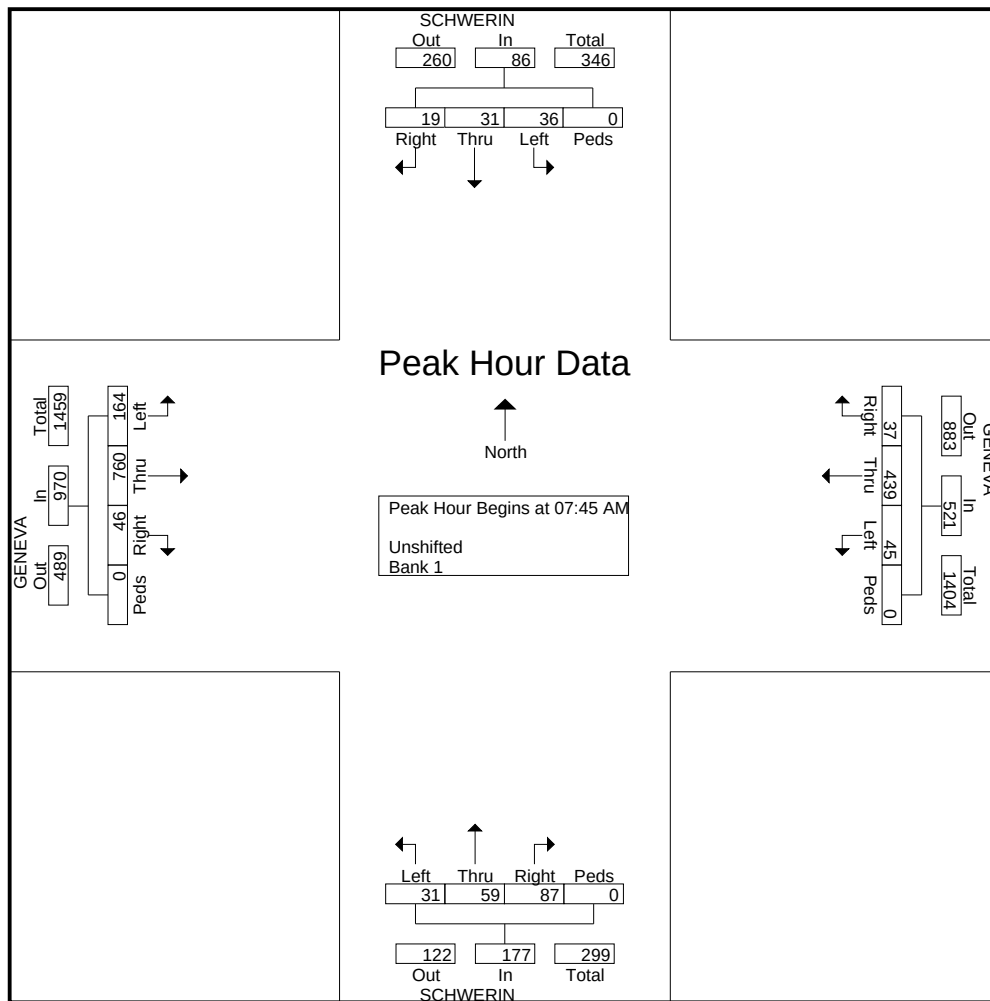


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P.O.Box 4205
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Data You Can Count On

File Name : Scherwin & Geneva AM
Site Code : 00000000
Start Date : 10/1/2015
Page No : 2

	SCHWERIN From North					GENEVA From East					SCHWERIN From South					GENEVA From West					
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
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	5	7	10	0	22	16	99	7	0	122	21	14	3	0	38	9	182	48	0	239	421
08:00 AM	2	10	10	0	22	5	108	15	0	128	17	21	10	0	48	12	171	31	0	214	412
08:15 AM	4	10	8	0	22	9	122	13	0	144	24	13	11	0	48	9	203	40	0	252	466
08:30 AM	8	4	8	0	20	7	110	10	0	127	25	11	7	0	43	16	204	45	0	265	455
Total Volume	19	31	36	0	86	37	439	45	0	521	87	59	31	0	177	46	760	164	0	970	1754
% App. Total	22.1	36	41.9	0		7.1	84.3	8.6	0		49.2	33.3	17.5	0		4.7	78.4	16.9	0		
PHF	.594	.775	.900	.000	.977	.578	.900	.750	.000	.905	.870	.702	.705	.000	.922	.719	.931	.854	.000	.915	.941



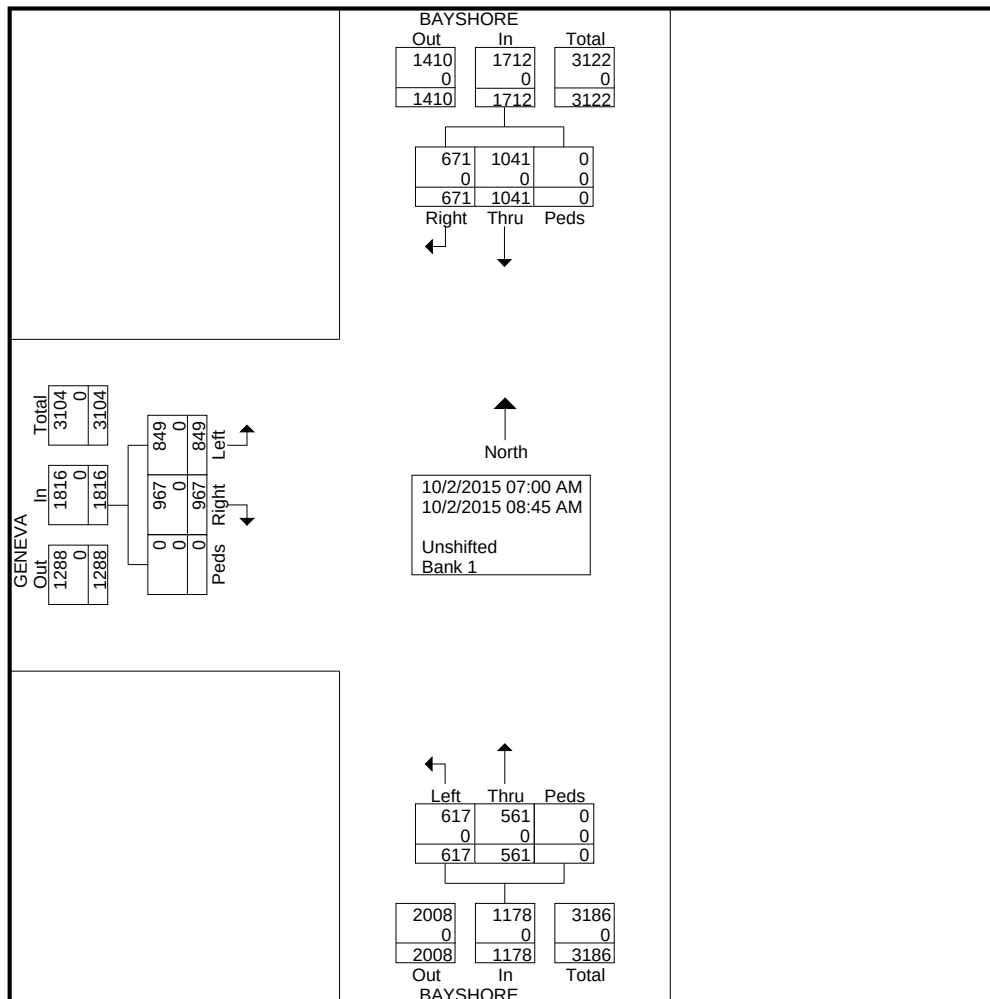
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P.O.Box 4205
San Leandro, CA 94579
Data You Can Count On

File Name : Bayshore & Geneva AM
Site Code : 00000000
Start Date : 10/2/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	BAYSHORE From North				BAYSHORE From South				GENEVA From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
07:00 AM	58	104	0	162	67	67	0	134	88	155	0	243	539
07:15 AM	66	102	0	168	59	63	0	122	125	107	0	232	522
07:30 AM	73	124	0	197	60	65	0	125	148	100	0	248	570
07:45 AM	87	142	0	229	87	94	0	181	146	95	0	241	651
Total	284	472	0	756	273	289	0	562	507	457	0	964	2282
08:00 AM	127	175	0	302	89	95	0	184	130	94	0	224	710
08:15 AM	98	148	0	246	75	86	0	161	113	93	0	206	613
08:30 AM	91	127	0	218	67	80	0	147	118	98	0	216	581
08:45 AM	71	119	0	190	57	67	0	124	99	107	0	206	520
Total	387	569	0	956	288	328	0	616	460	392	0	852	2424
Grand Total	671	1041	0	1712	561	617	0	1178	967	849	0	1816	4706
Apprch %	39.2	60.8	0		47.6	52.4	0		53.2	46.8	0		
Total %	14.3	22.1	0	36.4	11.9	13.1	0	25	20.5	18	0	38.6	
Unshifted	671	1041	0	1712	561	617	0	1178	967	849	0	1816	4706
% Unshifted	100	100	0	100	100	100	0	100	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0

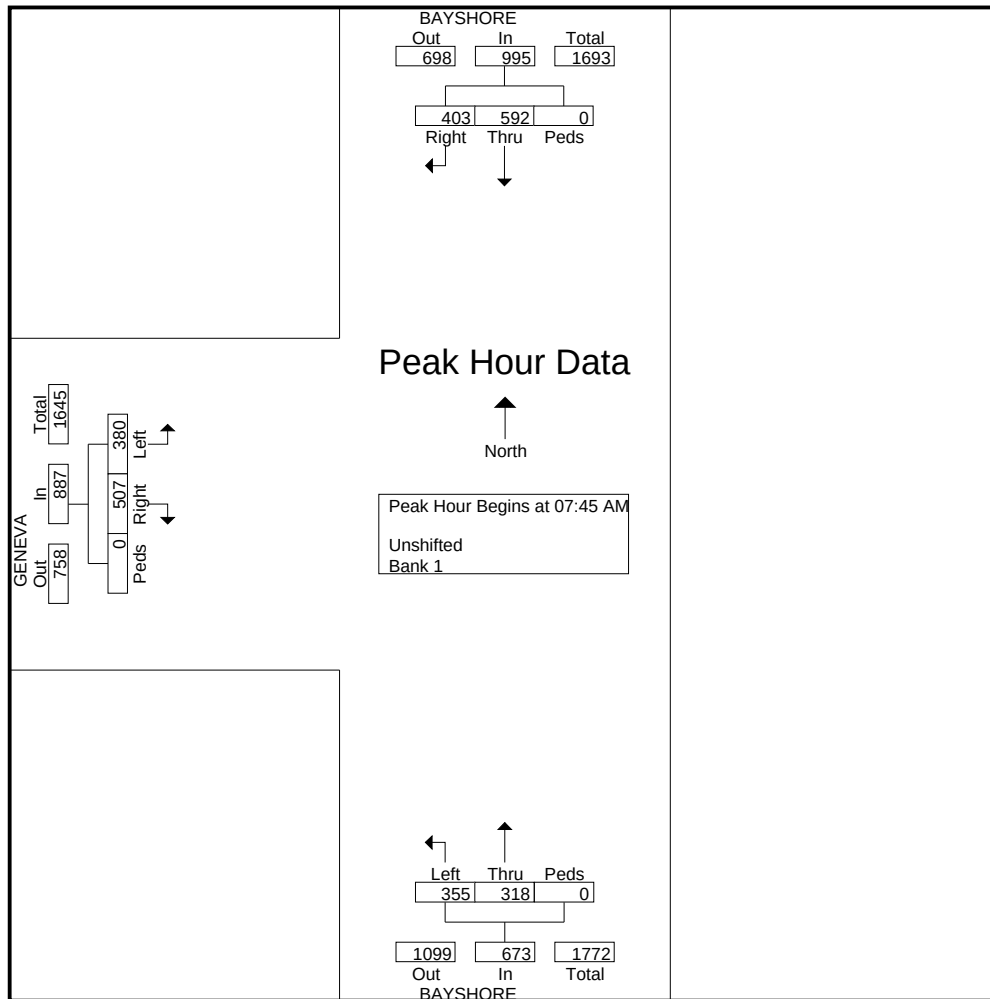


Traffic Research Assoc.

P.O.Box 4205
San Leandro, CA 94579
Data You Can Count On

File Name : Bayshore & Geneva AM
Site Code : 00000000
Start Date : 10/2/2015
Page No : 2

	BAYSHORE From North				BAYSHORE From South				GENEVA From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	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 07:45 AM													
07:45 AM	87	142	0	229	87	94	0	181	146	95	0	241	651
08:00 AM	127	175	0	302	89	95	0	184	130	94	0	224	710
08:15 AM	98	148	0	246	75	86	0	161	113	93	0	206	613
08:30 AM	91	127	0	218	67	80	0	147	118	98	0	216	581
Total Volume	403	592	0	995	318	355	0	673	507	380	0	887	2555
% App. Total	40.5	59.5	0		47.3	52.7	0		57.2	42.8	0		
PHF	.793	.846	.000	.824	.893	.934	.000	.914	.868	.969	.000	.920	.900



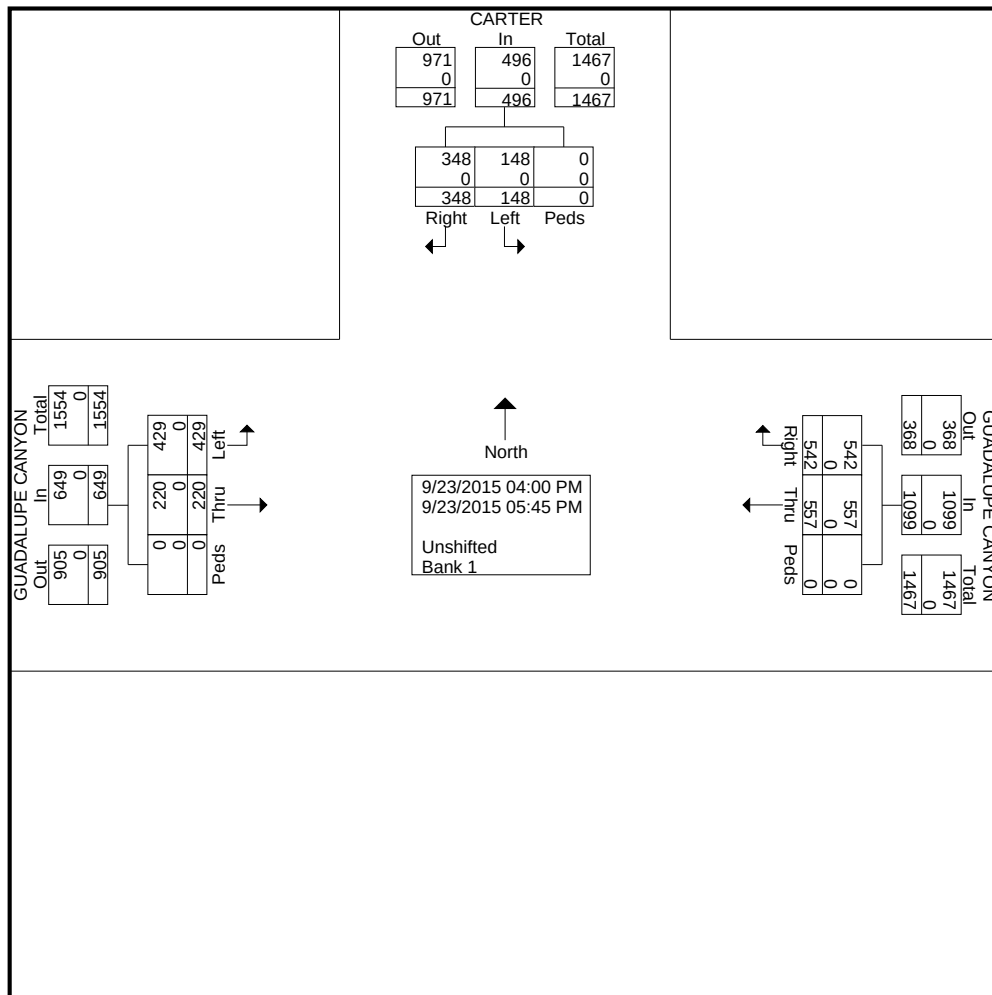
Traffic Research Assoc.

P.O.Box 4205
San Leandro, CA 94579
Data You Can Count On

File Name : Carter & Guadalupe PM
Site Code : 00000000
Start Date : 9/23/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	CARTER From North				GUADALUPE CANYON From East				GUADALUPE CANYON From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	34	20	0	54	50	59	0	109	15	46	0	61	224
04:15 PM	28	18	0	46	44	43	0	87	16	42	0	58	191
04:30 PM	35	12	0	47	67	46	0	113	27	59	0	86	246
04:45 PM	34	21	0	55	57	69	0	126	45	52	0	97	278
Total	131	71	0	202	218	217	0	435	103	199	0	302	939
05:00 PM	45	20	0	65	94	106	0	200	32	60	0	92	357
05:15 PM	51	20	0	71	87	87	0	174	34	59	0	93	338
05:30 PM	62	22	0	84	76	78	0	154	25	52	0	77	315
05:45 PM	59	15	0	74	67	69	0	136	26	59	0	85	295
Total	217	77	0	294	324	340	0	664	117	230	0	347	1305
Grand Total	348	148	0	496	542	557	0	1099	220	429	0	649	2244
Apprch %	70.2	29.8	0		49.3	50.7	0		33.9	66.1	0		
Total %	15.5	6.6	0	22.1	24.2	24.8	0	49	9.8	19.1	0	28.9	
Unshifted	348	148	0	496	542	557	0	1099	220	429	0	649	2244
% Unshifted	100	100	0	100	100	100	0	100	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0

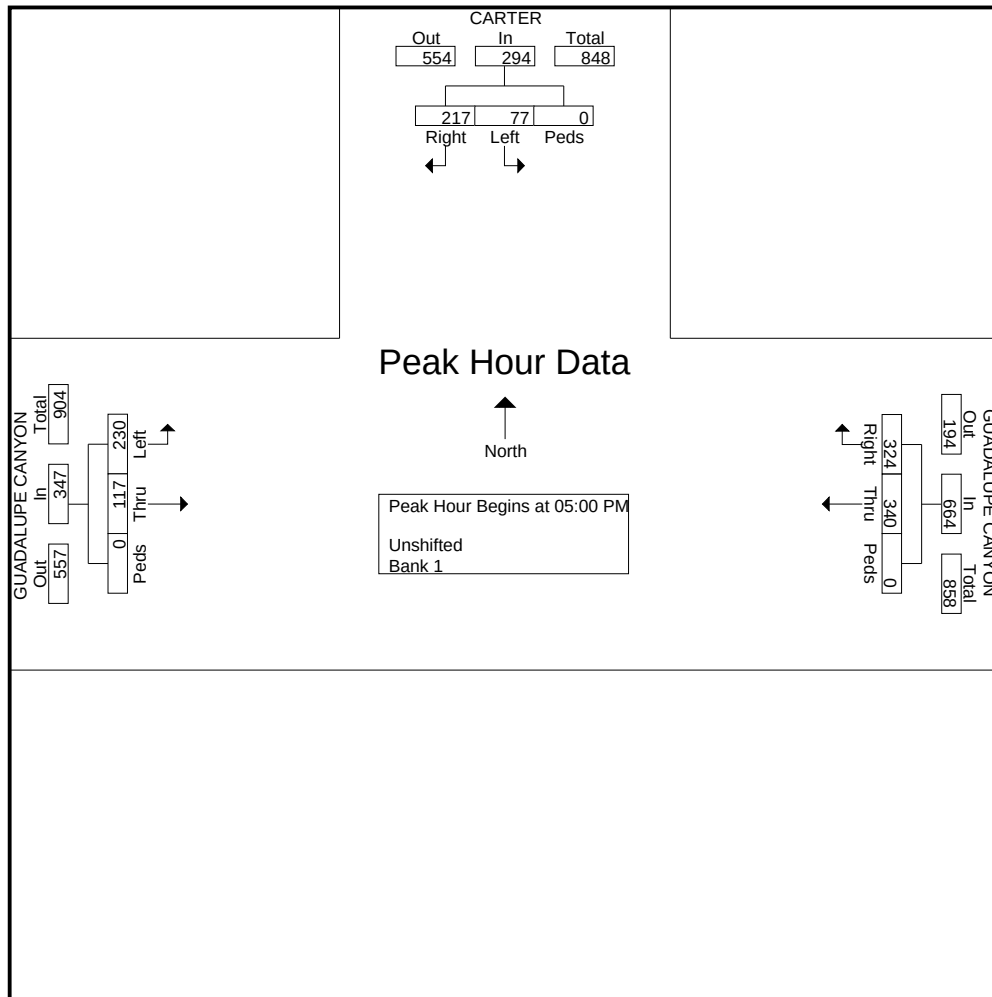


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File Name : Carter & Guadalupe PM
Site Code : 00000000
Start Date : 9/23/2015
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	CARTER From North				GUADALUPE CANYON From East				GUADALUPE CANYON From West				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	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 05:00 PM													
05:00 PM	45	20	0	65	94	106	0	200	32	60	0	92	357
05:15 PM	51	20	0	71	87	87	0	174	34	59	0	93	338
05:30 PM	62	22	0	84	76	78	0	154	25	52	0	77	315
05:45 PM	59	15	0	74	67	69	0	136	26	59	0	85	295
Total Volume	217	77	0	294	324	340	0	664	117	230	0	347	1305
% App. Total	73.8	26.2	0		48.8	51.2	0		33.7	66.3	0		
PHF	.875	.875	.000	.875	.862	.802	.000	.830	.860	.958	.000	.933	.914



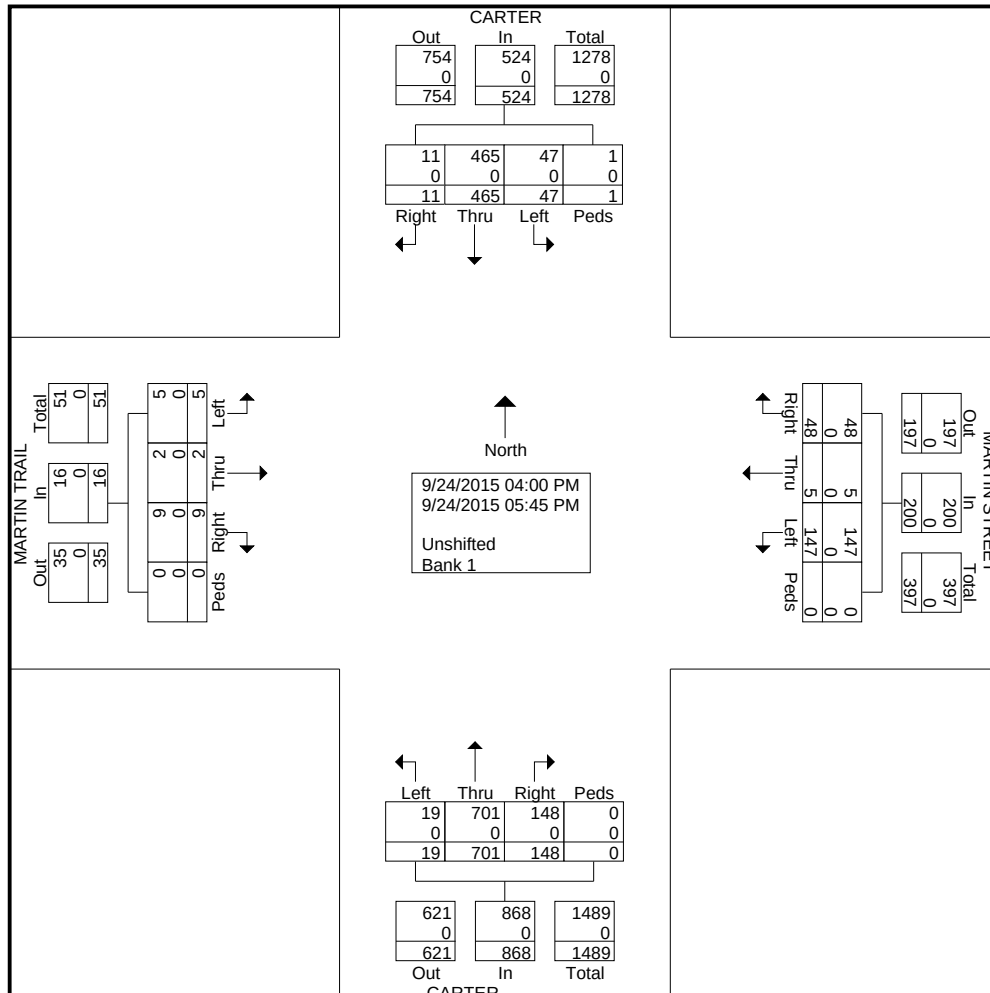
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P.O.Box 4205
San Leandro, CA 94579
Data You Can Count On

File Name : Carter & Martin PM
Site Code : 00000000
Start Date : 9/24/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	CARTER From North					MARTIN STREET From East					CARTER From South					MARTIN TRAIL From West					
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	46	2	1	49	4	0	7	0	11	20	70	6	0	96	3	0	1	0	4	160
04:15 PM	0	55	2	0	57	7	1	14	0	22	16	63	3	0	82	1	0	0	0	1	162
04:30 PM	1	60	7	0	68	10	0	19	0	29	18	86	0	0	104	0	2	2	0	4	205
04:45 PM	5	61	5	0	71	6	1	14	0	21	21	82	1	0	104	3	0	0	0	3	199
Total	6	222	16	1	245	27	2	54	0	83	75	301	10	0	386	7	2	3	0	12	726
05:00 PM	1	65	5	0	71	4	1	27	0	32	16	107	1	0	124	0	0	0	0	0	227
05:15 PM	1	56	8	0	65	9	0	20	0	29	20	99	3	0	122	1	0	1	0	2	218
05:30 PM	1	59	6	0	66	6	1	23	0	30	19	92	2	0	113	1	0	1	0	2	211
05:45 PM	2	63	12	0	77	2	1	23	0	26	18	102	3	0	123	0	0	0	0	0	226
Total	5	243	31	0	279	21	3	93	0	117	73	400	9	0	482	2	0	2	0	4	882
Grand Total	11	465	47	1	524	48	5	147	0	200	148	701	19	0	868	9	2	5	0	16	1608
Apprch %	2.1	88.7	9	0.2		24	2.5	73.5	0		17.1	80.8	2.2	0		56.2	12.5	31.2	0		
Total %	0.7	28.9	2.9	0.1	32.6	3	0.3	9.1	0	12.4	9.2	43.6	1.2	0	54	0.6	0.1	0.3	0	1	
Unshifted	11	465	47	1	524	48	5	147	0	200	148	701	19	0	868	9	2	5	0	16	1608
% Unshifted	100	100	100	100	100	100	100	100	0	100	100	100	100	0	100	100	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

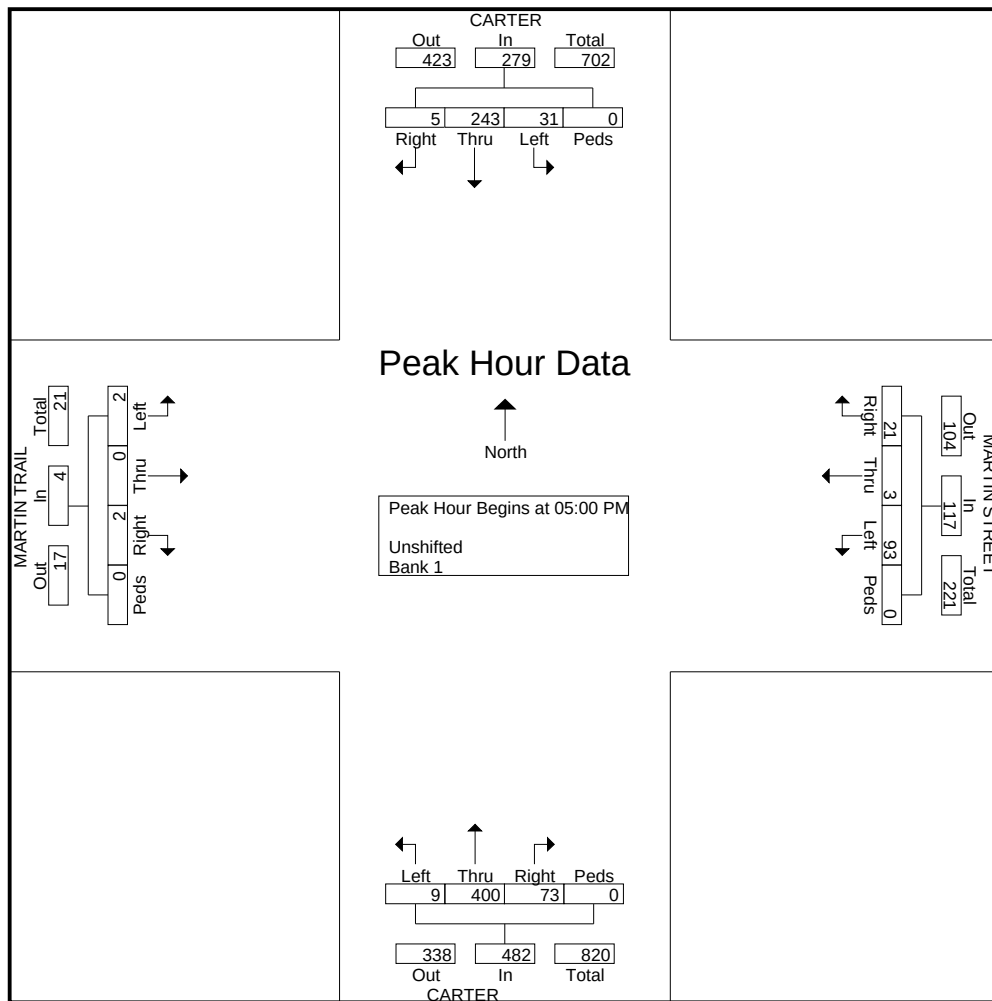


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File Name : Carter & Martin PM
Site Code : 00000000
Start Date : 9/24/2015
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	CARTER From North					MARTIN STREET From East					CARTER From South					MARTIN TRAIL From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	1	65	5	0	71	4	1	27	0	32	16	107	1	0	124	0	0	0	0	0	227
05:15 PM	1	56	8	0	65	9	0	20	0	29	20	99	3	0	122	1	0	1	0	2	218
05:30 PM	1	59	6	0	66	6	1	23	0	30	19	92	2	0	113	1	0	1	0	2	211
05:45 PM	2	63	12	0	77	2	1	23	0	26	18	102	3	0	123	0	0	0	0	0	226
Total Volume	5	243	31	0	279	21	3	93	0	117	73	400	9	0	482	2	0	2	0	4	882
% App. Total	1.8	87.1	11.1	0		17.9	2.6	79.5	0		15.1	83	1.9	0		50	0	50	0		
PHF	.625	.935	.646	.000	.906	.583	.750	.861	.000	.914	.913	.935	.750	.000	.972	.500	.000	.500	.000	.500	.971



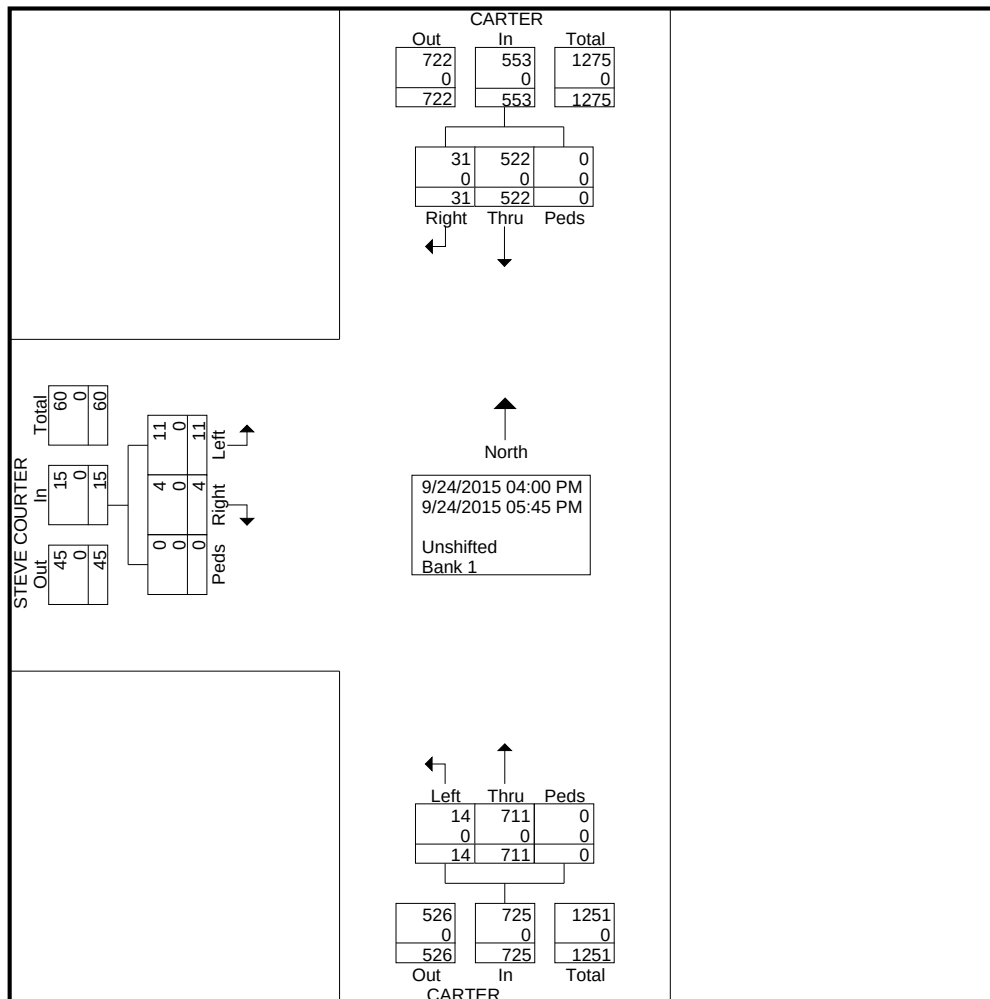
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File Name : Carter & Steve Courter PM
Site Code : 00000000
Start Date : 9/24/2015
Page No : 1

Groups Printed- Unshifted - Bank 1

	CARTER From North				CARTER From South				STEVE COURTER From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
04:00 PM	4	49	0	53	74	1	0	75	0	2	0	2	130
04:15 PM	2	58	0	60	66	3	0	69	0	0	0	0	129
04:30 PM	5	69	0	74	87	3	0	90	1	0	0	1	165
04:45 PM	4	71	0	75	85	0	0	85	1	0	0	1	161
Total	15	247	0	262	312	7	0	319	2	2	0	4	585
05:00 PM	3	65	0	68	110	1	0	111	1	2	0	3	182
05:15 PM	4	66	0	70	101	3	0	104	1	3	0	4	178
05:30 PM	3	67	0	70	96	1	0	97	0	1	0	1	168
05:45 PM	6	77	0	83	92	2	0	94	0	3	0	3	180
Total	16	275	0	291	399	7	0	406	2	9	0	11	708
Grand Total	31	522	0	553	711	14	0	725	4	11	0	15	1293
Apprch %	5.6	94.4	0		98.1	1.9	0		26.7	73.3	0		
Total %	2.4	40.4	0	42.8	55	1.1	0	56.1	0.3	0.9	0	1.2	
Unshifted	31	522	0	553	711	14	0	725	4	11	0	15	1293
% Unshifted	100	100	0	100	100	100	0	100	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0

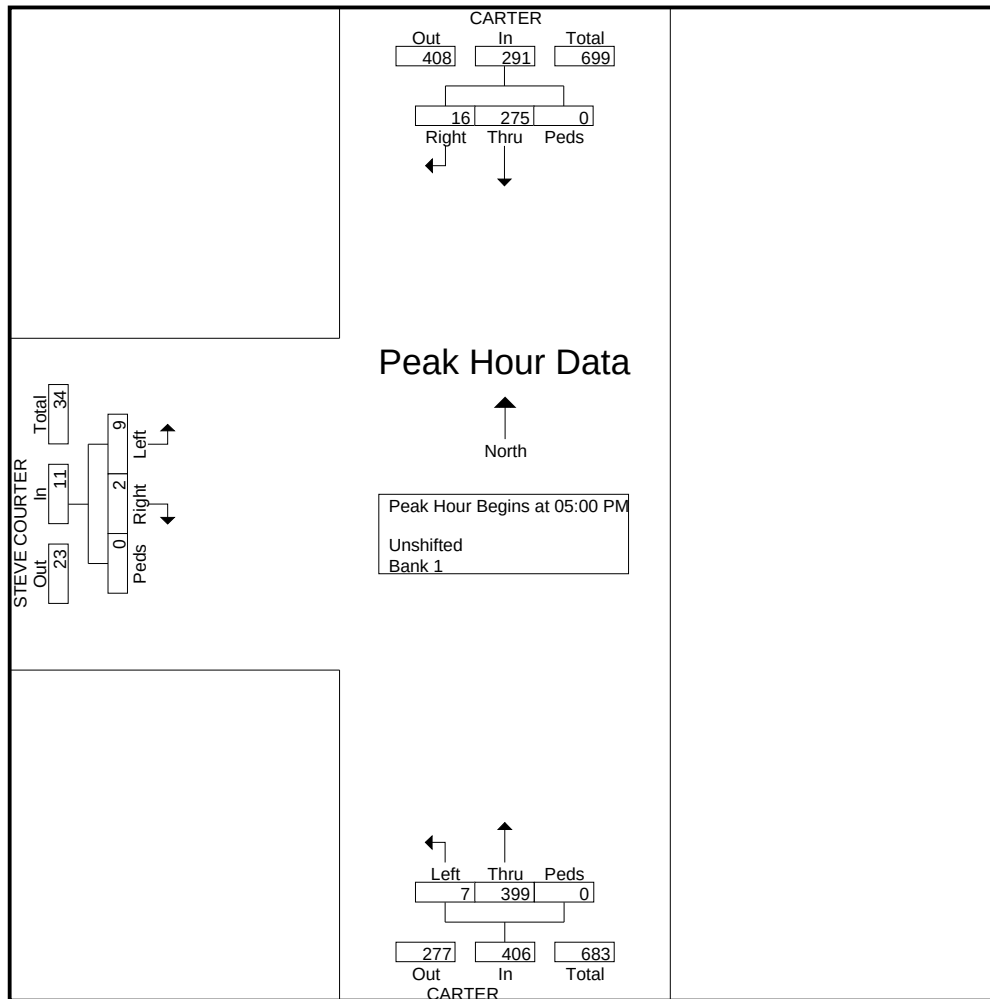


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File Name : Carter & Steve Courter PM
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	CARTER From North				CARTER From South				STEVE COURTER From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:00 PM													
05:00 PM	3	65	0	68	110	1	0	111	1	2	0	3	182
05:15 PM	4	66	0	70	101	3	0	104	1	3	0	4	178
05:30 PM	3	67	0	70	96	1	0	97	0	1	0	1	168
05:45 PM	6	77	0	83	92	2	0	94	0	3	0	3	180
Total Volume	16	275	0	291	399	7	0	406	2	9	0	11	708
% App. Total	5.5	94.5	0		98.3	1.7	0		18.2	81.8	0		
PHF	.667	.893	.000	.877	.907	.583	.000	.914	.500	.750	.000	.688	.973



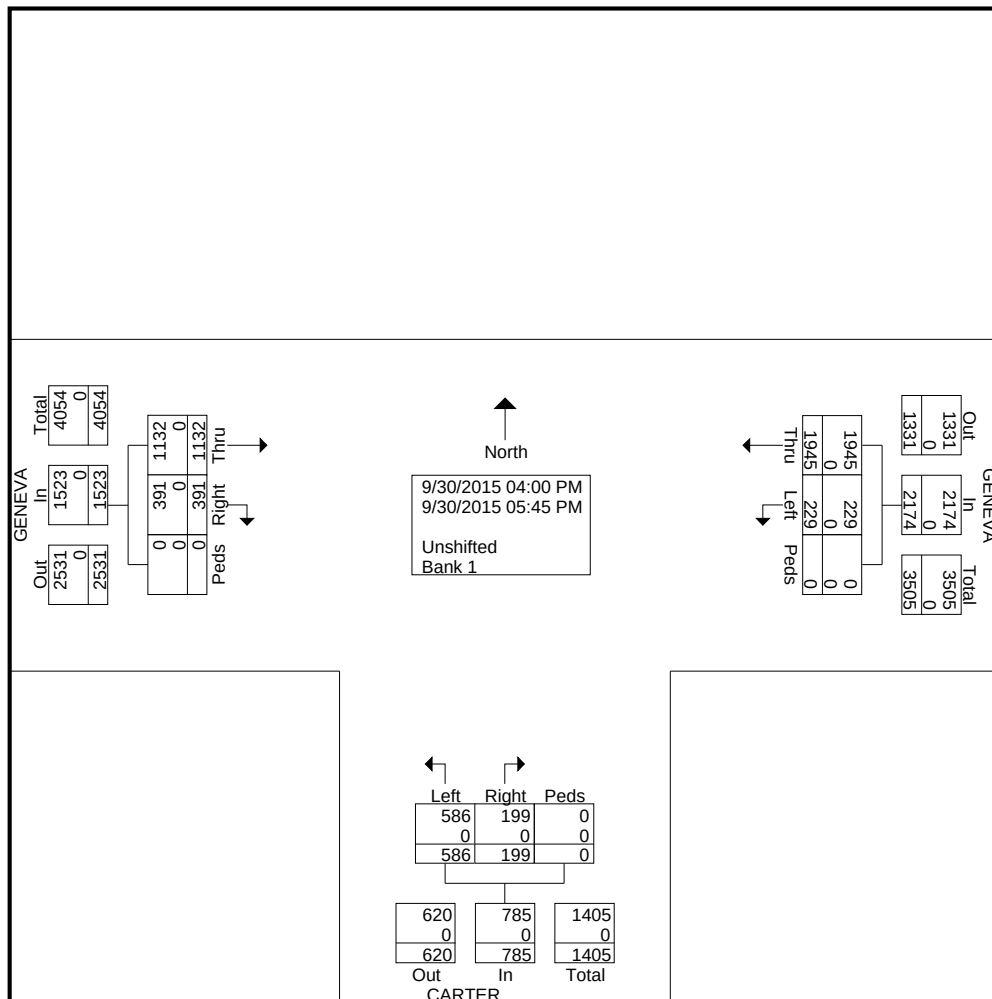
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Data You Can Count On

File Name : Carter & Geneva PM
Site Code : 00000000
Start Date : 9/30/2015
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Groups Printed- Unshifted - Bank 1

	GENEVA From East				CARTER From South				GENEVA From West				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
04:00 PM	153	26	0	179	13	54	0	67	41	116	0	157	403
04:15 PM	195	21	0	216	23	62	0	85	38	131	0	169	470
04:30 PM	251	26	0	277	25	68	0	93	48	128	0	176	546
04:45 PM	238	26	0	264	25	77	0	102	56	132	0	188	554
Total	837	99	0	936	86	261	0	347	183	507	0	690	1973
05:00 PM	250	29	0	279	27	85	0	112	52	149	0	201	592
05:15 PM	300	32	0	332	31	85	0	116	36	151	0	187	635
05:30 PM	288	42	0	330	20	69	0	89	62	174	0	236	655
05:45 PM	270	27	0	297	35	86	0	121	58	151	0	209	627
Total	1108	130	0	1238	113	325	0	438	208	625	0	833	2509
Grand Total	1945	229	0	2174	199	586	0	785	391	1132	0	1523	4482
Apprch %	89.5	10.5	0		25.4	74.6	0		25.7	74.3	0		
Total %	43.4	5.1	0	48.5	4.4	13.1	0	17.5	8.7	25.3	0	34	
Unshifted	1945	229	0	2174	199	586	0	785	391	1132	0	1523	4482
% Unshifted	100	100	0	100	100	100	0	100	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0

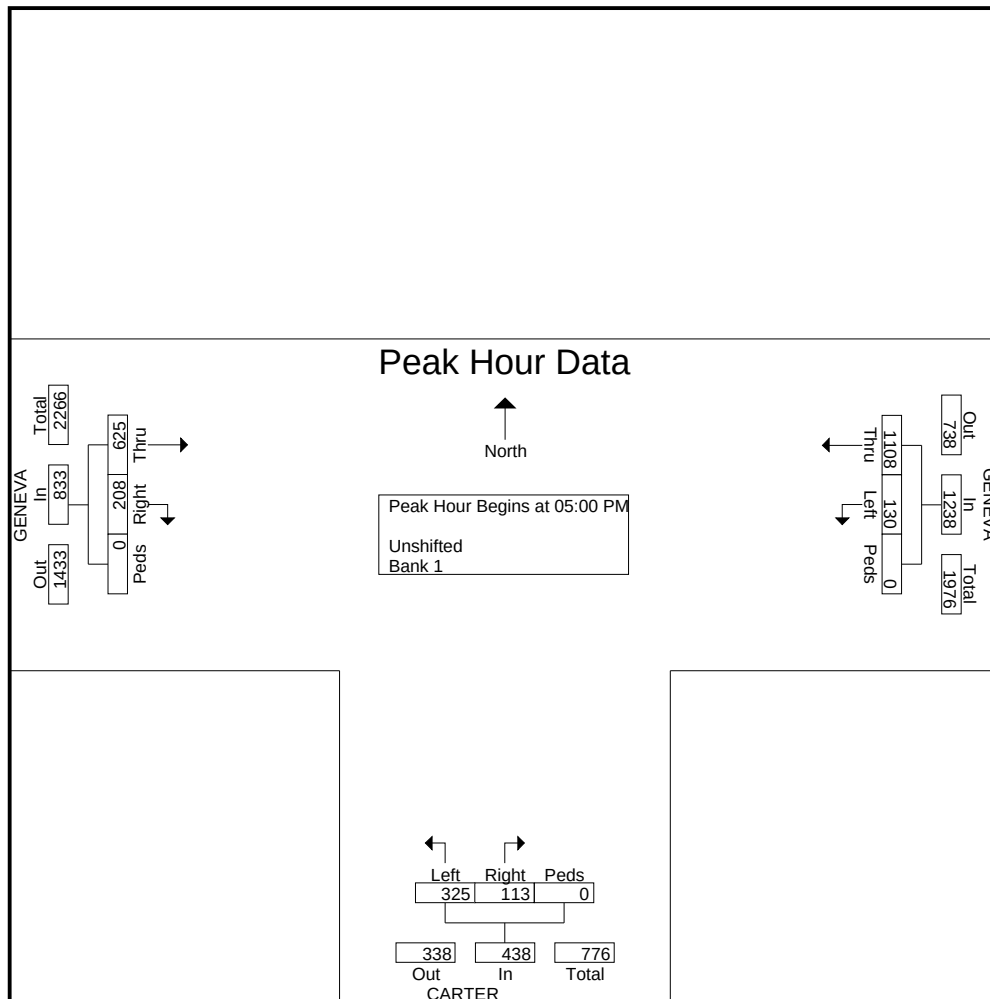


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Data You Can Count On

File Name : Carter & Geneva PM
Site Code : 00000000
Start Date : 9/30/2015
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	GENEVA From East				CARTER From South				GENEVA From West				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	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 05:00 PM													
05:00 PM	250	29	0	279	27	85	0	112	52	149	0	201	592
05:15 PM	300	32	0	332	31	85	0	116	36	151	0	187	635
05:30 PM	288	42	0	330	20	69	0	89	62	174	0	236	655
05:45 PM	270	27	0	297	35	86	0	121	58	151	0	209	627
Total Volume	1108	130	0	1238	113	325	0	438	208	625	0	833	2509
% App. Total	89.5	10.5	0		25.8	74.2	0		25	75	0		
PHF	.923	.774	.000	.932	.807	.945	.000	.905	.839	.898	.000	.882	.958



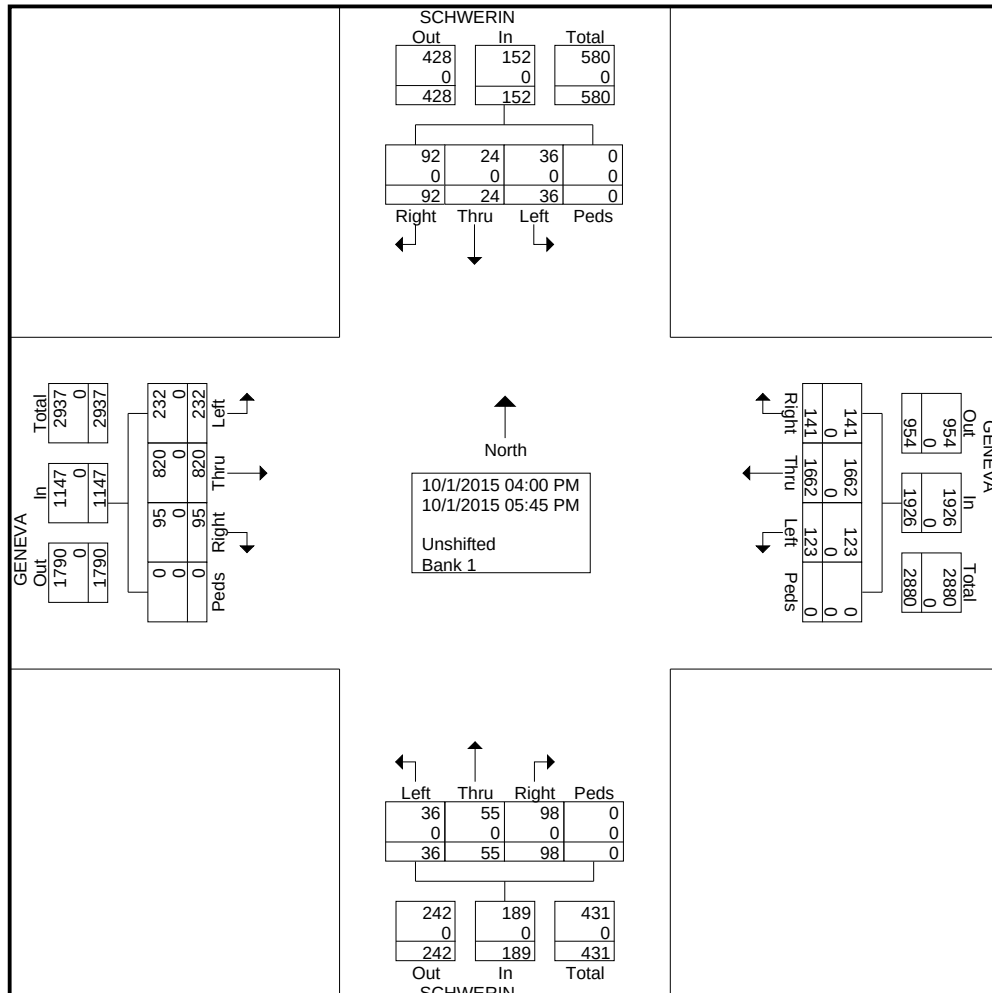
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P.O.Box 4205
San Leandro, CA 94579
Data You Can Count On

File Name : Scherwin & Geneva PM
Site Code : 00000000
Start Date : 10/1/2015
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Groups Printed- Unshifted - Bank 1

	SCHWERIN From North					GENEVA From East					SCHWERIN From South					GENEVA From West					
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	8	2	4	0	14	14	181	18	0	213	12	7	4	0	23	61	85	14	0	160	410
04:15 PM	12	2	3	0	17	13	169	12	0	194	9	5	4	0	18	4	103	29	0	136	365
04:30 PM	14	4	4	0	22	10	205	18	0	233	12	5	7	0	24	3	94	34	0	131	410
04:45 PM	14	5	4	0	23	12	228	18	0	258	15	10	4	0	29	3	105	29	0	137	447
Total	48	13	15	0	76	49	783	66	0	898	48	27	19	0	94	71	387	106	0	564	1632
05:00 PM	10	3	4	0	17	36	224	16	0	276	8	5	4	0	17	4	97	23	0	124	434
05:15 PM	15	3	4	0	22	29	213	12	0	254	12	6	4	0	22	5	101	28	0	134	432
05:30 PM	12	3	8	0	23	17	187	13	0	217	18	12	5	0	35	13	107	32	0	152	427
05:45 PM	7	2	5	0	14	10	255	16	0	281	12	5	4	0	21	2	128	43	0	173	489
Total	44	11	21	0	76	92	879	57	0	1028	50	28	17	0	95	24	433	126	0	583	1782
Grand Total	92	24	36	0	152	141	1662	123	0	1926	98	55	36	0	189	95	820	232	0	1147	3414
Apprch %	60.5	15.8	23.7	0		7.3	86.3	6.4	0		51.9	29.1	19	0		8.3	71.5	20.2	0		
Total %	2.7	0.7	1.1	0	4.5	4.1	48.7	3.6	0	56.4	2.9	1.6	1.1	0	5.5	2.8	24	6.8	0	33.6	
Unshifted	92	24	36	0	152	141	1662	123	0	1926	98	55	36	0	189	95	820	232	0	1147	3414
% Unshifted	100	100	100	0	100	100	100	100	0	100	100	100	100	0	100	100	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

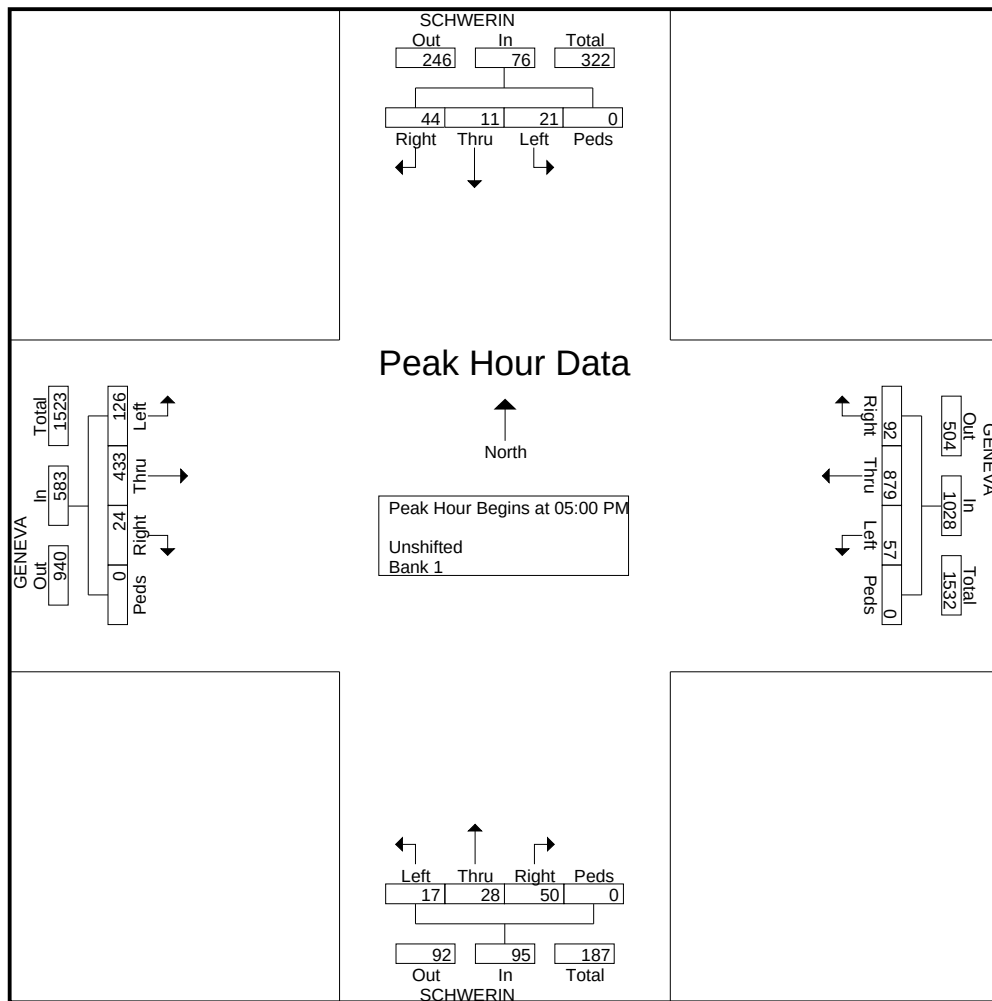


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	SCHWERIN From North					GENEVA From East					SCHWERIN From South					GENEVA From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	10	3	4	0	17	36	224	16	0	276	8	5	4	0	17	4	97	23	0	124	434
05:15 PM	15	3	4	0	22	29	213	12	0	254	12	6	4	0	22	5	101	28	0	134	432
05:30 PM	12	3	8	0	23	17	187	13	0	217	18	12	5	0	35	13	107	32	0	152	427
05:45 PM	7	2	5	0	14	10	255	16	0	281	12	5	4	0	21	2	128	43	0	173	489
Total Volume	44	11	21	0	76	92	879	57	0	1028	50	28	17	0	95	24	433	126	0	583	1782
% App. Total	57.9	14.5	27.6	0		8.9	85.5	5.5	0		52.6	29.5	17.9	0		4.1	74.3	21.6	0		
PHF	.733	.917	.656	.000	.826	.639	.862	.891	.000	.915	.694	.583	.850	.000	.679	.462	.846	.733	.000	.842	.911



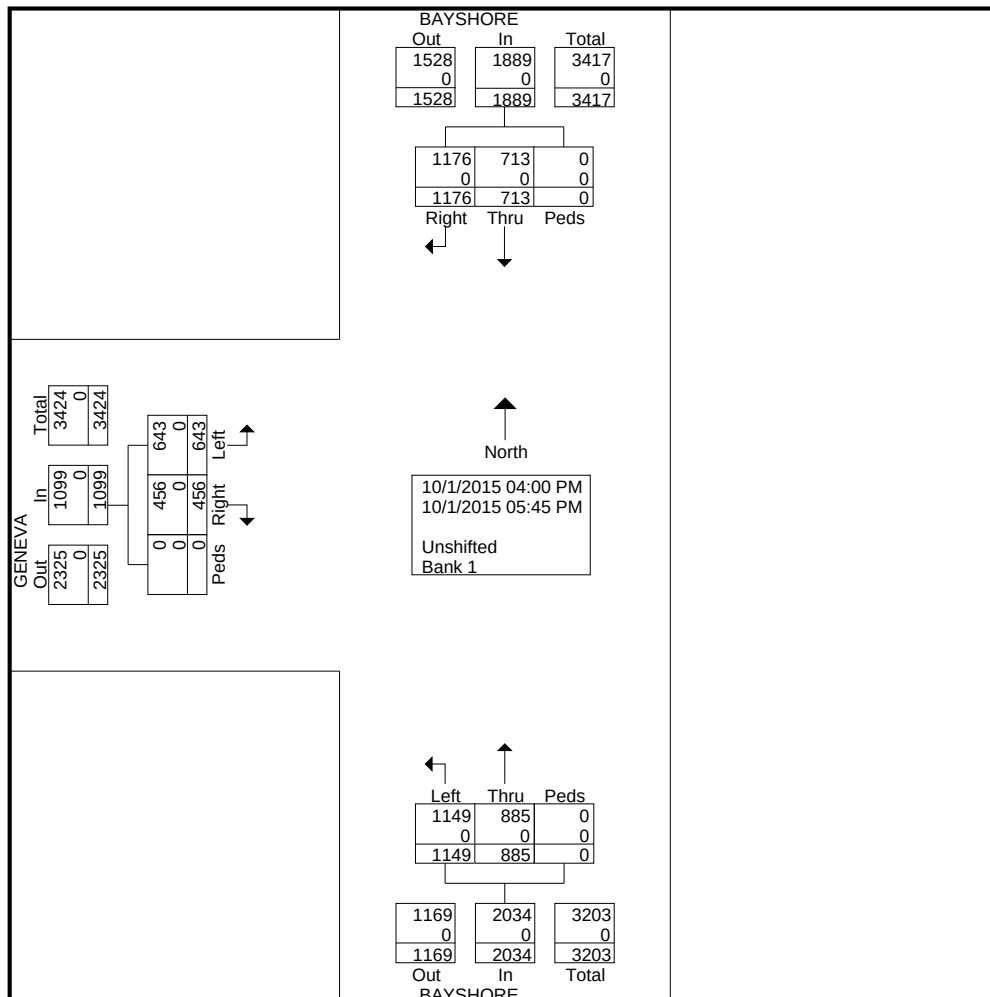
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File Name : Bayshore & Geneva PM
Site Code : 00000000
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Groups Printed- Unshifted - Bank 1

	BAYSHORE From North				BAYSHORE From South				GENEVA From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
04:00 PM	141	83	0	224	81	115	0	196	61	104	0	165	585
04:15 PM	120	118	0	238	110	83	0	193	58	66	0	124	555
04:30 PM	144	76	0	220	105	116	0	221	56	79	0	135	576
04:45 PM	158	89	0	247	91	156	0	247	60	80	0	140	634
Total	563	366	0	929	387	470	0	857	235	329	0	564	2350
05:00 PM	149	78	0	227	123	172	0	295	43	70	0	113	635
05:15 PM	153	86	0	239	123	200	0	323	64	92	0	156	718
05:30 PM	130	109	0	239	126	130	0	256	55	80	0	135	630
05:45 PM	181	74	0	255	126	177	0	303	59	72	0	131	689
Total	613	347	0	960	498	679	0	1177	221	314	0	535	2672
Grand Total	1176	713	0	1889	885	1149	0	2034	456	643	0	1099	5022
Apprch %	62.3	37.7	0		43.5	56.5	0		41.5	58.5	0		
Total %	23.4	14.2	0	37.6	17.6	22.9	0	40.5	9.1	12.8	0	21.9	
Unshifted	1176	713	0	1889	885	1149	0	2034	456	643	0	1099	5022
% Unshifted	100	100	0	100	100	100	0	100	100	100	0	100	100
Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bank 1	0	0	0	0	0	0	0	0	0	0	0	0	0

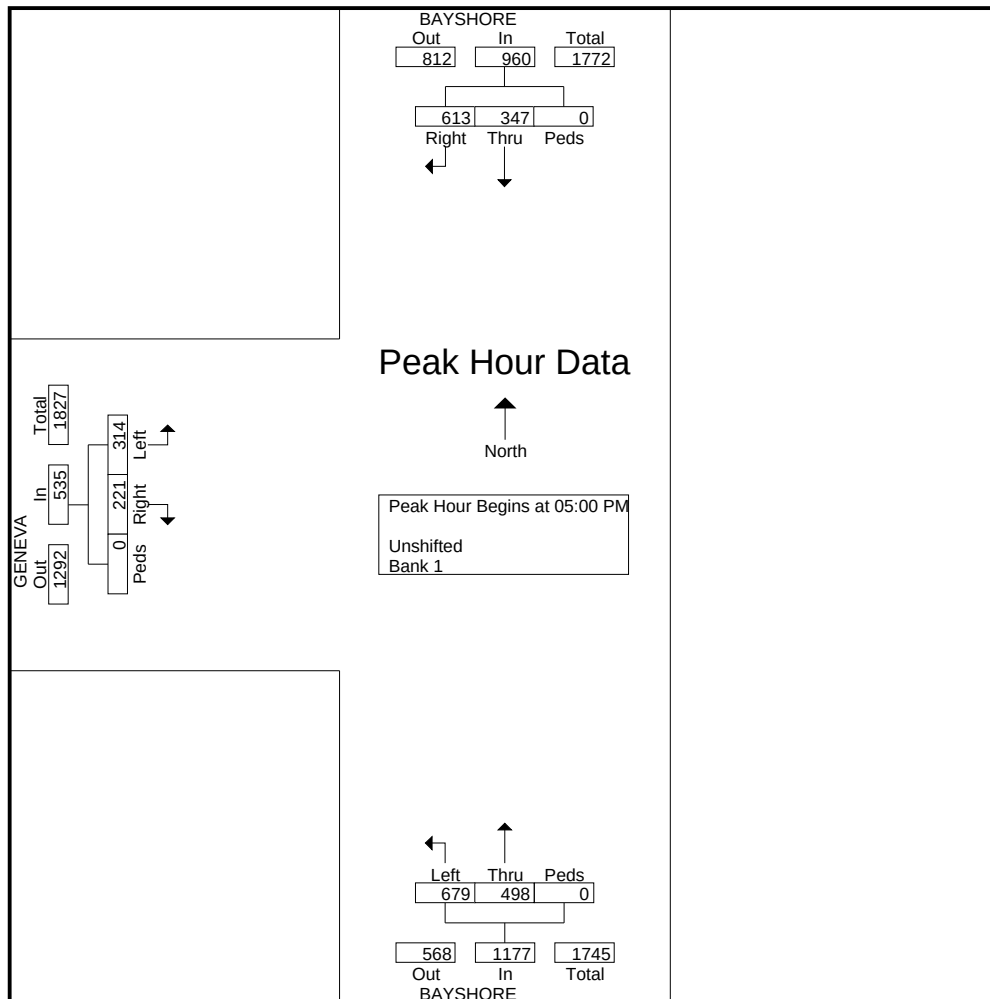


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Data You Can Count On

File Name : Bayshore & Geneva PM
Site Code : 00000000
Start Date : 10/1/2015
Page No : 2

	BAYSHORE From North				BAYSHORE From South				GENEVA From West				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	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 05:00 PM													
05:00 PM	149	78	0	227	123	172	0	295	43	70	0	113	635
05:15 PM	153	86	0	239	123	200	0	323	64	92	0	156	718
05:30 PM	130	109	0	239	126	130	0	256	55	80	0	135	630
05:45 PM	181	74	0	255	126	177	0	303	59	72	0	131	689
Total Volume	613	347	0	960	498	679	0	1177	221	314	0	535	2672
% App. Total	63.9	36.1	0		42.3	57.7	0		41.3	58.7	0		
PHF	.847	.796	.000	.941	.988	.849	.000	.911	.863	.853	.000	.857	.930



B. Levels of Service Calculation Worksheets



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	↰	↱	↰	↱	↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Volume (vph)	169	309	133	119	437	267
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	169	309	133	119	437	267
RTOR Reduction (vph)	0	0	0	83	0	205
Lane Group Flow (vph)	169	309	133	36	437	62
Turn Type	Prot			Over		Over
Protected Phases	5	2	6	4	4	5
Permitted Phases						
Actuated Green, G (s)	8.9	16.7	3.8	10.5	10.5	8.9
Effective Green, g (s)	8.9	18.7	5.8	11.5	11.5	8.9
Actuated g/C Ratio	0.23	0.49	0.15	0.30	0.30	0.23
Clearance Time (s)	4.0	6.0	6.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	412	1732	537	477	1033	369
v/s Ratio Prot	0.10	c0.09	0.04	0.08	c0.13	c0.17
v/s Ratio Perm						
v/c Ratio	0.41	0.18	0.25	0.08	0.42	0.17
Uniform Delay, d1	12.4	5.5	14.3	9.5	10.7	11.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.0	0.2	0.1	0.3	0.2
Delay (s)	13.1	5.5	14.5	9.6	11.0	11.9
Level of Service	B	A	B	A	B	B
Approach Delay (s)		8.2	12.2		11.3	
Approach LOS		A	B		B	

Intersection Summary			
HCM Average Control Delay	10.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	38.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Point Martin II
4: Martin Street & Carter Street

Existing AM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↖	↕	↗	↖	↕	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1817	1583		1775	1583	1770	1863	1583	1770	1862	
Flt Permitted		0.90	1.00		0.73	1.00	0.44	1.00	1.00	0.61	1.00	
Satd. Flow (perm)		1672	1583		1353	1583	814	1863	1583	1144	1862	
Volume (vph)	2	2	17	94	1	29	6	232	85	19	510	2
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	2	17	94	1	29	6	232	85	19	510	2
RTOR Reduction (vph)	0	0	14	0	0	24	0	0	27	0	0	0
Lane Group Flow (vph)	0	4	3	0	95	5	6	232	58	19	512	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8		8	4		4	2		2	6		
Actuated Green, G (s)		10.0	10.0		10.0	10.0	39.1	39.1	39.1	39.1	39.1	
Effective Green, g (s)		10.0	10.0		10.0	10.0	39.7	39.7	39.7	39.7	39.7	
Actuated g/C Ratio		0.17	0.17		0.17	0.17	0.69	0.69	0.69	0.69	0.69	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.6	3.6	3.6	3.6	3.6	
Lane Grp Cap (vph)		290	274		234	274	560	1282	1089	787	1281	
v/s Ratio Prot								0.12			c0.28	
v/s Ratio Perm		0.00	0.01		c0.07	0.02	0.01		0.05	0.02		
v/c Ratio		0.01	0.01		0.41	0.02	0.01	0.18	0.05	0.02	0.40	
Uniform Delay, d1		19.8	19.8		21.2	19.8	2.8	3.2	2.9	2.9	3.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		1.2	0.0	0.0	0.1	0.0	0.0	0.3	
Delay (s)		19.8	19.8		22.4	19.8	2.8	3.3	2.9	2.9	4.1	
Level of Service		B	B		C	B	A	A	A	A	A	
Approach Delay (s)		19.8			21.8			3.2			4.1	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM Average Control Delay		6.3										
HCM Volume to Capacity ratio		0.40										
Actuated Cycle Length (s)		57.7										
Intersection Capacity Utilization		47.2%										
Analysis Period (min)		15										
c Critical Lane Group												

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Volume (vph)	885	454	97	876	262	100
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	885	454	97	876	262	100
RTOR Reduction (vph)	0	234	0	0	0	59
Lane Group Flow (vph)	885	220	97	876	262	41
Turn Type	Perm		Prot	Perm		
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	24.0	24.0	7.5	35.0	29.8	29.8
Effective Green, g (s)	25.0	25.0	7.0	36.0	31.0	31.0
Actuated g/C Ratio	0.33	0.33	0.09	0.48	0.41	0.41
Clearance Time (s)	5.0	5.0	3.5	5.0	5.2	5.2
Lane Grp Cap (vph)	1180	528	165	1699	732	654
v/s Ratio Prot	0.25		0.05	c0.25	c0.15	
v/s Ratio Perm		0.29				0.06
v/c Ratio	0.75	0.42	0.59	0.52	0.36	0.06
Uniform Delay, d1	22.2	19.4	32.6	13.5	15.1	13.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	2.4	14.4	1.1	1.4	0.2
Delay (s)	26.6	21.8	47.1	14.6	16.5	13.4
Level of Service	C	C	D	B	B	B
Approach Delay (s)	25.0			17.8	15.7	
Approach LOS	C			B	B	
Intersection Summary						
HCM Average Control Delay		21.1		HCM Level of Service		C
HCM Volume to Capacity ratio		0.56				
Actuated Cycle Length (s)		75.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization		54.4%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0				4.0	4.0			4.0	4.0
Lane Util. Factor	0.97		0.88				0.97	0.95			0.95	0.88
Frt	1.00		0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	3433		2787				3433	3539			3539	2787
Flt Permitted	0.95		1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	3433		2787				3433	3539			3539	2787
Volume (vph)	380	0	507	0	0	0	355	318	0	0	592	403
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	380	0	507	0	0	0	355	318	0	0	592	403
RTOR Reduction (vph)	0	0	412	0	0	0	0	0	0	0	0	274
Lane Group Flow (vph)	380	0	95	0	0	0	355	318	0	0	592	129
Turn Type	custom		Over				Prot		Prot		Perm	
Protected Phases			5				5		2		1	
Permitted Phases	4										6	
Actuated Green, G (s)	12.5		9.5				9.5	29.2			15.7	15.7
Effective Green, g (s)	13.1		9.5				9.5	29.8			16.3	16.3
Actuated g/C Ratio	0.26		0.19				0.19	0.59			0.32	0.32
Clearance Time (s)	4.6		4.0				4.0	4.6			4.6	4.6
Vehicle Extension (s)	3.0		3.0				3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	884		520				641	2072			1133	892
v/s Ratio Prot			c0.18				0.10	0.09			c0.17	
v/s Ratio Perm	0.11											0.14
v/c Ratio	0.43		0.18				0.55	0.15			0.52	0.14
Uniform Delay, d1	15.8		17.4				18.8	4.8			14.1	12.3
Progression Factor	1.00		1.00				1.00	1.00			1.00	1.00
Incremental Delay, d2	0.3		0.2				1.0	0.0			0.4	0.1
Delay (s)	16.1		17.6				19.8	4.8			14.6	12.4
Level of Service	B		B				B	A			B	B
Approach Delay (s)		17.0			0.0			12.7			13.7	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM Average Control Delay			14.6				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			50.9				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			47.3%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Point Martin II
14: Geneva Avenue & Schwerin Street

Existing AM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.93			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1770	3509		1770	3498			1724			1770	
Flt Permitted	0.43	1.00		0.35	1.00			0.93			0.78	
Satd. Flow (perm)	792	3509		647	3498			1622			1416	
Volume (vph)	164	760	46	45	439	37	31	59	87	36	31	19
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	164	760	46	45	439	37	31	59	87	36	31	19
RTOR Reduction (vph)	0	3	0	0	6	0	0	73	0	0	16	0
Lane Group Flow (vph)	164	803	0	45	470	0	0	104	0	0	70	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	45.8	45.8		35.9	35.9			10.6			10.6	
Effective Green, g (s)	46.4	46.4		36.5	36.5			10.6			10.6	
Actuated g/C Ratio	0.71	0.71		0.56	0.56			0.16			0.16	
Clearance Time (s)	4.0	4.6		4.6	4.6			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	654	2505		363	1964			265			231	
v/s Ratio Prot	0.02	c0.23			0.14							
v/s Ratio Perm	0.16			0.07				c0.11			0.06	
v/c Ratio	0.25	0.32		0.12	0.24			0.39			0.30	
Uniform Delay, d1	3.1	3.5		6.7	7.2			24.3			23.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.3		0.7	0.3			1.0			0.7	
Delay (s)	3.3	3.8		7.4	7.5			25.3			24.7	
Level of Service	A	A		A	A			C			C	
Approach Delay (s)		3.7			7.5			25.3			24.7	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM Average Control Delay	8.0			HCM Level of Service			A					
HCM Volume to Capacity ratio	0.39											
Actuated Cycle Length (s)	65.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	51.6%			ICU Level of Service			A					
Analysis Period (min)	15											
c Critical Lane Group												



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	Y		Y	↑	↑	
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	29	6	3	263	521	7
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	29	6	3	263	521	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)				129	236	
pX, platoon unblocked						
vC, conflicting volume	794	524	528			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	794	524	528			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	92	99	100			
cM capacity (veh/h)	356	553	1039			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	35	3	263	528		
Volume Left	29	3	0	0		
Volume Right	6	0	0	7		
cSH	379	1039	1700	1700		
Volume to Capacity	0.09	0.00	0.15	0.31		
Queue Length 95th (ft)	8	0	0	0		
Control Delay (s)	15.5	8.5	0.0	0.0		
Lane LOS	C	A				
Approach Delay (s)	15.5	0.1		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization		37.8%		ICU Level of Service	A	
Analysis Period (min)		15				



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Volume (vph)	230	117	340	324	77	217
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	230	117	340	324	77	217
RTOR Reduction (vph)	0	0	0	254	0	173
Lane Group Flow (vph)	230	117	340	70	77	44
Turn Type	Prot			Over		Over
Protected Phases	5	2	6	4	4	5
Permitted Phases						
Actuated Green, G (s)	8.1	21.2	9.1	7.6	7.6	8.1
Effective Green, g (s)	8.1	23.2	11.1	8.6	8.6	8.1
Actuated g/C Ratio	0.20	0.58	0.28	0.22	0.22	0.20
Clearance Time (s)	4.0	6.0	6.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	360	2063	987	342	742	322
v/s Ratio Prot	0.13	0.03	c0.10	c0.20	0.02	c0.14
v/s Ratio Perm						
v/c Ratio	0.64	0.06	0.34	0.20	0.10	0.14
Uniform Delay, d1	14.5	3.6	11.4	12.8	12.5	13.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.7	0.0	0.2	0.3	0.1	0.2
Delay (s)	18.2	3.6	11.7	13.1	12.6	13.2
Level of Service	B	A	B	B	B	B
Approach Delay (s)		13.3	12.4		13.0	
Approach LOS		B	B		B	
Intersection Summary						
HCM Average Control Delay		12.8		HCM Level of Service		B
HCM Volume to Capacity ratio		0.63				
Actuated Cycle Length (s)		39.8		Sum of lost time (s)		12.0
Intersection Capacity Utilization		39.5%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

Point Martin II
4: Martin Street & Carter Street

Existing PM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1770	1583		1777	1583	1770	1863	1583	1770	1857	
Flt Permitted		0.69	1.00		0.73	1.00	0.61	1.00	1.00	0.51	1.00	
Satd. Flow (perm)		1294	1583		1363	1583	1127	1863	1583	952	1857	
Volume (vph)	2	0	2	93	3	21	9	400	73	31	243	5
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	0	2	93	3	21	9	400	73	31	243	5
RTOR Reduction (vph)	0	0	2	0	0	17	0	0	23	0	1	0
Lane Group Flow (vph)	0	2	0	0	96	4	9	400	50	31	247	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		10.0	10.0		10.0	10.0	38.8	38.8	38.8	38.8	38.8	
Effective Green, g (s)		10.0	10.0		10.0	10.0	39.4	39.4	39.4	39.4	39.4	
Actuated g/C Ratio		0.17	0.17		0.17	0.17	0.69	0.69	0.69	0.69	0.69	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.6	3.6	3.6	3.6	3.6	
Lane Grp Cap (vph)		225	276		237	276	774	1279	1087	653	1275	
v/s Ratio Prot								c0.21			0.13	
v/s Ratio Perm		0.00	0.00		c0.07	0.01	0.01		0.05	0.03		
v/c Ratio		0.01	0.00		0.41	0.01	0.01	0.31	0.05	0.05	0.19	
Uniform Delay, d1		19.6	19.6		21.1	19.6	2.8	3.6	2.9	2.9	3.3	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		1.1	0.0	0.0	0.2	0.0	0.0	0.1	
Delay (s)		19.6	19.6		22.2	19.6	2.9	3.8	2.9	3.0	3.3	
Level of Service		B	B		C	B	A	A	A	A	A	
Approach Delay (s)		19.6			21.7			3.6			3.3	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM Average Control Delay		6.0										
HCM Volume to Capacity ratio		0.33										
Actuated Cycle Length (s)		57.4										
Intersection Capacity Utilization		44.4%										
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Volume (vph)	625	208	130	1108	325	113
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	625	208	130	1108	325	113
RTOR Reduction (vph)	0	134	0	0	0	72
Lane Group Flow (vph)	625	74	130	1108	325	41
Turn Type	Perm		Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	28.0	28.0	13.5	45.0	29.8	29.8
Effective Green, g (s)	29.0	29.0	13.0	46.0	31.0	31.0
Actuated g/C Ratio	0.34	0.34	0.15	0.54	0.36	0.36
Clearance Time (s)	5.0	5.0	3.5	5.0	5.2	5.2
Lane Grp Cap (vph)	1207	540	271	1915	646	577
v/s Ratio Prot	0.18		0.07	c0.31	c0.18	
v/s Ratio Perm		0.13				0.07
v/c Ratio	0.52	0.14	0.48	0.58	0.50	0.07
Uniform Delay, d1	22.4	19.4	32.9	13.0	21.0	17.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.5	6.0	1.3	2.8	0.2
Delay (s)	24.0	19.9	38.9	14.3	23.8	17.9
Level of Service	C	B	D	B	C	B
Approach Delay (s)	23.0			16.9	22.3	
Approach LOS	C			B	C	

Intersection Summary

HCM Average Control Delay	19.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0				4.0	4.0			4.0	4.0
Lane Util. Factor	0.97		0.88				0.97	0.95			0.95	0.88
Frt	1.00		0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	3433		2787				3433	3539			3539	2787
Flt Permitted	0.95		1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	3433		2787				3433	3539			3539	2787
Volume (vph)	314	0	221	0	0	0	679	498	0	0	347	613
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	314	0	221	0	0	0	679	498	0	0	347	613
RTOR Reduction (vph)	0	0	159	0	0	0	0	0	0	0	0	453
Lane Group Flow (vph)	314	0	62	0	0	0	679	498	0	0	347	160
Turn Type	Prot		Over				Prot			Prot		Perm
Protected Phases	4		5				5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	11.5		14.8				14.8	31.9			13.1	13.1
Effective Green, g (s)	12.1		14.8				14.8	32.5			13.7	13.7
Actuated g/C Ratio	0.23		0.28				0.28	0.62			0.26	0.26
Clearance Time (s)	4.6		4.0				4.0	4.6			4.6	4.6
Vehicle Extension (s)	3.0		3.0				3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	790		784				966	2187			922	726
v/s Ratio Prot	c0.09		0.08				c0.20	0.14			0.10	
v/s Ratio Perm												0.22
v/c Ratio	0.40		0.08				0.70	0.23			0.38	0.22
Uniform Delay, d1	17.2		13.9				16.9	4.5			15.9	15.3
Progression Factor	1.00		1.00				1.00	1.00			1.00	1.00
Incremental Delay, d2	0.3		0.0				2.3	0.1			0.3	0.2
Delay (s)	17.5		13.9				19.3	4.5			16.2	15.4
Level of Service	B		B				B	A			B	B
Approach Delay (s)		16.0			0.0			13.0			15.7	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM Average Control Delay			14.6				HCM Level of Service				B	
HCM Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			52.6				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			47.9%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Point Martin II
14: Geneva Avenue & Schwerin Street

Existing PM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.93			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3511		1770	3489			1715			1694	
Flt Permitted	0.23	1.00		0.49	1.00			0.93			0.93	
Satd. Flow (perm)	430	3511		910	3489			1617			1593	
Volume (vph)	126	433	24	57	879	92	17	28	50	21	11	44
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	126	433	24	57	879	92	17	28	50	21	11	44
RTOR Reduction (vph)	0	3	0	0	7	0	0	44	0	0	38	0
Lane Group Flow (vph)	126	454	0	57	964	0	0	51	0	0	38	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	48.0	48.0		40.0	40.0			8.4			8.4	
Effective Green, g (s)	48.6	48.6		40.6	40.6			8.4			8.4	
Actuated g/C Ratio	0.75	0.75		0.62	0.62			0.13			0.13	
Clearance Time (s)	4.0	4.6		4.6	4.6			4.0			4.0	
Vehicle Extension (s)	1.5	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	404	2625		568	2179			209			206	
v/s Ratio Prot	c0.02	0.13			c0.28							
v/s Ratio Perm	0.21			0.06				c0.06			0.05	
v/c Ratio	0.31	0.17		0.10	0.44			0.25			0.18	
Uniform Delay, d1	3.2	2.4		4.9	6.3			25.5			25.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.1		0.4	0.7			0.6			0.4	
Delay (s)	3.3	2.5		5.2	7.0			26.1			25.7	
Level of Service	A	A		A	A			C			C	
Approach Delay (s)		2.7			6.9			26.1			25.7	
Approach LOS		A			A			C			C	

Intersection Summary

HCM Average Control Delay	7.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰		↰	↑	↑	↰
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	9	2	7	399	275	16
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	9	2	7	399	275	16
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)				129	236	
pX, platoon unblocked						
vC, conflicting volume	696	283	291			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	696	283	291			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	100	99			
cM capacity (veh/h)	405	756	1271			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	11	7	399	291		
Volume Left	9	7	0	0		
Volume Right	2	0	0	16		
cSH	443	1271	1700	1700		
Volume to Capacity	0.02	0.01	0.23	0.17		
Queue Length 95th (ft)	2	0	0	0		
Control Delay (s)	13.3	7.8	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	13.3	0.1		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization		31.0%		ICU Level of Service	A	
Analysis Period (min)		15				

						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Volume (vph)	171	309	133	121	447	272
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	171	309	133	121	447	272
RTOR Reduction (vph)	0	0	0	85	0	214
Lane Group Flow (vph)	171	309	133	36	447	58
Turn Type	Prot			Over		Over
Protected Phases	5	2	6	4	4	5
Permitted Phases						
Actuated Green, G (s)	8.5	17.9	5.4	10.8	10.8	8.5
Effective Green, g (s)	8.5	19.9	7.4	11.8	11.8	8.5
Actuated g/C Ratio	0.21	0.50	0.19	0.30	0.30	0.21
Clearance Time (s)	4.0	6.0	6.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	379	1774	660	471	1020	339
v/s Ratio Prot	0.10	c0.09	0.04	0.08	c0.13	c0.17
v/s Ratio Perm						
v/c Ratio	0.45	0.17	0.20	0.08	0.44	0.17
Uniform Delay, d1	13.6	5.4	13.7	10.0	11.3	12.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.0	0.2	0.1	0.3	0.2
Delay (s)	14.4	5.5	13.8	10.1	11.6	13.0
Level of Service	B	A	B	B	B	B
Approach Delay (s)		8.7	12.0		12.1	
Approach LOS		A	B		B	
Intersection Summary						
HCM Average Control Delay		11.0		HCM Level of Service		B
HCM Volume to Capacity ratio		0.43				
Actuated Cycle Length (s)		39.7		Sum of lost time (s)		8.0
Intersection Capacity Utilization		35.9%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

Point Martin II
4: Martin Street & Carter Street

E+P AM Peak Hour
04/11/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1832	1583		1777	1583	1770	1863	1583	1770	1862	
Flt Permitted		0.93	1.00		0.73	1.00	0.43	1.00	1.00	0.61	1.00	
Satd. Flow (perm)		1725	1583		1358	1583	804	1863	1583	1142	1862	
Volume (vph)	2	4	23	94	3	30	7	234	85	20	519	2
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	4	23	94	3	30	7	234	85	20	519	2
RTOR Reduction (vph)	0	0	19	0	0	25	0	0	27	0	0	0
Lane Group Flow (vph)	0	6	4	0	97	5	7	234	58	20	521	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8		8	4		4	2		2	6		
Actuated Green, G (s)		9.9	9.9		9.9	9.9	38.8	38.8	38.8	38.8	38.8	
Effective Green, g (s)		9.9	9.9		9.9	9.9	39.4	39.4	39.4	39.4	39.4	
Actuated g/C Ratio		0.17	0.17		0.17	0.17	0.69	0.69	0.69	0.69	0.69	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.6	3.6	3.6	3.6	3.6	
Lane Grp Cap (vph)		298	274		235	274	553	1281	1088	785	1280	
v/s Ratio Prot								0.13			c0.28	
v/s Ratio Perm		0.00	0.01		c0.07	0.02	0.01		0.05	0.02		
v/c Ratio		0.02	0.01		0.41	0.02	0.01	0.18	0.05	0.03	0.41	
Uniform Delay, d1		19.7	19.7		21.1	19.7	2.8	3.2	2.9	2.8	3.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		1.2	0.0	0.0	0.1	0.0	0.0	0.3	
Delay (s)		19.7	19.7		22.3	19.7	2.8	3.3	2.9	2.9	4.1	
Level of Service		B	B		C	B	A	A	A	A	A	
Approach Delay (s)		19.7			21.7			3.2			4.1	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM Average Control Delay		6.4										
HCM Volume to Capacity ratio		0.41										
Actuated Cycle Length (s)		57.3										
Intersection Capacity Utilization		47.8%										
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Volume (vph)	885	460	103	876	282	128
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	885	460	103	876	282	128
RTOR Reduction (vph)	0	237	0	0	0	75
Lane Group Flow (vph)	885	223	103	876	282	53
Turn Type	Perm		Prot	Perm		
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	24.0	24.0	7.5	35.0	29.8	29.8
Effective Green, g (s)	25.0	25.0	7.0	36.0	31.0	31.0
Actuated g/C Ratio	0.33	0.33	0.09	0.48	0.41	0.41
Clearance Time (s)	5.0	5.0	3.5	5.0	5.2	5.2
Lane Grp Cap (vph)	1180	528	165	1699	732	654
v/s Ratio Prot	0.25		0.06	c0.25	c0.16	
v/s Ratio Perm		0.29				0.08
v/c Ratio	0.75	0.42	0.62	0.52	0.39	0.08
Uniform Delay, d1	22.2	19.4	32.7	13.5	15.4	13.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	2.5	16.5	1.1	1.5	0.2
Delay (s)	26.6	21.9	49.2	14.6	16.9	13.6
Level of Service	C	C	D	B	B	B
Approach Delay (s)	25.0			18.2	15.9	
Approach LOS	C			B	B	

Intersection Summary

HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0				4.0	4.0			4.0	4.0
Lane Util. Factor	0.97		0.88				0.97	0.95			0.95	0.88
Frt	1.00		0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	3433		2787				3433	3539			3539	2787
Flt Permitted	0.95		1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	3433		2787				3433	3539			3539	2787
Volume (vph)	404	0	507	0	0	0	355	318	0	0	592	407
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	404	0	507	0	0	0	355	318	0	0	592	407
RTOR Reduction (vph)	0	0	413	0	0	0	0	0	0	0	0	277
Lane Group Flow (vph)	404	0	94	0	0	0	355	318	0	0	592	130
Turn Type	custom		Over				Prot			Prot		Perm
Protected Phases			5				5	2		1	6	
Permitted Phases	4											6
Actuated Green, G (s)	12.8		9.5				9.5	29.2			15.7	15.7
Effective Green, g (s)	13.4		9.5				9.5	29.8			16.3	16.3
Actuated g/C Ratio	0.26		0.19				0.19	0.58			0.32	0.32
Clearance Time (s)	4.6		4.0				4.0	4.6			4.6	4.6
Vehicle Extension (s)	3.0		3.0				3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	898		517				637	2060			1127	887
v/s Ratio Prot			c0.18				0.10	0.09			c0.17	
v/s Ratio Perm	0.12											0.15
v/c Ratio	0.45		0.18				0.56	0.15			0.53	0.15
Uniform Delay, d1	15.8		17.6				18.9	4.9			14.3	12.5
Progression Factor	1.00		1.00				1.00	1.00			1.00	1.00
Incremental Delay, d2	0.4		0.2				1.1	0.0			0.4	0.1
Delay (s)	16.2		17.7				20.0	4.9			14.7	12.6
Level of Service	B		B				C	A			B	B
Approach Delay (s)		17.0			0.0			12.9			13.8	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM Average Control Delay			14.7		HCM Level of Service					B		
HCM Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			51.2		Sum of lost time (s)					12.0		
Intersection Capacity Utilization			48.0%		ICU Level of Service					A		
Analysis Period (min)			15									
c Critical Lane Group												

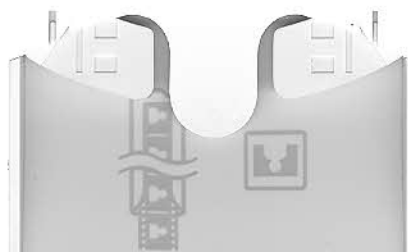
Point Martin II
14: Geneva Avenue & Schwerin Street

E+P AM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.93			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1770	3510		1770	3498			1724			1770	
Flt Permitted	0.42	1.00		0.34	1.00			0.93			0.78	
Satd. Flow (perm)	788	3510		632	3498			1622			1416	
Volume (vph)	164	784	46	45	443	37	31	59	87	36	31	19
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	164	784	46	45	443	37	31	59	87	36	31	19
RTOR Reduction (vph)	0	3	0	0	6	0	0	73	0	0	16	0
Lane Group Flow (vph)	164	827	0	45	474	0	0	104	0	0	70	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	45.8	45.8		35.9	35.9			10.6			10.6	
Effective Green, g (s)	46.4	46.4		36.5	36.5			10.6			10.6	
Actuated g/C Ratio	0.71	0.71		0.56	0.56			0.16			0.16	
Clearance Time (s)	4.0	4.6		4.6	4.6			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	652	2506		355	1964			265			231	
v/s Ratio Prot	0.02	c0.24			0.14							
v/s Ratio Perm	0.16			0.07				c0.11			0.06	
v/c Ratio	0.25	0.33		0.13	0.24			0.39			0.30	
Uniform Delay, d1	3.1	3.5		6.7	7.2			24.3			23.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.4		0.7	0.3			1.0			0.7	
Delay (s)	3.3	3.8		7.5	7.5			25.3			24.7	
Level of Service	A	A		A	A			C			C	
Approach Delay (s)		3.8			7.5			25.3			24.7	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM Average Control Delay			8.0			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			65.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			52.3%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	38	9	3	303	530	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	41	10	3	329	576	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)				178	187	
pX, platoon unblocked						
vC, conflicting volume	917	582	587			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	917	582	587			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	98	100			
cM capacity (veh/h)	301	513	988			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	51	3	329	587		
Volume Left	41	3	0	0		
Volume Right	10	0	0	11		
cSH	327	988	1700	1700		
Volume to Capacity	0.16	0.00	0.19	0.35		
Queue Length 95th (ft)	14	0	0	0		
Control Delay (s)	18.1	8.7	0.0	0.0		
Lane LOS	C	A				
Approach Delay (s)	18.1	0.1		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization		38.5%		ICU Level of Service	A	
Analysis Period (min)		15				

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	LT		LT	TH	TH	RT
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	40	8	3	266	530	9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	40	8	3	266	530	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)				129	236	
pX, platoon unblocked						
vC, conflicting volume	806	534	539			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	806	534	539			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	99	100			
cM capacity (veh/h)	350	546	1029			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	48	3	266	539		
Volume Left	40	3	0	0		
Volume Right	8	0	0	9		
cSH	372	1029	1700	1700		
Volume to Capacity	0.13	0.00	0.16	0.32		
Queue Length 95th (ft)	11	0	0	0		
Control Delay (s)	16.1	8.5	0.0	0.0		
Lane LOS	C	A				
Approach Delay (s)	16.1	0.1		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay		0.9				
Intersection Capacity Utilization		38.4%		ICU Level of Service		A
Analysis Period (min)		15				





Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	↰	↑↑	↑↑	↱	↰↱	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Fr _t	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Volume (vph)	234	117	340	332	81	220
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	234	117	340	332	81	220
RTOR Reduction (vph)	0	0	0	260	0	175
Lane Group Flow (vph)	234	117	340	72	81	45
Turn Type	Prot			Over		Over
Protected Phases	5	2	6	4	4	5
Permitted Phases						
Actuated Green, G (s)	8.1	21.2	9.1	7.7	7.7	8.1
Effective Green, g (s)	8.1	23.2	11.1	8.7	8.7	8.1
Actuated g/C Ratio	0.20	0.58	0.28	0.22	0.22	0.20
Clearance Time (s)	4.0	6.0	6.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	359	2058	985	345	749	321
v/s Ratio Prot	0.13	0.03	c0.10	c0.21	0.02	c0.14
v/s Ratio Perm						
v/c Ratio	0.65	0.06	0.35	0.21	0.11	0.14
Uniform Delay, d ₁	14.6	3.6	11.5	12.8	12.5	13.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d ₂	4.2	0.0	0.2	0.3	0.1	0.2
Delay (s)	18.8	3.6	11.7	13.1	12.6	13.2
Level of Service	B	A	B	B	B	B
Approach Delay (s)		13.7	12.4		13.1	
Approach LOS		B	B		B	
Intersection Summary						
HCM Average Control Delay		12.9		HCM Level of Service		B
HCM Volume to Capacity ratio		0.64				
Actuated Cycle Length (s)		39.9		Sum of lost time (s)		12.0
Intersection Capacity Utilization		40.2%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

Point Martin II
4: Martin Street & Carter Street

E+P PM Peak Hour
04/11/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.97	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1803	1583		1778	1583	1770	1863	1583	1770	1857	
Flt Permitted		0.87	1.00		0.73	1.00	0.60	1.00	1.00	0.51	1.00	
Satd. Flow (perm)		1625	1583		1366	1583	1123	1863	1583	943	1857	
Volume (vph)	2	1	5	93	4	22	15	407	73	32	247	5
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	1	5	93	4	22	15	407	73	32	247	5
RTOR Reduction (vph)	0	0	4	0	0	18	0	0	23	0	1	0
Lane Group Flow (vph)	0	3	1	0	97	4	15	407	50	32	251	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		10.0	10.0		10.0	10.0	38.3	38.3	38.3	38.3	38.3	
Effective Green, g (s)		10.0	10.0		10.0	10.0	38.9	38.9	38.9	38.9	38.9	
Actuated g/C Ratio		0.18	0.18		0.18	0.18	0.68	0.68	0.68	0.68	0.68	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.6	3.6	3.6	3.6	3.6	
Lane Grp Cap (vph)		286	278		240	278	768	1274	1082	645	1270	
v/s Ratio Prot								c0.22			0.14	
v/s Ratio Perm		0.00	0.00		c0.07	0.01	0.01		0.05	0.03		
v/c Ratio		0.01	0.00		0.40	0.01	0.02	0.32	0.05	0.05	0.20	
Uniform Delay, d1		19.4	19.3		20.8	19.4	2.9	3.6	2.9	2.9	3.3	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		1.1	0.0	0.0	0.2	0.0	0.0	0.1	
Delay (s)		19.4	19.3		21.9	19.4	2.9	3.8	3.0	3.0	3.4	
Level of Service		B	B		C	B	A	A	A	A	A	
Approach Delay (s)		19.4			21.5			3.7			3.3	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM Average Control Delay		6.0										
HCM Volume to Capacity ratio		0.34										
Actuated Cycle Length (s)		56.9										
Intersection Capacity Utilization		45.3%										
Analysis Period (min)		15										
c Critical Lane Group												

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↘	↑↑	↘	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Volume (vph)	625	228	164	1108	337	130
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	625	228	164	1108	337	130
RTOR Reduction (vph)	0	147	0	0	0	83
Lane Group Flow (vph)	625	81	164	1108	337	47
Turn Type	Perm		Prot	Perm		
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	28.0	28.0	13.5	45.0	29.8	29.8
Effective Green, g (s)	29.0	29.0	13.0	46.0	31.0	31.0
Actuated g/C Ratio	0.34	0.34	0.15	0.54	0.36	0.36
Clearance Time (s)	5.0	5.0	3.5	5.0	5.2	5.2
Lane Grp Cap (vph)	1207	540	271	1915	646	577
v/s Ratio Prot	0.18		0.09	c0.31	c0.19	
v/s Ratio Perm		0.14				0.08
v/c Ratio	0.52	0.15	0.61	0.58	0.52	0.08
Uniform Delay, d1	22.4	19.4	33.6	13.0	21.2	17.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.6	9.7	1.3	3.0	0.3
Delay (s)	24.0	20.0	43.3	14.3	24.2	18.0
Level of Service	C	C	D	B	C	B
Approach Delay (s)	22.9			18.0	22.4	
Approach LOS	C			B	C	
Intersection Summary						
HCM Average Control Delay			20.4	HCM Level of Service		C
HCM Volume to Capacity ratio			0.56			
Actuated Cycle Length (s)			85.0	Sum of lost time (s)		8.0
Intersection Capacity Utilization			56.0%	ICU Level of Service		B
Analysis Period (min)			15			
c Critical Lane Group						

Point Martin II
11: Geneva Avenue & Bayshore Blvd.

E+P PM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0				4.0	4.0			4.0	4.0
Lane Util. Factor	0.97		0.88				0.97	0.95			0.95	0.88
Fr _t	1.00		0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	3433		2787				3433	3539			3539	2787
Flt Permitted	0.95		1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	3433		2787				3433	3539			3539	2787
Volume (vph)	322	0	221	0	0	0	679	498	0	0	347	636
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	322	0	221	0	0	0	679	498	0	0	347	636
RTOR Reduction (vph)	0	0	159	0	0	0	0	0	0	0	0	471
Lane Group Flow (vph)	322	0	62	0	0	0	679	498	0	0	347	165
Turn Type	Prot		Over				Prot			Prot		Perm
Protected Phases	4		5				5	2		1	6	
Permitted Phases												6
Actuated Green, G (s)	11.6		14.8				14.8	31.9			13.1	13.1
Effective Green, g (s)	12.2		14.8				14.8	32.5			13.7	13.7
Actuated g/C Ratio	0.23		0.28				0.28	0.62			0.26	0.26
Clearance Time (s)	4.6		4.0				4.0	4.6			4.6	4.6
Vehicle Extension (s)	3.0		3.0				3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	795		783				964	2182			920	725
v/s Ratio Prot	c0.09		0.08				c0.20	0.14			0.10	
v/s Ratio Perm												0.23
v/c Ratio	0.41		0.08				0.70	0.23			0.38	0.23
Uniform Delay, d ₁	17.2		13.9				17.0	4.5			16.0	15.3
Progression Factor	1.00		1.00				1.00	1.00			1.00	1.00
Incremental Delay, d ₂	0.3		0.0				2.4	0.1			0.3	0.2
Delay (s)	17.5		14.0				19.3	4.6			16.3	15.5
Level of Service	B		B				B	A			B	B
Approach Delay (s)		16.1			0.0			13.1			15.8	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM Average Control Delay			14.7				HCM Level of Service			B		
HCM Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			52.7				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			48.3%				ICU Level of Service			A		
Analysis Period (min)			15									
c Critical Lane Group												

Point Martin II
14: Geneva Avenue & Schwerin Street

E+P PM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	0.99		1.00	0.99			0.93			0.92	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3512		1770	3490			1715			1694	
Flt Permitted	0.22	1.00		0.48	1.00			0.93			0.93	
Satd. Flow (perm)	417	3512		903	3490			1617			1593	
Volume (vph)	126	441	24	57	902	92	17	28	50	21	11	44
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	126	441	24	57	902	92	17	28	50	21	11	44
RTOR Reduction (vph)	0	3	0	0	6	0	0	44	0	0	38	0
Lane Group Flow (vph)	126	462	0	57	988	0	0	51	0	0	38	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	48.0	48.0		40.0	40.0			8.4			8.4	
Effective Green, g (s)	48.6	48.6		40.6	40.6			8.4			8.4	
Actuated g/C Ratio	0.75	0.75		0.62	0.62			0.13			0.13	
Clearance Time (s)	4.0	4.6		4.6	4.6			4.0			4.0	
Vehicle Extension (s)	1.5	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	395	2626		564	2180			209			206	
v/s Ratio Prot	c0.02	0.13			c0.28							
v/s Ratio Perm	0.22			0.06				c0.06			0.05	
v/c Ratio	0.32	0.18		0.10	0.45			0.25			0.18	
Uniform Delay, d1	3.2	2.4		4.9	6.4			25.5			25.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.2	0.1		0.4	0.7			0.6			0.4	
Delay (s)	3.4	2.5		5.2	7.1			26.1			25.7	
Level of Service	A	A		A	A			C			C	
Approach Delay (s)		2.7			7.0			26.1			25.7	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM Average Control Delay		7.4					HCM Level of Service		A			
HCM Volume to Capacity ratio		0.45										
Actuated Cycle Length (s)		65.0					Sum of lost time (s)		12.0			
Intersection Capacity Utilization		51.9%					ICU Level of Service		A			
Analysis Period (min)		15										
c Critical Lane Group												

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	22	4	7	414	303	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	4	8	450	329	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)				178	187	
pX, platoon unblocked						
vC, conflicting volume	817	352	375			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	817	352	375			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	99	99			
cM capacity (veh/h)	344	691	1183			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	28	8	450	375		
Volume Left	24	8	0	0		
Volume Right	4	0	0	46		
cSH	372	1183	1700	1700		
Volume to Capacity	0.08	0.01	0.26	0.22		
Queue Length 95th (ft)	6	0	0	0		
Control Delay (s)	15.5	8.1	0.0	0.0		
Lane LOS	C	A				
Approach Delay (s)	15.5	0.1		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization		31.8%		ICU Level of Service		A
Analysis Period (min)		15				

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	15	3	8	406	279	28
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	15	3	8	406	279	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)				129	236	
pX, platoon unblocked						
vC, conflicting volume	715	293	307			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	715	293	307			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	100	99			
cM capacity (veh/h)	395	746	1254			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	18	8	406	307		
Volume Left	15	8	0	0		
Volume Right	3	0	0	28		
cSH	428	1254	1700	1700		
Volume to Capacity	0.04	0.01	0.24	0.18		
Queue Length 95th (ft)	3	0	0	0		
Control Delay (s)	13.8	7.9	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	13.8	0.2		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization		31.4%		ICU Level of Service		A
Analysis Period (min)		15				

						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Volume (vph)	205	465	193	119	434	403
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	205	465	193	119	434	403
RTOR Reduction (vph)	0	0	0	84	0	316
Lane Group Flow (vph)	205	465	193	35	434	87
Turn Type	Prot			Over		Over
Protected Phases	5	2	6	4	4	5
Permitted Phases						
Actuated Green, G (s)	8.7	18.6	5.9	10.7	10.7	8.7
Effective Green, g (s)	8.7	20.6	7.9	11.7	11.7	8.7
Actuated g/C Ratio	0.22	0.51	0.20	0.29	0.29	0.22
Clearance Time (s)	4.0	6.0	6.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	382	1809	694	460	997	342
v/s Ratio Prot	0.12	c0.13	0.05	0.08	c0.13	c0.25
v/s Ratio Perm						
v/c Ratio	0.54	0.26	0.28	0.08	0.44	0.25
Uniform Delay, d1	14.0	5.5	13.8	10.4	11.6	13.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.1	0.2	0.1	0.3	0.4
Delay (s)	15.5	5.6	14.0	10.4	11.9	13.5
Level of Service	B	A	B	B	B	B
Approach Delay (s)		8.6	12.6		12.7	
Approach LOS		A	B		B	
Intersection Summary						
HCM Average Control Delay		11.2		HCM Level of Service		B
HCM Volume to Capacity ratio		0.56				
Actuated Cycle Length (s)		40.3		Sum of lost time (s)		8.0
Intersection Capacity Utilization		39.1%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

Point Martin II
4: Martin Street & Carter Street

Cumulative AM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1842	1583		1775	1583	1770	1863	1583	1770	1862	
Flt Permitted		0.95	1.00		0.72	1.00	0.37	1.00	1.00	0.60	1.00	
Satd. Flow (perm)		1771	1583		1344	1583	691	1863	1583	1123	1862	
Volume (vph)	2	7	18	144	1	28	5	252	97	17	585	2
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	7	18	144	1	28	5	252	97	17	585	2
RTOR Reduction (vph)	0	0	14	0	0	22	0	0	35	0	0	0
Lane Group Flow (vph)	0	9	4	0	145	6	5	252	62	17	587	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8		8	4		4	2		2	6		
Actuated Green, G (s)		12.4	12.4		12.4	12.4	35.6	35.6	35.6	35.6	35.6	
Effective Green, g (s)		12.4	12.4		12.4	12.4	36.2	36.2	36.2	36.2	36.2	
Actuated g/C Ratio		0.22	0.22		0.22	0.22	0.64	0.64	0.64	0.64	0.64	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.6	3.6	3.6	3.6	3.6	
Lane Grp Cap (vph)		388	347		294	347	442	1192	1012	718	1191	
v/s Ratio Prot								0.14			c0.32	
v/s Ratio Perm		0.01	0.01		c0.11	0.02	0.01		0.06	0.02		
v/c Ratio		0.02	0.01		0.49	0.02	0.01	0.21	0.06	0.02	0.49	
Uniform Delay, d1		17.3	17.3		19.3	17.3	3.7	4.3	3.8	3.7	5.4	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		1.3	0.0	0.0	0.1	0.0	0.0	0.4	
Delay (s)		17.4	17.3		20.7	17.3	3.7	4.4	3.9	3.7	5.8	
Level of Service		B	B		C	B	A	A	A	A	A	
Approach Delay (s)		17.3			20.1			4.2			5.7	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM Average Control Delay		7.7										
HCM Volume to Capacity ratio		0.49										
Actuated Cycle Length (s)		56.6										
Intersection Capacity Utilization		53.9%										
Analysis Period (min)		15										
c Critical Lane Group												

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↗	↙	↑↑	↙	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Volume (vph)	1015	445	184	1034	260	130
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1015	445	184	1034	260	130
RTOR Reduction (vph)	0	200	0	0	0	76
Lane Group Flow (vph)	1015	245	184	1034	260	54
Turn Type		Perm	Prot			Perm
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	24.0	24.0	7.5	35.0	29.8	29.8
Effective Green, g (s)	25.0	25.0	7.0	36.0	31.0	31.0
Actuated g/C Ratio	0.33	0.33	0.09	0.48	0.41	0.41
Clearance Time (s)	5.0	5.0	3.5	5.0	5.2	5.2
Lane Grp Cap (vph)	1180	528	165	1699	732	654
v/s Ratio Prot	c0.29		c0.10	0.29	c0.15	
v/s Ratio Perm		0.28				0.08
v/c Ratio	0.86	0.46	1.12	0.61	0.36	0.08
Uniform Delay, d1	23.4	19.7	34.0	14.3	15.1	13.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.3	2.9	104.3	1.6	1.3	0.2
Delay (s)	31.7	22.6	138.3	16.0	16.5	13.6
Level of Service	C	C	F	B	B	B
Approach Delay (s)	28.9			34.4	15.5	
Approach LOS	C			C	B	
Intersection Summary						
HCM Average Control Delay			29.4	HCM Level of Service		C
HCM Volume to Capacity ratio			0.64			
Actuated Cycle Length (s)			75.0	Sum of lost time (s)		12.0
Intersection Capacity Utilization			62.7%	ICU Level of Service		B
Analysis Period (min)			15			
c Critical Lane Group						

Point Martin II
11: Geneva Avenue & Bayshore Blvd.

Cumulative AM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	3433	3539	1583	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5085	1583	3433	3539	1583	3433	3539	2787
Volume (vph)	169	981	286	232	535	97	238	300	521	189	1257	461
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	169	981	286	232	535	97	238	300	521	189	1257	461
RTOR Reduction (vph)	0	0	239	0	0	70	0	0	253	0	0	216
Lane Group Flow (vph)	169	981	47	232	535	27	238	300	268	189	1257	245
Turn Type	Prot		Over	Prot		Perm	Prot		Perm	Prot		Over
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases						8			2			
Actuated Green, G (s)	15.5	31.8	8.3	14.0	30.9	30.9	8.3	22.4	22.4	24.3	38.4	15.5
Effective Green, g (s)	15.5	32.4	8.3	14.0	30.9	30.9	8.3	23.0	23.0	24.3	39.0	15.5
Actuated g/C Ratio	0.14	0.30	0.08	0.13	0.28	0.28	0.08	0.21	0.21	0.22	0.36	0.14
Clearance Time (s)	4.0	4.6	4.0	4.0	4.0	4.0	4.0	4.6	4.6	4.0	4.6	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	250	1045	120	226	1432	446	260	742	332	760	1258	394
v/s Ratio Prot	0.10	c0.28	c0.18	0.13	0.11		0.07	0.08		0.06	c0.36	c0.17
v/s Ratio Perm						0.06			0.33			
v/c Ratio	0.68	0.94	0.39	1.03	0.37	0.06	0.92	0.40	0.81	0.25	1.00	0.62
Uniform Delay, d1	44.7	37.7	48.3	47.9	31.6	28.8	50.4	37.4	41.2	35.2	35.3	44.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	7.1	15.1	2.1	66.9	0.2	0.1	33.9	0.4	13.4	0.1	25.0	3.1
Delay (s)	51.8	52.8	50.4	114.8	31.8	28.9	84.3	37.8	54.6	35.2	60.3	47.4
Level of Service	D	D	D	F	C	C	F	D	D	D	E	D
Approach Delay (s)		52.2			53.7			56.5			54.7	
Approach LOS		D			D			E			D	
Intersection Summary												
HCM Average Control Delay			54.2				HCM Level of Service			D		
HCM Volume to Capacity ratio			1.14									
Actuated Cycle Length (s)			109.7				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			94.8%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

Point Martin II
14: Geneva Avenue & Schwerin Street

Cumulative AM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.94			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1770	3524		1770	3513			1744			1761	
Flt Permitted	0.28	1.00		0.26	1.00			0.94			0.83	
Satd. Flow (perm)	528	3524		492	3513			1646			1492	
Volume (vph)	169	1051	30	84	721	37	30	72	71	36	36	28
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	169	1051	30	84	721	37	30	72	71	36	36	28
RTOR Reduction (vph)	0	2	0	0	4	0	0	38	0	0	23	0
Lane Group Flow (vph)	169	1079	0	84	754	0	0	135	0	0	77	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	45.2	45.2		34.2	34.2			11.2			11.2	
Effective Green, g (s)	45.8	45.8		34.8	34.8			11.2			11.2	
Actuated g/C Ratio	0.70	0.70		0.54	0.54			0.17			0.17	
Clearance Time (s)	4.0	4.6		4.6	4.6			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	506	2483		263	1881			284			257	
v/s Ratio Prot	0.04	c0.31			0.22							
v/s Ratio Perm	0.20			0.17				c0.11			0.07	
v/c Ratio	0.33	0.43		0.32	0.40			0.48			0.30	
Uniform Delay, d1	3.9	4.1		8.5	8.9			24.3			23.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.4	0.6		3.2	0.6			1.3			0.7	
Delay (s)	4.3	4.6		11.6	9.6			25.5			24.1	
Level of Service	A	A		B	A			C			C	
Approach Delay (s)		4.6			9.8			25.5			24.1	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM Average Control Delay		8.8										
HCM Volume to Capacity ratio		0.47										
Actuated Cycle Length (s)		65.0										
Intersection Capacity Utilization		59.1%										
Analysis Period (min)		15										
c Critical Lane Group												

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	33	6	3	283	595	9
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	33	6	3	283	595	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)				129	236	
pX, platoon unblocked						
vC, conflicting volume	888	600	604			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	888	600	604			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	89	99	100			
cM capacity (veh/h)	313	501	974			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	39	3	283	604		
Volume Left	33	3	0	0		
Volume Right	6	0	0	9		
cSH	332	974	1700	1700		
Volume to Capacity	0.12	0.00	0.17	0.36		
Queue Length 95th (ft)	10	0	0	0		
Control Delay (s)	17.3	8.7	0.0	0.0		
Lane LOS	C	A				
Approach Delay (s)	17.3	0.1		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			0.8			
Intersection Capacity Utilization	41.9%		ICU Level of Service		A	
Analysis Period (min)	15					



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	↰	↱↱	↱↱	↱	↰↰	↱
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Volume (vph)	347	331	877	318	79	252
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	347	331	877	318	79	252
RTOR Reduction (vph)	0	0	0	267	0	183
Lane Group Flow (vph)	347	331	877	51	79	69
Turn Type	Prot			Over		Over
Protected Phases	5	2	6	4	4	5
Permitted Phases						
Actuated Green, G (s)	15.8	38.3	18.5	8.2	8.2	15.8
Effective Green, g (s)	15.8	40.3	20.5	9.2	9.2	15.8
Actuated g/C Ratio	0.27	0.70	0.36	0.16	0.16	0.27
Clearance Time (s)	4.0	6.0	6.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	486	2480	1262	253	549	435
v/s Ratio Prot	c0.20	0.09	c0.25	c0.20	0.02	0.16
v/s Ratio Perm						
v/c Ratio	0.71	0.13	0.69	0.20	0.14	0.16
Uniform Delay, d1	18.8	2.8	15.8	21.0	20.8	15.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.9	0.0	1.7	0.4	0.1	0.2
Delay (s)	23.7	2.9	17.5	21.4	20.9	16.0
Level of Service	C	A	B	C	C	B
Approach Delay (s)		13.5	18.5		17.2	
Approach LOS		B	B		B	

Intersection Summary

HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	57.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Point Martin II
4: Martin Street & Carter Street

Cumulative PM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1849	1583		1778	1583	1770	1863	1583	1770	1856	
Flt Permitted		0.96	1.00		0.73	1.00	0.63	1.00	1.00	0.47	1.00	
Satd. Flow (perm)		1797	1583		1353	1583	1171	1863	1583	871	1856	
Volume (vph)	2	11	6	146	7	4	10	438	114	41	201	5
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	11	6	146	7	4	10	438	114	41	201	5
RTOR Reduction (vph)	0	0	5	0	0	3	0	0	44	0	1	0
Lane Group Flow (vph)	0	13	1	0	153	1	10	438	70	41	205	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		12.7	12.7		12.7	12.7	32.7	32.7	32.7	32.7	32.7	
Effective Green, g (s)		12.7	12.7		12.7	12.7	33.3	33.3	33.3	33.3	33.3	
Actuated g/C Ratio		0.24	0.24		0.24	0.24	0.62	0.62	0.62	0.62	0.62	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.6	3.6	3.6	3.6	3.6	
Lane Grp Cap (vph)		423	372		318	372	722	1149	976	537	1145	
v/s Ratio Prot								c0.24			0.11	
v/s Ratio Perm		0.01	0.00		c0.11	0.00	0.01		0.07	0.05		
v/c Ratio		0.03	0.00		0.48	0.00	0.01	0.38	0.07	0.08	0.18	
Uniform Delay, d1		15.9	15.8		17.8	15.8	4.0	5.2	4.2	4.2	4.5	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		1.1	0.0	0.0	0.3	0.0	0.1	0.1	
Delay (s)		15.9	15.8		19.0	15.8	4.0	5.4	4.2	4.2	4.6	
Level of Service		B	B		B	B	A	A	A	A	A	
Approach Delay (s)		15.9			18.9			5.2			4.5	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM Average Control Delay		7.4										
HCM Volume to Capacity ratio		0.41										
Actuated Cycle Length (s)		54.0										
Intersection Capacity Utilization		53.2%										
Analysis Period (min)		15										
c Critical Lane Group												

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Volume (vph)	899	143	175	1241	305	163
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	899	143	175	1241	305	163
RTOR Reduction (vph)	0	64	0	0	0	104
Lane Group Flow (vph)	899	79	175	1241	305	59
Turn Type	Perm		Prot	Perm		
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	29.0	29.0	12.5	45.0	29.8	29.8
Effective Green, g (s)	30.0	30.0	12.0	46.0	31.0	31.0
Actuated g/C Ratio	0.35	0.35	0.14	0.54	0.36	0.36
Clearance Time (s)	5.0	5.0	3.5	5.0	5.2	5.2
Lane Grp Cap (vph)	1249	559	250	1915	646	577
v/s Ratio Prot	c0.25		0.10	c0.35	c0.17	
v/s Ratio Perm		0.09				0.10
v/c Ratio	0.72	0.14	0.70	0.65	0.47	0.10
Uniform Delay, d1	23.9	18.7	34.8	13.8	20.7	17.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6	0.5	15.1	1.7	2.5	0.4
Delay (s)	27.5	19.3	49.9	15.5	23.2	18.2
Level of Service	C	B	D	B	C	B
Approach Delay (s)	26.3			19.7	21.4	
Approach LOS	C			B	C	
Intersection Summary						
HCM Average Control Delay		22.4		HCM Level of Service		C
HCM Volume to Capacity ratio		0.59				
Actuated Cycle Length (s)		85.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization		61.4%		ICU Level of Service		B
Analysis Period (min)		15				
c Critical Lane Group						

Point Martin II
11: Geneva Avenue & Bayshore Blvd.

Cumulative PM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	3433	3539	1583	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5085	1583	3433	3539	1583	3433	3539	2787
Volume (vph)	220	1111	143	384	1040	313	412	470	718	341	662	470
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	220	1111	143	384	1040	313	412	470	718	341	662	470
RTOR Reduction (vph)	0	0	93	0	0	204	0	0	283	0	0	371
Lane Group Flow (vph)	220	1111	50	384	1040	109	412	470	435	341	662	99
Turn Type	Prot		Over	Prot		Perm	Prot		Perm	Prot		Over
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases						8			2			
Actuated Green, G (s)	20.1	37.7	16.0	26.0	43.6	43.6	16.0	32.1	32.1	12.0	28.1	20.1
Effective Green, g (s)	20.7	38.3	16.0	26.0	43.6	43.6	16.0	32.7	32.7	12.0	28.7	20.7
Actuated g/C Ratio	0.17	0.31	0.13	0.21	0.35	0.35	0.13	0.26	0.26	0.10	0.23	0.17
Clearance Time (s)	4.6	4.6	4.0	4.0	4.0	4.0	4.0	4.6	4.6	4.0	4.6	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	293	1084	203	368	1774	552	439	926	414	330	813	462
v/s Ratio Prot	0.12	c0.31	0.09	c0.22	0.20		c0.12	0.13		0.10	0.19	0.17
v/s Ratio Perm						0.20			0.45			
v/c Ratio	0.75	1.02	0.24	1.04	0.59	0.20	0.94	0.51	1.05	1.03	0.81	0.21
Uniform Delay, d1	49.7	43.4	49.1	49.5	33.3	28.5	54.0	39.3	46.1	56.5	45.6	45.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.3	33.8	0.6	58.7	0.5	0.2	27.7	0.4	58.3	58.4	6.3	0.2
Delay (s)	60.0	77.2	49.7	108.2	33.8	28.6	81.8	39.7	104.5	114.9	51.9	45.3
Level of Service	E	E	D	F	C	C	F	D	F	F	D	D
Approach Delay (s)		72.0			49.3			79.6			64.4	
Approach LOS		E			D			E			E	
Intersection Summary												
HCM Average Control Delay			65.9			HCM Level of Service			E			
HCM Volume to Capacity ratio			1.25									
Actuated Cycle Length (s)			125.0			Sum of lost time (s)			16.0			
Intersection Capacity Utilization			95.4%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

Point Martin II
14: Geneva Avenue & Schwerin Street

Cumulative PM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.93			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3527		1770	3503			1730			1755	
Flt Permitted	0.12	1.00		0.28	1.00			0.97			0.92	
Satd. Flow (perm)	221	3527		520	3503			1685			1629	
Volume (vph)	132	1003	24	35	1253	92	13	49	60	21	36	30
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	132	1003	24	35	1253	92	13	49	60	21	36	30
RTOR Reduction (vph)	0	1	0	0	5	0	0	49	0	0	24	0
Lane Group Flow (vph)	132	1026	0	35	1340	0	0	73	0	0	63	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	52.6	52.6		43.5	43.5			13.8			13.8	
Effective Green, g (s)	53.2	53.2		44.1	44.1			13.8			13.8	
Actuated g/C Ratio	0.71	0.71		0.59	0.59			0.18			0.18	
Clearance Time (s)	4.0	4.6		4.6	4.6			4.0			4.0	
Vehicle Extension (s)	1.5	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	262	2502		306	2060			310			300	
v/s Ratio Prot	0.03	c0.29			c0.38							
v/s Ratio Perm	0.32			0.07				c0.07			0.05	
v/c Ratio	0.50	0.41		0.11	0.65			0.24			0.21	
Uniform Delay, d1	7.5	4.5		6.8	10.3			26.1			26.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.6	0.5		0.8	1.6			0.4			0.3	
Delay (s)	8.1	5.0		7.6	11.9			26.5			26.3	
Level of Service	A	A		A	B			C			C	
Approach Delay (s)		5.3			11.8			26.5			26.3	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM Average Control Delay			10.2			HCM Level of Service			B			
HCM Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			75.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			64.0%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	10	2	7	420	244	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	10	2	7	420	244	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage (veh)						
Upstream signal (ft)				129	236	
pX, platoon unblocked						
vC, conflicting volume	687	253	262			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	687	253	262			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	98	100	99			
cM capacity (veh/h)	410	786	1302			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	12	7	420	262		
Volume Left	10	7	0	0		
Volume Right	2	0	0	18		
cSH	446	1302	1700	1700		
Volume to Capacity	0.03	0.01	0.25	0.15		
Queue Length 95th (ft)	2	0	0	0		
Control Delay (s)	13.3	7.8	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	13.3	0.1		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay		0.3				
Intersection Capacity Utilization		32.1%		ICU Level of Service	A	
Analysis Period (min)		15				

Point Martin II
2: Guadalupe Cyn Pkwy & Carter Street

C+P AM Peak Hour
03/10/2016



Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations	↰	↗↗	↗↗	↗	↰↰	↗
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Volume (vph)	207	465	193	121	444	408
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	207	465	193	121	444	408
RTOR Reduction (vph)	0	0	0	85	0	320
Lane Group Flow (vph)	207	465	193	36	444	88
Turn Type	Prot			Over		Over
Protected Phases	5	2	6	4	4	5
Permitted Phases						
Actuated Green, G (s)	8.7	18.6	5.9	10.9	10.9	8.7
Effective Green, g (s)	8.7	20.6	7.9	11.9	11.9	8.7
Actuated g/C Ratio	0.21	0.51	0.20	0.29	0.29	0.21
Clearance Time (s)	4.0	6.0	6.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	380	1800	690	465	1009	340
v/s Ratio Prot	0.12	c0.13	0.05	0.08	c0.13	c0.26
v/s Ratio Perm						
v/c Ratio	0.54	0.26	0.28	0.08	0.44	0.26
Uniform Delay, d1	14.1	5.6	13.9	10.3	11.6	13.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	0.1	0.2	0.1	0.3	0.4
Delay (s)	15.7	5.7	14.1	10.4	11.9	13.6
Level of Service	B	A	B	B	B	B
Approach Delay (s)		8.8	12.7		12.7	
Approach LOS		A	B		B	
Intersection Summary						
HCM Average Control Delay		11.3		HCM Level of Service		B
HCM Volume to Capacity ratio		0.57				
Actuated Cycle Length (s)		40.5		Sum of lost time (s)		8.0
Intersection Capacity Utilization		39.5%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

Point Martin II
4: Martin Street & Carter Street

C+P AM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1846	1583		1776	1583	1770	1863	1583	1770	1862	
Flt Permitted		0.96	1.00		0.72	1.00	0.36	1.00	1.00	0.60	1.00	
Satd. Flow (perm)		1787	1583		1346	1583	674	1863	1583	1121	1862	
Volume (vph)	2	9	24	144	3	29	7	254	97	18	594	2
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	9	24	144	3	29	7	254	97	18	594	2
RTOR Reduction (vph)	0	0	19	0	0	22	0	0	36	0	0	0
Lane Group Flow (vph)	0	11	5	0	147	7	7	254	61	18	596	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		8			4			2			6	
Permitted Phases	8		8	4		4	2		2	6		
Actuated Green, G (s)		12.6	12.6		12.6	12.6	34.5	34.5	34.5	34.5	34.5	
Effective Green, g (s)		12.6	12.6		12.6	12.6	35.1	35.1	35.1	35.1	35.1	
Actuated g/C Ratio		0.23	0.23		0.23	0.23	0.63	0.63	0.63	0.63	0.63	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.6	3.6	3.6	3.6	3.6	
Lane Grp Cap (vph)		404	358		304	358	425	1174	998	706	1173	
v/s Ratio Prot								0.14			c0.32	
v/s Ratio Perm		0.01	0.02		c0.11	0.02	0.01		0.06	0.02		
v/c Ratio		0.03	0.02		0.48	0.02	0.02	0.22	0.06	0.03	0.51	
Uniform Delay, d1		16.8	16.7		18.7	16.7	3.8	4.4	4.0	3.9	5.6	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		1.2	0.0	0.0	0.1	0.0	0.0	0.4	
Delay (s)		16.8	16.7		19.9	16.8	3.9	4.5	4.0	3.9	6.0	
Level of Service		B	B		B	B	A	A	A	A	A	
Approach Delay (s)		16.8			19.4			4.4			6.0	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM Average Control Delay		7.8										
HCM Volume to Capacity ratio		0.50										
Actuated Cycle Length (s)		55.7										
Intersection Capacity Utilization		54.5%										
Analysis Period (min)		15										
c Critical Lane Group												

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Volume (vph)	1015	451	190	1034	280	158
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1015	451	190	1034	280	158
RTOR Reduction (vph)	0	203	0	0	0	93
Lane Group Flow (vph)	1015	248	190	1034	280	65
Turn Type	Perm		Prot	Perm		
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	24.0	24.0	7.5	35.0	29.8	29.8
Effective Green, g (s)	25.0	25.0	7.0	36.0	31.0	31.0
Actuated g/C Ratio	0.33	0.33	0.09	0.48	0.41	0.41
Clearance Time (s)	5.0	5.0	3.5	5.0	5.2	5.2
Lane Grp Cap (vph)	1180	528	165	1699	732	654
v/s Ratio Prot	c0.29		c0.11	0.29	c0.16	
v/s Ratio Perm		0.28				0.10
v/c Ratio	0.86	0.47	1.15	0.61	0.38	0.10
Uniform Delay, d1	23.4	19.8	34.0	14.3	15.3	13.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.3	3.0	116.6	1.6	1.5	0.3
Delay (s)	31.7	22.8	150.6	16.0	16.8	13.8
Level of Service	C	C	F	B	B	B
Approach Delay (s)	28.9			36.9	15.7	
Approach LOS	C			D	B	
Intersection Summary						
HCM Average Control Delay		30.2		HCM Level of Service		C
HCM Volume to Capacity ratio		0.66				
Actuated Cycle Length (s)		75.0		Sum of lost time (s)		12.0
Intersection Capacity Utilization		64.1%		ICU Level of Service		C
Analysis Period (min)		15				
c Critical Lane Group						

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	3433	3539	1583	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5085	1583	3433	3539	1583	3433	3539	2787
Volume (vph)	193	981	286	232	535	97	238	300	521	189	1257	465
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	193	981	286	232	535	97	238	300	521	189	1257	465
RTOR Reduction (vph)	0	0	239	0	0	71	0	0	253	0	0	215
Lane Group Flow (vph)	193	981	47	232	535	26	238	300	268	189	1257	250
Turn Type	Prot		Over	Prot		Perm	Prot		Perm	Prot		Over
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases						8			2			
Actuated Green, G (s)	16.5	31.8	8.3	14.0	29.9	29.9	8.3	22.4	22.4	24.3	38.4	16.5
Effective Green, g (s)	16.5	32.4	8.3	14.0	29.9	29.9	8.3	23.0	23.0	24.3	39.0	16.5
Actuated g/C Ratio	0.15	0.30	0.08	0.13	0.27	0.27	0.08	0.21	0.21	0.22	0.36	0.15
Clearance Time (s)	4.0	4.6	4.0	4.0	4.0	4.0	4.0	4.6	4.6	4.0	4.6	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	266	1045	120	226	1386	431	260	742	332	760	1258	419
v/s Ratio Prot	0.11	c0.28	c0.18	0.13	0.11		0.07	0.08		0.06	c0.36	c0.17
v/s Ratio Perm						0.06			0.33			
v/c Ratio	0.73	0.94	0.39	1.03	0.39	0.06	0.92	0.40	0.81	0.25	1.00	0.60
Uniform Delay, d1	44.4	37.7	48.3	47.9	32.4	29.5	50.4	37.4	41.2	35.2	35.3	43.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.4	15.1	2.1	66.9	0.2	0.1	33.9	0.4	13.4	0.1	25.0	2.3
Delay (s)	53.9	52.8	50.4	114.8	32.6	29.6	84.3	37.8	54.6	35.2	60.3	45.8
Level of Service	D	D	D	F	C	C	F	D	D	D	E	D
Approach Delay (s)		52.5			54.3			56.5			54.3	
Approach LOS		D			D			E			D	
Intersection Summary												
HCM Average Control Delay		54.2					HCM Level of Service		D			
HCM Volume to Capacity ratio		1.13										
Actuated Cycle Length (s)		109.7					Sum of lost time (s)		8.0			
Intersection Capacity Utilization		94.8%					ICU Level of Service		F			
Analysis Period (min)		15										
c Critical Lane Group												

Point Martin II
14: Geneva Avenue & Schwerin Street

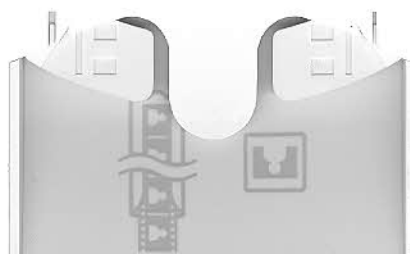
C+P AM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.94			0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1770	3525		1770	3513			1744			1761	
Flt Permitted	0.28	1.00		0.26	1.00			0.94			0.83	
Satd. Flow (perm)	525	3525		481	3513			1646			1492	
Volume (vph)	169	1075	30	84	725	37	30	72	71	36	36	28
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	169	1075	30	84	725	37	30	72	71	36	36	28
RTOR Reduction (vph)	0	1	0	0	4	0	0	36	0	0	23	0
Lane Group Flow (vph)	169	1104	0	84	758	0	0	137	0	0	77	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	45.2	45.2		34.2	34.2			11.2			11.2	
Effective Green, g (s)	45.8	45.8		34.8	34.8			11.2			11.2	
Actuated g/C Ratio	0.70	0.70		0.54	0.54			0.17			0.17	
Clearance Time (s)	4.0	4.6		4.6	4.6			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	504	2484		258	1881			284			257	
v/s Ratio Prot	0.04	c0.31			0.22							
v/s Ratio Perm	0.20			0.17				c0.11			0.07	
v/c Ratio	0.34	0.44		0.33	0.40			0.48			0.30	
Uniform Delay, d1	3.9	4.1		8.5	8.9			24.3			23.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.4	0.6		3.3	0.6			1.3			0.7	
Delay (s)	4.3	4.7		11.8	9.6			25.6			24.1	
Level of Service	A	A		B	A			C			C	
Approach Delay (s)		4.7			9.8			25.6			24.1	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM Average Control Delay			8.8			HCM Level of Service			A			
HCM Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			65.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			59.8%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	38	9	3	327	606	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	41	10	3	355	659	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh)						
Upstream signal (ft)				178	187	
pX, platoon unblocked						
vC, conflicting volume	1026	664	670			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1026	664	670			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	98	100			
cM capacity (veh/h)	259	461	921			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	51	3	355	670		
Volume Left	41	3	0	0		
Volume Right	10	0	0	11		
cSH	283	921	1700	1700		
Volume to Capacity	0.18	0.00	0.21	0.39		
Queue Length 95th (ft)	16	0	0	0		
Control Delay (s)	20.5	8.9	0.0	0.0		
Lane LOS	C	A				
Approach Delay (s)	20.5	0.1		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay		1.0				
Intersection Capacity Utilization		42.5%		ICU Level of Service	A	
Analysis Period (min)		15				



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰		↰	↑	↑	↱
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	44	8	3	286	604	11
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	44	8	3	286	604	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)				129	236	
pX, platoon unblocked						
vC, conflicting volume	902	610	615			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	902	610	615			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	98	100			
cM capacity (veh/h)	307	495	965			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	52	3	286	615		
Volume Left	44	3	0	0		
Volume Right	8	0	0	11		
cSH	326	965	1700	1700		
Volume to Capacity	0.16	0.00	0.17	0.36		
Queue Length 95th (ft)	14	0	0	0		
Control Delay (s)	18.1	8.7	0.0	0.0		
Lane LOS	C	A				
Approach Delay (s)	18.1	0.1		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization		42.5%		ICU Level of Service	A	
Analysis Period (min)		15				



						
Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	3539	3539	1583	3433	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	3539	3539	1583	3433	1583
Volume (vph)	351	331	877	326	83	255
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	351	331	877	326	83	255
RTOR Reduction (vph)	0	0	0	274	0	185
Lane Group Flow (vph)	351	331	877	52	83	70
Turn Type	Prot			Over		Over
Protected Phases	5	2	6	4	4	5
Permitted Phases						
Actuated Green, G (s)	15.9	38.5	18.6	8.3	8.3	15.9
Effective Green, g (s)	15.9	40.5	20.6	9.3	9.3	15.9
Actuated g/C Ratio	0.28	0.70	0.36	0.16	0.16	0.28
Clearance Time (s)	4.0	6.0	6.0	5.0	5.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	487	2480	1261	255	552	435
v/s Ratio Prot	c0.20	0.09	c0.25	c0.21	0.02	0.16
v/s Ratio Perm						
v/c Ratio	0.72	0.13	0.70	0.21	0.15	0.16
Uniform Delay, d1	18.9	2.9	15.9	21.0	20.9	15.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.2	0.0	1.7	0.4	0.1	0.2
Delay (s)	24.1	2.9	17.6	21.4	21.0	16.1
Level of Service	C	A	B	C	C	B
Approach Delay (s)		13.8	18.6		17.3	
Approach LOS		B	B		B	
Intersection Summary						
HCM Average Control Delay			17.0		HCM Level of Service	B
HCM Volume to Capacity ratio			0.82			
Actuated Cycle Length (s)			57.8		Sum of lost time (s)	12.0
Intersection Capacity Utilization			57.0%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Point Martin II
4: Martin Street & Carter Street

C+P PM Peak Hour
04/11/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.99	1.00		0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1850	1583		1778	1583	1770	1863	1583	1770	1856	
Flt Permitted		0.97	1.00		0.73	1.00	0.63	1.00	1.00	0.46	1.00	
Satd. Flow (perm)		1801	1583		1354	1583	1167	1863	1583	862	1856	
Volume (vph)	2	12	9	146	8	5	16	445	114	42	205	5
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	12	9	146	8	5	16	445	114	42	205	5
RTOR Reduction (vph)	0	0	7	0	0	4	0	0	44	0	1	0
Lane Group Flow (vph)	0	14	2	0	154	1	16	445	70	42	209	0
Turn Type	Perm		Perm	Perm		Perm	Perm		Perm	Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)		12.7	12.7		12.7	12.7	32.6	32.6	32.6	32.6	32.6	
Effective Green, g (s)		12.7	12.7		12.7	12.7	33.2	33.2	33.2	33.2	33.2	
Actuated g/C Ratio		0.24	0.24		0.24	0.24	0.62	0.62	0.62	0.62	0.62	
Clearance Time (s)		4.0	4.0		4.0	4.0	4.6	4.6	4.6	4.6	4.6	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.6	3.6	3.6	3.6	3.6	
Lane Grp Cap (vph)		424	373		319	373	719	1148	975	531	1143	
v/s Ratio Prot								c0.24			0.11	
v/s Ratio Perm		0.01	0.01		c0.11	0.00	0.01		0.07	0.05		
v/c Ratio		0.03	0.01		0.48	0.00	0.02	0.39	0.07	0.08	0.18	
Uniform Delay, d1		15.9	15.8		17.8	15.8	4.0	5.2	4.2	4.2	4.5	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0	0.0		1.2	0.0	0.0	0.3	0.0	0.1	0.1	
Delay (s)		15.9	15.8		18.9	15.8	4.0	5.5	4.2	4.3	4.6	
Level of Service		B	B		B	B	A	A	A	A	A	
Approach Delay (s)		15.9			18.8			5.2			4.5	
Approach LOS		B			B			A			A	
Intersection Summary												
HCM Average Control Delay		7.4										
HCM Volume to Capacity ratio		0.41										
Actuated Cycle Length (s)		53.9										
Intersection Capacity Utilization		53.6%										
Analysis Period (min)		15										
c Critical Lane Group												



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Fr _t	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3539	1583	1770	3539	1770	1583
Flt Permitted	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	3539	1583	1770	3539	1770	1583
Volume (vph)	899	163	209	1241	317	180
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	899	163	209	1241	317	180
RTOR Reduction (vph)	0	73	0	0	0	114
Lane Group Flow (vph)	899	90	209	1241	317	66
Turn Type	Perm		Prot	Perm		
Protected Phases	2		1	6	8	
Permitted Phases		2				8
Actuated Green, G (s)	29.0	29.0	12.5	45.0	29.8	29.8
Effective Green, g (s)	30.0	30.0	12.0	46.0	31.0	31.0
Actuated g/C Ratio	0.35	0.35	0.14	0.54	0.36	0.36
Clearance Time (s)	5.0	5.0	3.5	5.0	5.2	5.2
Lane Grp Cap (vph)	1249	559	250	1915	646	577
v/s Ratio Prot	c0.25		c0.12	0.35	c0.18	
v/s Ratio Perm		0.10				0.11
v/c Ratio	0.72	0.16	0.84	0.65	0.49	0.11
Uniform Delay, d ₁	23.9	18.9	35.5	13.8	20.9	17.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d ₂	3.6	0.6	26.9	1.7	2.7	0.4
Delay (s)	27.5	19.5	62.4	15.5	23.5	18.3
Level of Service	C	B	E	B	C	B
Approach Delay (s)	26.2			22.3	21.6	
Approach LOS	C			C	C	

Intersection Summary

HCM Average Control Delay	23.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.95	1.00	0.97	0.95	0.88
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	3433	3539	1583	3433	3539	2787
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	3539	1583	1770	5085	1583	3433	3539	1583	3433	3539	2787
Volume (vph)	228	1111	143	384	1040	313	412	470	718	341	662	493
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	228	1111	143	384	1040	313	412	470	718	341	662	493
RTOR Reduction (vph)	0	0	93	0	0	205	0	0	283	0	0	387
Lane Group Flow (vph)	228	1111	50	384	1040	108	412	470	435	341	662	106
Turn Type	Prot		Over	Prot		Perm	Prot		Perm	Prot		Over
Protected Phases	7	4	5	3	8		5	2		1	6	7
Permitted Phases						8			2			
Actuated Green, G (s)	20.5	37.7	16.0	26.0	43.2	43.2	16.0	32.1	32.1	12.0	28.1	20.5
Effective Green, g (s)	21.1	38.3	16.0	26.0	43.2	43.2	16.0	32.7	32.7	12.0	28.7	21.1
Actuated g/C Ratio	0.17	0.31	0.13	0.21	0.35	0.35	0.13	0.26	0.26	0.10	0.23	0.17
Clearance Time (s)	4.6	4.6	4.0	4.0	4.0	4.0	4.0	4.6	4.6	4.0	4.6	4.6
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0
Lane Grp Cap (vph)	299	1084	203	368	1757	547	439	926	414	330	813	470
v/s Ratio Prot	0.13	c0.31	0.09	c0.22	0.20		c0.12	0.13		0.10	0.19	0.18
v/s Ratio Perm						0.20			0.45			
v/c Ratio	0.76	1.02	0.24	1.04	0.59	0.20	0.94	0.51	1.05	1.03	0.81	0.22
Uniform Delay, d1	49.6	43.4	49.1	49.5	33.6	28.7	54.0	39.3	46.1	56.5	45.6	44.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.9	33.8	0.6	58.7	0.5	0.2	27.7	0.4	58.3	58.4	6.3	0.2
Delay (s)	60.5	77.2	49.7	108.2	34.2	28.9	81.8	39.7	104.5	114.9	51.9	45.1
Level of Service	E	E	D	F	C	C	F	D	F	F	D	D
Approach Delay (s)		72.0			49.6			79.6			64.0	
Approach LOS		E			D			E			E	
Intersection Summary												
HCM Average Control Delay		65.9					HCM Level of Service		E			
HCM Volume to Capacity ratio		1.25										
Actuated Cycle Length (s)		125.0					Sum of lost time (s)		16.0			
Intersection Capacity Utilization		95.4%					ICU Level of Service		F			
Analysis Period (min)		15										
c Critical Lane Group												

Point Martin II
14: Geneva Avenue & Schwerin Street

C+P PM Peak Hour
03/10/2016

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	0.99			0.93			0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3527		1770	3504			1730			1755	
Flt Permitted	0.11	1.00		0.28	1.00			0.97			0.92	
Satd. Flow (perm)	211	3527		516	3504			1685			1629	
Volume (vph)	132	1011	24	35	1276	92	13	49	60	21	36	30
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	132	1011	24	35	1276	92	13	49	60	21	36	30
RTOR Reduction (vph)	0	1	0	0	5	0	0	49	0	0	24	0
Lane Group Flow (vph)	132	1034	0	35	1363	0	0	73	0	0	63	0
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	52.6	52.6		43.5	43.5			13.8			13.8	
Effective Green, g (s)	53.2	53.2		44.1	44.1			13.8			13.8	
Actuated g/C Ratio	0.71	0.71		0.59	0.59			0.18			0.18	
Clearance Time (s)	4.0	4.6		4.6	4.6			4.0			4.0	
Vehicle Extension (s)	1.5	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	256	2502		303	2060			310			300	
v/s Ratio Prot	0.04	c0.29			c0.39							
v/s Ratio Perm	0.33			0.07				c0.07			0.05	
v/c Ratio	0.52	0.41		0.12	0.66			0.24			0.21	
Uniform Delay, d1	7.8	4.5		6.8	10.4			26.1			26.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.7	0.5		0.8	1.7			0.4			0.3	
Delay (s)	8.6	5.0		7.6	12.1			26.5			26.3	
Level of Service	A	A		A	B			C			C	
Approach Delay (s)		5.4			12.0			26.5			26.3	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM Average Control Delay		10.3					HCM Level of Service		B			
HCM Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		75.0					Sum of lost time (s)		12.0			
Intersection Capacity Utilization		64.6%					ICU Level of Service		C			
Analysis Period (min)		15										
c Critical Lane Group												

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	22	4	7	436	274	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	4	8	474	298	46
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)				178	187	
pX, platoon unblocked						
vC, conflicting volume	810	321	343			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	810	321	343			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	93	99	99			
cM capacity (veh/h)	347	720	1216			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	28	8	474	343		
Volume Left	24	8	0	0		
Volume Right	4	0	0	46		
cSH	377	1216	1700	1700		
Volume to Capacity	0.07	0.01	0.28	0.20		
Queue Length 95th (ft)	6	0	0	0		
Control Delay (s)	15.3	8.0	0.0	0.0		
Lane LOS	C	A				
Approach Delay (s)	15.3	0.1		0.0		
Approach LOS	C					
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization		32.9%		ICU Level of Service	A	
Analysis Period (min)		15				

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Volume (veh/h)	16	3	8	427	248	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	3	8	427	248	30
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None					
Median storage veh						
Upstream signal (ft)				129	236	
pX, platoon unblocked						
vC, conflicting volume	706	263	278			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	706	263	278			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	96	100	99			
cM capacity (veh/h)	400	776	1285			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1		
Volume Total	19	8	427	278		
Volume Left	16	8	0	0		
Volume Right	3	0	0	30		
cSH	433	1285	1700	1700		
Volume to Capacity	0.04	0.01	0.25	0.16		
Queue Length 95th (ft)	3	0	0	0		
Control Delay (s)	13.7	7.8	0.0	0.0		
Lane LOS	B	A				
Approach Delay (s)	13.7	0.1		0.0		
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization		32.5%		ICU Level of Service	A	
Analysis Period (min)		15				

C. Traffic Analysis Worksheets

POINT MARTIN II
VEHICLE TRIP GENERATION
July 22, 2016

LOCATION	LAND USE	LU CODE	SIZE	UNITS	TRIP GENERATION RATE*							TRIP GENERATION VOLUME						
					A.M. PEAK HOUR			P.M. PEAK HOUR			AWDT	A.M. PEAK HOUR			P.M. PEAK HOUR			
					IN	OUT	TOTAL	IN	OUT	TOTAL		IN	OUT	TOTAL	IN	OUT	TOTAL	
Point Martin II	SFR	210	67	DU	0.21	0.63	0.85	0.69	0.40	1.09	10.84	14	42	57	46	27	73	727
	Condo/Townhouse	230	50	DU	0.10	0.49	0.59	0.46	0.22	0.68	7.04	5	25	30	23	11	34	352
	Total:				19	67	86	69	38	107	1078							

* ITE, Trip Generation, 9th Edition, © 2012, using fitted curve equations

INTERSECTION: Carter Street & Street "B"
 AGENCY: Daly City
 HOUR ANALYZED: AM Peak Hour
 YEAR: 2035 SCENARIO: C+P

BY: RKH
 DATE: 4/11/16

TRAFFIC DATA:

RT TURN FLARE? N
 RT TURN ISLAND? N

PHF: 0.90			
R	T	L	
0	1	0	LANES
9	0	38	VOLUME
12	11	10	

RT TURN ISLAND? N

PHF: 0.90	L	0	3	1
	T	1	327	2
	R	0	0	3
	LANES		VOL.	

6	10	0	R
5	606	1	T
4	0	0	L
	VOL. LANES		

PHF: 0.90

RT TURN ISLAND? N

Carter Street
 MAJOR STREET
 DIRECTION: E/W
 SPEED LIMIT: 35 mph
 NEAR BY SIGNAL? 1
 (Y=1,N=0)

	7	8	9
VOLUME	0	0	0
LANES	0	0	0
	L	T	R
	PHF: 0.90		

RT TURN FLARE? N
 RT TURN ISLAND? N

Street B
 MINOR STREET
 DIRECTION: N/S

MAXIMUM QUEUE LENGTHS: (veh./lane)

	L/T/R	
R	2	L
0	11	0
12		10

L 0 1

4 0 L

Carter Street

7		9
0	8	0
L	0	R
	L/T/R	

Street B

SOURCE: Gard, John T., "Estimation of Maximum Queue Lengths at Unsignalized Intersections"
 ITE Journal, November 2001

NOTE: Pedestrians not included in conflicting volumes.

MAXIMUM QUEUE LENGTHS
 UNSIGNALIZED INTERSECTION

RKH

INTERSECTION: Carter Street & Street "B"
 AGENCY: Daly City
 HOUR ANALYZED: PM Peak Hour
 YEAR: 2035 SCENARIO: C+P

BY: RKH
 DATE: 4/11/16

TRAFFIC DATA:

RT TURN FLARE? N
 RT TURN ISLAND? N

PHF: 0.90			LANES VOLUME
R	T	L	
0	1	0	
4	0	22	
12	11	10	

RT TURN ISLAND? N

PHF: 0.90	L	0	7	1
	T	1	436	2
	R	0	0	3
LANES VOL.				

6	42	0	R
5	274	1	T
4	0	0	L
VOL. LANES			

PHF: 0.90

RT TURN ISLAND? N

Carter Street
 MAJOR STREET
 DIRECTION: E/W
 SPEED LIMIT: 35 mph
 NEAR BY SIGNAL? 1
 (Y=1,N=0)

VOLUME LANES	7	8	9
	0	0	0
	0	0	0
	L	T	R
PHF: 0.90			

Street B
 MINOR STREET
 DIRECTION: N/S

RT TURN FLARE? N
 RT TURN ISLAND? N

MAXIMUM QUEUE LENGTHS:
 (veh./lane)

L/T/R		
R	0	L
0	11	0
12		10

L 1 1

4 0 L

Carter Street

7	8	9
0	0	0
L	L/T/R	R

Street B

SOURCE: Gard, John T., "Estimation of Maximum Queue Lengths at Unsignalized Intersections"
 ITE Journal, November 2001

NOTE: Pedestrians not included in conflicting volumes.

**MAXIMUM QUEUE LENGTHS
 UNSIGNALIZED INTERSECTION**

RKH

APPENDIX G

WATER SUPPLY REPORT



October 4, 2015

Water Supply Evaluation
Point Martin II
Proposed
Residential Development

Daly City, CA

Prepared for: CKS Environmental

Prepared by: Elliot L. Gittleman, FPE
ESH Consultants

Background:

ESH Consultants was contracted to prepare an evaluation of the water supply available from Steve Courter Way to Carter Street, and to determine if the existing water supply will be sufficient for the proposed new residential development known as Point Martin II. ESH Consultants previously evaluated and provided reporting on water supply for the Point Martin I project.

This report reviews the Daly City Water Department's recent flow testing and incorporates a water supply graphing of those results. This information has been used to prepare a hydraulic analysis model to determine whether the proposed expansion of the water supply network would meet or exceed fire flow requirements. The information has been analyzed to establish the estimated pressure and flow at the base of the sprinkler riser, for use by a sprinkler contractor for the design of NFPA 13D residential sprinkler systems. The information was also analyzed to verify 500 gpm flow is available at 20 psi at the highest hydrant elevation.

Fire Flow Requirement:

California Fire Code (2013), Appendix B, Section B105.1 specifies a fire flow of 1,000 gpm at 20 psi for single family dwellings less than 3,600 sq ft. The local authority having jurisdiction can reduce the required flow to 500 gpm when the dwelling is equipped with an automatic fire protection sprinkler system. The proposed dwellings for this project are substantially less than 3,600 sq ft and will be equipped with an NFPA 13D residential sprinkler system.

NFPA 13D is the design standard for fire protection sprinkler systems in one and two family dwellings. The minimum design criteria are one sprinkler operating at 18 gpm and two sprinklers operating at 13 gpm each. This is based upon a smooth flat ceiling. If the ceiling is not smooth, the local fire authority may request a design with more than two sprinklers operating in a fire area.

Water Supply Test:

On September 23, 2015 Daly City Water and Wastewater Resources Dept., Water Operations personnel conducted a water supply test on Steve Courter Way. The test occurred at 17:30 hours, conducted by Anthony Gerace and witnessed by operator PP (initials of the witness). The water supply for the testing location is obtained from Reservoir # 9. The maximum water storage level in the tank is 40.0 feet with a minimum level of 20.0 feet. During the test, the water level was at 28.10 feet. Static pressure in the system should remain the same even with a change in tank water levels as the discharge from the tank is regulated by two pressure reduction devices. There were no pumps in operation during the test.

The flow hydrant, #17, is located at 888 Steve Courter Way. The gauge hydrant (test hydrant), #16, is located at 838 Steve Courter Way. The water main servicing both of these hydrants is 10-inch ductile iron pipe.

Information was not provided by Daly City Water to indicate if the gauges used for the flow test were within accurate calibration. Standard practice is to calibrate the gauges at least once per year, or to replace them with new factory calibrated gauges.

Test Results:

A pitot pressure reading was taken at hydrant 17 using a 2.5-inch orifice. The normal coefficient of the orifice is 0.90. The Water Department reduced the coefficient to 0.75 to allow for the backpressure in the Pollard device. The pitot pressure was recorded as 49 psi that corresponds to a flow of 979 gpm.

A pressure gauge was attached to hydrant 16 to obtain the system static and residual pressures. The static pressure was 92 psi and the residual pressure was 62 psi. Based upon the static and residual pressures, the Water Department calculated an available flow of 1,570 gpm at a pressure of 20 psi.

Water Supply Evaluation:

ESH Consultants has prepared a computer hydraulic model evaluation of the existing water supply, with the system additions proposed by the project. The additions included the installation of two water main loops using 10 inch C900 PVC pipe. This analysis was conducted using HASS sprinkler system calculation software. A hose flow was indicated at the hydrant location and a hose flow indicated at the estimated location of the base of riser of the highest residential pad.

Project data entered into the software was obtained from the project designer. The information provided consisted of: the estimated length of pipe needed to extend from the existing main to the proposed lots and buildings within the planned development; finish grade elevations and locations of the highest elevation hydrant; finish grade elevations and locations of the highest elevation building service pads. Short sections of ductile iron pipe were used in the calculations, for pipe sections connecting the new hydrant to the underground pipe, and for connection of a domestic water line from the new main to the house at the proposed highest pad elevation.

The number and type of fittings to be used in the water service main system, from Steve Courter Way to the proposed hydrant is not known. For calculation and modeling purposes, an estimated number of fittings were added to the calculation data.

The static and residual pressures obtained from Daly City Water were reduced by 10% for a safety factor to accommodate variations in the system pressure during the day and during seasonal differences. Considering that the water supply pressure is regulated by pressure regulating valves, the static pressure and residual pressure should not change due to day and seasonal differences.

Two groups of calculations have been prepared. The first group of calculations was prepared to determine whether the available water supply and pressure at the highest elevation hydrant (Lot 28) met the required 500 gpm flow at 20 psi. The second calculation was prepared to determine the expected maximum flow at that hydrant at 20 gpm.

The second group of calculations is based upon the requirements of NFPA 13D. For NFPA 13D systems, the required flow is one sprinkler at 18 gpm, and two sprinklers at 13 gpm each or a total of 26 gpm. Five gpm was added for domestic use within the house as the service lateral to the dwelling is shared between both domestic and fire prevention uses. Since a perfect hydraulic design is not possible, the required flow was increased to 40 gpm at the base of the riser. This calculation did not include any friction or pressure losses attributed to the water meter. The calculation results would be used by the building sprinkler contractor to design the sprinkler system.

Results:

Hydrant Calculation

The calculations show the maximum available water supply at the proposed hydrant location is approximately 975 gpm @ approximately 23 psi. The flow rate more than exceeds the required 500 gpm at 20 psi as indicated in the fire code.

Sprinkler Base of Riser Calculation

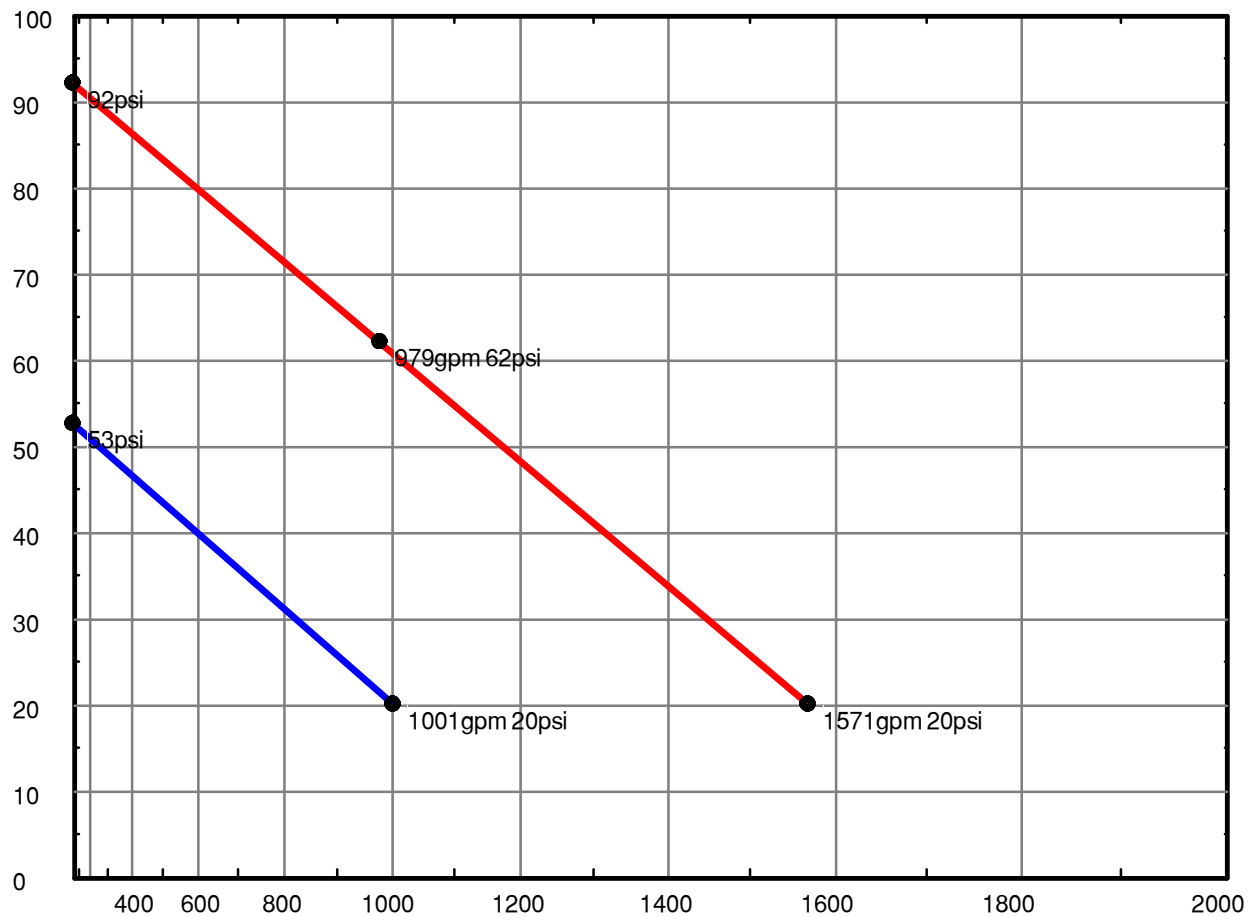
The calculations indicate that without the reduction for a water meter or backflow device, there will be 40 gpm available at 50.2 psi, at the base of the riser. After allowances for an end head pressure requirement of 7 psi and an elevation loss of 13 psi, 30.2 psi is available for system friction losses and the water meter. This is based upon using a 1.5 inch lead-in to the base of the riser for the highest elevation homes. Homes at lower elevations may only need a 1 inch lead-in.

Opinion:

Based upon the evaluation of the proposed water supply system improvements, it is the opinion of ESH Consultants that there will be sufficient water supply and pressure, throughout the project site, for both adequate fire flow and residential sprinkler operations. If additional pipefittings are installed in the design than allowed for in the calculations and/or if additional valves and pipes of different internal diameters or materials are used, new calculations and modeling would be needed to determine adequacy of supply and pressure.



Water Supply Graph



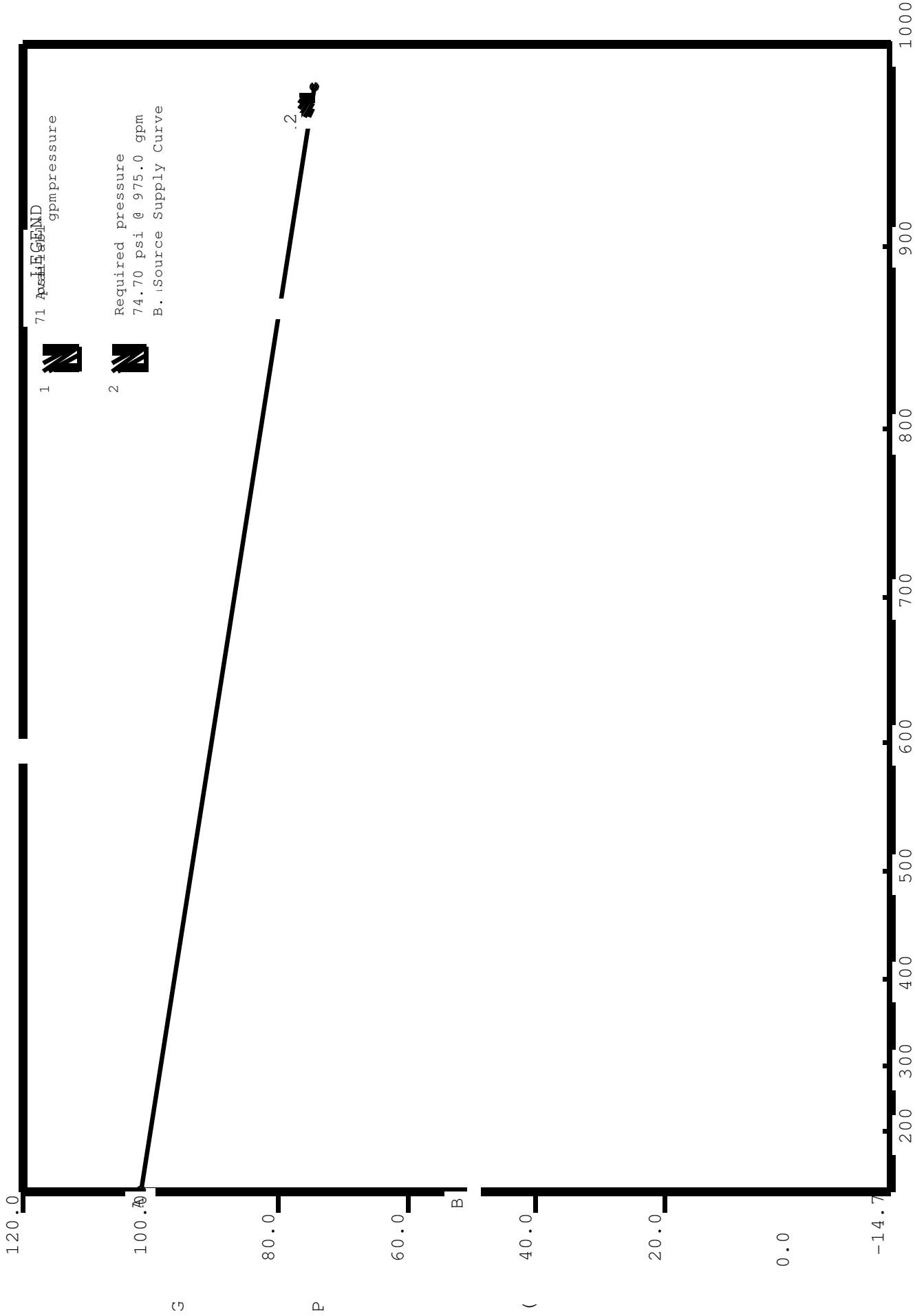
Red line indicates flow test results.

Blue line indicated available flow at highest hydrant. Note ~1,000 gpm @ 20 psi.

Required amount is 500 gpm @ 20 psi.

WATER SUPPLY ANALYSIS

Station 101.5 psi Resic 74.5 psi Fl 979.0 gpm



NFPA WATER SUPPLY DATA

SOURCE NODE TAG	STATIC PRESS. (PSI)	RESID. PRESS. (PSI)	FLOW @ (GPM)	AVAIL. PRESS. (PSI)	TOTAL @ DEMAND (GPM)	REQ'D PRESS. (PSI)
1	101.5	74.5	979.0	74.7	975.0	

AGGREGATE FLOW ANALYSIS:

TOTAL FLOW AT SOURCE	975.0 GPM
TOTAL HOSE STREAM ALLOWANCE AT SOURCE	0.0 GPM
OTHER HOSE STREAM ALLOWANCES	975.0 GPM
TOTAL DISCHARGE FROM ACTIVE SPRINKLERS	0.0 GPM

NODE ANALYSIS DATA

NODE TAG	ELEVATION (FT)	NODE TYPE	PRESSURE (PSI)	DISCHARGE (GPM)	NOTES
1	240.0	SOURCE	74.7	975.0	
2	288.0	- - - -	53.6	- - -	
3	349.5	- - - -	26.6	- - -	
4	348.0	- - - -	27.1	- - -	
5	352.5	- - - -	25.3	- - -	
6	352.5	HOSE STREAM	23.1	975.0	
7	330.0	- - - -	35.2	- - -	
8	306.0	- - - -	45.6	- - -	
9	236.0	- - - -	76.4	- - -	
10	240.0	- - - -	74.6	- - -	
11	266.0	- - - -	63.2	- - -	

NFPA PIPE DATA

Pipe Tag	K-fac	Add Fl	Add Fl	To	Fit:	L	C	(Pt)	Notes
Frm Node	El (ft)	PT	(q)	Node/	Eq.Ln.	F		(Pe)	
To Node	El (ft)	PT	Tot.(Q)	Disch	Act ID	T	Pf/ft.	(Pf)	
Pipe: 1		Source	426.3	10			4.00	140	1.7
1	240.0	74.7	548.7	8	D10.00	----	0.00		1.7
9	236.0	76.4	975.0		10.400		4.00	0.002	0.0
Pipe: 2		0.0	485.9	3			206.00	150	18.3
2	288.0	53.6	-59.5	8	E10.00	T:68.0	68.00		-18.2
7	330.0	35.2	426.3		9.790		274.00	0.000	0.1
Pipe: 3		0.0	0.0			T: 8.6	27.00	150	1.3
3	349.5	26.6	0.0		E1.500	C: 9.6	19.27		-1.3
5	352.5	25.3	0.0		1.500	G: 1.1	46.27	0.000	0.0
Pipe: 4		0.0	975.0	6			30.00	150	0.5
3	349.5	26.6	-489.1	8	E6.000	----	0.00		0.6
4	348.0	27.1	485.9		6.080		30.00	0.006	0.2
Pipe: 5		H.S.	975.0	Disch		E:22.0	21.00	140	4.0
4	348.0	27.1	0.0		D6.000	T:47.0	74.00		-1.9
6	352.5	23.1	975.0		6.280	G: 5.0	95.00	0.021	2.0
Pipe: 6		0.0	485.9	4			222.00	150	8.6
7	330.0	35.2	0.0	5	E10.00	2E:60.0	60.00		-8.4
3	349.5	26.6	485.9		9.790		282.00	0.001	0.2
Pipe: 7		0.0	975.0	6			495.00	150	18.6
8	306.0	45.6	-485.9	3	E10.00	E:30.0	98.00		-18.2
4	348.0	27.1	489.1		9.790	T:68.0	593.00	0.001	0.4
Pipe: 8		0.0	485.9	3			498.00	150	10.4
8	306.0	45.6	-426.3	2	E10.00	2T136.0	136.00		-10.4
7	330.0	35.2	59.5		9.790		634.00	0.000	0.0
Pipe: 9		0.0	59.5	7			460.00	150	30.8
9	236.0	76.4	489.1	4	E10.00	E:30.0	166.00		-30.3
8	306.0	45.6	548.7		9.790	2T136.0	626.00	0.001	0.5
Pipe: 10		0.0	0.0				270.00	140	1.8
9	236.0	76.4	426.3	11	D12.00	2T196.0	196.00		-1.7
10	240.0	74.6	426.3		12.460		466.00	0.000	0.1
Pipe: 11		0.0	0.0				315.00	140	11.4
10	240.0	74.6	426.3	2	D10.00	E:35.0	115.00		-11.3
11	266.0	63.2	426.3		10.400	T:80.0	430.00	0.000	0.2
Pipe: 12		0.0	0.0				252.00	140	9.6
11	266.0	63.2	426.3	7	D10.00	----	0.00		-9.5
2	288.0	53.6	426.3		10.400		252.00	0.000	0.1

Mitigation Monitoring and Reporting Program

Point Martin II Residential Development



March 2017

MITIGATION MONITORING AND REPORTING PROGRAM				
Point Martin II Residential Development				
Impacts	Mitigation and/or Avoidance Measure(s)	Timeframe and Responsibility for Implementation	Method of Compliance	Oversight of Implementation
Air Quality				
Impact AQ-1: The project would generate significant dust during construction activities that would affect nearby sensitive receptors, if best management practices are not implemented.	MM AQ-1.1: The project shall implement the following standard BAAQMD dust control measures during all phases of construction on the project site: • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • 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. • All vehicle speeds on unpaved roads shall be limited to 15 mph. • 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. • Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five (5)	The applicant and contractors shall be responsible for implementing the mitigation measures during all phases of construction.	All measures shall be printed on all construction documents, contracts, and project plans and shall be reviewed by the Director of Economic and Community Development prior to the issuance of a grading permit.	Director of Economic and Community Development

MITIGATION MONITORING AND REPORTING PROGRAM

Point Martin II Residential Development

Impacts	Mitigation and/or Avoidance Measure(s)	Timeframe and Responsibility for Implementation	Method of Compliance	Oversight of Implementation
	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. • 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. • A publicly visible sign shall be posted with the telephone number and person to contact at the City of Daly City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Bay Area Air Quality Management Air District's phone number shall also be visible to ensure compliance with applicable regulations.			
Impact AQ-2: Project construction could result in excess residential cancer risks of 18.9	MM AQ-2.1: All off-road construction equipment greater than 50 horsepower shall meet US EPA Tier 3 emission standards, where available, to reduce NO _x , PM ₁₀ , and PM _{2.5} emissions at the project site. In addition, all construction equipment shall be outfitted	The project applicant and contractors shall be responsible for implementing the	All measures shall be printed on all construction documents, contracts, and	Director of Economic and Community Development

MITIGATION MONITORING AND REPORTING PROGRAM Point Martin II Residential Development				
Impacts	Mitigation and/or Avoidance Measure(s)	Timeframe and Responsibility for Implementation	Method of Compliance	Oversight of Implementation
cases in one million for infant exposure.	with Best Available Control Technology devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 1 diesel emissions control strategy for a similar sized engine as defined by CARB regulations. MM AQ – 2.2: At the time of mobilization of each applicable unit of equipment, a copy of each unit’s certified tier specification, BACT documentation, and CARB or BAAQMD operating permit shall be provided to the City Planning Manager.	mitigation measures during all phases of construction.	project plans and shall be reviewed by the Director of Economic and Community Development prior to the issuance of a grading permit.	
Biological Resources				
Impact BIO-1: The project may disturb nesting birds on and adjacent to the site during construction.	MM BIO-1.1: In order to protect nesting birds on and adjacent to the project site the following measures will be implemented: Pre-construction nesting bird surveys shall be completed prior to tree removal if removal or construction is proposed to commence during the breeding season (February 1 to August 31) in order to avoid impacts to nesting birds. Surveys shall be completed by a qualified biologist no more than 7 days before	The project applicant and contractors shall be responsible for implementing the mitigation measures prior to project construction.	All measures shall be printed on all construction documents, contracts, and project plans and shall be reviewed by the Director of Economic and Community Development prior	Director of Economic and Community Development

MITIGATION MONITORING AND REPORTING PROGRAM

Point Martin II Residential Development

Impacts	Mitigation and/or Avoidance Measure(s)	Timeframe and Responsibility for Implementation	Method of Compliance	Oversight of Implementation
	construction begins. During this survey, the biologist or ornithologist shall inspect all trees and other possible nesting habitats in and within 250 feet of the project boundary. • If an active nest is found in an area that would be disturbed by construction, the ornithologist shall designate an adequate buffer zone (~250 feet) to be established around the nest, in consultation with the California Department of Fish and Wildlife (CDFW). The buffer would ensure that nests shall not be disturbed until the young have fledged (left the nest), the nest is vacated, and there is no evidence of second nesting attempts. • The applicant shall submit a report indicating the results of the survey and any designated buffer zones to the satisfaction of the Director of Economic and Community Development, prior to the issuance of a grading permit or demolition permit.		to the issuance of a grading permit.	
Impact BIO-2: Development of the proposed project may impact off-site willow	MM BIO-2.1: Development at the southeastern perimeter of the project, along the rear of the proposed Lots 55 through 59, shall limit mass grading to within 20 feet of the dripline of the willows located across the	The project applicant and contractors shall be responsible for	All measures shall be printed on all construction documents,	Director of Economic and Community Development

MITIGATION MONITORING AND REPORTING PROGRAM Point Martin II Residential Development				
Impacts	Mitigation and/or Avoidance Measure(s)	Timeframe and Responsibility for Implementation	Method of Compliance	Oversight of Implementation
trees located at the southeastern perimeter of the project site.	property line at this location, to minimize interaction with the trees' root systems. Subsequent planned activities of a lesser nature, such as landscaping, utilities and creation of drainage basins are permissible so long as they do not encroach beyond said dripline. A permeable buffer fence shall be established alongside this location at the start of mass grading activity to guide workers as they conduct their activities. The buffer fence shall be maintained until mass grading activities have concluded, and then re-established at the dripline to guide subsequent workers in the latter activities.	implementing the mitigation measures during all phases of construction.	contracts, and project plans and shall be reviewed by the Director of Economic and Community Development prior to the issuance of a grading permit.	
Cultural Resources				
Impact CUL-1: Construction activities could disturb unknown buried archaeological resources associated with early twentieth-century development.	MM CUL-1.1: Any ground disturbing activities (for example, vegetation removal, grading, excavation, trenching) in the portion of the project area adjacent to Carter Street and Steve Courter Way shall be monitored by an archaeologist who meets the Secretary of the Interior standards. Specifically, monitoring should take place at the location of the old house and for a distance of 25 feet to the north, 50 feet to the west, 130 feet to the south, and from the house location east to the point where the slope drops down to the old road. This area represents a rectangle oriented roughly magnetic north and approximately	The project applicant and contractors shall be responsible for implementing the mitigation measures during all phases of construction.	All measures shall be printed on all construction documents, contracts, and project plans and shall be reviewed by the Director of Economic and Community Development prior	Director of Economic and Community Development

MITIGATION MONITORING AND REPORTING PROGRAM

Point Martin II Residential Development

Impacts	Mitigation and/or Avoidance Measure(s)	Timeframe and Responsibility for Implementation	Method of Compliance	Oversight of Implementation
	155 feet north to south by 50 to 70 feet east to west. Based on the soils description by ENGEO, monitoring shall terminate at a depth of three feet (or less) unless there is localized evidence that archaeological specimens might be deeper (for example, the outline of a pit is found that extends deeper into the ground). MM CUL-1.2: <i>Undiscovered Archaeological Resources.</i> If evidence of an archaeological site or other suspected cultural resource as defined by CEQA Guideline Section 15064.5, including darkened soil representing past human activity (“midden”), that could conceal material remains (e.g., worked stone, worked bone, fired clay vessels, faunal bone, hearths, storage pits, or burials) is discovered during construction related earth-moving activities, all ground-disturbing activity within 100 feet of the resources shall be halted and the City Planning Manager shall be notified. The project sponsor shall hire a qualified archaeologist to conduct a field investigation. The City Planning Manager shall consult with the archaeologist to assess the significance of the find. Impacts to any significant resources shall be mitigated to a less-than-significant level through data recovery or other methods determined adequate by a qualified archaeologist and		to the issuance of a grading permit.	

MITIGATION MONITORING AND REPORTING PROGRAM

Point Martin II Residential Development

Impacts	Mitigation and/or Avoidance Measure(s)	Timeframe and Responsibility for Implementation	Method of Compliance	Oversight of Implementation
	that are consistent with the Secretary of the Interior's Standards for Archaeological documentation. Any identified cultural resources shall be recorded on the appropriate DPR 523 (A-J) form and filed with the NWIC. MM CUL-1.3: Report of Archaeological Resources. If archaeological resources are identified, a final report summarizing the discovery of cultural materials shall be submitted to the City's Planning Manager prior to issuance of building permits. This report shall contain a description of the mitigation program that was implemented and its results, including a description of the monitoring and testing program, a list of the resources found and conclusion, and a description of the disposition/curation of the resources.			
Impact CUL – 2: The project may encounter buried remains and/or paleontological resources during site grading.	MM CUL – 2.1: Unique Paleontological and/or Geologic Features and Reporting. Should a unique paleontological resource or site or unique geological feature be identified at the project site during any phase of construction, all ground disturbing activities within 25 feet shall cease and the City Planning Manager notified immediately. A qualified paleontologist shall evaluate the find and prescribe mitigation measures to reduce impacts to a less than	The project applicant and contractors shall be responsible for implementing the mitigation measures during all phases of construction.	All measures shall be printed on all construction documents, contracts, and project plans and shall be reviewed by the Director of Economic and	Director of Economic and Community Development

MITIGATION MONITORING AND REPORTING PROGRAM

Point Martin II Residential Development

Impacts	Mitigation and/or Avoidance Measure(s)	Timeframe and Responsibility for Implementation	Method of Compliance	Oversight of Implementation
	significant level. Mitigation measures could include collection, recordation and analysis of any significant materials. The identified mitigation measures shall be implemented. Work may proceed on other parts of the project site while mitigation for paleontological resources or geologic features is carried out. Upon completion of the paleontological assessment, a report shall be submitted to the City and, if paleontological materials are recovered, a paleontological repository, such as the University of California Museum of Paleontology. MM CUL – 2.2: Human Remains. If human remains are discovered at any project construction site during any phase of construction, all ground-disturbing activity within 100 feet of the resources shall be halted and the City Planning Manager and the San Mateo County coroner shall be notified immediately, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California’s Health and Safety Code. If the remains are determined by the County coroner to be Native American, the Native American Heritage Commission (NAHC) shall be notified within 24 hours, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains. The project sponsor shall		Community Development prior to the issuance of a grading permits.	

MITIGATION MONITORING AND REPORTING PROGRAM

Point Martin II Residential Development

Impacts	Mitigation and/or Avoidance Measure(s)	Timeframe and Responsibility for Implementation	Method of Compliance	Oversight of Implementation
	also retain a professional archaeologist with Native American burial experience to conduct a field investigation of the specific site and consult with the Most Likely Descendant, if any, identified by the NAHC. As necessary, the archaeologist may provide professional assistance to the Most Likely Descendant, including the excavation and removal of the human remains. The City of Daly City shall be responsible for approval of recommended mitigation as it deems appropriate, taking account of the provisions of State law, as set forth in CEQA Guidelines section 15064.5(e) and Public Resources Code section 5097.98. The project sponsor shall implement approved mitigation, to be verified by the City of Daly City, before the resumption of ground-disturbing activities within 100 feet of where the remains were discovered.			
Geology and Soils				
Impact GEO – 1: The proposed project site could be subject to slope instability due to existing landslide deposits and thick deposits of colluvium	MM GEO – 1.1: The proposed grading shall be completed in accordance with a final design-level geotechnical investigation. Landslide debris and colluvium will be completely removed and replaced as drained engineering fill, both under the development footprint and in potential debris flow source areas underlain by colluvium above the development limits.	The project applicant and contractors shall be responsible for implementing the mitigation measures	Final design shall be prepared by a qualified professional engineer and approved by the Daly City	Department of Public Works

MITIGATION MONITORING AND REPORTING PROGRAM Point Martin II Residential Development				
Impacts	Mitigation and/or Avoidance Measure(s)	Timeframe and Responsibility for Implementation	Method of Compliance	Oversight of Implementation
and grading activity during construction.		during all phases of construction.	Department of Public Works prior to receiving grading and building permits.	
Impact GEO – 2: The proposed project could result in soil erosion or the loss of topsoil.	MM GEO – 2.1: Buildings shall be designed and constructed in accordance with a final design-level geotechnical investigation to be completed for the project by a qualified professional and submitted to the City of Daly City Planning Manager. The final design-level geotechnical investigation shall identify requirement for the placement of engineered fill on the project site and building foundations. MM GEO – 2.2: A comprehensive erosion control plan to account for seasonal rainfall during and following construction shall be developed as part of the final design-level geotechnical investigation. Erosion control measures may include, but are not limited to, the use of hydroseeding, track-walked moistened strippings, and erosion control blankets. The project engineering geologist shall make periodic inspections of the site drainage and erosion control features for a period of two years. The erosion control plan and final design-level geotechnical investigation	The project applicant and contractors shall be responsible for implementing the mitigation measures during all phases of construction.	Final design shall be prepared by a qualified professional engineer and approved by the Daly City Department of Public Works prior to receiving grading and building permits.	Director of Economic and Community Development

MITIGATION MONITORING AND REPORTING PROGRAM				
Point Martin II Residential Development				
Impacts	Mitigation and/or Avoidance Measure(s)	Timeframe and Responsibility for Implementation	Method of Compliance	Oversight of Implementation
	shall be submitted to the City of Daly City Planning Manager prior to the issuance of a grading permit.			
Hazards and Hazardous Materials				
Impact HAZ – 1: The proposed project is located in a high fire hazard severity zone and therefore may be subject to adverse impacts from wildfires.	MM HAZ – 1.1: The Homeowners Association shall be required to adopt a vegetation management plan that provides for the ongoing clearance of flammable vegetation including but not limited to gorse, grass, weeds, and brush in the open space areas of the site. The vegetation management plan shall be reviewed and approved by the North County Fire Authority prior to the issuance of occupancy permits for the proposed residences.	The project applicant shall be responsible for drafting the vegetation management plan for the development.	The vegetation management plan shall be reviewed and approved by the North County Fire Authority prior to the issuance of occupancy permits for the proposed residences.	Director of Economic and Community Development
Noise				
Impact NV – 1: The project would construct single-family residences adjacent to noise sensitive, residential uses which could result in temporary disturbances during construction.	MM NV – 1.1: The project applicant shall incorporate the following practices into the construction documents to be implemented by the project contractor: Maximize the physical separation between noise generators and noise receptors. Such separation includes, but is not limited to, the following measures:	The project applicant and contractors shall be responsible for implementing the mitigation measures during all phases of construction.	All measures shall be printed on all construction documents, contracts, and project plans and shall be reviewed by the Director of Economic and	Director of Economic and Community Development

MITIGATION MONITORING AND REPORTING PROGRAM

Point Martin II Residential Development

Impacts	Mitigation and/or Avoidance Measure(s)	Timeframe and Responsibility for Implementation	Method of Compliance	Oversight of Implementation
	- Use heavy-duty mufflers for stationary equipment and barriers around particularly noisy areas of the site or around the entire site; - Use shields, impervious fences, or other physical sound barriers to inhibit transmission of noise to sensitive receptors; - Locate stationary equipment to minimize noise impacts on the community; - Minimize backing movements of equipment; • Use quiet construction equipment whenever possible; • Impact equipment (e.g., jack hammers and pavement breakers) shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically-powered tools. Compressed air exhaust silencers shall be used on other equipment. Other quieter procedures, such as drilling rather than using impact equipment, shall be used whenever feasible; • Prohibit unnecessary idling of internal combustion engines; and		Community Development prior to the issuance of a grading permit.	

MITIGATION MONITORING AND REPORTING PROGRAM Point Martin II Residential Development				
Impacts	Mitigation and/or Avoidance Measure(s)	Timeframe and Responsibility for Implementation	Method of Compliance	Oversight of Implementation
	• Select routes for movement of construction-related vehicles and equipment in conjunction with the Daly City Economic and Community Development Department so that noise-sensitive areas, including residences and schools, are avoided as much as possible. • The project sponsor shall designate a “disturbance coordinator” for construction activities. The coordinator would be responsible for responding to any local complaints regarding construction noise and vibration. The coordinator would determine the cause of the noise or vibration complaint and would implement reasonable measures to correct the problem. • The construction contractor shall send advance notice to neighborhood residents within 300 feet of the project site regarding the construction schedule and including the telephone number for the disturbance coordinator at the construction site.			

Source: *Point Martin II Residential Development Initial Study*. March 2017.

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF DALY CITY
AMENDING THE DALY CITY ZONING MAP - REZONING 18 ACRE SITE TO
PLANNED DEVELOPMENT ZONE (PD-70) AND ESTABLISHING PLANNED
DEVELOPMENT STANDARDS

(APN's 005-031-070, 005-031-080, 005-031-090, 005-031-100, 005-031-110, 005-031-120, 005-031-130, 005-031-140, 005-031-150, 005-031-220, 005-041-010, 005-041-020, 005-041-030, 005-041-040, 005-041-050, 005-041-060, 005-041-090, 005-041-100, 005-041-110, 005-041-120, 005-041-130, 005-041-140, 005-041-150, 005-041-160, 005-041-170, 005-041-180, 005-041-190, 005-041-200, 005-041-210, 005-041-220, 005-041-230, 005-041-240, 005-041-250, 005-041-260, 005-042-010)

BE IT ORDAINED by the City Council of the City of Daly City, as follows:

Section 1. Findings. The City Council of the City of Daly City finds that, as conditioned, Planned Development **10-15-11781** for Planned Development PD-70, is in compliance with Title 17 of the Daly City Municipal Code (Zoning Ordinance), as well as the General Plan of the City of Daly City, as amended and as to each element of the Daly City General Plan. Approval of the zone change will not be detrimental to the health, safety, morals, comfort and general welfare of persons residing in or working in the neighborhood, or be injurious or detrimental to the property and improvements in the neighborhood or the general welfare of the City of Daly City.

Section 2. Environmental Compliance – Mitigation Monitoring Program.

The City Council has reviewed the proposal under the requirements of the California Environmental Quality Act (CEQA) and has determined the project will not have a significant impact on the environment. The Daly City Planning Commission and City staff recommend that a Mitigated Negative Declaration per Section 15070(a) of the CEQA Guidelines be adopted for this project.

The City Council approves a mitigation monitoring and reporting program (MMRP) for this project and hereinafter finds that the mitigated negative declaration, to and including the MMRP complies and conforms with the California Environmental Quality Act and the Guidelines implementing the Act.

Section 2. Zoning Reclassification. The zoning as designated upon the “Official Zoning Map” of the City of Daly City, as adopted by Daly City Ordinance No. 635, and thereafter amended from time to time, is hereby changed as to the parcel identified on the attached map incorporated herein by this reference, to Planned Development Zoning PD-70, which hereinafter provides for a change of boundary on the “Official Zoning Map” and the establishment of specific standards for development on the subject property. All improvement shall comply with the approved Precise Plan and Planned Development Standards hereinafter adopted for Planned Development PD-70.

PLANNED DEVELOPMENT STANDARDS

PLANNED DEVELOPMENT ZONE PD-70

The purpose and intent of these Planned Development Standards for PD-70 is to establish a Planned Development Zoning District for property located the west side of Carter Street and Steve Courter Way, consisting of Assessor's Parcel Numbers 005-031-070, 005-031-080, 005-031-090, 005-031-100, 005-031-110, 005-031-120, 005-031-130, 005-031-140, 005-031-150, 005-031-220, 005-041-010, 005-041-020, 005-041-030, 005-041-040, 005-041-050, 005-041-060, 005-041-090, 005-041-100, 005-041-110, 005-041-120, 005-041-130, 005-041-140, 005-041-150, 005-041-160, 005-041-170, 005-041-180, 005-041-190, 005-041-200, 005-041-210, 005-041-220, 005-041-230, 005-041-240, 005-041-250, 005-041-260, 005-042-010, which encompasses the entire project site

I. GENERAL

- A. When these planned development standards conflict with other sections of the Zoning Ordinance, these standards prevail only to the extent of the conflict. Where these planned development standards do not provide regulations, the Zoning Ordinance shall apply as to the most similar land use or standard.
- B. Any modifications to plans approved by the City Council shall require an amendment of the original PD approval and shall be subject to separate approval by the Planning Commission and City Council. The Planning Division may approve minor changes of the approved plans due to code requirements or conditions of approval.
- C. All structures, landscape areas, required facilities and amenities shall be maintained in a neat, safe, and healthful condition, subject to improvement and upgrading of plans as required by this Planned Development approval.

II. PERMITTED USES

The sole permitted uses of the subject property shall be single-family detached homes.

III. DEVELOPMENT STANDARDS

- A. **Unit Maximum:** The number of dwelling units shall not exceed 117.
- B. **Parking:** The project shall continually provide at least 402 off-street parking spaces and not less than 41 on-street parking, as established Tentative Subdivision Map. A parking management plan shall be continually in effect at the site, enforcement by the site homeowners association, and shall be effective to all site occupants.
- C. **Additions to Structures:** No structural expansions or additions shall be permitted;
- D. **Project Affordability:** The project shall be subject to the requirements of the Affordable Housing Agreement entered into between the developer and the City.

- E. Building Area Limit:** There shall be no additional square footage allowed in PD-70 beyond what is permitted by the Design Review Committee. Prior to construction, the Planning Division is authorized to approve minor additions or alterations to square footage for the proposed project, if such changes are to meet specific code requirements and do not affect the overall mass of the building.
- F. Building Coverage:** For Neighborhood One, the maximum lot coverage shall be not less than 60 percent. For Neighborhood Two, the maximum lot coverage shall be not less than 65 percent.
- G. Building Height Limit:** The maximum height allowed for PD-70 is 35 feet.
- H. Building Setbacks:** For Neighborhood One, the front setback for any home shall be not less than six feet and rear setback for any home shall be not less than 12 feet. For Neighborhood Two, the front setback for any home shall be not less than 10 feet and rear setback for any home shall be not less than three feet. Setbacks shall be measured from each building's principal foundation.

Section 3. Summary Publication: Pursuant to the provisions of Government Code Section 36933, a summary of this Ordinance shall be prepared by the City Attorney. At least five (5) days prior to the Council meeting at which this Ordinance is scheduled to be adopted, the City Clerk shall (1) publish the summary, and (2) post in the City Clerk's office a certified copy of this Ordinance. Within fifteen (15) days after the adoption of this ordinance, the City Clerk shall (1) publish the summary, and (2) post in the City Clerk's office a certified copy of the full text of this Ordinance along with the names of those City Council members voting for and against this ordinance or otherwise voting. This Ordinance shall become effective thirty (30) days from and after its adoption.

Section 4. Environmental Determination: The City Council finds, pursuant to Title 14 of the California Code of Regulations, Section 15378, that this Ordinance is exempt from the requirements of the California Environmental Quality Act (CEQA) in that it is not a project as provided by the Act, in that it does not have a potential for resulting in a detrimental physical change in the environment, directly or ultimately, as provided in Title 14, Section 15378(a), and that it is also exempt under the definition of "project" in Section 15378(b)(3) in that it concern general policy and procedure making.

Section 5. Severability: If any section, subsection or sentence of this Ordinance is found by a court of competent jurisdiction to be invalid or unlawful, the City Council finds and declares that the remainder of this Ordinance would be and is enforceable and would have been adopted notwithstanding the finding of invalidity as to any section, subsection or sentence.

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF DALY CITY
AMENDING THE DALY CITY ZONING MAP - REZONING 18 ACRE SITE TO
PLANNED DEVELOPMENT ZONE (PD-70) AND ESTABLISHING PLANNED
DEVELOPMENT STANDARDS

(APN's 005-031-070, 005-031-080, 005-031-090, 005-031-100, 005-031-110, 005-031-120, 005-031-130, 005-031-140, 005-031-150, 005-031-220, 005-041-010, 005-041-020, 005-041-030, 005-041-040, 005-041-050, 005-041-060, 005-041-090, 005-041-100, 005-041-110, 005-041-120, 005-041-130, 005-041-140, 005-041-150, 005-041-160, 005-041-170, 005-041-180, 005-041-190, 005-041-200, 005-041-210, 005-041-220, 005-041-230, 005-041-240, 005-041-250, 005-041-260, 005-042-010)

Introduced this _____ day of _____ 2017.

Passed and adopted as an Ordinance of the City of Daly City at a regular meeting of the City Council of the City of Daly City held on the _____ day of _____ 2017, by the following vote:

AYES, Councilmembers _____

NOES, Councilmembers _____

Absent, Councilmembers: _____

CITY CLERK OF THE CITY OF DALY CITY

APPROVED:

MAYOR OF THE CITY OF DALY CITY



City Council Agenda Report

Item # _____

Meeting Date: May 22, 2017

Subject: Pre-Appropriate Funds and Award of Construction Contract for the FY 2017-18 Bayshore Slurry Seal and Parking Lot Improvements Project

Recommended Action

Staff recommends that the City Council accept all bids, pre-appropriate funds, and award a construction contract to Graham Contractors Inc. of San Jose, California, in the amount of \$1,099,428.02 for the 2017-18 Bayshore Slurry Seal (Bid Schedule A) and Parking Lot Improvements (Bid Schedule B) project and authorize the City Manager to execute the contract on behalf of the City. Staff further recommends that the City Council affirm the CEQA determination of Categorical Exemption.

Background

Since 1998, Daly City Public Works has undertaken a comprehensive street pavement preventative maintenance program. The “cornerstone” of this program is an annual Street Slurry Seal Project as the single most cost effective means to preserve a pavement’s condition and thereby reduce long term pavement operations and maintenance cost. Street slurry sealing replaces fine aggregate stripped from the pavement surface, reduces water penetration in the roadway base and thereby reduces base failures and the resultant damage that is more costly to repair. Streets selected to be surface sealed are based on several factors including the City’s Seven-Year Master Plan, the City’s computer based pavement management system recommendations, visual observation of the streets by Public Works staff and other upcoming or associated work such as utility repairs and bike lane installations.

This project also includes base failure repair, slurry seal application and asphalt concrete (AC) overlay of the parking lots and roads located at Civic Center North, Civic Center Main, Police Department, Imagination Station and Department of Water and Wastewater Resources (DWR). The Directors’ lot at Civic Center Main and portions of the DWR pavement have reached the end of their useful life and will receive an AC overlay. The remainder of the lots will receive a slurry seal application to preserve the pavement’s condition and thereby reduce long term pavement operations and maintenance costs. The project will also include striping changes.

The 2017-18 Bayshore Slurry Seal project and the 2017-18 parking lot improvements project have a similar scope, therefore these two projects were designed, packaged and advertised as a single project to improve the economy of scale and reduce the amount of staff provide inspection and contract administration. Bid Schedule A includes patch paving and slurry sealing approximately 10 miles of City streets in the Bayshore neighborhood. Bid Schedule B includes slurry seal application and AC overlay of the parking lots and roads located at Civic Center North, Civic Center Main, Police Department, Imagination Station and DWR.

Discussion

The construction bid documents were prepared in-house by the Engineering Staff with the help of Engineering interns. The project was advertised on April 13, 2017 and four (4) bids were received on May 04, 2017 with total bids ranging from \$1,099,428.02 to \$1,419,394.29. The lowest three bids and the Engineer’s Estimate are summarized as follows:

**Pre-Appropriate Funds and Award of Construction Contract
for the FY 2017-18 Bayshore Slurry Seal and Parking Lot Improvements Project
Meeting Date: May 22, 2017
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Bidder	Bid Schedule A (Bayshore Slurry)	Bid Schedule B (Parking Lot Improvements)	Total Bid (Bid Schedule A plus Bid Schedule B)	Comments
1. Graham Contractors	\$898,354.20	\$201,073.82	\$1,099,428.02	Responsive Bid
2. American Asphalt	\$955,280.50	\$186,864.34	\$1,142,144.84	Responsive Bid
3. VSS International	\$1,161,290.76	\$204,608.12	\$1,365,898.88	Responsive Bid
Engineer's Estimate	\$915,964.55	\$208,642.40	\$1,124,606.95	

Determination of the lowest bidder was based on the lowest combined total of Bid Schedule A and B. Graham Contractors Inc. of San Jose, California, has been in business since 1976. This bidder holds the required Class A contractor's license, which is current and in good standing. The contractor's references for work performed for other public agencies are acceptable including the Cities of San Jose and Palo Alto. The contractor also successfully completed Daly City's Westlake Slurry Seal project in 2016.

Funding for the Bayshore street slurry seal and the City's parking lot improvements was approved in the adopted FY 2017-18 Capital Improvement Program (CIP) budget. To take advantage of the construction season and to avoid potential conflicts with the beginning of the next school year, staff is recommending award of this contract ahead of the FY 2017-18. If the project is awarded as recommended, construction is anticipated to commence in June 2017 and be completed in September 2017.

Fiscal Impact

The estimated construction cost for the Bayshore Slurry Seal (Bid Schedule A) is \$1,078,000, including a ten percent (10%) contingency and a ten percent (10%) construction inspection and contract administration cost. The amount allocated in the FY 2017-18 CIP Account 17-312-631 will fully fund the project.

The estimated construction cost for the Parking Lot Improvements (Bid Schedule B) is \$251,000, including a fifteen percent (15%) contingency and a ten percent (10%) construction inspection and contract administration. The amount allocated in the FY 2017-18 CIP Account 31-313-582 will fully fund the project.

Summary/Conclusion

Staff recommends the City Council accept all bids, pre-appropriate funds, and award a construction contract to Graham Contractors Inc. of San Jose, California, in the amount of \$1,099,428.02, for the subject project and authorize the City Manager to execute the contract. Staff further recommends that

**Pre-Appropriate Funds and Award of Construction Contract
for the FY 2017-18 Bayshore Slurry Seal and Parking Lot Improvements Project
Meeting Date: May 22, 2017
Page 3 of 3**

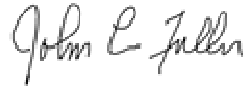
the City Council affirm the CEQA determination of Categorical Exemption for the 2017-18 Bayshore Slurry Seal and Parking Lot Improvements project.

Staff is available to provide any additional information desired by the Mayor or Councilmembers.

Respectfully submitted,



Ryan Brunmeier
Engineer I

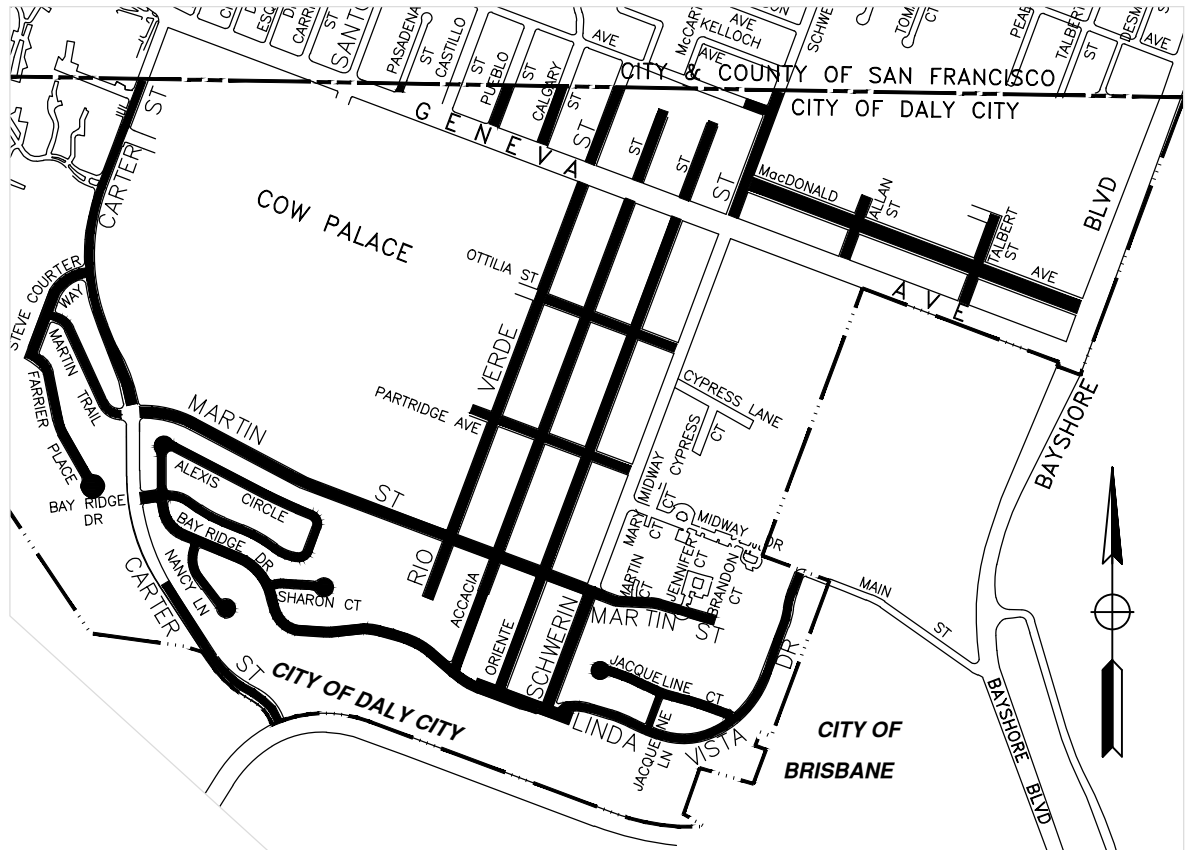
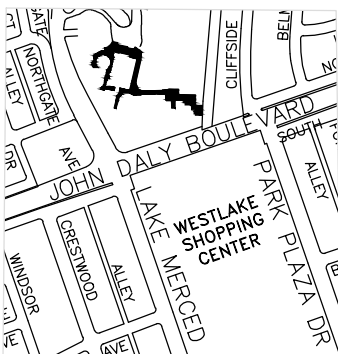
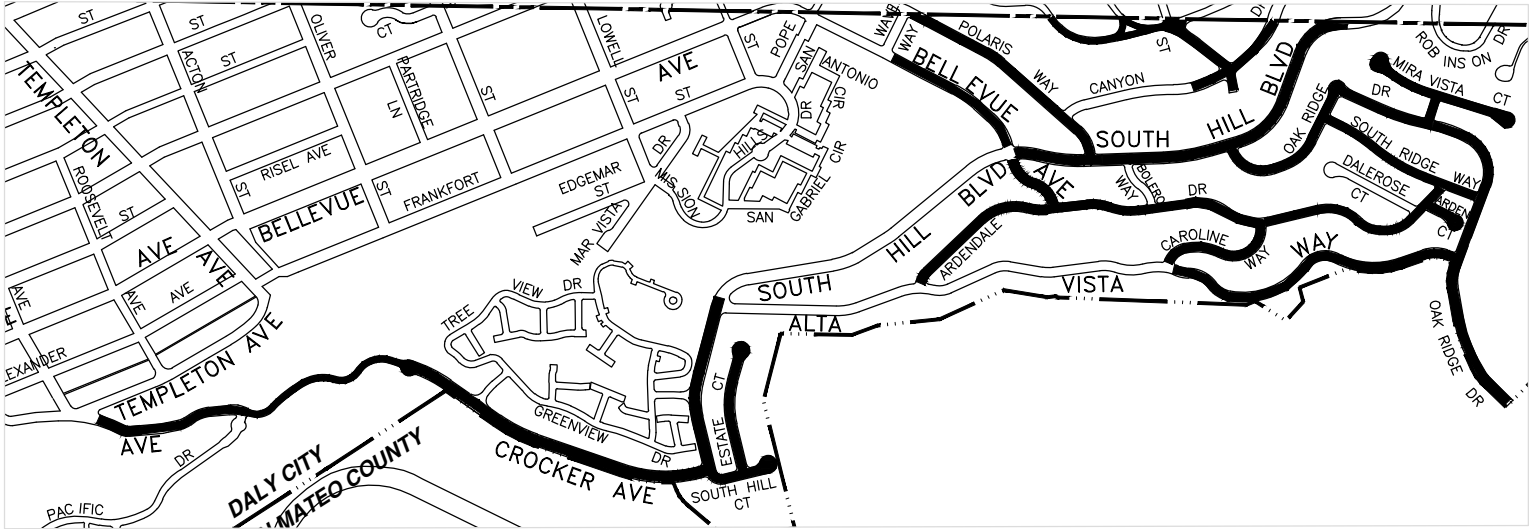


John L. Fuller
Director of Public Works

Attachment: Location Map

CITY OF DALY CITY
SAN MATEO COUNTY, CALIFORNIA

2017-18 BAYSHORE SLURRY SEAL AND PARKING LOT IMPROVEMENTS



SCALE IN FEET

