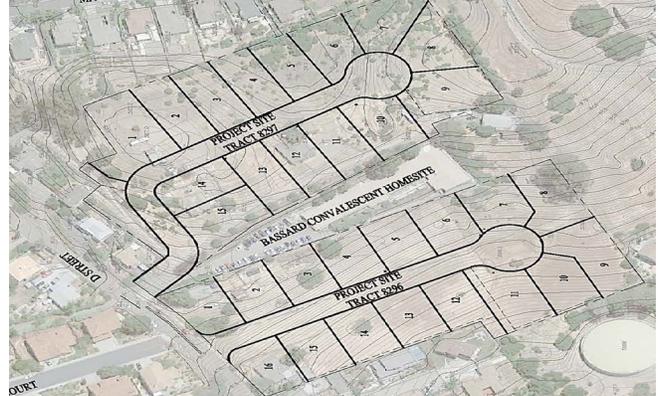


Fairview Orchards/Fairview Meadows Subdivision Project



Draft Environmental Impact Report

SCH #2016062057

Lead Agency: County of Alameda
Community Development Agency

January, 2017



LAMPHIER-GREGORY

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # 2016062057

Project Title: Fairview Orchards & Fairview Meadows Residential Subdivision

Lead Agency: Alameda Co. Community Development Department Contact Person: Andrew Young
Mailing Address: 224 W. Winton Ave., Suite 111 Phone: (510) 670-6555
City: Hayward Zip: 94544 County: Alameda

Project Location: County: Alameda City/Nearest Community: Hayward / Fairview
Cross Streets: D Street (east of Fairview Avenue) Zip Code:
Longitude/Latitude (degrees, minutes and seconds): 37° 40' 44.5" N / 121° 02' 51.1" W Total Acres: 9.78
Assessor's Parcel No.: See Attachment A Section: N/A Twp.: N/A Range: N/W Base: N/A
Within 2 Miles: State Hwy #: I-580 & SR 238 Waterways: Sulphur Creek, San Lorenzo Creek
Airports: None Railways: None Schools: Fairview/East Ave. Elem

Document Type:

CEQA: [] NOP [x] Draft EIR NEPA: [] NOI Other: [] Joint Document
[] Early Cons [] Supplement/Subsequent EIR [] EA [] Final Document
[] Neg Dec (Prior SCH No.) [] Draft EIS [] Other:
[] Mit Neg Dec Other:

Local Action Type:

[] General Plan Update [] Specific Plan [] Rezone [] Annexation
[] General Plan Amendment [] Master Plan [] Prezone [] Redevelopment
[] General Plan Element [] Planned Unit Development [] Use Permit [] Coastal Permit
[] Community Plan [] Site Plan [x] Land Division (Subdivision, etc.) [] Other:

Development Type:

[x] Residential: Units 31 Acres 9.78
[] Office: Sq.ft. Acres Employees [] Transportation: Type
[] Commercial: Sq.ft. Acres Employees [] Mining: Mineral
[] Industrial: Sq.ft. Acres Employees [] Power: Type MW
[] Educational: [] Waste Treatment: Type MGD
[] Recreational: [] Hazardous Waste: Type
[] Water Facilities: Type MGD [] Other:

Project Issues Discussed In Document:

[x] Aesthetic/Visual [] Fiscal [] Recreation/Parks [] Vegetation
[] Agricultural Land [] Flood Plain/Flooding [] Schools/Universities [x] Water Quality
[x] Air Quality [] Forest Land/Fire Hazard [] Septic Systems [] Water Supply/Groundwater
[x] Archeological/Historical [x] Geologic/Seismic [x] Sewer Capacity [] Wetland/Riparian
[x] Biological Resources [] Minerals [x] Soil Erosion/Compaction/Grading [] Growth Inducement
[] Coastal Zone [x] Noise [x] Solid Waste [x] Land Use
[] Drainage/Absorption [] Population/Housing Balance [] Toxic/Hazardous [] Cumulative Effects
[] Economic/Jobs [x] Public Services/Facilities [x] Traffic/Circulation [] Other:

Present Land Use/Zoning/General Plan Designation:

Rural residential or vacant/R-1-B-E Zone District (Single Family Residential, 10,000 sq. ft. min. lots)/Single Family Residential

Project Description: (please use a separate page if necessary)

The Project proposes to subdivide two parcels equaling 9.78 acres into 31 single-family residential lots. The lots would range in size from 10,013 square feet to 17,141 square feet. As part of the Project, each of the 31 lots would be developed with a detached, single-family home (See Attachment B).

Note: The State Clearinghouse will assign identification numbers for all new projects. If a SCH number already exists for a project (e.g. Notice of Preparation or previous draft document) please fill in.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with an "X". If you have already sent your document to the agency please denote that with an "S".

- | | |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Air Resources Board | <input checked="" type="checkbox"/> Office of Historic Preservation |
| <input type="checkbox"/> Boating & Waterways, Department of | <input type="checkbox"/> Office of Public School Construction |
| <input type="checkbox"/> California Emergency Management Agency | <input type="checkbox"/> Parks & Recreation, Department of |
| <input type="checkbox"/> California Highway Patrol | <input type="checkbox"/> Pesticide Regulation, Department of |
| <input checked="" type="checkbox"/> Caltrans District # <u>4</u> | <input type="checkbox"/> Public Utilities Commission |
| <input type="checkbox"/> Caltrans Division of Aeronautics | <input checked="" type="checkbox"/> Regional WQCB # <u>2</u> |
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| <input type="checkbox"/> Coachella Valley Mtns. Conservancy | <input type="checkbox"/> S.F. Bay Conservation & Development Comm. |
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| <input type="checkbox"/> Corrections, Department of | <input type="checkbox"/> State Lands Commission |
| <input type="checkbox"/> Delta Protection Commission | <input type="checkbox"/> SWRCB: Clean Water Grants |
| <input type="checkbox"/> Education, Department of | <input type="checkbox"/> SWRCB: Water Quality |
| <input type="checkbox"/> Energy Commission | <input type="checkbox"/> SWRCB: Water Rights |
| <input checked="" type="checkbox"/> Fish & Game Region # <u>3</u> | <input type="checkbox"/> Tahoe Regional Planning Agency |
| <input type="checkbox"/> Food & Agriculture, Department of | <input type="checkbox"/> Toxic Substances Control, Department of |
| <input type="checkbox"/> Forestry and Fire Protection, Department of | <input type="checkbox"/> Water Resources, Department of |
| <input type="checkbox"/> General Services, Department of | Other: _____ |
| <input type="checkbox"/> Health Services, Department of | Other: _____ |
| <input type="checkbox"/> Housing & Community Development | |
| <input checked="" type="checkbox"/> Native American Heritage Commission | |

Local Public Review Period (to be filled in by lead agency)

Starting Date 1-31-17 Ending Date 3-16-17

Lead Agency (Complete if applicable):

Consulting Firm: <u>Lamphier-Gregory</u>	Applicant: <u>D Street Investments, LLC</u>
Address: <u>1944 Embarcadero</u>	Address: <u>3832 Somerset Avenue</u>
City/State/Zip: <u>Oakland, CA 94606</u>	City/State/Zip: <u>Castro Valley, CA 94546</u>
Contact: <u>Scott Gregory</u>	Phone: <u>(510) 881-7856</u>
Phone: <u>(510) 535-6690</u>	

Signature of Lead Agency Representative: Andrew Gray Date: Jan. 27, 2017

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

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Appendices

(Technical appendices are included on a Compact Disk included in the back cover of the Draft EIR document.)

Appendix A: Notice of Preparation (NOP)

Appendix B: Comments on the NOP and Scoping Meeting

Appendix C: Sensitive Plant Survey, Zander Associates, July 2016

Appendix D: *Field Survey and Analysis of the Habitat Value and Potential for Presence of Alameda Whipsnake*, Bio MaAS. Inc., October 2016

Appendix E: *Cultural Resources Assessment Report*, William Self Associates, Inc., November 2016

Appendix F: *Draft Summary of Preliminary Stormwater Infrastructure Sizing for the D Street Properties*, Balance Hydrologics, Inc., September 2015

Appendix G: *Geotechnical Investigation Report and Updates*, Henry Justiniano & Associates, August 10, 2015

INTRODUCTION

Purpose of the Environmental Impact Report

The California Environmental Quality Act and the California Environmental Quality Act Guidelines (together “CEQA”) require an Environmental Impact Report (EIR) to be prepared for any project which may have a significant impact on the environment. An EIR is an informational document, the purposes of which, according to CEQA are “to provide public agencies and the public in general with detailed information about the effect which a proposed project is likely to have on the environment; to list ways in which the significant effects of such a project might be minimized; and to indicate alternatives to such a project.” The information contained in this EIR is intended to be objective and impartial, and to enable the reader to arrive at an independent judgment regarding the significance of the impacts resulting from the proposed project.

Background and Purpose for This EIR

This EIR evaluates the potential environmental impacts that may be associated with the proposed Fairview Orchards and Fairview Meadows Residential Subdivisions Project (respectively Tract Maps 8296 and 8297) (“Project”) in the Fairview area of Alameda County, California. The Applicant is D Street Investments LLC. The Lead Agency is the County of Alameda.

After considering the degree of public interest from the surrounding neighborhoods, County staff, with the concurrence of the Project Applicant, determined that an EIR would be the appropriate form of environmental document for compliance with CEQA.

EIR Review Process

This EIR is intended to enable County decision-makers, public agencies and interested citizens to evaluate the broad environmental issues associated with the proposed Project. An EIR does not control the agency’s ultimate discretion on the Project. As required under CEQA, the agency must respond to each significant effect identified in the EIR by making findings and if necessary and warranted, by adopting a statement of overriding considerations. In accordance with California law, the EIR must be certified before any action on the Project can be taken.

In reviewing the Draft EIR, readers should focus on the sufficiency of the document in identifying and analyzing the possible environmental impacts associated with the Project. Readers are also encouraged to review and comment on ways in which significant impacts associated with this Project might be avoided or mitigated. Comments are most helpful when they suggest additional specific alternatives or mitigation measures that would provide better ways to avoid or mitigate significant environmental impacts. Reviewers should explain the basis for their comments and, whenever possible, should submit data or references in support of their comments.

This Draft EIR will be circulated for a 45-day public review period. Written comments may be submitted to the following address:

Andrew Young, Senior Planner
Alameda County Planning Department
224 W. Winton Avenue, Room 111
Hayward, CA 94544
Telephone: 510/670-5400
Email: andrew.young@acgov.org

During the review period for this Draft EIR, interested individuals, organizations and agencies may offer their comments on its evaluation of Project impacts and alternatives. The comments received during this public review period will be compiled and presented together with responses to these comments in the Final EIR. The County decision-makers will review the EIR documents and will determine whether or not the EIR provides a full and adequate appraisal of the Project and its alternatives.

After reviewing the Draft EIR and the Final EIR and considering certification of the EIR as adequate and complete, the Alameda County Planning Commission will be in a position to consider approval, denial, or modification of the Project and related actions.

Content and Organization of the EIR

A Notice of Preparation (NOP) was issued in February 2016 to solicit comments from public agencies and the public regarding the scope of the environmental evaluation for the Project. An EIR Scoping Meeting was held on March 7, 2016 which was attended by several members from the community and which resulted in several comments being submitted electronically. The NOP is presented in **Appendix A** and written comments received during the NOP comment period are presented in **Appendix B**. Known concerns are mostly associated with traffic increases generated from the proposed Project. These comments have been taken into consideration and are addressed by the preparation of the Draft EIR.

An Executive Summary follows this introduction as Chapter 2. This summary presents an overview of the Project and the environmental impacts which are found in this EIR to result from the Project, along with the mitigation measures that would reduce the impact to a level of less than significant. The full description of the Project is included in Chapter 3. Chapters 4 through 12 present environmental analysis of the Project, focusing on the following issues:

4. Aesthetics
5. Air Quality
6. Biological Resources
7. Cultural Resources
8. Hydrology and Water Quality
9. Land Use/Planning
10. Noise
11. Traffic/Transportation
12. Utilities

Chapter 13 presents other CEQA considerations, including assessment under all other CEQA topic areas, a discussion of significant and irreversible modifications to the environment, growth-inducing impacts, and cumulative impacts of the Project together with other development proposals in the vicinity. Chapter 14 presents an evaluation of Project alternatives and compares the environmental effects of each alternative against those of the Project. Chapter 15 lists the persons who prepared and/or contributed to preparation of the Draft EIR.

Executive Summary and Impact Overview

This EIR analyzes the potential for environmental impacts resulting from implementation of the proposed Fairview Orchards and Fairview Meadows Residential Subdivisions, Tracts 8296 and 8297 Project (“Project”) in the Fairview area of unincorporated Alameda County, California. The Applicant is D Street Investments LLC. The Lead Agency is the County of Alameda Planning Department.

Site and Project Description

Project Site

The Project includes two separate sites totaling 9.78 acres, which are comprised of seven separate parcels that connect at a single point bordering D Street. The Project sites have frontage on the south side of D Street, extending between approximately 600 and 900 feet northeast of the D Street and Fairview Avenue intersection. The addresses for the Project parcels include 3231, 3247, 3289 and 3291 D Street. The Project has been divided into two Tracts for purposes of the County’s processing:

- Tract #8296 is approximately 4.61 acres in size and comprised of 3 parcels (Assessor’s Parcel Number (APN) 417-0240-001, 417-0250-001 and 417-0240-021) and is referred to as the western or downhill parcel or site.
- Tract #8297 is approximately 5.17 acres in size and comprised of 4 parcels (APNs 417-0240-004-00, 417-0240-005-00, 417-0240-006-00 and 417-0240-012-04,) and is referred to as the eastern or uphill parcel or site.

The Project sites are within the jurisdiction of Alameda County and have a General Plan designation under the Fairview Area Plan (a part of the County General Plan, adopted September 1997) of Single-Family Residential. The properties are zoned R-1-B-E, a residential zoning district with minimum 10,000 square foot lot sizes.

The two sites are separated by a private parcel containing the existing Hilltop Care Convalescent Home. The convalescent home will continue operations, and is not a part of the Project. The Project sites are bordered to the north by the Carlson Court residential development, and a separate site west of Carlson Court planned for future residential development, and several smaller developed parcels. To the east the Project is bordered by the older Machado Court residential subdivision, to the south by the partly developed Jelincic subdivision; and to the west by older, small subdivisions and an EBMUD water tank. The Five Canyons residential development is located east of the Project area, separated by large private parcels and the Five Canyons Open Space area.

Proposed Development

The Project proposes to subdivide the two Project sites into a total of 31 single-family residential lots. The upper site (Tract #8297) would include 15 separate residential lots, and a common lot that serves as a buffer from the existing residential units along D Street and will also contain a detention basin. The lower site (Tract #8296) would include 16 separate residential lots. Each of these individual lots would

range in size from 10,013 square feet to 17,141 square feet. Each of the 31 lots would be developed with a detached, single-family home. The architectural design and layout of individual homes are not part of the Project.

Both of the Project sites would be graded to prepare the sloping terrain of the sites for development of homes. All of the new home sites on the upper Tract 8297 are proposed to be graded to create level building sites. On the lower Tract 8296, the uphill home sites would also be graded for level building pads, whereas home sites on the downhill portion of the site would be graded to accommodate split pad foundations.

The “Project” as defined in this Draft EIR is approval of all discretionary actions by Alameda County to approve the Project (certification of the Environmental Impact Report, Tentative Map approval pursuant to the County’s subdivision ordinance, and subsequent Design Review approval pursuant to the County’s Residential Design Standards and Guidelines), County administrative approvals (including a grading permit, building permits and an encroachment permit for work done in the D Street right-of-way), as well as subsequent site development (including demolition, clearing, grading, infrastructure improvements, paving, building, landscaping) and all other necessary actions to develop, sell and occupy the proposed homes. Discretionary approval from other agencies is not anticipated to be required for Project approvals. The Regional Water Quality Control Board is considered a trustee agency related to stormwater pollution prevention plans.

Summary of Impacts and Mitigation Measures

The analyses in Chapters 4 through 12 of this document provide a description of the existing setting, potential impacts of Project implementation, and recommended mitigation measures to avoid or reduce potentially significant impacts that could occur as a result of Project implementation. **Table 2.1** lists a summary statement of each impact and corresponding mitigation measures, as well as the level of impact significance after mitigation.

Significant and Unavoidable Impacts

No significant and unavoidable impacts have been identified. All impacts are either less than significant, or can be reduced to a level of less than significant with implementation of mitigation measures as recommended in this EIR, as summarized below.

Alternatives

The three alternatives analyzed in Chapter 14 are summarized below:

- **Alternative A - No Project, No Development.** Alternative A assumes the proposed Project is not approved and the site would remain in an undeveloped state, with no development of roadways or residences. Although the site is designated for residential use at the same density as currently proposed, the No Project Alternative assumes that development would not occur on this site for the foreseeable future.
- **Alternative B - Reduced Density (25% Reduction).** Alternative B assumes the site would be developed generally as proposed, but with a 25% reduction in density (i.e., from 31 to 23 residential units) which would result in a reduction in magnitude of certain environmental effect.
- **Alternative C - Greater Consistency with the Fairview Area Specific Plan.** Alternative C presents a conceptual development program for the Project sites that would be in greater conformance

with the design principles and guidelines of the Fairview Area Specific Plan, particularly those guidelines that seek to retain existing natural topography. This alternative is intended to seek greater policy consistency with applicable County plans and policies for the site.

CEQA Guidelines require that an “environmentally superior” alternative be selected and the reasons for such a selection disclosed. In general, the environmentally superior alternative is the alternative that would be expected to generate the least amount of significant impacts. Identification of the environmentally superior alternative is an informational procedure, and the alternative selected may not be the alternative that best meets the goals or needs of the applicant or the County.

Alternative A, the No Project/No Development Alternative, has no impacts as it does not propose any change to the site. The No Project Alternative would be environmentally superior to the Project because the potentially significant adverse impacts associated with the Project would be avoided. However, the No Project alternative would fail to satisfy the most basic of the primary Project objectives. CEQA Guidelines Section 16126.6 (e)(2) provides that, if the environmentally superior alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

With respect to most environmental considerations, there is generally very limited environmental benefit that would result from reducing the density of development at the Project sites to below densities as allowed under the Fairview Area Specific Plan. Therefore, the Project and Alternative B are environmentally equal, and without substantially different consequences.

Given that the intent of the Fairview Area Specific Plan includes protecting and preserving important environmental resources and significant natural features, and promoting development that is sensitive to variations in topography and the rural residential character of the area, Alternative C is more fully consistent with the principles and guidelines of the Plan, and is environmentally superior to the Project.

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
Aesthetics		
Aesthetics-1: Scenic Vistas. The Project would not result in substantially altered views from identified scenic routes or public areas. Due to intervening topography, structures, and landscaping, the Project site is not substantially visible from Fairview Avenue, which represents the only identified scenic route in the area. There are no scenic vistas from parks or other public viewing locations from which the Project site is visible.	No mitigation warranted.	LTS
Aesthetics-2: Scenic Highways. The Project site is not distinctly visible from I-580, which is an eligible state scenic highway. The Project would not substantially obscure, detract from, or negatively affect the quality of the views from I-580. When viewed from I-580, no trees, rock outcroppings or buildings on the site are visible.	No mitigation warranted.	LTS
Aesthetics-3: Visual Character. The Project's visual character would be generally consistent with, or similar to other existing development in the area. The Project would increase the number of residential structures on site and result in a change to the site's existing visual character, but that resulting character would not be substantially different than other surrounding properties and would not significantly degrade the visual character or quality of the site or its surroundings.	No mitigation warranted.	LTS

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
<p>Aesthetics-4: Light and Glare. The Project would add additional sources of light adjacent to other, similar residential uses. With this required detailed review, impacts related to light and glare would not be significant.</p>	<p>No mitigation warranted.</p> <p>Lighting quality, intensity and design is required to be reviewed as a part of the County's Design Review process to ensure that potential light and glare impacts on neighbors is minimized.</p>	LTS
Air Quality		
<p>AQ-1: Consistency with the Clean Air Plan. As a project consistent with local land use designations and zoning, the Project is consistent with assumptions regarding future growth and overall vehicle miles travelled, as included in the Bay Area Clean Air Plan.</p>	<p>No mitigation warranted.</p>	LTS
<p>AQ-2: Construction-Period Dust and Emissions. Construction of the Project would result in temporary emissions of dust and criteria air pollutants that may result in both nuisance and health impacts. Without appropriate measures to control these emissions, these impacts would be considered significant</p>	<p>Mitigation Measure Air Quality-2: Construction Management Practices. The Project shall demonstrate compliance with the following BAAQMD-recommended "Basic" and "Enhanced" construction mitigation measures:</p> <p><u>Basic Measures:</u></p> <ol style="list-style-type: none"> 1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. 2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered. 3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. 4. All vehicle speeds on unpaved roads shall be limited to 15 miles per hour. 5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. 6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California 	Less than Significant

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
	<p>airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.</p>	
	<p>7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.</p> <p>8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD’s phone number shall also be visible to ensure compliance with applicable regulations.</p>	
	<p><u>Enhanced Measures:</u></p>	
	<p>9. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.</p>	
	<p>10. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.</p>	
	<p>11. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.</p>	
	<p>12. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.</p>	
	<p>13. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.</p>	
	<p>14. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.</p>	
	<p>15. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.</p>	

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
	<ol style="list-style-type: none"> 16. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent. 17. Minimize the idling time of diesel powered construction equipment to two minutes. 18. The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOX reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available. 19. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings). 20. Require that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM. 21. Require all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines. 	
<p>AQ-3: Operational Emissions. The Project would result in increased emissions from on-site operations and emissions from vehicles traveling to the site, but the level of Project emissions would not be considered to be significant.</p>	No mitigation warranted.	LTS
<p>AQ-4: Carbon Monoxide Emissions. The Project would generate increased CO emissions, primarily from Project-related vehicles, but these levels would not exceed screening criteria and the impact would be less than significant.</p>	No mitigation warranted.	LTS

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
AQ-5: TAC Emissions - Construction Period. Construction activities would expose nearby sensitive receptors to toxic air contaminants during the construction period, but the maximum exposure risk would be below the thresholds of significance under BAAQMD criteria for cancer, chronic hazard, and PM2.5 exposure.	No additional mitigation measures needed, beyond implementation of Enhanced Construction Mitigation Measures (Measure AQ-2)	LTS
AQ -6: TAC Emissions and Exposure – Operations. Operation of the Project would not be a source of significant levels of toxic air contaminants that could pose a health risk to others.	No mitigation warranted.	LTS
AQ -7: Odors. The Project would not be a source of significant levels of construction-period or operational odors.	No mitigation warranted.	LTS
Greenhouse Gas Emissions		
GHG-1: Greenhouse Gas Emissions. Construction and operation of the proposed Project would be additional sources of GHG emissions, primarily through consumption of fuel for transportation and energy usage on an ongoing basis. However, additional emissions due to the Project are below threshold levels and are therefore considered a less than significant impact.	No mitigation warranted.	LTS
GHG-2: Conflict with GHG Reduction Plans. The Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.	No mitigation warranted.	LTS

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
Biological Resources		
<p>Bio-1: Special Status Plant Species. Although the Project sites are highly disturbed and the flora is dominated by non-native species, there remains a possibility that the Project could have a substantial adverse direct effect on certain special status plant species for which site surveys have not yet been conducted and for which occurrence cannot be definitively determined.</p>	<p>Mitigation Measure Bio-1a: Presence/Absence Surveys. Conduct appropriately-timed surveys for the following special status plant species:</p> <ol style="list-style-type: none"> 1. Bent-flowered fiddleneck (<i>Amsinckia lunaris</i>), March - June 2. Big-scale balsamroot (<i>Balsamorhiza macrolepis</i>), March - June 3. Fragrant fritillary (<i>Fritillaria liliacea</i>), February - April 4. Diablo helianthella (<i>Helianthella castanea</i>), March - June 5. Hairless popcorn flower (<i>Plagiobothrys glaber</i>), March – May <p>If none of these species is found, no further measures are required.</p> <p>Mitigation Measure Bio-1b: Salvage of Special Status Plants. If any special status plants are found on site during the presence/absence surveys per Mitigation Measure Bio-1a, any such special status plants shall be salvaged prior to construction. Salvage shall be conducted in consultation with CDFW, and may consist of seed collection and relocation or plant transplantation.</p>	Less than Significant
<p>Bio-2: Special Status Animals - Alameda Whipsnake. The Project could have a substantial adverse effect, either directly or through habitat modifications, on Alameda whipsnake (AWS). The AWS is a federally and state listed species that is protected under the federal Endangered Species Act and the California Endangered Species Act. Although the habitat value on the Project sites is poor for AWS, there is a chance that a dispersing individual could enter the Project sites via the currently barrier free property line to the south. Although presence of AWS is unlikely, it is possible that an individual could use the property for forage and dispersal and there is</p>	<p>Mitigation Measure Bio-2: Minimize Potential Take of AWS. The Project applicant shall ensure that the following construction-period measures are implemented to minimize the potential take of AWS:</p> <ol style="list-style-type: none"> 1. In order to prevent AWS from entering construction areas during Project development, it is recommended a wildlife exclusion fence be placed at the property boundary at the southern end of the Project Area. The fence should be at least three feet high and should be entrenched three to six inches into the ground. It is recommended that exclusion funnels are included in the fence design so that terrestrial species are able to vacate the Project Area prior to disturbance. 2. Monofilament netting, which is commonly used in straw wattle and other erosion preventatives, should not be used on the Project site in order to prevent possible entrapment of both common and special status terrestrial wildlife species. 3. Trenches should be backfilled, covered or left with an escape ramp at the end of each work day. Trenches left open overnight should be inspected each morning for trapped wildlife species. 	Less than Significant

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
a potential for take of individual snakes during Project construction.	4. Prior to initial ground disturbance, a qualified biologist should perform a pre-construction survey in order to insure no AWS are present. The biologist may remain on site for initial ground disturbance if suitable AWS refugia will be disturbed, e.g. small mammal burrows, foundations, large woody debris.	
Bio-3: Disturbance of Nesting Birds. Project construction activities could interfere with migratory and nesting birds, but would not otherwise interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Construction activities, particularly tree removal, could adversely affect nesting birds protected by the Migratory Bird Treaty Act and/or Fish and Game Code of California.	Mitigation Measure Bio-3: Conduct a Pre-Construction Nesting Bird Survey. Pre-construction surveys for nesting birds protected by the Migratory Bird Treaty Act of 1918 and/or Fish and Game Code of California shall be conducted within 30 days prior to initiation of construction, grading or ground-disturbing activities. <ol style="list-style-type: none"> 1. The survey area shall include the Project site and areas within 100 feet of the site, to the extent that access can be obtained. 2. If active nests are found, the Project shall follow recommendations of a qualified biologist regarding the appropriate buffer in consideration of species, stage of nesting, location of the nest, and type of construction activity. The buffer shall be maintained until after the nestlings have fledged and left the nest. 3. If there is a complete stoppage in construction activities for 30 days or more, a new nesting-survey shall be completed prior to re-initiation of construction activities. 	Less than Significant
Bio-4: Wetlands. The Project would not have a substantial adverse effect on federally protected wetlands or state protected wetlands through direct removal, filling, hydrological interruption, or other means.	No mitigation warranted.	LTS
Bio-5: Conflicts with Local Policies and Plans. The Project does not pose any direct conflicts with local policies or ordinances protecting biological resources.	No mitigation warranted.	LTS
Bio-6: HCP/NCCP. The Project would not conflict with any applicable habitat conservation plan or natural community conservation plan.	No mitigation warranted.	LTS

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
Cultural Resources		
<p>Cultural-1: Historic Resources. The Project would not cause a substantial adverse change in the significance of a historic resource or of an historic property. None of the existing structures on the Project site are eligible for listing on the CRHR or the NRHP, and none are listed on any local register of historic places.</p>	<p>No mitigation warranted.</p>	<p>LTS</p>
<p>Cultural-2: Archaeological Resources, Paleontological Resources, Tribal Cultural Resources, and/or Human Remains. It is possible construction work associated with the Project could disturb as-yet unknown archaeological resources, paleontological resources, tribal cultural resources and/or human remains.</p>	<p>Mitigation Measure Cultural-2: Halt Construction/Assess Significance of Find/Follow Treatment Plan. Prior to the initiation of ground-disturbing activities (including clearing vegetation and demolition procedures), the developer or contractor shall inform all supervisory personnel and all contractors whose activities may have subsurface soil impacts of the potential for discovering archaeological resources, paleontological resources, tribal cultural resources and/or human remains, and of the procedures to be followed if these previously unrecorded cultural resources are discovered. These procedures shall include:</p> <ol style="list-style-type: none"> 1. halting all ground-disturbing activities within 100 feet of the area where a potential cultural resource has been found; 2. notifying a qualified archaeologist of the discovery; and 3. following a treatment plan prescribed by the appropriate professional if the cultural resource is deemed significant, in accordance with federal or state law. <p>In the event cultural resources as defined above are encountered during ground disturbing activities, the developer shall, subject to approval by the County of Alameda, retain an on-call archaeologist to review the excavation work, assess the significance of the potential cultural resource and prescribe a treatment plan. The archaeologist will consult with a paleontologist or tribal cultural resource specialist as required. The archaeologist shall report any finds in accordance with current professional protocols. The archaeologist shall meet the Professional Qualifications Standards mandated by the Secretary of the Interior and the California Office of Historic Preservation.</p>	<p>Less than Significant</p>

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Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
	<p>In the event that any human remains are uncovered at the Project site during construction, there shall be no further excavation or disturbance of the site or any nearby area until after the Alameda County Coroner has been informed and has determined that no investigation of the cause of death is required, and (if the remains are determined to be of Native American origin) the descendants from the deceased Native American(s) have made a recommendation to the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.</p>	
Hydrology and Water Quality		
<p>Hydrology-I: Water Quality Standards and Requirements. Construction of the proposed Project would involve grading activities that would disturb soils at the site. Such disturbance would present a threat of soil erosion by subjecting unprotected bare soil areas to runoff during construction, which could result in siltation and degradation of water quality in receiving waters.</p>	<p>No mitigation required.</p> <p>The Project would disturb more than one acre and therefore the Project applicant is required to comply with the NPDES Construction General Permit issued by the SWRCB. The Project will be required to comply with these regulations and related state and federal laws, which the SWRCB and the County consider to be necessary to avoid substantial adverse water quality and stormwater flow impacts.</p> <p>Construction General Permit. The Project applicant shall submit a Notice of Intent to the SWRCB, indicating their intention to be covered under the Construction General Permit, and providing necessary information on the types of construction activities that are proposed to occur on the site.</p> <p>SWPPP. As required by the NPDES General Construction Permit and prior to any grading activity on the site, the Project applicant shall prepare and implement a SWPPP. The SWPPP shall be consistent with the terms of the Construction General Permit, recommendations of the RWQCB staff, the Manual of Standards for Erosion and Sedimentation Control Measures by the Association of Bay Area Governments, and local policies and regulations commendations of the County of Alameda (Chapter 13.08: Stormwater Management and Discharge Control, and Chapter Ch. 15.36, Grading, Erosion and Sediment Control).</p> <p>Stormwater Quality Control Plan BMPs. BMPs shall be utilized during construction to prevent excessive stormwater runoff, to prevent stormwater runoff from carrying materials onto adjacent properties, public streets or to creeks, and to minimize contamination of stormwater runoff. These detailed BMP shall be included as part of the SWPPP, and as part of a Stormwater Quality Control Plan (SWQCP) to be submitted to</p>	<p>Less than Significant</p>

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
<p>the County, and shall be implemented at the site during grading and construction. Typical BMPs may include, but are not limited to:</p>	<ul style="list-style-type: none"> • Stormwater drainage connections and runoff controls shall be designed and constructed prior to beginning demolition and/or grading in order to control any stormwater runoff created during these activities. Connections and flow controls shall be established based on estimated natural or current runoff, if needed. • Only clear land which will be actively under construction in the near term (e.g., within the next 6-12 months), minimize new land disturbance during the rainy season, and avoid clearing and disturbing sensitive areas (e.g., steep slopes and natural watercourses) and other areas where site improvements will not be constructed. • Provide temporary stabilization of disturbed soils whenever active construction is not occurring on a portion of the site through water spraying or application of dust suppressants, and gravel covering of high-traffic areas. Provide permanent stabilization during finish grade and landscape the Project site. • Safely convey runoff from the top of the slope and stabilize disturbed slopes as quickly as possible. • Delineate the Project site perimeter to prevent disturbing areas outside the Project limits. Divert upstream run-on safely around or through the construction. • Sediment controls shall be provided at the edge of disturbed areas including such facilities as silt fences, inlet protections, sediment traps and check dams. Silt fences or straw wattles shall be installed prior to any grading at the project site and shall be operable during the rainy season (October 15 to April 15). • Between October 15 and April 15, all paved areas shall be kept clear of earth materials and debris, and all sediment barriers shall be inspected and repaired at the end of each working day and, in addition, after each storm. • Runoff from the Project site should be free of excessive sediment and other constituents. • Control tracking at points of ingress to and egress from the Project site. • Retain sediment-laden waters from disturbed, active areas within the Project site. 	

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
	<ul style="list-style-type: none"> • Perform construction activities in a manner to keep potential pollutants from coming into contact with stormwater or being transported off site to eliminate or avoid exposure. • Store construction, building, and waste materials in designated areas, protected from rainfall and contact with stormwater runoff. Dispose of all construction waste in designated areas, and keep stormwater from flowing onto or off these areas. Prevent spills and clean up spilled materials. 	
<p>Hydrology-2: Post Construction Effects on Water Quality. Future residents of the Project would increase the potential for discharge of residential and urban-related pollutants into stormwater runoff. Additionally, the construction of homes, roads and other infrastructure associated with Project would increase impervious surface area on the site, allowing stormwater flows across the site to serve as a vehicle for pollution entering the stormwater drainage system.</p>	<p>No mitigation required.</p> <p>Pursuant to the Municipal Regional Stormwater NPDES Permit (MRP), the Project is required to meet performance standards for new development as defined in the NPDES Provision C.3 requirements. These C.3 provisions require the Project to implement source controls and stormwater treatment measures in the Project’s plans and designs to address soluble and insoluble stormwater runoff pollutant discharges.</p> <p>Post-Construction BMPs. The Project shall implement Tier 2 post-construction BMPs as defined in Table 2 of the Regional Board Staff Recommendations for New and Redevelopment Controls for Stormwater Programs section of Alameda County’s Stormwater Management Plan. Under Tier 2 BMPs, drainage from all paved surfaces, including streets, parking lots, driveways and roofs should be routed through an appropriate treatment mechanism before being discharged into the storm drain system. The BMPs are designed to meet the “maximum extent practicable” definition of treatment as specified in the federal Clean Water Act. Specific post-construction BMPs to be implemented at the Project site should include, but are not limited to the following:</p> <ul style="list-style-type: none"> • Minimize directly connected impervious area at residential lots. All rainfall from residential rooftops and in-lot impervious surfaces should be routed through lawn areas or other pervious surfaces within yards, where infiltration can filter pollutants through the soil before such runoff reaches the storm drain system. Although existing soils on the Project sites have been identified as having moderate to moderately slow infiltration rates, the upper layers of soils generally consist sandy and silty clays for which infiltration-based stormwater management solutions can be effective. • Biofilters, also known as vegetated swales are vegetated slopes and channels that should be designed into the Project to transport shallow depths of runoff slowly 	<p>Less than Significant</p>

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
<p>Hydro-3: Post-Construction Effects on Stormwater Runoff and Drainage System Capacity. Development of the site would increase the amount of impervious surface due to construction of streets, sidewalks, driveways and single-family homes, thereby potentially increasing stormwater runoff. Without controls, this increased runoff could substantially alter the existing drainage patterns from the site, or could contribute runoff water that would exceed the capacity of existing stormwater drainage systems.</p>	<p>over vegetation. Biofilters can be effective at the site if flows are slow and depths are shallow. This can generally be achieved by grading the site and sloping pavement in a way that promotes sheet flow of runoff. For biofilter systems, features that concentrate storm flows (such as curb and gutter, paved inverts, and long drainage pathways across pavement) must be minimized. The slow movement of runoff through the vegetation will provide an opportunity for sediments and particulates to be filtered and degraded through biological activity. A biofilter system may also provide an opportunity for stormwater infiltration which can further remove pollutants and reduce runoff volumes.</p> <ul style="list-style-type: none"> Retention and detention systems should be designed primarily to store runoff for one to two days after a storm, prior to discharge into the storm drain system. A properly designed retention/detention system will release runoff slowly enough to reduce downstream peak flows, allow fine sediments to settle, and uptake dissolved nutrients from the runoff in wetland vegetation. <p>Post-Construction BMP Design Criteria. The post-construction water quality treatment BMPs shall be designed and constructed to incorporate, at a minimum, the hydraulic sizing design criteria as published in the Alameda County Clean Water Program's C.3 Technical Guidance Manual for treatment of stormwater runoff.</p>	Less than Significant

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
	<p>Detention of Increased Stormwater Flows. The Project's storm drain system shall be designed to provide for over-sized underground conduits (pipes) and/or detention basin that provide for the detention of increased storm water flows attributable to the Project. The amount of required detention storage shall be equal to the difference in volume of the increased runoff attributed to the Project, less the volume of existing runoff from the site(s). Assurances shall be provided for the continued maintenance of these storage facilities.</p>	
<p>Hydro-4: Flooding Potential. The Project's increase in runoff flow rates and volumes during significant storm events could potentially exceed the capacity of existing or planned stormwater drainage systems in a manner that could result in flooding on- or off-site.</p>	<p>No mitigation required.</p> <p>The Municipal Regional Stormwater NPDES Permit (MRP) performance standards and the 2008 Engineering Design Guidelines prepared by the County Public Works Department apply to required flow controls for the typical 10-year design storm, as well as for larger (i.e., 100-year) design storms.</p>	<p>Less than Significant</p>
<p>Hydro-5: Groundwater Recharge. The Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The Project would not cause the production rate of pre-existing nearby wells to drop to a level that could not support existing or planned land uses.</p>	<p>No mitigation warranted.</p>	<p>LTS</p>
<p>Hydro-6: Flood Zone Hazards. The Project site is not within a FEMA-designated 100-year flood zone. Since the Project site is not located near the coast, it is also outside the coastal flood zone. Accordingly, the Project would have no impact related to flood zone hazards.</p>	<p>No mitigation warranted.</p>	<p>No Impact</p>

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Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
<p>Hydro-7: Flooding (Levee or Dam Failure, Seiche, Tsunami, Mudflow, or Climate Change Induced Sea Level Rise). The Project would not result in any impacts related to flooding as a result of a dam or levee failure, or inundation by seiche, tsunami, mudflow or sea level rise.</p>	No mitigation warranted.	No Impact
Land Use		
<p>Land Use-1: Division of an Established Community. Development at the Project site would not divide an established community. The Project site is located within a previously developed neighborhood and is not located between nor used for passage between existing communities.</p>	No mitigation warranted.	No Impact
<p>Land Use-2: Conflicts with Land Use Plan, Policy or Regulation. The Project would conform to the vast majority of the applicable land use policies and guidelines of the Fairview Area Specific Plan, but would conflict with certain policies and guidelines that were adopted by the County to avoid or mitigate environmental effects, including substantial changes to topography and natural characteristics, and result in potentially significant adverse effects.</p>	<p>Mitigation Measure Land Use-2: Topography Preservation. The grading of the Project sites shall provide for split pads on Lots 1, 2, 8 and 15 of Tract 8297. Custom grading with the same effect, or pier and grade beam construction may be substituted on all or a portion of these lots, to the satisfaction of the Planning Director.</p>	Less than Significant
<p>Land Use-3: Conflict with a Conservation Plan. Development at the Project site would not conflict with any conservation plan.</p>	No mitigation warranted.	No Impact

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
Noise		
<p>Noise-1: Construction Noise. Construction activities associated with the Project would not expose persons to, or generate noise levels in excess of standards established in the County General Plan or County Municipal Code, but would substantially increase temporary and periodic ambient noise levels in the Project vicinity above levels existing without the Project.</p>	<p>Mitigation Measure Noise-1: Reduce Construction Noise Levels. The following mitigation shall be implemented to reduce construction noise emanating from the Project site to the surrounding sensitive land uses:</p> <ol style="list-style-type: none"> 1. Comply with construction hours established within the Noise Ordinance to limit hours of exposure. The County’s Municipal Code limits construction activities to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on weekends. 2. Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment. 3. Unnecessary idling of internal combustion engines should be strictly prohibited. 4. Locate stationary noise-generating equipment, such as air compressors or portable power generators, as far as possible from sensitive receptors. Construct temporary noise barriers or partial enclosures to acoustically shield such equipment where feasible. 5. Construct solid plywood fences around construction sites adjacent to operational business, residences or other noise-sensitive land uses where the noise control plan analysis determines that a barrier would be effective at reducing noise. 6. Erect temporary noise control blanket barriers, if necessary, along building façades facing construction sites. Noise control blanket barriers can be rented and quickly erected. 7. Utilize "quiet" air compressors and other stationary noise sources where technology exists. 8. Control noise from construction workers’ radios to a point where they are not audible at existing residences bordering the Project site. 9. Route construction-related traffic along major roadways and away from sensitive receptors where feasible. 10. The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that 	<p>Less than Significant</p>

TABLE 2.1: SUMMARY OF PROJECT IMPACTS AND MITIGATION MEASURES

Potential Environmental Impacts	Recommended Mitigation Measures	Resulting Level of Significance
	<p>construction activities can be scheduled to minimize noise disturbance.</p> <p>11. Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.</p>	
<p>Noise-2: Construction Vibration. The proposed Project could expose sensitive residential receptors to excessive groundborne vibration or groundborne noise levels during construction</p>	<p>Mitigation Measure Noise-2: Best Management Practices to Assure Acceptable Vibration Levels. The following mitigation shall be implemented into the Project to avoid structural damage due to construction vibration and to reduce the perceptibility of vibration levels at nearby sensitive land uses:</p> <ol style="list-style-type: none"> 1. Minimize or avoid using clam shovel drops, vibratory rollers, and tampers near the shared property lines of the adjacent land uses. 2. When vibration-sensitive structures are within 25 feet of the site, survey condition of existing structures and, when necessary, perform site-specific vibration measurements to direct construction activities. Contractors shall continue to monitor effects of construction activities on surveyed sensitive structures and offer repair or compensation for damage. 3. Construction management plans shall include predefined vibration reduction measures, notification of scheduled construction activities requirements for properties adjoining the site, and contact information for on-site coordination and complaints. 	Less than Significant
<p>Noise-3: Vehicular Traffic Noise. Traffic generated by the Project would not result in a substantial temporary, periodic or permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.</p>	No mitigation warranted.	LTS

<p>Aircraft-Related Noise. The Project would not generate any discernable increase in air traffic, and no change in noise from aircraft would occur that would substantially increase ambient noise levels at the Project site. Interior noise levels resulting from aircraft would be compatible with the proposed Project uses.</p>	<p>No mitigation warranted.</p>	<p>No Impact</p>
<p>Noise and Land Use Compatibility. Consideration of the noise environment potentially affecting future Project residents is not considered a significant impact in this EIR, but is nevertheless presented for informational purposes. The exterior façades of the proposed residences located within 70 feet of the centerline of D Street would be exposed to exterior noise levels greater than 60 dBA Ldn, with the highest noise exposures occurring at unshielded residential façades nearest D Street. Noise levels at these unshielded façades are calculated to reach 65 dBA Ldn.</p>	<p>No mitigation warranted.</p> <p>The following measure should be included in the Project’s design to maintain interior noise levels at or below 45 dBA Ldn, consistent with General Plan policies:</p> <ul style="list-style-type: none"> Residential units located adjacent to D Street on Tract No. 8296 should be provided with forced-air mechanical ventilation, so that windows can be kept closed at the occupant’s discretion to control noise. 	<p>No Impact</p>
<p>Transportation</p>		
<p>Transp-1: Intersection Impacts. Traffic generated by the Project would increase traffic levels at the study intersections, but would not change the existing level of service at any studied intersections.</p>	<p>No mitigation warranted.</p>	<p>LTS</p>
<p>Transp-2: Cumulative Traffic Impacts. Traffic generated by the Project, when added to other cumulative traffic levels at Project study intersections, would not change level of service under Cumulative Baseline conditions at any studied intersections.</p>	<p>No mitigation warranted.</p>	<p>LTS</p>

<p>Transp-3: Freeways and Arterials. The Project would not conflict with an applicable congestion management program, a level of service standards, travel demand measures or other standards established by the County Congestion Management Agency for designated roads or highways. Even if all 31 peak-hour trips generated by the Project were to travel on I-580 during the peak hours, the Project's contribution to freeway congestion would be virtually unnoticeable.</p>	<p>No mitigation warranted.</p>	<p>LTS</p>
<p>Transp-4: Site Hazards. The Project's proposed site access and roadway configuration is adequate to accommodate the anticipated volume of traffic to and from the Project sites without resulting in a significant traffic hazard.</p>	<p>No mitigation warranted.</p> <p>The Project's proposed design, including its proposed access roads, is not clearly a significant hazard constituting a CEQA impact, particularly given the low-volume of cross-traffic on this essentially dead-end segment of D Street. However, the following recommendation of the technical transportation consultant suggests consideration of a design measure to enhance the sight distance for vehicles exiting the Project sites:</p> <ul style="list-style-type: none"> • Parking Restrictions. To enhance sight distance on D Street near the Project entrances, on-street parking on the south side of D Street should be prohibited for a distance of more than 300 feet, from approximately 30 feet east of the Tract 8297 intersection to 30 feet west of the Tract 8296 intersection. 	<p>LTS</p>
<p>Transp-5: Pedestrian Impacts. The Project will increase levels of pedestrian and bicycle use in the vicinity. However, the Project would not conflict with adopted policies, plans, or programs regarding pedestrian or bicycle facilities, or otherwise decrease the performance or safety of such facilities within the study area.</p>	<p>No mitigation warranted.</p> <p>However, the following recommendations from the transportation technical consultant could be incorporated into the site plan or Project conditions of approval to improve pedestrian circulation and safety:</p> <ul style="list-style-type: none"> • Sidewalk Bulbouts. Consider providing "bulbouts" to reduce the curb-to-curb roadway width to 24 feet at the intersections of the Project's proposed internal access streets with D Street. Such a reduction in width on the northern-most 10 to 20 feet of both local access streets would allow for a reduction in pedestrian crossing distances for pedestrians traveling east or west on D Street. 	<p>LTS</p>
<p>Transp-6: Transit Impacts. The Project may increase levels of transit usage in the vicinity. However, the Project has adequate access to existing transit services and would not impede or interfere with existing services.</p>	<p>No mitigation warranted.</p>	<p>LTS</p>

<p>Transp-7: Construction-Period Traffic Disruption. Construction-related impacts resulting from daily trips generally would not be considered significant due to their temporary and limited duration. However, depending on the construction phasing and truck activity, these activities could result in significant traffic interruption.</p>	<p>Mitigation Measure Transportation-7: County Review of Construction Plan. The Project applicant shall prepare a Construction Operations Plan detailing the anticipated schedule of trips involving construction workers and equipment, and delivery of materials and supplies to and from the Project site during the various stages of construction activity. The Plan will be reviewed by the County of Alameda for compliance with applicable regulations.</p>	<p>Less than Significant</p>
<p>Alter Air Traffic Patterns. The Project does not represent a level of population or housing growth that would require any change to existing air transportation services, and would have no impact on air traffic patterns, including the location of airports or flight paths as they relate to air traffic safety.</p>	<p>No mitigation warranted.</p>	<p>No Impact</p>
<p>Utilities</p>		
<p>Util-1: Water Supply. There are sufficient water supplies available to serve the Project from existing entitlements and resources, and no new or expanded entitlements are needed to serve the Project.</p>	<p>No mitigation warranted.</p>	<p>LTS</p>
<p>Util-2: Wastewater Treatment Requirements. The Project's wastewater treatment and disposal demands would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, and would not exceed the wastewater treatment requirements set by the SF Regional Water Quality Control Board.</p>	<p>No mitigation warranted.</p>	<p>LTS</p>

<p>Util-3: Storm Drainage Facilities. The Project will not require or result in the construction of new off-site storm water drainage facilities or the expansion of existing facilities.</p>	<p>No mitigation warranted.</p>	<p>LTS</p>
<p>Util-4: Solid Waste. The Project will be served by landfills that have sufficient permitted capacity to accommodate the Project's solid waste disposal needs, and the Project will comply with all federal, state and local statutes and regulations related to solid waste.</p>	<p>No mitigation warranted.</p>	<p>LTS</p>
<p>Util-5: Energy. The Project would not require more energy than the local energy provider (PG&E) has the capacity to serve, nor would it require construction of new energy facilities or expansion of existing facilities which could cause significant environmental effects. The Project would be subject to the requirements of currently applicable federal, state and local statutes and regulations relating to energy standards.</p>	<p>No mitigation warranted.</p>	<p>LTS</p>
<p>Other Less than Significant Effects of the Project</p>		
<p>Ag-1: The Project will not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use; will not conflict with existing zoning for agricultural use, or a Williamson Act contract; will not conflict with existing zoning for, or cause rezoning of, forest land, timberland or timberland zoned Timberland Production; will not result in the loss of forest land or conversion of forest land to non-forest use; and will not involve other changes in the existing environment which, due to their location or nature, could result in conversion</p>	<p>No mitigation warranted.</p>	<p>No Impact</p>

of Farmland to non-agricultural use or conversion of forest land to non-forest use.		
Geo-1: Fault Rupture. The Project would not expose people or structures to potential substantial adverse effects involving rupture of a known earthquake fault	No mitigation warranted.	No Impact
Geo-2: Seismic Shaking. The Project is located in a seismically active region and is likely to be subject to moderate to strong ground shaking during the life of the buildings, including the potential for liquefaction. However, the Project would conform to regulatory requirements intended to ensure safety.	No mitigation warranted. All future homes constructed at the Project site will be required to be designed in accordance with all seismic provisions of the most recent version of the California Building Code (CBC, 2016, in effect in January 1, 2017), and with County of Alameda and State of California Standards for seismic construction.	LTS
Geo-3: Liquefaction. The Project would not expose people or structures to potential substantial adverse effects involving liquefaction	No mitigation warranted.	LTS
Geo-4: Landslides. According to the Geotechnical Investigation Report, a large swale within the northeastern portion of the site where previous subsurface explorations were performed, that does contains deep soil deposits (of 13 to 14 feet), and the topography appears irregular and possibly may contain old slide deposits. Additionally, areas where clayey sands were encountered were moist and may be subject to creep (a gradual, downslope soil movement)	No mitigation warranted. The Geotechnical Investigation Report recommends the following for development of the Project: <ul style="list-style-type: none"> In Tract 8297, grading procedures should commence with an over-excavation of fill, soft soils deposits and residual soils from the area of Lots 4 thru 6. 	Less than Significant
Geo-5: Instability as a Result of the Project. Some residential building pads will be established at areas with significant fill thickness.	No mitigation warranted. The Geotechnical Investigation Report recommends the following for construction of all proposed residential building foundations and slabs within the Project: <ul style="list-style-type: none"> Foundations in Cut Pads. In excavated, level building pads that expose bedrock materials at the surface, geotechnical conditions would be acceptable for implementation of conventional strip footing foundations that are structurally 	Less than Significant

integrated to slab-on-grade floors.

- **Foundations in Fill Pads.** It is recommended that where level building pad grades have been established by the placement of fill, a foundation system that employs drilled, cast-in-place reinforced concrete piers that extend into the underlying bedrock materials, be utilized. Structural loads should determine pier spacing. The piers should contain steel reinforcement over their entire length, with reinforcement as directed by the project Structural Engineer.
- **Concrete Slab-On-Grade.** Concrete slabs-on-grade will provide satisfactory floor area for the garage and patio areas. In order to reduce the potential for slab cracking, detailed recommendations are presented.

Geo-6: Instability as a Result of the Project: Retaining Walls. The Project proposes to construct four types of new retaining walls; each of the four distinct conditions and configurations require specific design parameters to ensure stability for each condition.

No mitigation warranted.

Less than Significant

The Geotechnical Investigation Report recommends the following for construction of all proposed retaining walls within the Project:

- All retaining walls shall have a drain blanket consisting of Class II Permeable material (conforming to Caltrans specifications) of minimum 12-inches in width or a Geo-composite drain, extending for the full height of the wall, except for 18-inches of compacted soil cover at the surface.
- **Retaining Walls at the Base of Cut at Rear of Lots 7, 8 and 9 (Tract 8297).** A retaining wall designated to the base of a cut into the hillside that would expose bedrock, may be designed for a drained condition and to resist lateral pressures exerted from soils having an equivalent fluid weight of 40 pcf.
- **Retaining Wall at Top of Cut and Below Existing Retaining Wall on Lots 1, 2 And 3 (Tract 8296).** There are three important issues to consider with this retaining wall; 1) the potential for the excavations to accommodate the proposed wall to undermine the existing wall; 2) the additional (surcharge) pressures being transmitted to the proposed wall from the existing wall above; and 3) the limited support to the wall foundation due to the sloping terrain in front of the wall. As such, it is recommended that a “soldier beam wall” option be selected for this application, as it is able to be constructed in phases. This would avoid the undermining of the wall above, and the drilled pier support can be designed neglecting the upper portion of pier embedment.
- **Mechanically Stabilized Earth Retaining Walls at the Base of Fill, Lots 10 through 15 (Tract 8296).** Detailed recommendation for modular concrete unit walls with geo-grid reinforced backfill (i.e., Keystone, Allan Block, etc.) have not yet been established, as the Project design has not yet reached that level of detail. This type of wall should be designed by the Soils Engineer of Record, for

	<p>the Project.</p> <ul style="list-style-type: none"> • Structural Retaining Walls at the Split Level Transition in Pads 9 through 16 (Tract 8296). Walls in the interior foundation footprint used to retain a vertical configuration in the step between upper and lower pads on Lots 9 through 16 (Tract 8296) should be designed for a drained condition and to resist lateral pressures exerted from soils having an equivalent fluid weight of 55 pcf. 	
<p>Geo-7: Expansive Soil. Soil testing results correspond to moderate to highly expansive and creep-susceptible clays.</p>	<p>No mitigation warranted.</p> <p>The detailed Geotechnical Recommendations take these soils conditions into consideration. Implementation of these recommendations during construction would further minimization the potential negative effects associated with expansive soils.</p>	<p>LTS</p>
<p>Haz-1: Construction-Period Hazardous Materials Use. The Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and would not 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.</p>	<p>No mitigation warranted.</p> <p>The Project construction contractor shall implement feasible Best Management Practices (BMPs) during construction to ensure conformity with applicable regulations and further minimization of the potential negative effects of routine use of hazardous materials.</p>	<p>LTS</p>
<p>Presence of Hazardous Materials. A search of relevant public agency databases containing records of past occurrences involving hazardous wastes was conducted for the Project site. On the basis of these database records, there would be no impact related to the potential exposure of construction workers or future residents to hazardous materials on the Project site.</p>	<p>No mitigation warranted.</p>	<p>No Impact</p>
<p>Safety Hazards Due to Nearby Airport or Airstrip. The closest airport to the Project site is the Hayward Air Terminal, located approximately 3.5 miles to the west. The Project site is not within an airport land use plan, nor is the Project close enough for</p>	<p>No mitigation warranted.</p>	<p>No Impact</p>

the airport to pose a unique safety hazard to residents or workers in the Project area.		
Emergency Response Plan. There are no emergency response or evacuation plans in effect in the Project area. The Project would not impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan.	No mitigation warranted.	No Impact
Wildland Fires. The Project is not located within a fire hazard severity zone and consequently building code requirements that apply to developments within a fire hazard severity zone would not be required.	No mitigation warranted.	No Impact
Loss of Mineral Resources and a Mineral Resource Recovery Site. The Project site contains no known mineral resources. The Conservation Element of the Alameda County General Plan does not identify any mineral resources in the vicinity.	No mitigation warranted.	No Impact
Population Growth. The Project would not result in significant increases in population, demand for housing, or expansion of public or private services. Other than direct increase in development on the site analyzed in this document, the Project would not be anticipated to have a growth-inducing effect.	No mitigation warranted.	LTS
Growth Inducement. Other than direct increase in development on the site analyzed in this document, the Project would not be anticipated to have a growth-inducing effect.	No mitigation warranted.	No Impact
Fire Protection. The addition of the relatively small number of new residences would not affect fire department service ratios or response times, nor would any new fire protection facilities need to be provided.	No mitigation warranted.	No Impact

Police Protection. The addition of such a small number of residences would not affect County Sheriff service ratios or response times, nor would any new facilities be needed.

No mitigation warranted.

No Impact

Public Schools. The proposed Project would not generate enough students to adversely affect the service ratios of the School District, nor would it result in the need for additional schools to be built.

No mitigation warranted.

The Project would be subject to and would be required to pay the appropriate amount pursuant to the County School Impact Fee applicable to new residential development in Alameda County. Payment of the fee would ensure that the Project would fund its incremental share of school improvements to accommodate the cumulative student demand for schools and school facilities resulting from the increase in population.

LTS

Park Use. The Project would not increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. The Project does not include recreational facilities nor does it require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

No mitigation warranted.

No Impact

Project Description

This chapter describes the Project location, existing uses on or around the Project sites, specific features of the proposed Project, and Project objectives.

Project Location and Setting

Regional Context

The Project consists of two sites located in the unincorporated Fairview area of Alameda County. Fairview lies east of the Hayward city limits, along the western side of the East Bay Hills, all within the San Francisco Bay Area. The Project area is located approximately 15 miles southeast of downtown Oakland and 25 miles north of downtown San Jose. U.S. Interstates I-580 and I-880 provide regional access to the Project site. The Project's location is illustrated in **Figure 3-1**.

Project Site and Vicinity

Project Sites

The Project sites are two separate sites totaling 9.78 acres, which are comprised of seven separate parcels that connect at a single point bordering D Street, on the easterly and westerly sides of a single 1.07-acre parcel developed with a convalescent home. The Project sites have frontage on the south side of D Street, extending between approximately 600 and 900 feet northeast of the D Street and Fairview Avenue intersection. The addresses for the Project parcels include 3231, 3247, 3289 and 3291 D Street. The Project has been divided into two Tracts for purposes of the County's processing (see **Figure 3-2**):

- Tract #8296 is approximately 4.61 acres in size and comprised of 3 parcels (Assessor's Parcel Number (APN) 417-0240-001, 417-0250-001 and 417-0240-021) and is referred to as the western or downhill parcel or site.
- Tract #8297 is approximately 5.17 acres in size and comprised of 4 parcels (APNs 417-0240-004-00, 417-0240-005-00, 417-0240-006-00 and 417-0240-012-04,) and is referred to as the eastern or uphill parcel or site.

The two sites are separated by a private parcel containing the existing Hilltop Care Convalescent Home (note that this property was previously named Bassard Convalescent Home and is sometimes referred to by that name in background documents and on plans.) The convalescent home will continue operations, and is not a part of the Project. The convalescent home property is owned by Silvergate Investments, LLC.



Figure 3.1
Project Site Location, within Fairview Area Specific Plan



Source: Alameda County Planning Department, Fairview Area Specific Plan



Figure 3-2
Existing Parcels and Tract Identification



Source: Alameda County APNs and Google Maps

Each Project site currently contains two older single-family dwellings (i.e., a total of four dwelling units) with several associated outbuildings, each built between 1905 and 1950 and all of which are currently vacant and will be demolished during the clearing stage of construction for the Project. When actively occupied, the sites were used as rural residential properties. Areas not developed with structures contain ruderal grasses (non-native species, typical of those that grow on properties that have been disturbed from their natural state) and a relatively small number of trees and shrubs. A horse pasture and stalls are on the northeast portion of the upper site (Tract #8297).

Topographically, the upper site (Tract 8297) is on a ridge-crest with a saddle-like feature near its center. From the saddle area, a broad swale projects downward to the east, with a slight increase in vegetation and somewhat hummocky appearance. To the west, the ridge is abruptly interrupted by a steep slope that is supported at the base (at the property boundary with the adjacent convalescent property) by a 5 to 12-foot high retaining wall. The lower site (Tract 8296) is smoothly contoured, gently sloping to the southeast with a gradient of approximately 6 horizontal to 1 vertical (16% slope).

Existing Land Use Planning Designations

The Project sites are within the jurisdiction of Alameda County and have a General Plan designation under the *Fairview Area Plan* (a part of the County General Plan, adopted September 1997) of Single-Family Residential.

The property is zoned R-1-B-E, a residential zoning district with minimum 10,000 square foot lot sizes (see **Figure 3-3**).

Surrounding Development

The Fairview area of unincorporated Alameda County is located along the westward edge of the East Bay Hills, extending over roughly two square miles extending south of I-580 has a population of approximately 10,000 people¹. The majority of the unincorporated Fairview Area is characterized by a mixture of many small older subdivisions interspersed with new subdivisions, several remaining “undeveloped” large lots ranging from one to ten acres in active or passive agricultural use, and a few large institutional properties (churches, schools, various parks and open spaces, and the Lone Tree Cemetery). The easternmost area is dominated by a single very large subdivision – Five Canyons – built mostly by a single developer in the 1980s.

As shown on **Figure 3-4**, the Project sites are bordered to the north by the Carlson Court residential development, a separate approximately 2.0-acre site or sites (two adjacent parcels, west of Carlson Court) planned for future residential development and several smaller developed parcels; to the east by the older Machado Court residential subdivision; to the south by a 4.4-acre narrow pie-shaped parcel and the partly developed Jelincic subdivision; to the west by older, small subdivisions and an EBMUD water tank. The Five Canyons residential development is located east of the Project area, beyond the Machado Court residential development, separated by a few large private parcels and the Five Canyons Open Space area (i.e., not accessible from the immediate project vicinity). As the surrounding area is largely developed, the sites are considered infill sites.

¹ U.S. Census Bureau, 2010

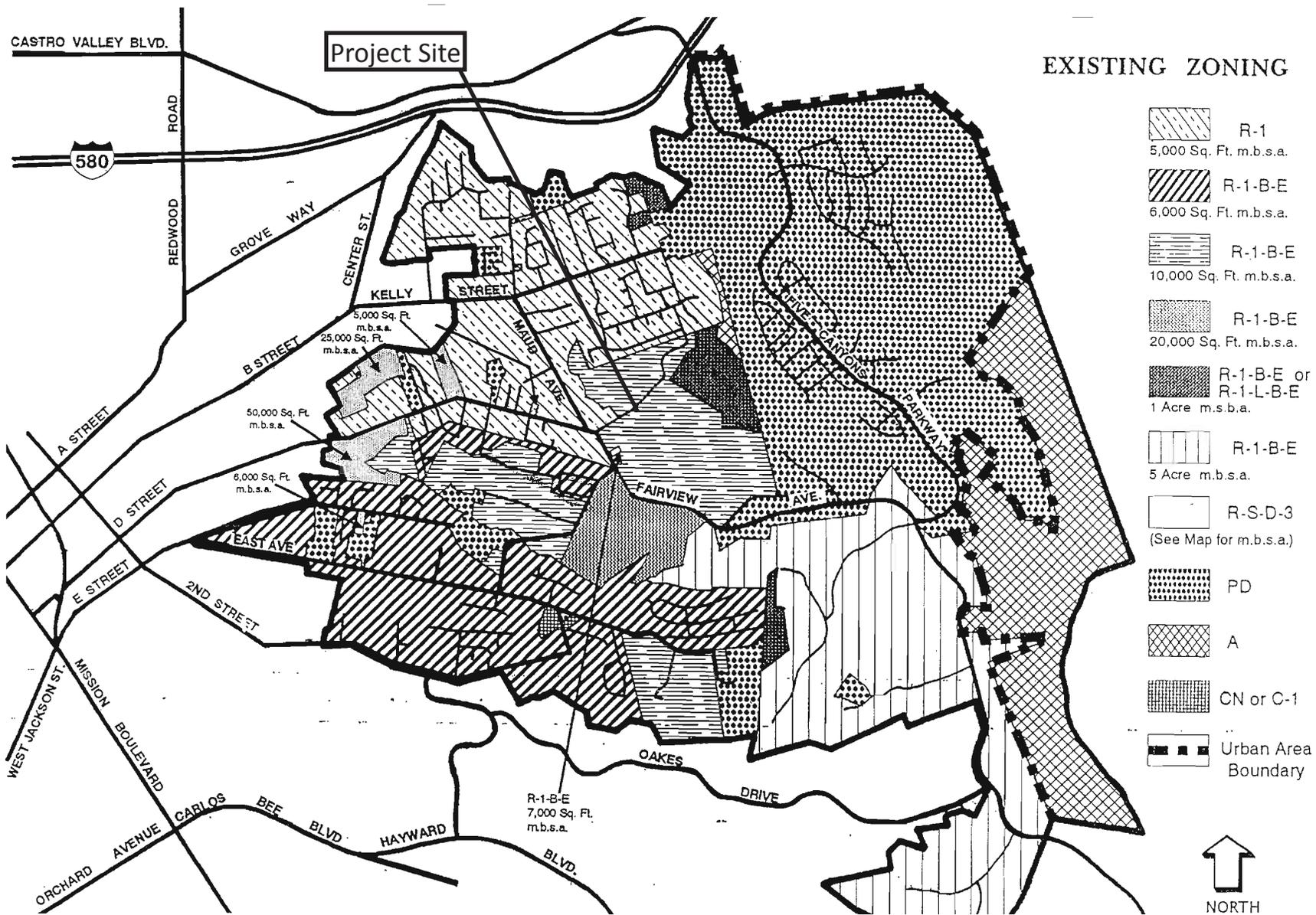


Figure 3-3
Alameda County Zoning, per Fairview Area Specific Plan

Source: Alameda County, Fairview Area Specific Plan



Figure 3-4
Surrounding Land Uses



Source: Carlson Barbie and Gibson

The roadway network in the Fairview area is dominated by a few east-west aligned major collector roads and relatively few north-south roads, all of which follow irregular alignments shaped generally by topography and historic larger landholdings that have since been subdivided and developed. The east-west roads include D Street, Fairview Avenue from D Street near the Project sites, Kelly Street, E Street and East Avenue; the few north-south connector roads include Maud Avenue (the southern end of which is about 200 feet west of the D Street/Fairview Avenue intersection), Hansen Road (that begins about 600 feet southeast of the same intersection along Fairview Avenue) and Center Street, the last of which, in the northwest corner of the Fairview area, provides the principal link from central Fairview (and the Project sites) to I-580, via Maud Avenue and Kelly Street. Five Canyons Parkway, which provides primary access to the Five Canyons residential areas, also provides a major arterial-type roadway in a north-south direction, connecting between I-580 and Fairview Avenue, approximately 1.2 miles east of D Street along Fairview Avenue.

Project Objectives

Consistent with CEQA Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the Project shall be discussed. The applicant's desired Project Objectives are:

- Develop high quality market-rate single-family homes on a desirable site compatible with surrounding residential development.
- Create an on-site stormwater control and detention system that meets legal requirements.
- Limit disturbance to surrounding neighbors by avoiding off-haul of grading material.
- Grade and develop the site so as to direct all impervious surface drainage through bio-filtration facilities and thence to a detention basin located under the proposed streets.

Proposed Project

Proposed Development

The Project proposes to subdivide the two Project sites into a total of 31 single-family residential lots. The upper site (Tract #8297) would include 15 separate residential lots and a common lot (Parcel A) which serves as a buffer from the existing residential units along D Street, and will also contain a detention basin. The lower site (Tract #8296) would include 16 separate residential lots. Each of these individual lots would range in size from 10,013 square feet to 17,141 square feet.

Each of the 31 lots would be developed with a detached, single-family home. The architectural design and layout of individual homes are not part of the Project, but conceptual elevations of the proposed home designs are illustrated in **Figure 3-5 and 3-6**. Yard areas will vary with the final designs according to the individual aspects of each lot.



Figure 3-5
Site Layout and Design Plan, Tract 8297



Source: SDG Architects, Inc.

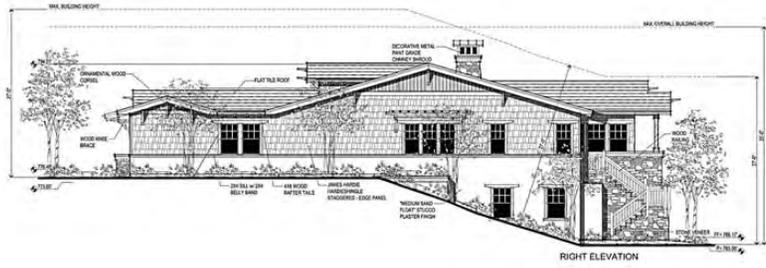
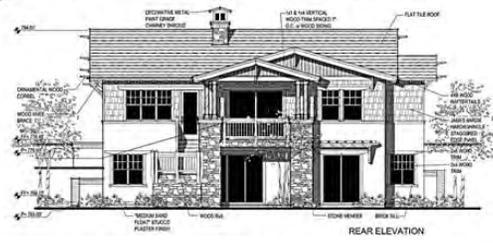
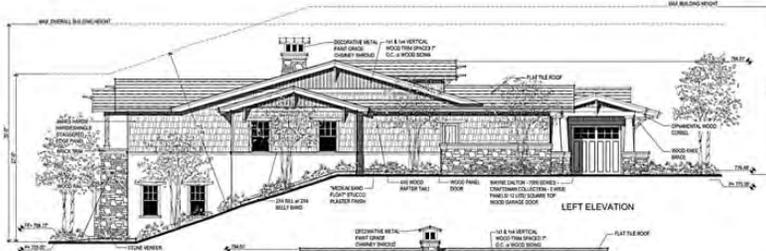
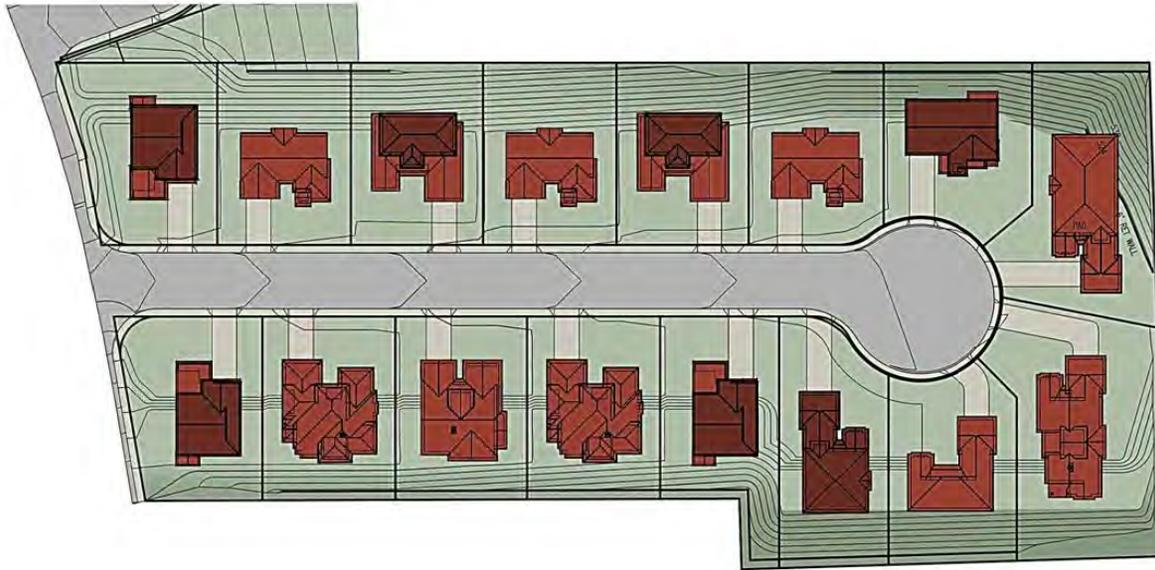


Figure 3-6
Site Layout and Design Plan, Tract 8296



Source: SDG Architects, Inc.

Proposed Circulation and Access

Access to the Project site will be from D Street via two proposed local streets, one local street for Tract #8296 and one for Tract #8297. Each of these local street are approximately 500 feet long, ending in cul-de-sacs. Both streets have a 46-foot right-of-way width to include a 36-foot wide roadway with 5-foot sidewalks on both sides and no landscape strip between the sidewalks and roadway.

The Project's two proposed local streets will intersect D Street at locations that are approximately 130 feet apart, and offset by approximately 50 feet to the west and 70 feet to the east of the existing intersection of D Street/Carlson Court. A new driveway off of the local access road in Tract #8297 will provide access to the adjacent Hilltop Care facility that occupies the wedge-shaped parcel between the two Project sites.

Proposed Utility Connections

All utility systems proposed for the Project would connect to existing water and sewer utility lines located under D Street. Within the Project sites, the main lines would be placed under the interior street, and lateral lines would be extended to each individual home. Electrical, cable television and other telecommunication lines would be underground within the Project sites, but connect to existing overhead lines along D Street.

The Project will also include installation of a new stormdrain system that is intended to provide treatment of stormwater for water quality, as well as collection, retention and conveyance of stormwater flow to adjacent storm drainage system lines. Generally, this system will include bio-filter detention systems within each new lot and several detention basins to provide water quality treatment.

Within the easterly Tract (Tract 8297) these water quality treatment facilities will be linked by sub-drains that collect runoff to an underground storm drain system under the new Project street. Collected stormwater from the southerly portion of this Tract will be routed to an existing 15-inch storm drain line that serves the adjacent Machado Court neighborhood, and that drains to Deer Canyon Creek in the Five Canyons Open Space area. Collected stormwater from the northerly portion of this Tract will be routed to a new 12-inch storm drain line below D Street that will connect to a line with a drainage outlet to Deer Canyon Creek that flows through the Five Canyons Open Space area.

Within the westerly Tract (Tract 8296) the water quality treatment facilities will also be linked by sub-drains that collect runoff to an underground storm drain system to be constructed under the on-site Project street. Collected stormwater from this Tract will be routed to an existing 12-inch storm drain line that serves the adjacent subdivision to the west, and that discharges to Sulphur Creek below Fairview Avenue.

Proposed Grading Plan

Both of the Project sites would be graded to prepare the sloping terrain of the sites for development of homes. All of the new home sites on Tract 8297 are proposed to be graded to create level building sites. On Tract 8296, the upper (or easterly) home sites would also be graded for level building pads, whereas home sites on the lower (or westerly) portion of the site would be graded to accommodate split pad foundations. The general grading concept is described below by tract. Off haul of grading materials is not proposed for the Project since all soil will be used on site.

Grading of upper Tract 8297 will include over-excavation of existing soft fill soil deposits from the center “saddle” between the two on-site ridges (at Lots 4 through 6). The excavation is anticipated to be approximately 12-feet deep to expose a uniform surface of firm, non-yielding bedrock materials. A sub-drain pipe will be placed at the heel of the excavation, with sub-drain outlets provided at the low points. The over-excavated soils will be placed back into the excavated area as benched, engineered fill. Once this area is stabilized, the high points of this Tract on the north and south will be cut, with the depth of cuts to approximately 16 feet on the north and approximately 10 feet on the south. This cut material will be placed as fill over the previously excavated and filled “saddle” in the center of this Tract, with fills of up to 10 feet on the eastern boundary, and fills of 4 to 6 feet along the westerly boundary (see **Figure 3-7**). New cut and fill grades will be designed to meet existing grade at the eastern property boundary using 2:1 slopes of 10 feet in height at the rear of the new lots, and will meet existing grade on the western boundary at an existing 5-foot retaining wall at the Hilltop Care facility site.

Grading of Tract 8296 is designed to cut the upper slope of this Tract along its upper boundary (adjacent to the Hilltop Care site) at cut depths of 10 to 14 feet, and placing this cut material, as well as excess fill material from Tract 8297, as fill on the lower westerly portion of the site (see **Figure 3-8**). Fill depths range from up to 20 feet in the center of the site, to 6 to 8 feet along the westerly (or lower) boundary. These new cut and fill grades will be designed to meet existing grade at the westerly property boundaries using 2:1 slopes of 10 to 20 feet in height at the rear of the new lots (sloping down from the Hilltop Care site), and meeting a new proposed 5-foot retaining wall along the lower, westerly property line.

Construction Schedule

Construction is expected to begin in the spring of 2017 and take approximately 24 months. Initial tasks include site clearance and site grading. Once the grading is complete, the retaining walls would be installed and the utility infrastructure would be put into place. The next major task, anticipated to take place in spring of 2018, and would be the construction and completion of the model homes. Construction on the remaining houses would continue as lots are sold. Completion of the Project would be anticipated by April 2019. Construction access to the Project site will be from D Street.

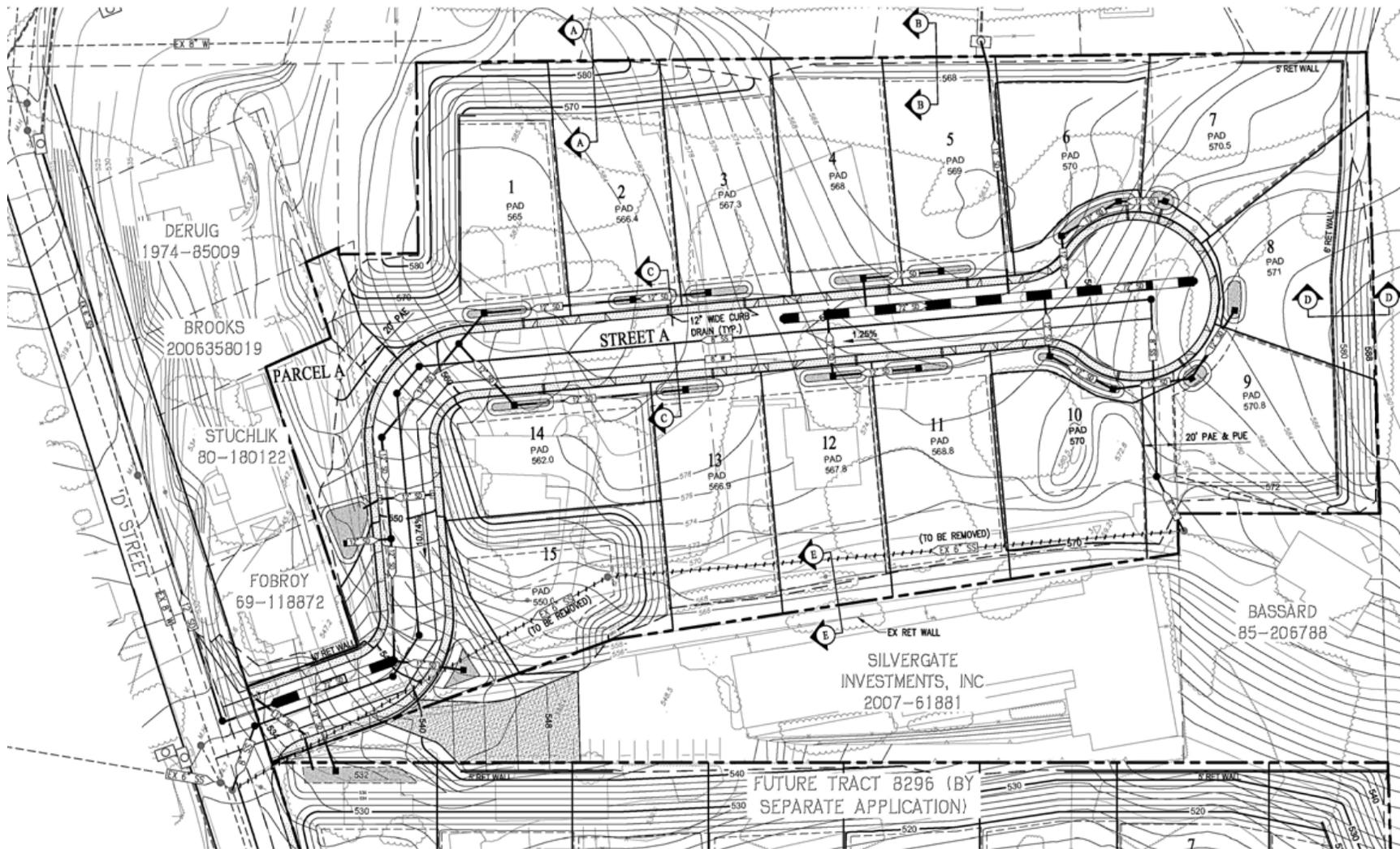


Figure 3-7
Grading and Improvement Plan, Tract 8297



Source: Carlson, Barbie and Gibson, proposed Vesting Tentative Map,
 September 2015

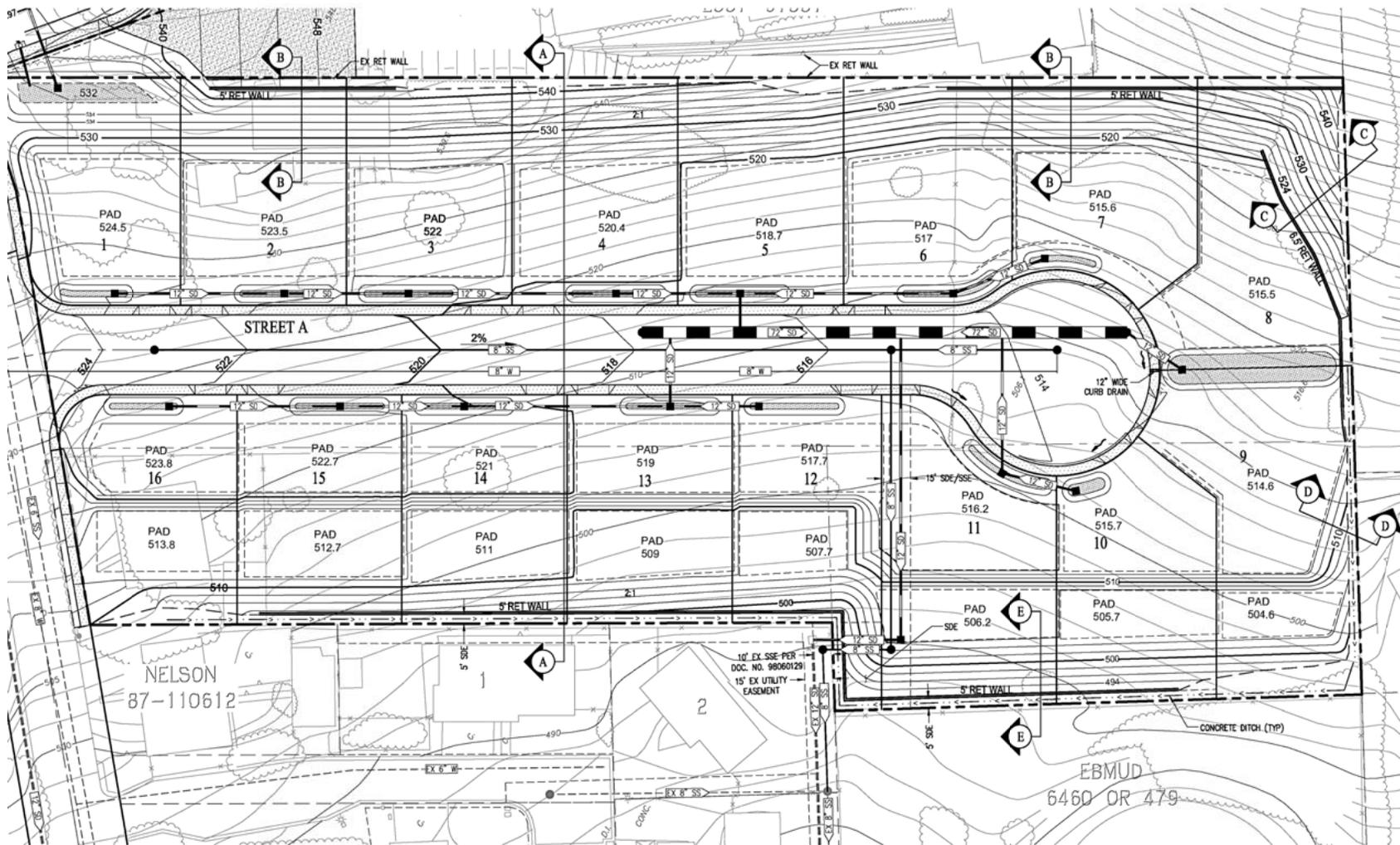


Figure 3-8
Grading and Improvement Plan, Tract 8296



Source: Carlson, Barbie and Gibson, proposed Vesting Tentative Map,
 September 2015

Requested Actions and Required Approvals

The following approvals would be required from the County to implement the Project:

- Certification of the Environmental Impact Report
- Tentative Map approval (pursuant to the County’s Subdivision Ordinance)
- Design Review approval (pursuant to the County’s Residential Design Standards and Guidelines)

In addition to the above requests, before development of the Project could take place, the Project would be required to obtain subsequent County permits including a Grading Permit, a Building Permit and Encroachment Permit for work done in the D Street right-of-way. Therefore, the “Project” as defined in this Draft EIR, is the approval of the discretionary actions itemized above, as well as subsequent associated site development, including demolition, clearing, grading, infrastructure improvements, paving, building, landscaping and all other necessary actions to develop, sell and occupy the proposed homes.

Other Agency Approvals

Discretionary approval from other agencies is not anticipated to be required for Project approvals. The Regional Water Quality Control Board is considered a trustee agency related to stormwater pollution prevention plans.

Aesthetics

New development can substantially change the visual qualities and characteristics of an urban area. It may also have lasting effects on the evolution of the area by stimulating growth and increasing its attractiveness for additional residential development or other land uses. New development can change the character of an area by disrupting the visual and aesthetic features that establish the identity and value of an area for its existing residents. Loss of such identity and value may discourage new investment and negatively affect continued residency or business activity or other activities that attract visitors to the area.

The visual value of any given feature or geographic area may be subject to personal sensibilities and variations in individual reaction to the features of the area, with visual impressions varying from one person to another. Although clearly objective standards are difficult to establish, an extensive body of literature is devoted to the subject of urban design and visual aesthetics, and the County has adopted specific guidelines and standards for the Project area in the *Fairview Area Specific Plan* and in its *Scenic Route Element* (adopted respectively by the Alameda County Board of Supervisors, on September 4, 1997 and in May, 1966) that apply to the Project. In addition, the obstruction of important views available from public locations, the introduction of large or uncharacteristic uses or structures, or alteration of existing distinctive features are generally considered to represent potential conflicts with common aesthetic standards. The CEQA Guidelines require analyses to determine if a project would adversely affect scenic vistas, damage existing identifiable resources in a state scenic highway corridor, or substantially degrade the visual character or quality of a site and its surroundings.

To provide substantial evidence and a complete examination of the Project's potential effects on aesthetic values, photo-simulations depicting how the Project would appear in the future from various public vantage points are included in this chapter.

Environmental Setting

The Fairview area of Alameda County consists of gently rising hillsides above downtown Hayward, with the neighborhoods characterized primarily by a mix of single-family residential development and large rural residential or undeveloped parcels served by several arterial roadways. Historically, Hayward and the hills to the north and east, including the Fairview area, were used for various forms of agriculture, with the hilly area primarily being used for cattle and horse grazing and for chicken farms. Over the past 20 to 30 years, more and more of the large formerly agricultural parcels have been developed with suburban-style residential subdivisions. Despite the proliferation of nearby residential subdivisions, the surrounding area still contains rural residential and agricultural or undeveloped properties of between one and ten acres, such as the 9.78-acre Project site, which is one of the larger undeveloped sites in the immediate vicinity. The residential developments in these hilly areas afford residents views downhill toward the Hayward and Castro Valley areas, San Francisco Bay, the San Francisco peninsula and the city skyline of San Francisco and up to Mount Tamalpais in Marin County. Conversely, views toward undeveloped hillsides are also considered aesthetically valuable where they are available. The hilly

topography, mature trees, natural vegetation and landscapes represent the primary visual resources and values in the vicinity of the Project.

Visual Character of the Site and Vicinity

The Project sites lie on a long ridge formation that extends nearly four miles along the west side of the Five Canyons Open Space area and at the eastern edge of the older areas of Fairview. The ridge rises from the south near Don Pedro Reservoir and I-580 and continues south along Fairview Avenue to near the Stonebrae development. D Street extends through a small saddle in the ridge, providing access to development that is on easterly (or Five Canyons) side of the ridge such as the adjacent Machado and Thurston Court subdivisions. The crest of the hill on D Street between Fairview Avenue and its eastern terminus is centered on this ridge saddle, and the street serving Tract 8297 would connect to D Street at this crest. The ridge is only moderately prominent as the eastern horizon in the immediate Project area, but is much more noticeable in the Fairview area as it continues uphill and south through the Jelincic subdivision and beyond. The homes on Carlson Court north of the Project sites are directly on the ridge, and along with the homes on the uppermost ridge in the Jelincic subdivision, are visible from several points around Fairview as well as along D Street up to half a mile to the west.

The ridge traverses Tract 8297 from the hilltop (the site of proposed Lot 1) through the center of the Tract along the approximate line of the proposed street. The hilltop lies approximately 50 feet above the D Street hill crest, and along the eastern boundary of Tract 8297 descends roughly 20 feet to a saddle roughly halfway between the northeast and southeast corners. The southern boundary of Tract 8297 also ascends to a top elevation that matches the hilltop, but the ridge continues upward offsite to the south. The hilltop has been used as a horse pasture and has some horse stalls in a dilapidated building. Both sites consist of largely open grassland, with four homes, a few small outbuildings, and trees and shrubs that range widely in size from small to large. The largest trees are on the north and south peripheries, near D Street and the southern boundary, such as mature Monterey pines, cottonwood, oaks, eucalyptus and palms. Existing structures on the Project sites are not highly visible except from immediately adjacent locations along D Street; most of the upper site is out of view being both behind homes and properties along D Street and beyond the hilltop. In contrast, the open land of the lower site is easily viewed from D Street through to its southern boundary. The sites are almost completely out of view from any portion of Fairview Avenue. As viewed from D Street directly bordering the sites or the Cemetery, they may be characterized as rural residential and horse grazing or undeveloped land. Some of the larger trees on the sites are prominent in some views, especially from within the Lone Tree Cemetery. However, many of the trees visible from the Cemetery or other locations that appear to be on the sites are in fact on adjacent parcels.

Regulatory Setting

State

Caltrans Scenic Highway Program

California's Scenic Highway Program is administered by the California Department of Transportation (Caltrans). The Scenic Highway Program was created by the Legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. A highway may be designated scenic depending upon how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view. The State Scenic Highway System

includes a list of highways that are either eligible for designation as scenic highways or have been officially designated.

The closest state highway to the Project site is Interstate 580 (I-580), approximately one mile to the north. I-580, an east-west freeway through Castro Valley nearest the site, is designated as an “Eligible State Scenic Highway” but it has not been officially designated as such.¹ For this analysis, an “eligible” scenic highway is treated the same as a designated scenic highway.

Local

Scenic Route Element

The Alameda County General Plan includes a *Scenic Route Element* adopted in 1966 and which is still in effect. Its intended purpose is to “serve as a guide for establishment of programs and legislation dealing with the development of a system of scenic routes and the preservation and enhancement of scenic qualities and of natural scenic areas adjacent to and visible from scenic routes.”² The *Scenic Route Element* establishes three types of scenic routes, including freeways and expressways, thoroughfares and rural-recreation routes, and further divides their qualities into scenic “elements” or components: the right-of-way; the adjacent scenic corridor; and the areas beyond the corridor. These refer respectively to the foreground in public ownership, the middle ground of adjacent properties in highly urban areas or up to 1,000 feet distant in rural areas with high scenic quality, and the distant view or remaining portions of the County. The definition of the scenic corridor (or middle-ground) includes those areas “that are of sufficient scenic quality to be acquired by state or local jurisdictions, or areas to which development controls should be applied for purposes of preserving and enhancing relatively nearby views or maintaining unobstructed distant views along the scenic route...”³

The *Element* also suggests such corridors “should also include slope and utility easements, and in selected areas, public roadside rests, cycling, riding and hiking trails.” Lastly, within scenic corridors, “Development controls should be applied to preserve and enhance scenic qualities, restrict unsightly use of land, control height of structures, and provide site design and architectural guidance along the entire scenic corridor.”⁴ Within developed areas of the County, the areas beyond the corridor are to be preserved primarily through the *Element’s* policies to preserve outstanding views, stands of trees, establish new landscaping and control location and types of utility towers and outdoor advertising signs.⁵

The *Scenic Route Element* includes a map of the roadway system, consistent with the major route types delineated in the Circulation Element of the County General Plan as it existed in 1966, with the three roadway classifications (freeways and expressways, major thoroughfares and major rural roads). The map has been interpreted to designate these major roads and highways as the scenic route system at large. Among the major rural roads in the scenic route system is Fairview Avenue (which would have been substantially more rural in character in 1966). However, as discussed further in the analysis section, the Project site is not substantially visible from Fairview Avenue.

¹ California Department of Transportation, State Scenic Highway Mapping System, http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm

² Scenic Route Element of the General Plan, Alameda County, May 1966, p. 1.

³ Ibid., p. 4.

⁴ Ibid., p. 4.

⁵ Ibid., p. 4

Fairview Area Specific Plan

The *Fairview Area Specific Plan*, adopted by the County Board of Supervisors in 1997, includes policies addressing a broad range of topic areas, including land use, residential density, open space, traffic, and specific environmental considerations (e.g., geology, drainage, public services, etc.). Policies that pertain to natural features generally call for retention of natural topography and other natural characteristics of sites within the Fairview Area, and define those existing visual and natural characteristics that should seek to be preserved as part of new development. Selected principles and guidelines relevant to visual qualities and aesthetic resources include the following:⁶

Principles

D.2.a: All development proposals shall strive for maximum retention of the natural topographic features, landscape features, and qualities of the site. Development should seek to enhance these natural features and qualities.

D.2.b: All development proposals shall take into account and be judged by the application of current principles of land use planning, soil mechanics, engineering geology, hydrology, civil engineering, environmental and civic design, architecture, and landscape architecture in hill areas. Such current principles include but are not limited to:

- 1) Planning of development to fit the topography, soils, geology, hydrology, and other conditions existing on the proposed site;*
- 2) Orienting development to the site so that grading and other site preparation is kept to a minimum;*
- 3) Shaping of essential grading to complement and blend with natural landforms and improve relationships to other developed areas;*
- 6) Landscaping of areas around structures, and blending them with the natural landscape;*
- 7) Placing, grouping and shaping of man-made structures to complement one another, the natural landscape, and provide visual interest;*
- 8) Locating building pads so that the views of prominent ridgelines are not interrupted or interfered with by buildings;*
- 9) Using a variety of housing types, housing clusters and special house construction techniques in residential areas to permit steep slopes, wooded areas, and areas of special scenic beauty to be preserved;*
- 10) Giving special consideration to the design of public and private streets to minimize grading and other site alteration;*
- 11) Giving special consideration to the design of such visual elements as street lighting, fences, sidewalks, pathways, and street furniture to enable maximum identity and uniqueness of character to be built into each development;*

D.3. Guidelines

- a. Natural and man-made slopes of 30% gradient or greater should not be developed or altered. Exceptions may be granted for road construction if it is the only feasible access*

⁶ *Fairview Area Specific Plan*, Adopted by the Alameda County Board of Supervisors, Sept. 4, 1997, pp. 10-12.

to a site, modifications of minor terrain features, and custom designed homes and lots that otherwise conform to the intent of these policies.

- b. Only individual lot grading⁷ should occur in areas exceeding 20% slope.*
- c. Buildings should be designed with stepped, pier and grade beam, or a custom foundation to reduce grading, to avoid contiguous stair-stepped padded lots, and to retain a more natural appearance. On sloping lots, tall downhill facades should be avoided by stepping structures with the natural terrain.*
- d. The vertical height of a graded slope or combination retaining wall and slope between single-family dwellings should not exceed 10 feet in the rear yards, or 5 feet within a side yard between lots.*
- e. The maximum horizontal distance of graded slope should not exceed 20 feet, at 2:1 (horizontal to vertical) gradient.*
- f. Development near or on a prominent ridgeline should be subordinate to the surrounding environment. Residences should blend into the natural topography creating minimal visual disturbance to the existing ridgeline and views. Rows of residences with similar setbacks and elevations shall be discouraged.*

An assessment of the Project's consistency with these aesthetic-based design principles and guidelines of the Fairview Area Specific Plan is provided in Chapter 9: Land Use, of this Draft EIR.

Impacts and Mitigation Measures

The following section describes potentially significant Project impacts to aesthetic resources. Mitigation measures are recommended where necessary to avoid, minimize or mitigate such impacts, where feasible.

Significance Criteria

The Project would have a significant environmental impact if it were to:

1. Have a substantial adverse effect on a scenic vista.
2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
3. Substantially degrade the existing visual character or quality of the site and its surroundings.
4. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area.

Scenic Vistas

Aesth-1: Scenic Vistas. The Project would not result in substantially altered views from identified scenic routes or public areas. Due to intervening topography, structures, and landscaping, the Project site is not substantially visible from Fairview Avenue, which represents the only identified scenic route in the area. There are no scenic vistas from parks or other public

⁷ The *Specific Plan* provides the following definition: "Individual lot grading is grading which can be wholly contained on a lot and which is necessary to fit the house, its access, and useful yard areas."

viewing locations from which the Project site is visible. Therefore, the impact of the Project on scenic vistas would not be significant. **(LTS)**

The Project would have a significant impact on a scenic vista if it were to result in obstruction of a designated public vista (such as one recognized in the General Plan or the *Fairview Area Specific Plan*), or the placement of an arguably offensive or negative-appearing building or land use within such a vista (e.g., blocking a scenic view of a landscape or feature that is recognized as valued in such a plan). Although the *Fairview Area Specific Plan* includes many policies regarding preservation and development of visual characteristics and qualities, it does not designate any specific scenic vistas but aims more towards preservation of existing natural qualities including topography, woodlands and riparian habitat.

Fairview Avenue is identified as a “major scenic rural-recreation route” in the County General Plan Scenic Route Element. However, due to the location of Fairview Avenue in relation to the Project site and the intervening topography, structures and landscaping, the Project site is not generally visible from Fairview Avenue except in brief, partial glimpses. Therefore, the Scenic Route Element’s standards related to Fairview Avenue would not be applicable to the Project. D Street is not designated as a scenic route.

Photo-Simulations

Photo-simulations of the Project have been prepared for this EIR based on selected viewpoints around the site, as shown in **Figure 4.1**. Vantage points from the west, south and east of the Project site were selected based on the site’s visibility. Existing and simulated depictions of future homes from the selected viewpoints are shown in **Figures 4.2** through **4.5** below.

- Viewpoint 1 shows the Project site from Lone Tree Cemetery, a private property but also a location for public gatherings.
- Viewpoint 2 shows the view into the western parcel from Carlson Court. The Carlson Court residential subdivision is very similar to the proposed Project in terms of house sizes and placement.
- Viewpoint 3 is a close-up view of the Project site. This view is looking directly at the site and at the Hilltop Convalescent Home, and shows how the existing grade interacts with this existing structure.
- Viewpoint 4 is a close-up view of the Project site and shows the existing structures and grades, looking up the hill from west to east along D Street.

As shown in the photo simulations, the site will look different after Project buildout. It will transition from its existing rural residential character to a suburban residential development. The site grade will look terraced rather than sloping, and more of the site will contain structures and paving. However, the proposed change is generally similar to the character of other existing residential development in the surrounding area.



Figure 4.1
Visual Simulation Viewpoint Locations



Source: Environmental Vision, 2016



Existing view from Lone Tree Cemetery looking northeast



Visual simulation of proposed Project

Figure 4.2
Visual Simulation - Viewpoint 1



Source: Environmental Vision, 2016



Existing view from Carlson Court looking southeast



Visual simulation of proposed Project

Figure 4.3
Visual Simulation - Viewpoint 2



Source: Environmental Vision, 2016



Existing view from D Street near Carlson Court looking southeast



Visual simulation of proposed Project

Figure 4.4
Visual Simulation - Viewpoint 3



Source: Environmental Vision, 2016



Existing view from D Street near northwest corner of Project site



Visual simulation of proposed Project

Figure 4.5
Visual Simulation - Viewpoint 4



Source: Environmental Vision, 2016

- Viewpoint 1 (showing the Project site from Lone Tree Cemetery) is approximately a quarter mile from, and looking upward toward the Project site. From this viewpoint it can be seen that existing grassy slopes visible from this location would be graded and developed with new residential homes. The Project's new homes would generally be consistent in character with surrounding neighborhoods, and most similar to the homes on Carlton Court. The visual simulation from this viewpoint shows that, while homes will be visible on the ridgeline, existing structures are already visible along this ridgeline, including some of those structures that the Project will replace.
- Viewpoint 2 (from Carlson Court) shows views into the western parcel, demonstrating the change in character of the site from rural residential to suburban residential. No scenic vistas are visible from this viewpoint.
- Viewpoints 3 and 4 are close-up views from D Street, and demonstrate how the existing structures and grades will be replaced with proposed structures and grading. These simulations demonstrate that no scenic vistas are available from these viewpoints, and that the Project's new development would not obstruct and scenic vistas from these locations.

The Project would be considered to have a significant impact on a scenic vista if it were to result in the placement of a negative-appearing building or land use within a designated public vista, or would substantially block a vista from being seen from a public viewing location. The Lone Tree Cemetery can be considered a public gathering area or a public viewing location, and views across the undeveloped grassy hillsides on the Project site could constitute a public vista. As shown in the visual simulation from Viewpoint 1, the Project's new homes are not objectively negative-appearing, and would not substantially block the vista across the Project site as seen from the Cemetery. The Project would not result in a substantially altered view from identified scenic routes or public areas, and the impact would be less than significant.

Mitigation Measures

None needed.

Scenic Highways

Aesth-2: Scenic Highways. The Project site is not distinctly visible from I-580, which is an eligible state scenic highway. The Project would not substantially obscure, detract from or negatively affect the quality of the views from I-580. **(LTS)**

The closest state highway to the Project site is I-580, located roughly one mile north of the site on a generally east-west alignment through Castro Valley. When viewed from eastbound lanes on I-580, intervening land forms, trees and urban development, as well as substantial distance make it nearly impossible to discern the Project site. When viewed from I-580, no trees, rock outcroppings or buildings on the site are visible.

Mitigation Measures

None needed.

Visual Character

Aesth-3: Visual Character. The Project's visual character would be generally consistent with, or similar to other existing development in the area. The Project would not be demonstrably negative in its visual character, or otherwise significantly degrade the existing visual

character or quality of the site or its surroundings. The Project's impact on visual character would be less than significant. **(LTS)**

This assessment of visual character is intended to assess whether the Project is demonstrably negative in character. The proposed single-family subdivision would not be objectively negative in appearance, as might a wastewater treatment plant, a landfill or an industrial manufacturing plant. However, the criterion for analysis is not whether the Project is negative in appearance, but whether the physical changes represented by the Project would constitute a substantial degradation of the existing visual character or quality of the site and its surroundings.

- The Project is a proposed single-family lot residential subdivision that would be located on two sites that have other existing single-family residential subdivisions to the immediate east, north and west.
- The residential densities proposed under the Project comply with existing zoning for the property, and the proposed lot sizes and home sizes are generally consistent with lot sizes and home styles in the surrounding neighborhoods.
- The Project would result in development of a site that is currently in rural residential use, with low-density homes and outbuildings, and disturbed grassy hillsides. Prior to development of the surrounding residential neighborhoods in the vicinity, these neighborhoods were also more rural in character, with open grassy hillsides.
- The general character of the Project would consist of re-graded sites to accommodate new roads with a moderate slope, with new homes placed on generally flat pads (with some split-pad foundations) located along each side of the new roads. Ornamental landscaping and lawns would occupy the streetscape in front of the new homes. This general character of the Project is similar to and consistent with the general character of the residential neighborhoods in the Project site vicinity (see **Figures 4-6 and 4-7** showing images of the surrounding neighborhoods).

The Project would increase the number of residential structures on site and result in a change to the site's existing visual character, but that resulting character would not be substantially different than other surrounding properties and would not significantly degrade the visual character or quality of the site or its surroundings.



Carlson Court Neighborhood



D Street Neighborhood, near Fairview

Figure 4-6
Surrounding Neighborhood Character





Atwal Court Neighborhood, at Maud



Vista Court Neighborhood at Fairview

Figure 4-7
Surrounding Neighborhood Character



Light and Glare

Aesth- 4: Light and Glare. The Project would add additional sources of light adjacent to other similar residential uses. Lighting quality, intensity and design is required to be reviewed as a part of the County's Design Review process to ensure that potential light and glare impacts on neighbors is minimized. With this required detailed review, impacts related to light and glare would not be significant. **(LTS)**

Sources of light and glare in the Project vicinity include interior and exterior building lights and street lighting. Light and glare associated with vehicular traffic in the area also creates sources of glare. These sources of light and glare, and the extent of light that they would produce are typical of those in a developed urban/suburban setting. The County's development review process requires review of lighting as part of site development approvals (County of Alameda Municipal Code section 17.54.250.K).

Development of the Project site has the potential to create additional light and glare, but the specifics of the lighting plan are not yet known. With adherence to applicable review requirements, the Project would have a less than significant impact on light and glare

Mitigation Measures

None needed. The Project applicant has indicated the intent to provide screening in the form of landscaping and/or fencing that would further reduce light and glare from Project-related vehicle headlights on existing homes and neighbors.

Cumulative Aesthetic Impacts

Aesth-6: Cumulative Visual Character. The Project, in combination with other past, present and reasonably foreseeable future development is not anticipated to result in cumulatively significant aesthetic impacts. **(Less than Cumulatively Considerable)**

As described in detail in Chapter 9: Land Use, the County Planning staff has defined a most likely cumulative development potential scenario for those properties in relative proximity to the Project sites. This cumulative development scenario assumes future construction of a total of approximately 65 new residential units on those other properties near the Project sites. It is assumed that this much new development will occur over the next 18 years (between now and 2035), reflecting an average growth rate of about 1 percent per year.

This projected future cumulative development is assumed to reflect similar residential densities, house sizes and other characteristics as the Project. This cumulative development would permanently alter the existing visual character of the area due to grading activities, vegetation removal and the introduction of new residential units and associated infrastructure. However, this cumulative development is not expected to significantly degrade the existing visual character or quality of the surroundings. Rather, all new cumulative development would be subject to the County's land use entitlement and environmental review process, including consideration of the principles, policies and guidelines of the Fairview Area Specific Plan. The County's Design Review process is likely influence new development proposals pursuant to this cumulative scenario towards general conformity in overall appearance from one Project site to another. For these reasons, cumulative development is not expected to result in cumulatively adverse aesthetics effects to which the Project' contribution would be significant.

Air Quality and Greenhouse Gas Emissions

This EIR section describes potential local and regional air quality and greenhouse gas (GHG) emissions impacts resulting from the Project. This section has been prepared using methodologies and assumptions recommended by the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines. This section describes existing air quality and construction-period and operational impacts.

Environmental Setting

Climate Conditions

The Project site is located in the hills above San Francisco Bay. The area along the Bay is primarily flat, and climate is usually controlled by marine air coming across the Bay from the Pacific Ocean. During the day, especially on summer afternoons, the prevailing wind flows from the north or northwest. In winter, wind speeds are lower, and wind may flow in from the northerly or easterly directions when weather is fair, but storms often bring southerly winds. Wind speeds in the area are generally moderate, with an annual average speed of about 5 miles per hour, although summer afternoon wind speed can average 12 miles per hour or more (at Oakland International Airport). Highest wind speeds occur during afternoons in late spring and summer. Average maximum summer temperatures are in the 70s with minimums of about 55. Maximum winter temperatures averages are in the low 60s, while the minimum temperatures are in the low 40s. Average rainfall at Oakland is 18 inches, with most of that falling in winter months.

Existing Air Quality Conditions

Criteria Pollutants

Ambient air quality standards have been established by federal and state environmental agencies for specific air pollutants that are most pervasive in urban environments. These pollutants are referred to as criteria air pollutants because the standards established for them were developed to meet specific health and welfare criteria set forth in the enabling legislation.

Ozone

Ground-level ozone is the principal component of smog. Ozone is not directly emitted into the atmosphere, but is formed by the photochemical reaction of ozone precursors. These compounds are generally of two classes: reactive organic gases (ROG) and nitrogen oxides (NO_x). Ozone levels are highest during late spring through late summer when precursor emissions are high and meteorological conditions are favorable for the necessary complex photochemical reactions to occur. Motor vehicles are the predominant source of reactive ozone precursor emissions in the San Francisco Bay region. High ozone levels have triggered the declaration of summertime "Spare the Air" alerts by the BAAQMD, to encourage the public to reduce unnecessary driving, increase transit and non-polluting means of travel, or other measures, when health hazards may rise.

Carbon Monoxide (CO)

CO is a nonreactive pollutant that is highly toxic, invisible and odorless. It is formed by the incomplete combustion of fuels. The largest source of CO emissions is motor vehicles. Wood stoves and fireplaces also contribute to high levels of CO. Unlike ozone, CO is directly emitted to the atmosphere. The highest CO concentrations occur during the nighttime and early mornings in late fall and winter. Ambient CO levels are strongly influenced by meteorological factors such as wind speed and atmospheric stability. Wintertime Spare the Air alerts may be issued by the BAAQMD to require the public to cease all wood-burning in efforts to reduce the health risks of CO (and authorizes fines to be imposed for violators).

Nitrogen Dioxide (NO₂)

NO₂ is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the primary sources of NO₂. In addition to being a regulated criteria pollutant alone, NO₂ contributes to ozone smog formation.

Sulfur Dioxide (SO₂)

SO₂ is a colorless gas with a strong odor and potential to damage materials. SO₂ is produced by the combustion of sulfur-containing fuels such as oil and coal. Refineries, chemical plants and diesel exhaust are the primary sources of SO₂ emissions in the region. The proposed Project would not be a substantial source of SO₂ so this pollutant is not mentioned again in this chapter.

Inhalable Particulates

Inhalable particulate is composed of two classes of compounds: PM₁₀ and PM_{2.5}. PM₁₀ refers to particulate matter 10 microns or less in diameter; likewise, PM_{2.5} refers to particulate matter 2.5 microns or less in diameter. Sources of inhalable particulates include smoke, dust, aerosols and metallic oxides. Some inhalable particulates are considered toxic. Although particulates are found naturally in the air (such as sea salt), most particulate matter found in the region are emitted either directly or indirectly by motor vehicles, industry, construction, agricultural activities and wind erosion of disturbed areas.

Lead

Lead occurs in the atmosphere as particulate matter. It is primarily emitted by gasoline-powered motor vehicles burning fuel containing tetra ethyl lead, which has been virtually eliminated. As a result of lead being eliminated from fuels, levels in the Bay Area have dropped dramatically. Lead concentrations in the Bay Area are well below the ambient standards and are not forecasted to increase. The proposed Project would not be a substantial source of lead so this pollutant is not mentioned again in this chapter.

Air Quality Standards

Table 5.1 shows a summary of federal and state ambient air standards. The table also describes major emission sources for each compound and its potential negative effects.

Table 5.1: Ambient Air Quality Standards for Criteria PollutantsParts per Million (ppm) or Micrograms per Cubic Meter ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	–	Irritation and possibly permanent lung damage.	Motor vehicles, including refining and gasoline delivery.
	8 hours	0.07 ppm	0.075 ppm		
CO	1 hour	20 ppm	35 ppm	Deprives body of oxygen in the blood. Causes headaches and worsens respiratory problems.	Primarily gasoline-powered internal combustion engines.
	8 hours	9.0 ppm	9.0 ppm		
NO ₂	Annual Average	0.03 ppm	0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum-refining, power plants, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.10 ppm		
SO ₂	Annual Average	---	0.03 ppm	Irritates and may permanently injure respiratory tract and lungs. Can damage plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm		
	24 hours	0.04 ppm	0.14 ppm		
PM ₁₀	Annual Mean	20 $\mu\text{g}/\text{m}^3$	–	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 $\mu\text{g}/\text{m}^3$	150 $\mu\text{g}/\text{m}^3$		
PM _{2.5}	Annual Mean	12 $\mu\text{g}/\text{m}^3$	12 $\mu\text{g}/\text{m}^3$	Same as PM ₁₀ .	Same as PM ₁₀ .
	24 hours	–	35 $\mu\text{g}/\text{m}^3$		
Lead	Monthly	1.5 $\mu\text{g}/\text{m}^3$	–	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurologic dysfunction (in severe cases).	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	–	1.5 $\mu\text{g}/\text{m}^3$		

Source: BAAQMD, Air Quality Standards and Attainment Status, available at <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status>

Notes: ppm = parts per million, $\mu\text{g}/\text{m}^3$ = micrograms per cubic meter. **Bold** entries indicate nonattainment status. *Italicized* entries indicate unclassified attainment status. Normal text indicates attainment status.

Air quality in the region is controlled by the rate of pollutant emissions and meteorological conditions. Meteorological conditions such as wind speed, atmospheric stability, and mixing height may all affect the atmosphere's ability to mix and disperse pollutants. Long-term variations in air quality typically result from changes in air pollutant emissions, while frequent, short-term variations result from changes in atmospheric conditions. BAAQMD monitors air quality conditions at more than 30 locations throughout the Bay Area. The closest full monitoring station to the Project is located in Oakland. A closer station, in Hayward, monitors ozone only. **Table 5.2** summarizes exceedances of the state and federal standards at the Oakland and Hayward monitoring sites and Bay Area-wide.

Table 5.2: Summary of Criteria Air Pollution Monitoring Data

Pollutant	Standard	Monitoring Site	Days Standard Exceeded		
			2013	2014	2015
Ozone	State 1-Hour	Oakland	0	0	0
		Hayward	0	1	2
		SF Bay Area Air	3	3	7
Ozone	Federal 8-Hour	Oakland	0	0	2
		Hayward	0	0	2
		SF Bay Area Air	3	5	12
Ozone	State 8-Hour	Oakland	0	0	2
		Hayward	1	4	2
		SF Bay Area Air	3	10	12
PM ₁₀	Federal 24-Hour	Oakland	–	–	–
		SF Bay Area Air	0	0	0
PM ₁₀	State 24-Hour	Oakland	–	–	–
		SF Bay Area Air	6	2	2
PM _{2.5}	Federal 24-Hour	Oakland	2	1	1
		SF Bay Area Air	13	3	3
Carbon Monoxide	State/Federal 8-Hour	Oakland	0	0	0
		SF Bay Area Air	0	0	0
NO ₂	State 1-Hour	Oakland	0	0	0
		SF Bay Area Air	0	0	0

Notes:

PM₁₀ monitoring was discontinued at Oakland in 2008.

PM₁₀ and PM_{2.5} are measured every sixth day in Bay Area sites, so the number of days exceeding the standard is estimated.

The Hayward station monitors only ozone.

Source: BAAQMD Air Pollution Summaries (<http://www.baaqmd.gov/Divisions/Communications-and-Outreach/Air-Quality-in-the-Bay-Area/Air-Quality-Summaries.aspx>)

Table 5.2 shows that air quality violations occur in the San Francisco Bay Area as a result of exceedances of ozone and PM_{2.5} and PM₁₀ standards. In recent years, the State and federal ozone standards have been exceeded at least somewhere in the Bay Area on 3 to 12 days per year. The Bay Area has also exceeded the PM_{2.5} standard on 3 to 13 sampling days per year. Standards for CO and NO₂, or any other criteria air pollutant not listed here, were not exceeded at any San Francisco Bay Area monitoring station during this time period.

Monitoring station measurements indicate that air quality in the vicinity of the Project generally performs well against State standards for criteria air pollutants with few exceedances of pollutant standards between 2013 and 2015, the most recent year available.

Toxic Air Contaminants

Besides the criteria air pollutants, there is another group of substances found in ambient air referred to as Hazardous Air Pollutants under the federal Clean Air Act, and Toxic Air Contaminants (TACs) under the California Clean Air Act. These contaminants tend to be localized and are found in relatively low concentrations in ambient air. However, they can result in adverse chronic health effects if exposure to low concentrations occurs for long periods. They are regulated at the local, state, and federal level.

TACs are a broad class of compounds known to cause morbidity or mortality (cancer risk), and include, but are not limited to, the criteria air pollutants listed above. 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., benzene near a freeway). Because chronic exposure can result in adverse health effects, TACs are regulated at the federal, state, and regional levels.

Diesel exhaust is the predominant TAC in urban air, and is estimated to represent about two-thirds of the cancer risk from TACs (based on the statewide 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 chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by CARB, and are listed as carcinogens either under State Proposition 65 or under the Federal Hazardous Air Pollutants programs.

CARB reports that recent air pollution studies have shown an association that diesel exhaust and other cancer-causing toxic air contaminants emitted from vehicles are responsible for much of the overall cancer risk from TACs in California. Particulate matter emitted from diesel-fueled engines (diesel particulate matter [DPM]) was found to comprise much of that risk. In August, 1998, CARB formally identified DPM as a TAC. DPM is of particular concern, since it can be distributed over large regions, thus leading to widespread public exposure. The particles emitted by diesel engines are coated with chemicals, many of which have been identified by U.S. Environmental Protection Agency (EPA) as hazardous air pollutants and by CARB as TACs. Diesel engines emit particulate matter at a rate about 20 times greater than comparable gasoline engines. The vast majority of diesel exhaust particles (over 90 percent) consist of PM_{2.5}, which are the particles that can be inhaled deep into the lung. Like other particles of this size, a portion will eventually become trapped within the lung, possibly leading to adverse health effects. While the gaseous portion of diesel exhaust also contains TACs, CARB's 1998 action was specific to DPM, which accounts for much of the cancer-causing potential from diesel exhaust. California has adopted a comprehensive diesel risk reduction program to reduce DPM emissions 85 percent by 2020. The U.S. EPA and CARB adopted low sulfur diesel fuel standards in 2006 that reduce diesel particulate matter substantially.

In cooler weather, smoke from residential wood combustion can be a source of TACs. Localized high TAC concentrations can result when cold stagnant air traps smoke near the ground and, with no wind, the pollution can persist for many hours, especially in sheltered valleys during winter. Wood smoke also contains a significant amount of PM₁₀ and PM_{2.5}. Wood smoke is an irritant, and is implicated in worsening asthma and other chronic lung problems. BAAQMD Regulation 6, Rule 3, disallows wood-burning devices in new construction, except those meeting U.S. EPA emissions targets and approved by the Air Pollution Control Officer of the BAAQMD. Compliance with this rule can be assumed.

Sensitive Receptors

Some groups of people are more affected by air pollution than others. Children, the elderly, and people with respiratory disease or chronic health problems are typically more sensitive to air pollution. The land uses associated with possibly sensitive receptors include schools, hospitals, playgrounds, retirement homes, child-care centers, convalescent homes, medical clinics, and residences.

Odors

Objectionable odors may be associated with a variety of pollutants. Common sources of odors include wastewater treatment plants, landfills, composting facilities, refineries and chemical plants. Odors rarely have direct health impacts, but they can be very unpleasant and can lead to concern over possible health effects among the public. Each year the BAAQMD receives thousands of citizen complaints about objectionable odors.

Greenhouse Gases

Gases that trap heat in the Earth's atmosphere are called GHGs. These gases play a critical role in determining the Earth's surface temperature. Part of the solar radiation that would have been reflected back into space is absorbed by these gases, resulting in a warming of the atmosphere. Without natural GHGs, the Earth's surface would be about 61 degrees cooler.¹ This phenomenon is known as the greenhouse effect. However, scientists have proven that emissions from human activities such as electricity generation, vehicle emissions, and even farming and forestry practices, have elevated the concentration of GHGs in the atmosphere beyond naturally-occurring concentrations, enhancing the greenhouse effect and contributing to the larger process of global climate change. The six primary GHGs are:

- Carbon Dioxide (CO₂), emitted when solid waste, fossil fuels (oil, natural gas, and coal), and wood and wood products are burned;
- Methane (CH₄), produced through the anaerobic decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, incomplete fossil fuel combustion, and water and wastewater treatment;
- Nitrous oxide (N₂O), typically generated as a result of soil cultivation practices, particularly the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning;
- Hydrofluorocarbons, primarily used as refrigerants;
- Perfluorocarbons, originally introduced as alternatives to ozone depleting substances and typically emitted as by-products of industrial and manufacturing processes; and
- Sulfur hexafluoride (SF₆), primarily used in electrical transmission and distribution.

¹ California Climate Action Team, 2006.

Though there are other contributors to global warming, these six GHGs are identified explicitly by the EPA as threatening the public health and welfare of current and future generations.

Global Warming Potential

The Global Warming Potential (GWP) concept is used to compare the ability of each GHG to trap heat in the atmosphere relative to CO₂, which is the most abundant GHG. CO₂ has a GWP of 1, expressed as CO₂ equivalent (CO₂e). Other GHGs, such as CH₄ and N₂O, are commonly found in the atmosphere at much lower concentrations, but with higher warming potentials, having CO₂e ratings of 21 and 310, respectively. Trace gases such as chlorofluorocarbons and hydro-chlorofluorocarbons have much greater warming potential. Fortunately, these gases are found at much lower concentrations and many are being phased out as a result of global efforts to reduce destruction of stratospheric ozone. In the U.S. in 2010, CO₂ emissions account for about 84 percent of the GHG emissions, followed by CH₄ at about 9 percent and N₂O at just under 5 percent.²

Greenhouse Gas Emissions Inventories

Worldwide emissions of GHGs in 2004 were 49 billion tons of CO₂e per year. Global GHG emissions due to human activities have grown since pre-industrial times, with an increase of 70% between 1970 and 2004.³

In 2008, the U.S. emitted about 7 billion tons of CO₂e, a 14 percent increase from 1990. Emissions per capita have remained nearly level since 1990, as emissions have increased at about the same rate as the population.⁴

In 2009, California's net emissions were approximately 453 million metric tons of CO₂e, or about 6.5 percent of the U.S. emissions. This large number is due primarily to the sheer size of California compared to other states. By contrast, California has the fifth lowest state-wide per capita GHG emission rates in the country. 2009 total net emissions represent a 1.3 percent decrease from 2000 and a 6.1 increase from 1990 emissions levels.⁵

BAAQMD most recently updated the GHG emission inventory in 2010 using a base year of 2007.⁶ In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of the Bay Area's GHG emissions, accounting for 36.41% of the Bay Area's 95.8 million tons of GHG emissions in 2007. Industrial and commercial sources were the second largest contributors of GHG emissions with about 36.40% of total emissions. Domestic sources (e.g., home water heaters, furnaces) account for about 7% of the Bay Area's GHG emissions, and energy production accounted for 15.9% percent. Off-road equipment and agriculture make up the remainder with approximately 3% and 1.2% of the total Bay Area 2007 GHG emissions, respectively.

² U.S. EPA, April 15, 2012, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2010, Table 2-1: Recent Trends in U.S. Greenhouse Gas Emissions and Sinks.

³ Intergovernmental Panel on Climate Change, November 2007, Climate Change 2007: Synthesis Report, Figure 2.1.

⁴ U.S. EPA, 2010, Climate Change Indicators in the United States, p. 11.

⁵ California Energy Commission, Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2009, December 2011.

⁶ BAAQMD, February 2010, Source Inventory of Bay Area Greenhouse Gas Emissions, available at <http://www.baaqmd.gov/Divisions/Planning-and-Research/Emission-Inventory/Greenhouse-Gases.aspx>.

Potential Effects of Global Climate Change

Global Effects

Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG at or above current rates would induce more extreme climate changes during the twenty-first century than were observed during the twentieth century. A warming of about 0.2 degree Celsius (0.36 degree Fahrenheit) per decade is projected, and there are identifiable signs that global warming is taking place, including substantial ice loss in the Arctic. The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects, according to the International Panel on Climate Change.⁷

- Snow cover is projected to contract, with permafrost areas sustaining thawing.
- Sea ice is projected to shrink in both the Arctic and Antarctic.
- Hot extremes, heat waves, and heavy precipitation events are likely to increase in frequency.
- Future tropical cyclones (typhoons and hurricanes) will likely become more intense.
- Non-tropical storm tracks are projected to move poleward, with consequent changes in wind, precipitation, and temperature patterns. Increases in the amount of precipitation are very likely in high-latitudes, while decreases are likely in most subtropical regions.
- Warming is expected to be greatest over land and at most high northern latitudes, and least over the Southern Ocean and parts of the North Atlantic Ocean.

Potential secondary effects from global warming include global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

Effects on the State of California

According to CARB, some of the potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years.⁸ Several recent studies have attempted to explore the possible negative consequences that climate change, left unchecked, could have in California. These reports acknowledge that climate scientists' understanding of the complex global climate system, and the interplay of the various internal and external factors that affect climate change, remains too limited to yield scientifically valid conclusions on such a localized scale. Substantial work has been done at the international and national level to evaluate climatic impacts, but far less information is available on regional and local impacts. In addition, projecting regional impacts of climate change and variability relies on large-scale scenarios of changing climate parameters, using information that is typically at too general a scale to make accurate regional assessments.⁹

Below is a summary of some of the potential effects reported in an array of studies that could be experienced in California as a result of global warming and climate change:

⁷ International Panel on Climate Change Special Report on Emissions Scenarios, 2000, www.grida.no/climate/ipcc/emission/002.htm, accessed July 24, 2007

⁸ California Air Resources Board, December 2006, Public Workshop to Discuss Establishing the 1990 Emissions Level and the California 2020 Limit and Developing Regulations to Require Reporting of Greenhouse Gas Emissions.

⁹ Kiparsky, M. and P.H. Gleick, July 2003, Climate Change and California Water Resources: A Survey and Summary of the Literature.

- **Air Quality** – Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. For other pollutants, the effects of climate change and/or weather are less well studied, and even less well understood.¹⁰ If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat related deaths, illnesses, and asthma attacks throughout the State.¹¹
- **Water Supply** – Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. For example, models that predict drier conditions suggest decreased reservoir inflows and storage and decreased river flows, relative to current conditions. By comparison, models that predict wetter conditions project increased reservoir inflows and storage, and increased river flows.¹²
- **Hydrology** – As discussed above, climate change could potentially affect the amount of snowfall, rainfall and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes: expansion of seawater as the oceans warm, and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could also jeopardize California’s water supply. In particular, saltwater intrusion would threaten the quality and reliability of the state’s major fresh water supply that is pumped from the southern portion of the Sacramento/San Joaquin River Delta. Increased storm intensity and frequency could affect the ability of flood-control facilities (including levees) to handle storm events.
- **Agriculture** – California has a \$30 billion agricultural industry that produces half the country’s fruits and vegetables. The California Climate Change Center notes that higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase; crop-yield could be threatened by a less reliable water supply; and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year that certain crops, such as wine grapes, bloom or ripen, and thus affect their quality.¹³
- **Ecosystems and Wildlife** – Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. In 2004, the Pew Center on Global Climate Change released a report examining the possible impacts of climate

¹⁰ U.S. EPA, 2010, Climate Change Indicators in the United States.

¹¹ California Climate Change Center, July 2006, *Our Changing Climate: Assessing the Risks to California*, CEC- 500-2006-077.

¹² Brekke, L.D., et al, 2004, “Climate Change Impacts Uncertainty for Water Resources in the San Joaquin River Basin, California.” *Journal of the American Water Resources Association*. 40(2): 149–164.

¹³ California Climate Change Center, July 2006, *Our Changing Climate: Assessing the Risks to California*, CEC- 500-2006-077.

change on ecosystems and wildlife.¹⁴ The report outlines four major ways in which it is thought that climate change could affect plants and animals: (1) timing of ecological events; (2) geographic range; (3) species' composition within communities; and (4) ecosystem processes such as carbon cycling and storage.

Regulatory Environment

Federal

Federal Clean Air Act

The federal Clean Air Act, enacted largely in its current form in 1970 and amended in 1977 and 1990, establishes the framework for federal air pollution control. The act directed the U.S. EPA to establish the National Ambient Air Quality Standards (NAAQS). An area that does not meet the federal standard for a pollutant is called a "nonattainment" area for that pollutant. For federal nonattainment areas, the Clean Air Act requires states to develop and adopt State Implementation Plans (SIPs), which are air quality plans showing how air quality standards will be attained. The Clean Air Act Amendments of 1990 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution.

The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The U.S. EPA has responsibility to review all State SIPs to determine conformation to the mandates of the Federal Clean Air Act Amendments of 1990 (FCAAA), and to determine if implementation will achieve air quality goals. If the U.S. EPA determines a SIP to be inadequate, a Federal Implementation Plan may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated timeframe may result in sanctions being denied to transportation funding and stationary air pollution sources in the air basin. In California, SIPs are prepared and adopted by the local or regional air districts (in the Bay Area, by the BAAQMD) and are reviewed and submitted to the U.S. EPA by CARB.

Attainment of Federal Standards and Conformity Analysis

As noted above, if an area such as BAAQMD does not meet one of the NAAQS, the EPA designates it as nonattainment for that particular pollutant (see **Table 5.1**). Incremental progress is required toward meeting the NAAQS, and areas with the most acute problems must adopt the most stringent rules on new and existing emission sources. If an area does not make forward progress or fails to submit an adequate plan, sanctions may be imposed, such as withholding federal highway funds.

Section 176(c) of the 1990 Clean Air Act amendments outlines the requirements for federally funded projects to conform to efforts to meet and sustain the NAAQS. Section 176(c) also assigns responsibility for conformity assurance to the federal agency undertaking (or funding) the Project. Responsibility cannot be transferred by the responsible agency to EPA, state, or local agencies (e.g., BAAQMD). Conformity requires federally funded or supported activities not, (1) cause or contribute to any new air quality standard violation, (2) increase the frequency or severity of any existing standard violation, or (3) delay the timely attainment of any standard, interim emission reduction, or other SIP milestone aimed at bringing the region into attainment.

¹⁴ Parmesan, C. and H. Galbraith, November 2004, Observed Impacts of Global Climate Change in the U.S.

In 1993, the EPA issued the General Conformity regulations. The General Conformity regulations apply to all projects that would cause emissions of criteria pollutants above specified levels in areas designated non-attainment or maintenance. In the Bay Area, this rule applies to ozone precursors (ROG and NO_x) and CO in excess of 100 tons per year, or if the emissions are more than 10 percent of the inventory for the pollutant of concern. Projects that are subject to General Conformity must mitigate or fully offset the emissions cause by the action. This includes both direct (fossil fuel burning) and indirect (traffic) emissions. BAAQMD adopted and incorporated the General Conformity regulations into the SIP in 1994.

State

Air Quality

California Clean Air Act

The California Clean Air Act of 1988 focuses on attainment of the California Ambient Air Quality Standards (CAAQS), which, for certain pollutants and averaging periods, is more stringent than the comparable federal standards. Responsibility for achieving California standards is placed on the CARB and local air pollution control districts through district-level air quality management plans. The California Clean Air Act requires designation of attainment and nonattainment areas with respect to CAAQS. The California Clean Air Act also requires that local and regional air districts expeditiously adopt and prepare an air quality attainment plan if the district violates State air quality standards for CO, SO₂, NO₂, or ozone. No locally prepared attainment plans are in place for areas that violate the State PM₁₀ standards, because attainment plans are not required for those areas. The California Clean Air Act requires that the State air quality standards be met as expeditiously as practicable, but unlike the federal Clean Air Act, does not set precise attainment deadlines. Instead, the act established increasingly stringent requirements for areas that will require more time to achieve the standards.

CARB is primarily responsible for developing and implementing air pollution control plans to achieve and maintain the NAAQS. The CARB is primarily responsible for statewide pollution sources and produces a major part of the SIP. Local air districts are still relied upon to provide additional strategies for sources under their jurisdiction. The CARB combines this data and submits the completed SIP to U.S. EPA. Other CARB duties include monitoring air quality, in conjunction with air monitoring networks maintained by air pollution control and air quality management districts; establishing CAAQS, which in many cases are more stringent than the NAAQS; determining and updating area designations and maps; and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

State TAC Regulations

TACs in California are primarily regulated through the Tanner Air Toxics Act (Assembly Bill [AB] 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588, or the Hot Spots Act). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review are necessary before ARB can designate a substance as a TAC. To date, CARB has adopted U.S. EPA's list of hazardous air pollutants as TACs and identified more than 21 additional TACs. Most recently, environmental tobacco smoke was added to CARB's list of TACs in 2007.

GHG Emissions

Global climate change is addressed through the efforts of various state agencies as well as national and international scientific and governmental conventions and programs. The following provides a short summary of relevant state, regional, and local measures to address GHG emissions.

Climate Action Plan

Assembly Bill (AB) 1493, enacted in 2002, directs CARB to develop and implement regulations that achieve the “maximum feasible reduction” of GHG emissions from passenger vehicles, light-duty trucks, and other noncommercial vehicles.

Executive Order S-3-05

On June 1, 2005, Governor Schwarzenegger signed Executive Order S-3-05 which established the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 emission levels; by 2020, reduce GHG emissions to 1990 emission levels; and by 2050, to reduce GHG emissions to 80 percent below 1990 levels.

California Global Warming Solutions Act of 2006

AB 32, the California Global Warming Solutions Act (Health and Safety Code Section 38500 et seq.), was signed into law in September 2006. The Act requires the reduction of statewide GHG emissions to 1990 levels by the year 2020. This change, which is estimated to be a 25 to 35 percent reduction from current emission levels, will be accomplished through an enforceable statewide cap on GHG emissions that began to be phased in starting in 2012. The Act also directs the CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources and address GHG emissions from vehicles. The CARB has stated that the regulatory requirements for stationary sources will be first applied to electricity power generation and utilities, petrochemical refining, cement manufacturing, and industrial/commercial combustion. The second group of target industries will include oil and gas production/ distribution, transportation, landfills and other GHG-intensive industrial processes.

Scoping Plan

On December 11, 2008, CARB adopted its Climate Change Scoping Plan, which functions as a roadmap of CARB’s plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce CO₂e emissions by 174 million metric tons, or approximately 30 percent, from the State’s projected 2020 emissions level of 596 million metric tons CO₂e under a business as usual scenario. The Scoping Plan also breaks down the amount of GHG emissions reductions the ARB recommends for each emissions sector of the State’s GHG inventory. The Scoping Plan’s recommended measures were developed to reduce GHG emissions from key sources and activities while improving public health, promoting a cleaner environment, preserving natural resources, and ensuring that the impacts of the reductions are equitable and do not disproportionately impact low-income and minority communities. These measures also put the State on a path to meet the long-term goal of reducing California’s GHG emissions by 2050 to 80 percent below 1990 levels.

Senate Bill (SB) 375

The transportation sector contributes approximately 40 percent of the GHG emissions in California. While substantial reductions to GHG emissions from automobiles and light trucks can be achieved through new vehicle technology and by the increased use of low carbon fuel, the legislature determined that these reductions will not be enough to achieve the GHG emission reduction goals pursuant to AB 32 and that it will therefore be necessary to achieve additional significant GHG reductions from changed

land use patterns and improved transportation. SB 375 melds regional transportation and local land use planning in an effort to achieve GHG emission reductions from automobiles and light trucks by using transportation and land use planning to implement “smart growth” principles, thereby reducing vehicle trips and the resulting GHG emissions.

California’s Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24)

Known by the shorthand name of Title 24, this policy was established in 1978 in response to a legislative mandate to reduce California’s energy consumption. Title 24 is updated periodically to allow for incorporation of new energy efficiency technologies and methods. The most recent update, in 2008, incorporated AB 32 mandates and advanced the energy efficiency requirements in order to meet California’s energy needs. The 2013 update to the standards were built upon the previous standards and took effect in January 2014. Several State energy policy goals drive the design of the prior standards: the “Loading Order,” which directs California’s growing demand must first be met with cost-effective energy efficiency; Zero Net Energy goals for new homes by 2020 and commercial buildings by 2030; Governor Brown’s Executive Order on Green Buildings; the Green Building Standards Code, and AB 32. The 2013 Standards will use 25 percent less energy for lighting, heating, cooling, ventilation, and water heating than the 2008 Standards. Additionally, the 2013 Standards will result in a reduction of 170,500 tons of GHG emissions per year. The most recent 2013 update (which took effect in January 2014) directs that California’s growing building demand must be met with cost-effective energy efficiency, with “zero net energy” goals for new homes by 2020 and commercial buildings by 2030, resulting in a substantial reduction of GHG emissions per year.

California Green Building Standards Code (CALGreen)

California’s green building code, referred to as CALGreen, was developed to provide a consistent approach to green building within the State. Taking effect in January 2011, CALGreen lays out the minimum requirements for newly constructed residential and nonresidential buildings to reduce GHG emissions through improved efficiency and process improvements. It also includes voluntary tiers to further encourage building practices that improve public health, safety and general welfare by promoting the use of building concepts which minimize the building’s impact on the environment and promote a more sustainable design. Local jurisdictions are required to adopt the CALGreen provisions. CALGreen is complimentary with California Energy Code, Title 24, Part 6, which continues to regulate energy efficiency in buildings. CALGreen references Title 24, Part 6 where relevant and several voluntary measures in the CALGreen building code require energy efficient that exceeds Title 24, Part 6 requirements by 15 or 30 percent. CALGreen requires that every new building constructed in California implement the following:

- Reduce water consumption by 20 percent
- Divert 50 percent of construction waste from landfills
- Install low pollutant-emitting materials
- Require separate water meters for nonresidential buildings’ indoor and outdoor water use
- Require moisture-sensing irrigation systems for larger landscape projects
- Require mandatory inspections of energy systems (e.g., heat furnace, air conditioner and mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity and according to their design efficiencies.

Sustainable Communities Strategies and Plan Bay Area

SB 375 created a new regional planning mechanism, the Sustainable Communities Strategy, which promotes high density, transit-oriented development, and creates incentives for specifically defined, high-density development projects. The Sustainable Communities Strategy must set forth a forecasted development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, will reduce GHG emissions from automobile and light trucks to achieve the GHG emission reduction targets approved by CARB. On July 18, 2013, the Association of Bay Area Governments and the Metropolitan Transportation Commission adopted Plan Bay Area, an integrated transportation and land use-use strategy through 2040 that marks the nine-county Bay Area region's first long-range plan to meet the requirements of SB 375.

Senate Bill 97—Modification to the Public Resources Code

Pursuant to Senate Bill 97, the California Natural Resources Agency reviewed and adopted the amendments to the CEQA Guidelines on December 30, 2010 prepared and forwarded by the Governor's Office of Planning and Research. The Amendments became effective on March 18, 2010, including the addition of the GHG emissions environmental topic and checklist items.

Regional - Bay Area Air Quality Management District

The BAAQMD regulates air quality in the nine-county San Francisco Bay Area Air Basin, including the Alameda County area and site of the proposed Project. The District primarily regulates stationary sources and develops plans to achieve and maintain air quality standards. The CARB and EPA have jurisdiction over mobile sources. To protect public health, BAAQMD has adopted plans to achieve ambient air quality standards. BAAQMD must continuously monitor its progress for plan implementation. BAAQMD must report this effort regularly to the CARB and the EPA. It must also periodically revise its attainment plans to reflect new conditions and requirements.

In general, the Bay Area has a moderately high potential for air pollution due to its large population, its refineries and other industry, and to a lesser extent, geography and climate. It is a nonattainment area (ambient levels exceed the respective state or federal air quality standard) for ground-level ozone, PM₁₀, and PM_{2.5}.) Winds often move ozone precursors generated in Alameda County to other parts of the region, where smog is formed several hours later (hence the highest pollution levels in the area occur in the warmer inland valleys). BAAQMD tries to exercise a uniform emission control effort that will bring the entire region into compliance with state and federal standards as quickly as possible.

BAAQMD prepared its first ozone attainment plan to meet California standards in 1991. Approximately triennial assessments and revisions to the Clean Air Plan have subsequently been prepared, with the most recent in 2010. The Bay Area 2010 CAP provides a control strategy to reduce ozone, PM, TACs, and GHGs in a single, integrated plan.

BAAQMD CEQA Guidelines and Thresholds of Significance

In December 1999, the BAAQMD adopted its CEQA Guidelines – “Assessing the Air Quality Impacts of Projects and Plans”, as a guidance document to provide lead government agencies, consultants and project proponents with uniform procedures for assessing air quality impacts and preparing the air quality sections of environmental documents for projects subject to CEQA. The 1999 BAAQMD CEQA Guidelines was an advisory document, and local jurisdictions were not required to utilize the methodology outlined therein.

The BAAQMD most recently updated its CEQA Air Quality Guidelines in May 2012. These guidelines continue to provide direction on recommended analysis methodologies, but no longer recommend

quantitative significance thresholds. The Air District recommends that lead agencies develop their own thresholds of significance. Alameda County references the BAAQMD CEQA Thresholds Options and Justification Report (2009), which provides substantial evidence for reliance on the thresholds published in 2011. As such, the air quality thresholds used in this EIR are based upon the substantial evidence provided in the BAAQMD CEQA Thresholds Options and Justification Report as accounted for in the BAAQMD's 2011 Guidelines.

Local

Alameda County Unincorporated Community Climate Action Plan

The Alameda County Climate Action Plan addresses reduction of GHG emissions through a series of 37 local programs and policy measures related to transportation, land use, building, energy, water, waste, and green infrastructure. The Plan is intended enable the County to reduce its community-wide emissions by more than 15% by the year 2020. The Plan was approved by the Board of Supervisors on February 4, 2014.

Alameda County Green Building Ordinance—Unincorporated Communities

Alameda County adopted a Green Building Ordinance for residential and commercial properties in unincorporated communities in 2009. The goal of the ordinance is to promote practices that will reduce water and resource usage, reduce waste, and increase energy efficiency in the construction or remodeling of residential and nonresidential structures. Pursuant to the ordinance, building permit applications for all new residential construction or rebuilt residential construction greater than 1,000 square feet, and all new or rebuilt non-residential construction greater than 3,000 square feet located in the unincorporated areas of Alameda County, must submit documentation demonstrating how specific green building standards (GreenPoint Rated, LEED, or certification from a qualified third party) are met.

Impacts and Mitigation Measures

The following section describes potentially significant Project impacts to air quality and greenhouse gas emissions. Mitigation measures are recommended as necessary to avoid, minimize, or mitigate such impacts, where feasible.

Significance Criteria

1. Conflict with or obstruct implementation of the applicable air quality plan;
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
4. Expose sensitive receptors to substantial pollutant concentrations;
5. Create objectionable odors affecting a substantial number of people;
6. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
7. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

As discussed in the Regulatory Setting above, the thresholds used in this EIR for air quality are generally based upon the substantial evidence provided in the BAAQMD CEQA Thresholds Options and Justification Report, as accounted for in the BAAQMD's 2011 Guidelines. These thresholds provide that the Project would cause significant adverse air quality impacts that; a) may violate an air quality standard, b) result in cumulatively considerable concentrations of criteria pollutants, or c) expose sensitive receptors to substantial pollutant concentrations, if it would exceed the following standards:

- During project construction, result in average daily emissions of 54 pounds per day of ROG, NOx, or PM_{2.5}; or 82 pounds per day of PM₁₀;
- During project operation, result in average daily emissions of 54 pounds per day of ROG, NOx, or PM_{2.5}; or 82 pounds per day of PM₁₀; or result in maximum annual emissions of 10 tons per year of ROG, NOx, or PM_{2.5} or 15 tons per year of PM₁₀;
- Contribute to carbon monoxide (CO) concentrations exceeding the California Ambient Air Quality Standards (CAAQS) of 9 parts per million (ppm) averaged over eight hours, and 20 ppm for one hour;¹⁵
- For new sources of Toxic Air Contaminants (TACs) during either project construction or project operation, expose sensitive receptors to substantial levels of TACs resulting in an increase in cancer risk level greater than 10 in one million, an increase in non-cancer risk (chronic or acute) hazard index greater than 1.0, or an increase of annual average PM_{2.5} of greater than 0.3 micrograms per cubic meter; or, under cumulative conditions, resulting in a cancer risk level greater than 100 in a million, a non-cancer risk (chronic or acute) hazard index greater than 10.0, or annual average PM_{2.5} of greater than 0.8 micrograms per cubic meter;¹⁶
- Expose new sensitive receptors to substantial ambient levels of Toxic Air Contaminants (TACs) resulting in a cancer risk level greater than 100 in a million, a non-cancer risk (chronic or acute) hazard index greater than 10.0, or annual average PM_{2.5} of greater than 0.8 micrograms per cubic meter. Discussion and use of these thresholds (where provided in this EIR) is for informational purposes, only.

Conflict with Air Quality Plans

AQ-1: Consistency with the Clean Air Plan. As a project consistent with local land use designations and zoning, the Project is consistent with assumptions regarding future growth and overall vehicle miles travelled, as included in the Bay Area Clean Air Plan. As such, the Project impacts regarding potential conflict with, or obstruction of implementation of the applicable Air Quality Plan are less than significant. **(LTS)**

The Project site is subject to the Bay Area Clean Air Plan, first adopted by the Bay Area Air Quality Management District (BAAQMD) in association with the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG)) in 1991, and last updated in September 2010 - called the Bay Area 2010 Clean Air Plan. The Project's impact would be significant if the Project would

¹⁵ Localized CO concentrations are suggested to be estimated for those projects in which project-generated traffic would conflict with an applicable congestion management program, or where project-generated traffic would increase traffic volumes at affected intersections to more than 44,000 vehicles per hour (or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited).

¹⁶ For this threshold, sensitive receptors include residential uses, schools, parks, daycare centers, nursing homes, and medical centers.

conflict with or obstruct implementation of the regional air quality plan, in this case the 2010 Clean Air Plan (CAP).

The CAP is meant to demonstrate progress toward meeting ozone standards, but also includes other elements related to particulate matter, toxic air contaminants, and greenhouse gases. Many of the CAP's emission control measures are targeted to area-wide improvements, large stationary source reductions, or large employers, and not directly applicable to the Project. However, the Project would meet current standards of energy efficiency (CAP Energy and Climate Measure 1), and does not conflict with applicable control measures aimed at improving access/connectivity for bicycles and pedestrians (CAP Transportation Control Measures D-1 and D-2).

As a Project consistent with local land use designations and zoning, the Project would be consistent with growth assumptions and projections of vehicle miles travelled, as presented in the CAP. Therefore, the Project is not inconsistent with the CAP and would not present a significant impact in regard to this criteria

Mitigation Measures

None needed

Construction-Period Dust and Criteria Pollutant Emissions

AQ 2: Construction-Period Dust and Emissions. Construction of the Project would result in temporary emissions of dust that may result in both nuisance and health impacts. Without appropriate measures to control dust emissions, impacts would be considered significant. **(LTS with Mitigation)**

Dust

Project-related construction activities (e.g., demolition, site preparation, earthmoving) would generate short-term emissions of fugitive dust. Construction-related fugitive dust emissions would vary from day to day depending on the level and type of activity, silt content of the soil, and the weather. In the absence of mitigation, construction activities may result in significant quantities of dust that may adversely affect (on a temporary and intermittent basis), local visibility and PM10 and PM2.5 concentrations. In addition, fugitive dust generated by construction could include larger particles that would fall out of the atmosphere within several hundred feet of the site and could result in nuisance-type impacts.

Criteria Pollutants

Construction activity will also generate short-term emissions of criteria pollutants from construction equipment. These criteria pollutants include suspended and inhalable particulate matter and equipment exhaust emissions inclusive of particulate matter (PM10 and PM2.5) and reactive organic gas (ROG), nitrogen oxides (NOx), carbon monoxide (CO) and sulfur oxides (SOx).

As indicated in the BAAQMD's 2011 CEQA Guidelines, Table 2-4: Thresholds of Significance for Construction-Related Criteria Air Pollutants and Precursors, construction-period emissions that exceed 54 lbs./day of ROG, 54 lbs/day of NOX, 82 lbs/day of PM10 in construction exhaust, and/or 54 lbs/day of PM2.5 in construction exhaust, are considered significant. The BAAQMD's 2011 CEQA Guidelines also include substantial evidence substantiating operational and construction-period screening levels for criteria air pollutants. These screening levels provide a conservative indication of whether a project could result in potentially significant air quality impacts related to emission of criteria air pollutants. If a proposed project does not exceed the screening levels, then detailed air quality assessment of the Project's

criteria air pollutant emissions is not necessary, and impacts are deemed to be less than significant. The BAAQMD's screening size for construction-period criteria pollutant emissions for construction of single-family dwellings is 114 units.¹⁷ The Project, at 31 single-family lots, is well below this screening level, and therefore not anticipated to result in emissions of criteria pollutants that would exceed threshold levels during construction, and criteria pollutant emissions during construction would be at a level that is less than significant.

Mitigation Measures

Dust

The County considers implementation of effective and comprehensive dust control measures (i.e., those Best Management Practices that are based upon substantial evidence as provided in the BAAQMD CEQA Thresholds Options and Justification Report, and as included in the BAAQMD's 2011 Guidelines) as the threshold of significance for fugitive dust emissions. If a project complies with specified dust control measures, it would not result in a significant impact related to construction period dust emissions. In order to be protective of the health of nearby residences as well as to reduce dust emissions that could affect regional air quality, the Project is required to implement the following "Basic" measures. Because of the Project's immediate adjacency to potentially particularly sensitive receptors at the Hilltop Care Convalescent Home, additional "Enhanced" measures are also recommended for the Project, as included in Mitigation Measure AQ 5.1, below:

Mitigation Measure AQ -2: Construction Management Practices. The Project shall demonstrate compliance with the following BAAQMD-recommended "Basic" and "Enhanced" construction mitigation measures:

Basic Measures:

- 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 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.

¹⁷ Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, May 2011, Table 3-1.

- 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.

Enhanced Measures:

- All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
- Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
- Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than one percent.
- Minimize the idling time of diesel powered construction equipment to two minutes.
- The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOX reduction and 45 percent PM reduction compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
- Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
- Require that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM.
- Require all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.

Resulting Level of Significance

Implementation of Mitigation Measure AQ-2 would reduce the Project's potential impact related to construction period dust emissions to a level that is less than significant.

The Project does not exceed applicable construction-period criteria pollutant screening criteria, and criteria pollutants emitted during the Project's construction period would be less than significant. However, measures included in Mitigation Measure AQ-2 would also serve to further reduce criteria pollutant emissions.

Operational Emissions of Criteria Pollutants

AQ-3: Operational Emissions. The Project would result in increased emissions from on-site operations and emissions from vehicles traveling to the site, but the level of Project emissions would not be considered to be significant. **(LTS)**

Operational emissions typically represent the majority of a project's air quality impacts. Operational emissions include mobile (driving) and area sources, generally including fuel combustion from space and water heating, landscape maintenance equipment, fireplaces/stoves, evaporative emissions from architectural coatings and consumer products, and unpermitted emissions from stationary sources.

The thresholds used in this EIR indicate the Project's emissions would be considered significant if they were to exceed 54 lbs/day of ROG, 54 lbs/day of NOX, 82 lbs/day of PM10, and/or 54 lbs/day of PM2.5. The BAAQMD's 2011 CEQA Guidelines include substantial evidence substantiating operational screening levels for criteria air pollutants. These screening levels provide a conservative indication of whether a project could result in potentially significant air quality impacts related to emission of criteria air pollutants during operation. If a proposed project does not exceed the screening levels, then detailed air quality assessment of the Project's criteria air pollutant emissions is not necessary, and impacts are deemed to be less than significant. The screening size for operational criteria pollutant emissions for single-family dwellings is 325 units.¹⁸ The Project, at 31 single-family lots, is well below this screening level, and therefore not anticipated to result in emissions of criteria pollutants that would exceed threshold levels, and criteria pollutant emissions during operations would be at a level that is less than significant.

Mitigation Measures

None needed.

Carbon Monoxide Emissions

AQ-4: Carbon Monoxide Emissions. The Project would generate increased CO emissions, primarily from Project-related vehicles, but these emissions levels would not exceed screening criteria and the impact would be less than significant. **(LTS)**

The BAAQMD CEQA Guidelines indicate that a project would result in a less than significant impact to localized CO concentrations if the project is consistent with an applicable congestion management program (CMP), if project-generated traffic would not increase traffic volumes to more than 44,000 vehicles per hour, and/or if the project's traffic would not increase traffic volumes to more than 24,000 vehicles per hour at affected intersections where vertical and/or horizontal air mixing is substantially limited (i.e., within a tunnel or confined space). The Project does not present any inconsistencies with

¹⁸ Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, May 2011, Table 3-1.

the applicable CMP, and does not generate substantial traffic that would exceed any of the applicable CO threshold criteria. The Project's CO emissions would be at a level that is less than significant.

Mitigation Measures

None needed.

TAC Emissions – Construction Period

AQ -5: TAC Emissions-Construction Period. Construction activities would expose nearby sensitive receptors to toxic air contaminants during the construction period, but the maximum exposure risk would be below the thresholds of significance under BAAQMD criteria for cancer, chronic hazard, and PM_{2.5} exposure. This would be a significant impact **(LTS with Mitigation)**.

For purposes of assessing a project's risk of exposing sensitive receptors to health risks and hazards, the threshold of significance is exceeded if the project-specific cancer risk to nearby receptors exceeds 10 in one million (or a cumulative cancer risk of 100 in one million), the non-cancer risk exceeds a Hazard Index of 1 (or a cumulative Hazard Index of 10), and/or the annual average PM_{2.5} concentration exceeds 0.3 µg/m³ (or cumulative annual average PM_{2.5} concentration exceeds 0.8 µg/m³). Examples of sensitive receptors are places where people live, play or convalesce, and include schools, hospitals, residential areas and recreation facilities. The Project site is located adjacent to existing residential neighborhoods as well as the immediately adjacent Hilltop Care Convalescent Home. These residents are considered sensitive uses and could include higher-risk populations, such as infants and the elderly.

Construction activities and equipment such as loaders, backhoes, haul truck and vendor trips would generate emissions of diesel-particulate matter (DPM) and PM_{2.5} toxic air contaminant (TAC) emissions from exhaust. These emissions could result in elevated concentrations of DPM and PM_{2.5} at nearby receptors, and that could lead to an increase in the risk of cancer or other health impacts. The generation of TAC emissions would be temporary, especially considering the short amount of time such equipment would be within an influential distance that could expose sensitive receptors to substantial concentrations.

The BAAQMD does not provide a screening level to determine the size of construction projects that are typically small enough that they are assumed to generate TAC emissions at levels that would not exceed significance thresholds. However, based on the EIR preparer's experience in environmental review for other residential projects and the County's own similar experience, significant emissions of construction-period TACs are not usually indicated for single-family residential projects below approximately 200 dwelling units. Due to the relatively small size of the Project, potential health risks to nearby sensitive receptors due to construction-period TAC emissions are considered less than significant.

Mitigation Measures

None needed. However, the Project is required to implement Mitigation Measure AQ-2: Construction Management Practices, which includes several measures that will be effective in further reducing construction-period TAC emissions. These measures include:

- Demonstrating that the off-road equipment (of more than 50 horsepower) to be used during construction achieves a project-wide fleet average of 20% NOX reduction, and 45% PM reduction as compared to the most recent ARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.

- Use of low VOC coatings, beyond the local requirements
- Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM.
- Requiring that all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.

TAC Emissions and Exposure – Operations

AQ-6: TAC Emissions and Exposure during Operations. Operation of the Project would not be a source of significant levels of toxic air contaminants that could pose a health risk to others. The impact would be less than significant. **(LTS)**

As a residential development, the Project would not be a significant source of TACs and would not subject other sensitive receptors to new sources of TAC emissions.

Future residents of the proposed Project would be new sensitive receptors, and subject to existing ambient air quality conditions. However, because the Project site is located in a predominantly residential neighborhood that does not include any known stationary sources of substantial TAC emissions and is over 1,000 feet from the nearest highway, it is reasonable to conclude that future residents of the Project would not be subjected to substantial concentrations of ambient TAC emissions.¹⁹

Mitigation Measures

None needed.

Odors

AQ-7: Odors. The Project would not be a new source of significant levels of construction-period or operational odors. The impact would be less than significant. **(LTS)**

Typical sources of objectionable odors include chemical plants, sewage treatment plants, large composting facilities, rendering plants and other large industrial facilities that emit odorous compounds.²⁰ As a residential development, the Project would not be a source of significant objectionable odors. During construction, diesel-powered vehicles and equipment would create odors that some may find objectionable. However, these odors would be temporary and not likely to be noticeable beyond the Project site's boundaries. The potential for objectionable odor impacts would be less than significant.

Mitigation Measures

None needed.

Greenhouse Gas Emissions

GHG-1: Greenhouse Gas Emissions. Construction and operation of the proposed Project would be additional sources of GHG emissions, primarily through consumption of fuel for

¹⁹ The effects of the environment on the Project is not considered a CEQA impact; CEQA impacts are instead focused on the effects of the Project on the environment. This information pertaining to ambient air quality conditions does not address a CEQA threshold, but is presented for public information purposes, only.

²⁰ Ibid., Table 3-3.

transportation and energy usage on an ongoing basis. However, additional emissions due to the Project are below threshold levels and are therefore considered a less than significant impact. **(LTS)**

BAAQMD Guidelines provide two alternative quantitative thresholds for GHG emissions, 1) a bright line threshold of 1,100 metric tons of CO₂e per year (generally for assessment of smaller projects), or 2) an efficiency-based threshold of 4.6 metric tons CO₂e per service population per year (generally used for larger projects). Service population is defined as the number of residents and employees generated by the Project.

The BAAQMD's 2011 CEQA Guidelines include substantial evidence substantiating operational screening levels for GHG emissions. These screening levels provide a conservative indication of whether a project could result in potentially significant GHG emissions. If a proposed project does not exceed the screening levels, then detailed assessment of the Project's GHG emissions is not warranted, and impacts are deemed to be less than significant. The screening size for GHG emissions from single-family dwellings is 56 units.²¹ The Project, at 31 single-family lots, is below this screening level and therefore not anticipated to result in GHG emissions that would exceed threshold levels, and the Project's GHG emissions would be at a level that is less than significant.

Mitigation Measures

None needed.

Conflict with GHG Reduction Plans

GHG-2: Conflict with GHG Reduction Plans. The Project would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. **(LTS)**

The Alameda County (Unincorporated Areas) Community Climate Action Plan (CCAP) was approved by the Board of Supervisors on February 4, 2014. The CCAP includes actions to accomplish a target reduction in GHG emissions of 15% below the 2005 baseline levels by 2020 through a series of 37 local programs and policy measures related to transportation, land use, building energy, water, waste, and green infrastructure. Development of the Project is required to comply with California Title 24 standards for energy efficiency, as well as the County's Green Building Ordinance, which stipulates that new residential projects must achieve minimum certification under either LEED (Leadership in Energy and Environmental Design) for Homes, the "Build It Green" point rating system, or another nationally recognized program. With required compliance, the Project would be consistent with programs and policy measures identified in the Alameda County CCAP, and the impacts of the Project would be less than significant.

Additionally, BAAQMD's thresholds and methodologies as used in this EIR take into account implementation of state-wide regulations and plans, such as the AB 32 Scoping Plan and adopted state regulations such as Pavley and the low carbon fuel standard. Therefore, the Project would be consistent with these state plans and policies related to GHG reduction.

²¹ Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, May 2011, Table 3-1.

Cumulative Air Quality and GHG Impacts

The thresholds of significance for air pollutants and GHG emissions that are used in this EIR consider emission levels at which a project's individual contribution of emissions would be cumulatively considerable. Because the Project's emissions during construction and operation would not exceed these thresholds, they would not have a cumulatively considerable effect.

Biological Resources

This chapter was prepared to evaluate the Project's potential impacts on biological resources, in accordance with the criteria in CEQA Section 15064.5. The chapter presents the results of research conducted to identify and evaluate potential biological resources within the Project area, the results of a field survey and evaluation, and identifies mitigation measures that would reduce or avoid potential impacts to biological resources that may be adversely affected by the Project. This chapter also identifies the federal, state, and local regulations pertaining to biological resources within the Project vicinity.

Information used in the preparation of this chapter was obtained from:

- Biological site reconnaissance survey conducted by Zander Associates on January 12, 2016,
- Follow-up sensitive plant surveys conducted by Zander Associates on July 2016 (**Appendix C**)
- Follow-up field survey and analysis of the habitat value and potential for presence for Alameda whipsnake (Alameda striped racer) conducted by Bio-MaAS. Inc., October 2016 (**Appendix D**)
- Review of the following public information sources: the California Natural Diversity Database (California Department of Fish and Wildlife, 2016); California Native Plant Society, Electronic Inventory (California Native Plant Society, 2016); U.S. Fish and Wildlife Service National Wetland Inventory, accessed at <http://www.fws.gov/wetlands/Data/mapper.html>, and U.S. Fish and Wildlife Service Critical Habitat Portal, accessed at: <http://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>,

Environmental Setting

The Project site is located along the western side of the East Bay Hills. The site is within the eastern edge of suburban Fairview development that has gradually occurred over the 20th Century, and west of the Five Canyons Open Space and housing development of the 1990s. The site is bordered by suburban residential development to the west, north and east. As shown in **Figure 6-1**, the area to the south is less developed, containing one undeveloped 4.4-acre parcel and the partly built-out Jelincic subdivision. The southern properties provide a relatively narrow corridor of open grasslands and pastures connecting the south portion of each of the Project's sites to the western portion of the Five Canyons Open Space, a 300-acre open space area of woods, meadows and trails owned and managed by the East Bay Regional Park District. This relatively narrow corridor also connects to three large privately-owned parcels (24 acres combined) on Old Quarry Road between the Project site and Five Canyons Open Space. These off-site separate private parcels are heavily wooded and mostly undeveloped, and are designated in the Fairview Area Specific Plan as R-1-B-E (single family residential, with a minimum one-acre building site area requirement).

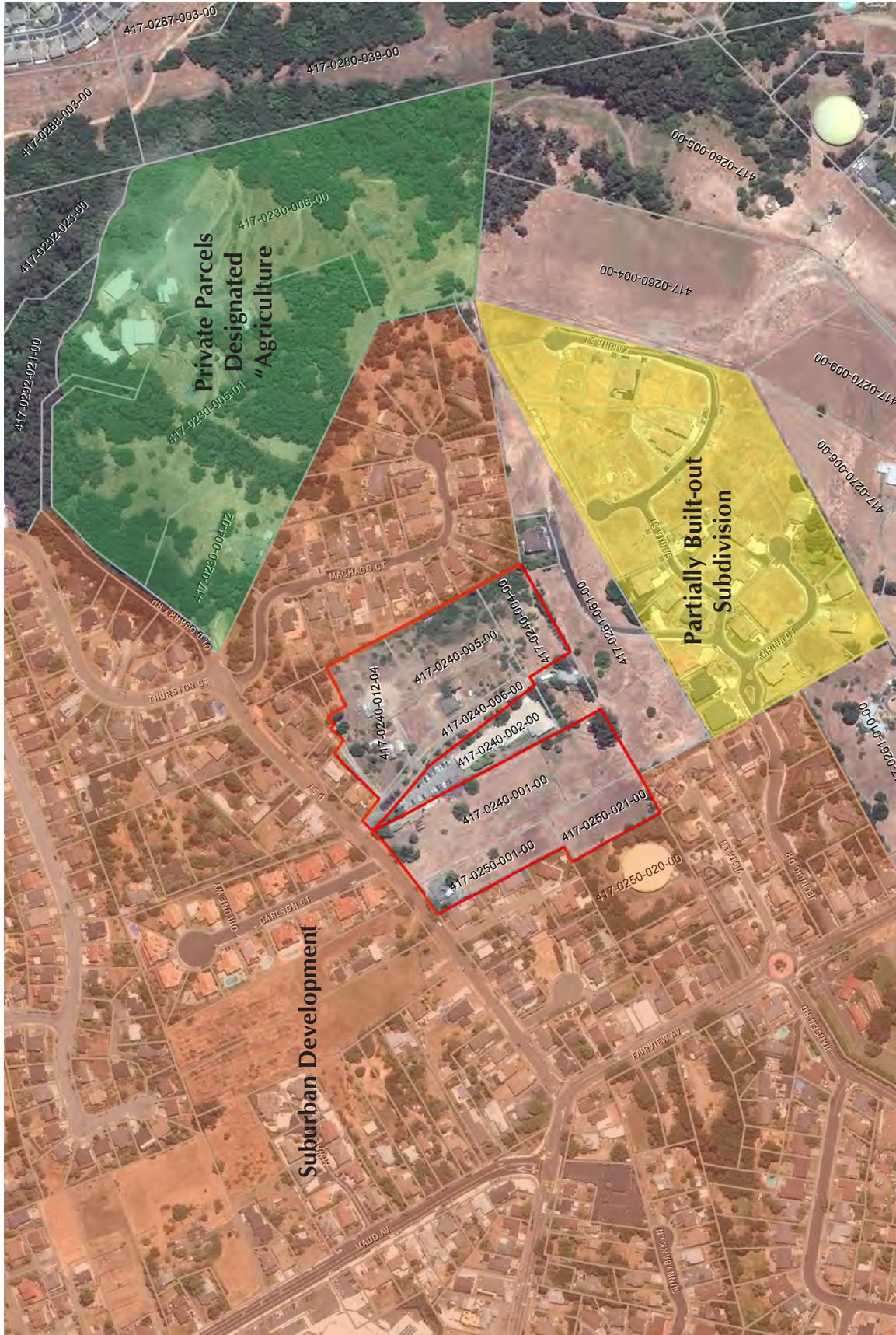


Figure 6-1
Project Site Setting

Habitat Types

Habitat types on the Project site are as shown on **Figure 6-2**. The Project sites are best described as rural residential parcels with houses, outbuildings, open fields and pastures. Each site is described separately below.

Eastern (Upper) Site (Tract No. 8297)

This Project site contains two abandoned residences with associated outbuildings and a horse pasture that encompasses most of the eastern and southern portions of the parcel. Around the buildings, vegetation consists of a mixture of non-native grassland and native and landscaped tree and shrub species. Ornamental plants include cypress (*Hesperocyparis* sp), pepper tree (*Schinus molle*), pyracantha (*Pyracantha* sp.) oleander (*Nerium oleander*), juniper and eucalyptus (*Eucalyptus* sp). Mixed in with the ornamentals are natives such as coast live oak (*Quercus agrifolia*), and coyote brush (*Baccharis pilularis*). A row of eucalyptus trees lines the north or northeastern parcel boundary and planted redwood trees follow the southern boundary and a portion of the eastern boundary. Several other trees are also located along the west side of the site, towards the care home property. The ground cover in the open areas consists of non-native annual grasses mixed with ruderal herbaceous species that include: red-stem filaree (*Erodium cicutarium*), black mustard (*Brassica nigra*), sour grass (*Oxalis pes-caprae*), and cheeseweed mallow (*Malva parviflora*).

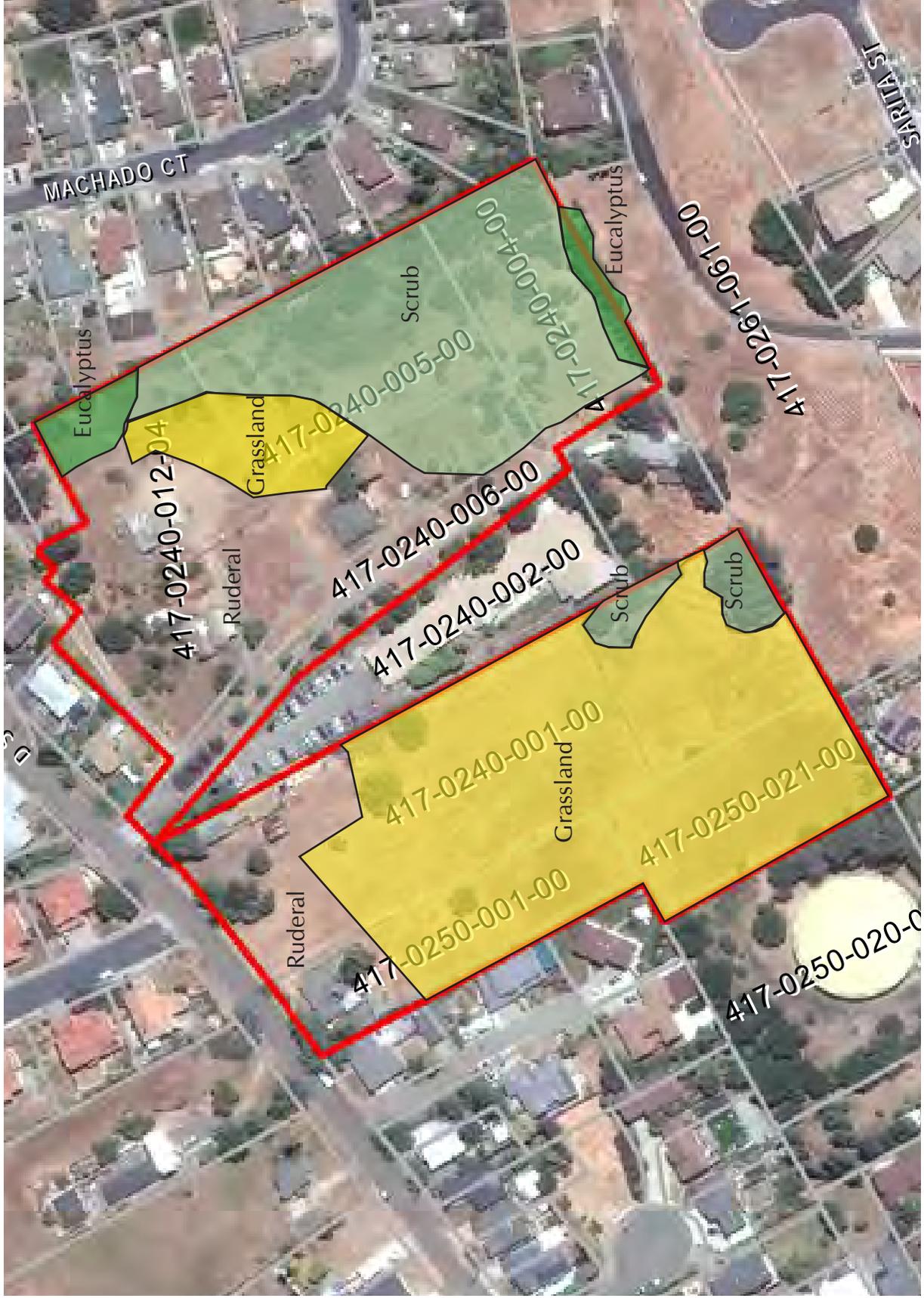
The eastern and southern portions of the parcel that are currently used as a horse pasture are vegetated with coyote brush and scattered sapling oak trees. At the bottom, there is a dense stand of stinkwort (*Dittrichia graveolens*). Several elderberry bushes (*Sambucus nigra*) are mixed with the coyote brush along the eastern property boundary.

Evidence of mule deer (*Odocoileus hemionus*) and eastern fox squirrels (*Sciurus niger*) was abundant on the parcel during the Zander reconnaissance survey. Birds such as white-crowned sparrow (*Zonotrichia leucophrys*) and American goldfinch (*Spinus [=Carduelis] tristis*) were also observed in the trees and shrubs. Other wildlife expected to use the habitats on the parcel include non-native animal species typically found in disturbed areas, such as European starling (*Sturnus vulgaris*), rock dove (*Columba livia*), Virginia opossum (*Didelphis virginiana*), and Norway rat (*Rattus norvegicus*), as well as native species that have adapted to ruderal areas including red-tailed hawk (*Buteo jamaicensis*), American crow (*Corvus brachyrhynchos*), raccoon (*Procyon lotor*), and coyote (*Canis latrans*).

The scrub habitat in the southeastern portion of the parcel could also provide habitat for reptiles such as Pacific gopher snake (*Pituophis catenifer catenifer*), California king snake (*Lampropeltis getula californiae*), and western fence lizard (*Sceloporus occidentalis*).

Western (Lower) Site (Tract No 8296)

The western project site has two abandoned residences that are situated in the northern portion of the site, near D Street. The rest of the parcel consists of open grassland with scattered trees and shrubs. Typical grass species found within the grassland include wild oat (*Avena fatua*), foxtail barley (*Hordeum murinum* var. *leporinum*), and scattered occurrences of native purple needlegrass (*Stipa pulchra*). Common herbaceous associates include red-stem filaree, sour grass, black mustard, and vetch (*Vicia* sp.). Within the grassland are scattered trees and shrubs that include native coast live oak (*Quercus agrifolia*), coyote brush, and coffeeberry (*Frangula californica*). Stands of horehound (*Marrubium vulgare*) occur under some of the trees along the eastern edge of the parcel. Several different ornamental trees are clustered around the buildings in the northern portion of the parcel. A few mature, very tall (over 100 feet) Eucalyptus trees lie in the southeastern corner, but the majority of this site and its periphery is generally spare of trees and shrubs, compared to the eastern site.



Source: Zander Associates, 2015

Figure 6-2
Habitat Types on the Project Site

Wildlife expected to use the habitat on this site would be substantially the same as described for the eastern site as described above.

Sensitive Natural Communities

Sensitive natural communities are designated as such by various resource agencies, such as the California Department of Fish and Wildlife (CDFW) or in local policies and regulations, and are generally considered to have important functions or values for wildlife or humans and/or are recognized as declining in extent or distribution, and are considered threatened enough to warrant protection. For example, many local agencies in California consider protection of oak woodlands important and federal, state, and most local agencies also consider wetlands and riparian habitats as sensitive communities.

The California Natural Diversity Data Base (CNDDDB) tracks natural communities it believes to be of conservation concern and these communities are typically considered sensitive for the purposes of CEQA analysis. There are no sensitive natural communities occurring on, or in the immediate vicinity of the Project sites and no wetland or riparian areas are present on either Tract.

Special Status Plant Species

For this assessment, special status species are defined as those plants listed, proposed for listing or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (ESA); those listed or proposed for listing as rare, threatened, or endangered by CDFW under the California Endangered Species Act (CESA); and plants occurring on Lists 1B or 2 of the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (CNPS 2016).

The CNDDDB was queried for occurrences of special status plants in the vicinity of the Project site, generating a list of 23 species known to occur within ten miles. Most of these species are associated with specific habitat types that are not present on the site.

Zander's original biological site reconnaissance survey was conducted in January 2016, at a time when potential special status plant species are not in bloom and not easily detected. Therefore, Zander Associates completed a follow-up plant survey of the two parcels in July 2016. The purpose of the survey was to determine presence or absence of sensitive plant species identified as potentially occurring on the site. This survey targeted four species; Loma Prieta hoita (*Hoita strobilina*), Santa Cruz tarplant (*Holocarpha macradenia*), woodland woollythreads (*Monolopia gracilens*), and Oregon polemonium (*Polemonium carneum*). These species typically bloom and are identifiable later in the season (May to October). The survey was performed following protocol developed by the California Department of Fish and Wildlife (2009), and as such it was appropriately timed for the four targeted species, floristic in nature and conducted using systematic field techniques. Each parcel was systematically traversed and all plant species encountered were identified and recorded.

None of the four sensitive plant species targeted in this survey was found on the Project sites. Both sites are highly disturbed and the flora is dominated by non-native species. Horses were grazing in the eastern pasture at the time of the survey and the grassland around the existing abandoned buildings had been mowed, probably for fire abatement purposes. Grazing was also evident in the western pasture. Based on their assessment of habitat conditions onsite and knowledge of the habitat requirements for the four targeted species, the conclusions of this survey confidently conclude that Loma Prieta hoita, Santa Cruz tarplant, woodland woollythreads, and Oregon polemonium are not present on the Project sites.

There remains five special-status plant species that cannot be definitively dismissed from potential occurrence on the sites without further appropriately timed surveys. These species, their CNPS rank, and appropriate survey period are listed in **Table 6-1**. As indicated in this Table, these special status plant that have yet to be surveyed are rare, threatened or endangered, or in on case presumed extinct in California.

Table 6-1: Sensitive Plant Species Not Yet Surveyed that Could be Present on the Project Site

Scientific Name	Common Name	CNPS RankI	Survey Period
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	IB.2	March - June
<i>Balsamorhiza macrolepis</i>	big-scale balsamroot	IB.2	March - June
<i>Fritillaria liliacea</i>	fragrant fritillary	IB.2	February - April
<i>Helianthella castanea</i>	Diablo helianthella	IB.2	March - June
<i>Plagiobothrys glaber</i>	hairless popcorn flower	IA	March – May

Definitions:

IA presumed extinct in California

IB rare, threatened or endangered in California and elsewhere

2B presumed extirpated in California but common elsewhere

Threat Rank: 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat); 0.2-Fairly threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

Sensitive Status Animals

For this assessment, special status species are defined as those animals listed, proposed for listing or candidates for listing as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (ESA); those listed or proposed for listing as rare, threatened, or endangered by CDFW under the California Endangered Species Act (CESA); animals designated as “Species of Special Concern” by the CDFW; and birds protected under the Migratory Bird Treaty Act.

Several of the special status animals recorded to have occurred within a 10-mile radius of the Project site are associated with specific habitats not found on the site (e.g., coastal salt marsh, ponds or wetlands) and therefore are not expected to be present.

Alameda Whipsnake

The Alameda striped racer, also known as Alameda whipsnake (AWS; *Coluber [Masticophis] lateralis euryxanthus*) was listed by the California Fish and Game Commission as a threatened species under the California Endangered Species Act on June 27, 1971. The USFWS listed the species as threatened on December 5, 1997. Critical habitat for the Alameda striped racer was first proposed on March 8, 2000 and a final determination for Critical Habitat was issued on October 2, 2006. A draft Recovery Plan was prepared in 2002, and a 5-year review was completed in 2011.

The AWS is typically associated with scrub habitat - northern coastal sage scrub and coastal sage. Occupied areas usually support a prey base of at least two lizard species, especially the western fence lizard, and whipsnake populations thrive when lizards are abundant. Rock outcrops are particularly important foraging habitat for the AWS because they support many of the species' prey.

ASR Occurrence Data and Connectivity Modeling Data

The nearest occurrence for Alameda whipsnake (AWS #136) is approximately 0.55 mile to the southeast of Tract 8297, and the next nearest occurrence (AWS #41) is approximately 0.8 mile to the northeast of Tract 8297 (**Figure 6-3**). AWS 41 is from 1991, and is listed as "Possibly Extirpated", and AWS #136 is from 1984 and is listed as "Presumed Extant". The Project sites are not within the USFWS-designated Critical Habitat for this species. According to Connectivity Modeling data, the nearest core or patch habitat for AWS is approximately one mile to the east.

Site Survey and Conclusions

A reconnaissance survey of the Project area was conducted by BioMaAS.¹ The Project sites were surveyed on foot, and lands between the Project and nearest AWS occurrences were surveyed to the extent feasible. Based on the survey and other research, the potential for AWS to occur in the Project sites is unlikely. Vegetation, refugia and most likely prey base for AWS in the Project site is poor. In addition, nearby occurrence information is dated, and habitat has been removed or altered dramatically by development since then. However, presence of AWS cannot be entirely ruled out due to the dispersal capabilities of the species and the barrier-free connectivity to the open space (Five Canyons Open Space and Garin Regional Park) to the east and southeast. The specific components that lead to this conclusion include:

- The vegetation in both Tract sites has a history of agricultural use, mowing, grazing and residential use. Historical photo interpretation of the Project sites indicate that these Tract areas do not represent, and may never have represented suitable vegetation for ASR, at least as far back as 1946.
- Scrub/shrub communities with a mosaic of open and closed canopy is non-existent in Tract 8296, and is maintained only in an isolated patch in the southeast corner of Tract 8297. The habitat value of this stand is reduced due to adjacent development and its isolation from other scrub stands.
- The highest quality refugia observed consists of a pile of tree stumps and the basements/foundations of the unoccupied buildings. Fossorial mammal burrows were also present as refugia, but to a lesser degree. No rock outcrops or talus was observed. These habitat features appear marginal for shelter, hibernacula, foraging, dispersal, and prey population support functions.
- No lizard species were observed during the site visit, although conditions were adequate for lizard activity. This is not proof of absence, but may indicate this potential prey species is not abundant in the Project sites.
- Historic photo interpretation shows that due to agricultural use, grazing, mowing and development, the habitat in the Project sites did not contain the quality or quantity of habitat components for AWS in its recent history (since 1946).

¹ BioMaAS Biologist Bill Stagnaro, October 20, 2016. Mr. Stagnaro has extensive ASR trapping and monitoring experience and also possesses a USFWS Recovery Permit and CDFW Scientific Collecting Permit for AWS/ASR.

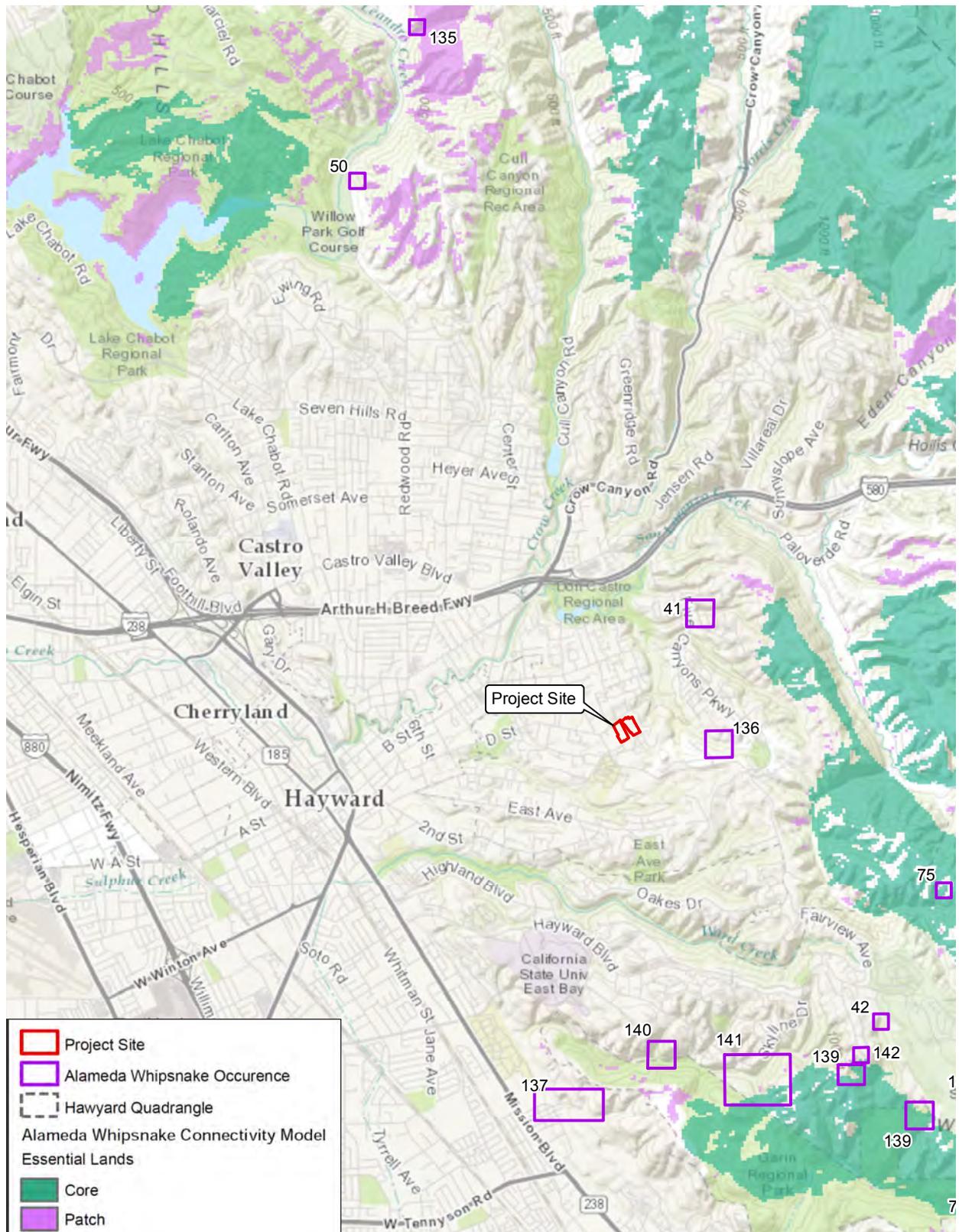


Figure 6-3
Known Occurrences of Alameda Whipsnake
in the Vicinity



Source: BioMaAs 2016, CBG 2016, CNDDDB 2016,

- The development along Five Canyons Parkway is a significant barrier to east-west AWS movement and has effectively removed the open grassland and scrub habitat in between Deer Canyon and Shady Canyon. AWS attempting to access habitat in the Project sites would have to disperse through a narrow band (200 feet) of grassland to the east, follow Deer Canyon to Quarry Road to D Street, or navigate the development barriers of Jelincic Drive to the south. AWS dispersing from the north and the west is highly unlikely due to development.

Other Potential Species

Other species such as the California burrowing owl (*Athene cunicularia*), white-tailed kite (*Elanus leucurus*), and loggerhead shrike (*Lanius ludovicianus*) could forage in the grasslands and potentially establish nests on the site.

- The American badger (*Taxidea taxus*) is known to occur within 10 miles of the Project site. The badger uses open grasslands for foraging and denning, but the habitat on the Project site is too small and too close to urban areas to provide suitable habitat for this species.
- Burrowing owls use rodent burrows (primarily ground squirrel) or other similar refugia for nesting. No ground squirrels or ground squirrel activity were observed on the parcels during the January 2016 field reconnaissance, reducing the likelihood that burrowing owls would use the site.
- White-tailed kites typically nest in trees along marsh or river margins but will use any suitable tree or shrub that is of moderate height, such as the Eucalyptus trees along the eastern edge of the eastern parcel.
- Loggerhead shrikes nest in trees and shrubs and could nest in the coyote brush scrub areas in the eastern parcel.

Regulatory Setting

Federal

Endangered Species Act

The ESA protects plant and wildlife species that are listed as threatened or endangered or proposed for such listing. As a fundamental element of this protection, Section 9 of the ESA prohibits killing, harming, or otherwise “taking” listed animal species. Taking includes such destruction or significant alteration of habitat that actually kills or injures listed animals. Sections 7 and 10 of the Act authorize the USFWS (or, in some instances the National Marine Fisheries) to allow limited take of listed species incidental to otherwise lawful activities (e.g. development of land) provided that the species is not jeopardized and the impacts of the take are mitigated. The ESA does not prohibit the taking of listed plants on private land, but does provide for penalties if such plants are destroyed or removed in violation of state law. With respect to species proposed for listing, the ESA calls on federal agencies to confer with the USFWS if their actions may affect any such species.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA; 16 U.S.C., §703, Supp. I, 1989) prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The trustee agency that addresses issues related to the MBTA is the USFWS. Migratory birds protected under this law include all native birds and certain game birds (e.g., turkeys and pheasants; *Federal Register* 70(2):372-377). This act encompasses whole birds, parts of birds, and bird nests and

eggs. The MBTA protects active nests from destruction and all nests of species protected by the MBTA, whether active or not, cannot be possessed. An active nest under the MBTA, as described by the Department of the Interior in its 16 April 2003 Migratory Bird Permit Memorandum, is one having eggs or young. Nest starts, prior to egg laying, are not protected from destruction.

Nearly all local native bird species are protected by the MBTA.

Clean Water Act

The Clean Water Act (CWA) was enacted as an amendment to the federal Water Pollution Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to waters of the United States. The CWA now serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. CWA empowers EPA to set national water quality standards and effluent limitations and includes programs addressing both point-source and nonpoint-source pollution. Point-source pollution is pollution that originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Nonpoint-source pollution originates over a broader area and includes urban contaminants in stormwater run-off and sediment loading from upstream areas. CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is CWA's primary regulatory and enforcement mechanism.

Section 404 of the CWA regulates the discharge of dredged and fill material into waters of the United States. Waters of the United States refers to oceans, bays, rivers, streams, lakes, ponds, and wetlands, including any or all of the following:

- Areas within the ordinary high water mark of a stream, including non-perennial streams with a defined bed and bank.
- Any stream channel that conveys natural run-off, even if it has been realigned.
- Seasonal and perennial wetlands, including coastal wetlands.

Applicants must obtain a permit from the U.S. Army Corps of Engineers (USACE) for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity.

Section 401 of the CWA requires applicants for permits to discharge dredged or fill material into waters of the United States to obtain from the state a certification that the discharge does not violate state water quality standards. Therefore, certification that a proposed activity meets state water quality standards must be obtained before a USACE permit can be issued under Section 404, though some permits are issued on condition of receipt of said certification. States may choose to certify the USACE nationwide permits (NWP) generally or retain jurisdiction to review them individually. California has not provided state certification for certain NWP that were reissued in 1996 (see 33 CFR as noticed in 61 FR No.241). Therefore, these NWP are not considered "in effect" in California unless they have been individually certified by the State Water Resources Control Board (SWRCB).

State

California Endangered Species Act

The CESA (Fish and Game Code of California, Chapter 1.5, Sections 2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with the CESA, the CDFW has jurisdiction over state-listed species. The CDFW regulates activities that may result in "take" of individuals listed under the Act (*i.e.*, "hunt, pursue, catch, capture,

or kill, or attempt to hunt, pursue, catch, capture, or kill”). Habitat degradation or modification is not expressly included in the definition of “take” under the Fish and Game Code. The CDFW, however, has interpreted “take” to include the “killing of a member of a species which is the proximate result of habitat modification.”

California Fish and Game Code

The California Fish and Game Code includes regulations governing the use of, or impacts to, many of the state’s fish, wildlife, and sensitive habitats.

Certain sections of the Fish and Game Code describe regulations pertaining to certain wildlife species. For example:

- Fish and Game Code §§3503, 2513, and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered “take” by the CDFW.
- Raptors (*i.e.*, eagles, falcons, hawks, and owls) and their nests are specifically protected in California under Fish and Game Code §3503.5. Section 3503.5 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.”
- Non-game mammals are protected by Fish and Game Code §4150, and other sections of the Code protect other taxa.
- The California Endangered Species Act (CESA) allows for take incidental to otherwise lawful activity through section 2081(b) of the Fish and Game Code. For those state-listed species that are also listed under the federal Endangered Species Act, CESA allows for consistency determinations with federal incidental take statements under section 2080.1 of the Fish and Game Code.

Although this Project does not include any wetlands, it is important to note that the CDFW exercises specific authority over rivers, streams and lakes under California Fish and Game Code §1602. Under this section, development activities that will substantially divert, obstruct, or change the natural flow of a river, stream or lake, substantially change the bed, channel, or bank of a river, stream or lake, or use material from a streambed must first notify the CDFW and, if the CDFW identifies existing fish or wildlife resource that would be affected, then the project proponent must obtain (through negotiation or arbitration) a streambed alteration agreement from the CDFW. The type of activities regulated under §1602 include re-channeling and diverting streams, stabilizing banks, implementing flood control projects, crossings of rivers or streams (including bridges and culverted crossings), diverting water, damming streams, mining gravel, and logging operations.

Porter-Cologne Water Quality Control Act of 1969

The Porter-Cologne Water Quality Control Act established the SWRCB and divided the state into nine basins, each with its own regional water quality control board (RWQCB). The SWRCB is the primary state agency responsible for protecting the quality of the state’s surface and groundwater supplies, while the RWQCBs are responsible for developing and enforcing water quality objectives and implementation plans.

The Porter-Cologne Water Quality Control Act authorizes the SWRCB to enact state policies regarding water quality in accordance with Section 303 of the CWA. In addition, the act authorizes the SWRCB to issue Water Discharge Requirements for projects that would discharge to state waters.

With respect to biological resources, the SWRCB and RWQCBs have authority over any fill activities within state waters, including isolated waters or wetlands that may be outside the jurisdiction of the USACE.

Local

The Alameda County Tree Ordinance (Ordinance No: 0-2004-23)

According to the County Tree ordinance, preservation of trees within the County right-of-way enhances the natural scenic beauty, sustains the long term potential increase in property values, protects the surrounding area from soil erosion, moderates the effects of extreme weather conditions and temperatures, improves air quality including increasing the oxygen output of the area which is needed to combat air pollution, creates the identity and quality of the County's businesses and residences, and improves the attractiveness of the County to visitors. For these reasons, the County has enacted Ordinance No: 0-2004-23 to promote the public health, safety and general welfare, while at the same time recognizing individual rights to develop private property in a manner which will not be prejudicial to the public interest, by control the planting, maintenance and removal of those trees located within the County right-of-way.

Fairview Area Specific Plan

As indicated in the Land Use chapter of this EIR, the Fairview Area Specific Plan establishes a variety of policies, principles and guidelines that are intended to protect and preserve important environmental resources and significant natural features in the Fairview area, and promote development that is sensitive to variations in topography and the rural residential character of the area. The Project's consistency with these policies, principles and guidelines is assessed in the Land Use chapter. The Specific Plan also includes the following local policies regarding tree protection and riparian areas:

Large, mature, natural and introduced trees are to be preserved unless:

- a. Alternative designs that would preserve the trees are found by the County to be infeasible or undesirable.*
- b. A certified arborist, as determined acceptable by the County Planning Director, recommends that the trees be pruned or removed because they are:
 - 1) dead, dying, or in irreparable condition; or*
 - 2) will be a fire or safety hazard**

Eucalyptus trees shall be thinned and pruned for safety reasons. Any eucalyptus trees removed shall be replaced with native trees as outlined below. In the event trees must be removed, the developer, builder, or owner shall reestablish at least five 15 gallon sized trees or one boxed, native, specimen tree for every large tree removed. The species, location, and method of installation shall be approved by the County Planning Director. Large, mature trees are those of the following sizes:

- a. 20" diameter breast height (dbh) or greater in circumference measured 4.5 feet above ground level for trees native to this area of California.*
- b. 30" dbh or greater in circumference measured 4.5 feet above ground level for introduced tree species.*

Natural riparian areas shall be preserved, except where life or property are endangered. In such areas, flood control improvements shall be as compatible with, and shall preserve the natural riparian character of the channel. Natural riparian corridors (as defined in the Alameda County

Specific Plan for Areas of Environmental Significance) are to be designated and protected through subdivision, planned development, building permit review, and the Alameda County Water Course Ordinance.

Impacts and Mitigation Measures

The following section describes potentially significant Project impacts to biological resources. Mitigation measures are recommended to avoid, minimize or mitigate such impacts, where feasible.

Significance Criteria

The Project would have a significant environmental impact if it were to:

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS;
3. Have a substantial adverse effect on federally protected wetlands (as defined by Section 404 of the Clean Water Act) or state protected wetlands, through direct removal, filling, hydrological interruption, or other means;
4. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
5. Conflict with any local policies or ordinances protecting biological resources; or
6. Conflict with any applicable habitat conservation plan or natural community conservation plan.

Special Status Plant Species

Bio-1: Special Status Plants. Although the Project Sites are highly disturbed and the flora is dominated by non-native species, there remains a possibility that the Project could have a substantial adverse direct effect on certain special status plant species for which site surveys have not yet been conducted and for which occurrence cannot be definitively determined. **(LTS with Mitigation)**

The Project will result in the permanent removal of approximately 4.2 acres of non-native annual grassland habitat, 2.1 acres of scrub, and 3.5 acres of ruderal areas. All of these plant communities are common throughout the region and their removal is not considered a significant impact, unless special status species are known to be present.

Although no special status plant species are known to be present on the Project site based on site surveys that have been conducted to date, appropriately-timed focused surveys for certain special status plants have not been conducted, and the potential occurrence of these species cannot be definitively ruled out.

Mitigation Measures

Mitigation Measure Bio-1a: Presence/Absence Surveys. Conduct appropriately-timed surveys for the following special status plant species:

- Bent-flowered fiddleneck (*Amsinckia lunaris*), March - June
- Big-scale balsamroot (*Balsamorhiza macrolepis*), March - June
- Fragrant fritillary (*Fritillaria liliacea*), February - April
- Diablo helianthella (*Helianthella castanea*), March - June
- Hairless popcorn flower (*Plagiobothrys glaber*), March – May

If none of these species is found, no further measures are required.

Mitigation Measure Bio-1b: Salvage of Special Status Plants. If any special status plants are found on site during the presence/absence surveys per Mitigation Measure Bio-1a, any such special status plants shall be salvaged prior to construction. Salvage shall be conducted in consultation with CDFW, and may consist of seed collection and relocation or plant transplantation.

Resulting Level of Significance

Implementation of Mitigation Measures Bio-1a and -1b would reduce the Project's potential impacts on special status plants to a less than significant level.

Special Status Animals – Alameda Whipsnake

Bio-2: Alameda Whipsnake. The Project could have a substantial adverse effect, either directly or through habitat modifications, on Alameda whipsnake (AWS). The AWS is a federally and state listed species that is protected under the federal Endangered Species Act and the California Endangered Species Act. **(LTS with Mitigation)**

Given the poor habitat components at the Project sites (see Setting section, above) and the distance and separation from the home range of AWS, it is unlikely that the Project sites provide a source habitat for AWS. Rather, the Project sites can more accurately be described as sink habitat that would have difficulty sustaining a population of AWS. Although the habitat value on the Project sites is poor for AWS, there is a chance that a dispersing individual could enter the Project sites via the currently barrier free property line to the south. Although presence of AWS is unlikely, it is possible that an individual could use the property for forage and dispersal and there is a potential for take of individual snakes during Project construction.

Regulatory Compliance

Because of the potential for presence, it is recommended that the Project applicant consult with USFWS and CDFW in order to determine permitting options and appropriate mitigation, if necessary, for the Project. If this consultation process determines the proposed Project is not likely to affect AWS, the Project may move ahead. If this consultation indicates that the Project may affect AWS, then a Biological Assessment shall be prepared to determine the Project's effect on AWS, and identify appropriate mitigation. Additionally, because presence of AWS cannot be ruled out, consultation with CDFW may result in a recommendation for an Incidental Take Permit (Section 2081 process) to protect the Project applicant from unauthorized take of species, and insure potential impacts are minimized and fully mitigated.

Mitigation Measures

Mitigation Measure Bio-2: Minimize Potential Take of AWS. The Project applicant shall ensure that the following construction-period measures are implemented to minimize the potential take of AWS:

- In order to prevent AWS from entering construction areas during Project development, it is recommended a wildlife exclusion fence be placed at the property boundary at the southern end of the Project Area. The fence should be at least three feet high and should be entrenched three to six inches into the ground. It is recommended that exclusion funnels are included in the fence design so that terrestrial species are able to vacate the Project Area prior to disturbance.
- Monofilament netting, which is commonly used in straw wattle and other erosion preventatives, should not be used on the Project site in order to prevent possible entrapment of both common and special status terrestrial wildlife species.
- Trenches should be backfilled, covered or left with an escape ramp at the end of each work day. Trenches left open overnight should be inspected each morning for trapped wildlife species.
- Prior to initial ground disturbance, a qualified biologist should perform a pre-construction survey in order to insure no AWS are present. The biologist may remain on site for initial ground disturbance if suitable AWS refugia will be disturbed, e.g. small mammal burrows, foundations, large woody debris.

Resulting Level of Significance

Compliance with required regulatory consultation, and implementation of Mitigation Measure Bio-2, potential impacts related to take of Alameda whipsnake would be reduced to a level that is less than significant.

Migratory Birds

Bio-3: Disturbance of Nesting Birds. Project construction activities could interfere with migratory and nesting birds, but would not otherwise interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. **(LTS with Mitigation)**

Construction activities, particularly tree removal, could adversely affect nesting birds protected by the Migratory Bird Treaty Act and/or Fish and Game Code of California. This is a potentially significant impact.

Mitigation Measures

Mitigation Measure Bio-3: Conduct a Pre-Construction Nesting Bird Survey. Pre-construction surveys for nesting birds protected by the Migratory Bird Treaty Act of 1918 and/or Fish and Game Code of California shall be conducted within 30 days prior to initiation of construction, grading or ground-disturbing activities.

- The survey area shall include the Project site and areas within 100 feet of the site, to the extent that access can be obtained.
- If active nests are found, the Project shall follow recommendations of a qualified biologist regarding the appropriate buffer in consideration of species, stage of nesting, location of the nest, and type of construction activity. The buffer shall be maintained until after the nestlings have fledged and left the nest.

- If there is a complete stoppage in construction activities for 30 days or more, a new nesting-survey shall be completed prior to re-initiation of construction activities.

Resulting Level of Significance

Implementation of Mitigation Measure Biological 6-3 would reduce the Project's potential impacts on migratory and nesting birds to a less than significant level.

Wetlands

Bio-4: Wetlands. The Project would not have a substantial adverse effect on federally protected wetlands or state protected wetlands through direct removal, filling, hydrological interruption, or other means. **(No Impact)**

During the site reconnaissance, no federally protected wetlands or riparian habitat were identified on the Project site. There are also no streams or creeks on or near the site that would be substantially altered or otherwise affected by the Project so as to require a streambed alteration agreement under California Fish and Game Code §1602.

Conflicts with Local Applicable Biological Plans, Policies or Ordinances

Bio-5: Conflicts with Local Policies and Plans. The Project does not pose any direct conflicts with local policies or ordinances protecting biological resources. **(LTS)**

As indicated in the Land Use chapter of this EIR, the Project is not consistent with several principles and guidelines of the Fairview Area Specific Plan. These inconsistencies with principles and guidelines of the Fairview Area Specific Plan would result in substantial regrading of the Project that would not retain natural topographic features, grading to create padded lots that do not retain a natural appearance, grading that does not complement and blend with natural landforms, and mass grading for flat building pads in areas currently exceeding 20% slope. However, none of these physical changes are expected to adversely affect any sensitive biological resources, as no sensitive biological resources have been confirmed to be present on the Project sites. Mitigation measures described above would be adequate to avoid adverse direct effects on biological resources that may be found on the Project sites.

The Project does not propose to remove any existing trees within the County right-of-way, but would remove a number of larger, mature trees for the site. Consistent with the policies of the Fairview Area Specific Plan, the Project would be required as a condition of approval to re-establish at least five new 15-gallon trees, or one boxed native specimen tree for every large tree removed. Large, mature trees requiring replacement include native trees at least 20" in diameter at breast height (dbh), or introduced tree species of at least 30" dbh. Introduced tree species include the several Eucalyptus trees on the site, several of which are greater than 30" dbh.

Habitat Conservation Plans / Natural Community Conservation Plans

Bio-6: HCP/NCCP. The Project would not conflict with any applicable habitat conservation plan or natural community conservation plan. **(No Impact)**

There are no approved habitat conservation plans or natural community conservation plans encompassing the Project site. Therefore, there would be no impact in relation to conflicts with any applicable habitat conservation plan or natural community conservation plan.

Cultural Resources

This chapter evaluates the Project's potential impacts on cultural and historic resources. It describes existing cultural and historic periods of significance in the Project area and region, and evaluates potential for changes to cultural or historic resources that may result from development of the Project. The analysis and discussion in this chapter is based primarily on the following technical report, which is incorporated by reference and included in the Appendix to this EIR:

- William Self Associates, Inc. (WSA), *Cultural Resources Assessment Report (CRAR) for the proposed Bassard Property Project* located at 3231, 3247, 3289 and 3291 D St. (Project) in Castro Valley, Alameda County, CA, dated November 2015. (**Appendix E**)

This CRAR was prepared in compliance with CEQA Section 15064.5 to evaluate the potential significance of cultural resources within the Project sites, to present the results of research conducted to identify and evaluate potential cultural resources, and to assess the Project's potential impacts on such resources. The CRAR presents the results of records searches and Native American consultations, as well as the results of a field survey and historic structure documentation and evaluation. It also provides recommendations for mitigation measures to reduce or avoid potential impacts to cultural resources that may be adversely affected by the Project area.

Project Location

The Project is located within Township 3 South, Range 2 West, Sections 11 and 14, as depicted on the 1993 Hayward U.S. Geological Survey 7.5 minute topographic quadrangle. The Project area is bordered by D Street along the northern boundary, residential properties on the eastern and western boundaries, and open, mostly undeveloped private property on the southern boundary.

The Project is located on two separate but nearby sites totaling 9.78 acres, which are made up of seven separate parcels in the unincorporated Fairview district of Alameda County in the Hayward Hills. The Project sites are on the south side of D Street, approximately 600 feet northeast of its intersection with Fairview Avenue. Access to the site is from D Street.

Cultural Setting

History of the Region

The following provides a relatively brief summary of the cultural setting of the region within which the Project site is located. More detailed information regarding this cultural setting can be found within the Cultural Resources Assessment Report (WSA, 2015) located in the Appendix to this document.

Prehistoric Archaeological Background

Several methodologies for describing the prehistoric cultures of the San Francisco Bay region have been developed. Given the expanse of central California, as well as the complex nature of cultural change

over space and time, any single classification system of prehistoric cultures is limited. Such classification systems adapt over time as new information is discovered and understandings about the past evolve. One such system that has evolved provides for the definition of three cultural patterns throughout the prehistoric period; the Windmill, Berkeley and Augustine patterns. A pattern is defined as “[an] adaptive mode(s) extending across one or more regions, characterized by particular technological skills and devices, particular economic modes, including participation in trade networks and practices surrounding wealth, and by particular mortuary and ceremonial practices.”¹

Windmill Pattern

The Windmill Pattern sites are most often found in the Early Period (ca. 6000–500 B.C.). Windmill Pattern sites are often situated in riverine, marshland, or valley floor settings, as well as atop small knolls above prehistoric seasonal floodplains, locations that provided a wide variety of plant and animal resources. Some scholars have suggested that Windmill Pattern sites are associated with an influx of people from outside California who introduced subsistence strategies adapted for a riverine wetlands environment.² Artifacts found from this period often include large projectile points and a variety of fishing gear, as well as stone mortars and grindstones for seed and nut processing.

Berkeley Pattern

The Berkeley Pattern overlaps with the Windmill Pattern, dating from at least 3000 B.C. through A.D. 1.³ The people characterized by the Berkeley Pattern expanded eastward to the Central Valley after about 500 B.C. Berkeley Pattern sites are much more common and well documented, and therefore better understood, than Windmill Pattern sites. Berkeley sites are scattered in more diverse environmental settings, but riverine settings are prevalent. Deeply stratified midden deposits that developed over generations of occupation are common to Berkeley Pattern sites. These middens contain numerous milling and grinding stones for food preparation. Projectile points in this pattern are larger in earlier times but become progressively smaller and lighter over time, culminating in the introduction of the bow and arrow. Shell beads, pendants and other ornaments are occasionally found.

Augustine Pattern

The Augustine Pattern ranges from as early as A.D. 700 to about A.D. 1750, and is typified by intensive fishing, hunting, and gathering (especially of acorns), a large population increase, expanded trade and exchange networks, and increased ceremonialism. Artifacts distinctive to this pattern include bone awls used in basketry, small notched and serrated projectile points that are indicative of bow-and-arrow usage, occasional pottery, clay effigies, bone whistles, and stone pipes.

During these prehistoric periods, the region was occupied by the Ohlone or Costanoan group of Native Americans. Although the term Costanoan is derived from the Spanish word *Costaños*, or “coast people,” its application as a means of identifying this population is based in linguistics. The Costanoans spoke a language now considered one of the major subdivisions of the Miwok-Costanoan, which belonged to the Utian family within the Penutian language. Costanoan-speaking tribal groups occupied the area from the Pacific Coast to the Diablo Range, and from San Francisco to Point Sur. Modern descendants of the

¹ Fredrickson, David A., 1994 *Spatial and Cultural Units in Central California Archaeology. Toward a New Taxonomic Framework for Central California: Essays* by James A. Bennyhoff and David A. Fredrickson, R. Hughes editor, Contributions of the University of California Archaeological Research Facility 15. Berkeley.

² Moratto, Michael J., 1984. *California Archaeology*. Academic Press, New York.

³ Ibid.

Costanoan prefer to be known as Ohlone. On the basis of linguistic evidence, it has been suggested that the ancestors of the Ohlone arrived in the San Francisco Bay area about A.D. 500, having moved south and west from the Sacramento-San Joaquin Delta. The vestiges of many village sites within the San Francisco Bay Area have been found in numerous locations around the Bay shoreline in the form of shell mounds - large accumulations of shell, ash, artifacts, and occasionally human remains.

Historic Periods

The historic periods within the region generally begin concurrent with European contact with the Ohlone peoples, beginning in the late 1700's. An overview of historic periods of the region is summarized below.

Spanish Exploration and Colonization

The Spanish Period in the Bay Area began in 1775 when Captain Juan Manuel Ayala's expedition entered the area and ventured up the Sacramento and San Joaquin rivers in search of a suitable mission site. The first mission in the region, Mission San Francisco de Assis (Mission Dolores), situated near the shores of San Francisco Bay, was established the following year. Mission San Jose, located in modern Fremont, was established approximately twenty years later. Mission lands were used primarily for the cultivation of crops, animal grazing, and garden and orchards. The missions relied on the Native American population both as their source of Christian converts and their primary source of labor. By the mid-1790s, traditional Ohlone lifeways had been significantly disrupted, and diseases introduced by the early expeditions and missionaries, and the contagions associated with the forced communal life at the missions, resulted in the death of a large number of local peoples.

Mexican Rule and Secularization of the Mission System

Following Mexican independence from Spain in 1821, control of Spain's North American colonial outposts was ceded to the Republic of Mexico. Alta California became a province of the new republic under Mexican rule. The numbers of Mexican and non-Mexican born immigrants continued to increase during this period. Secularization of the Spanish Mission system began in California in 1834, as former mission lands were parceled out in large land grants. The Project area is located within what was the Rancho San Lorenzo, granted to Don Guillermo Castro in 1841.

The Mexican-American War and the Gold Rush Lead to Statehood

In 1836, a revolution in Texas drove out the Mexican government and created an independent republic, and the following year Mexico and the United States were at war. California was officially annexed to the United States in 1848. Shortly after the end of the war, discovery of gold in the Sierra Nevada ignited a major population increase in the northern half of California as immigrants poured into the territory seeking gold or the opportunities inherent in producing goods or services for miners.

The Final Decades of the 19th Century

Miners returning from the goldfields and newly arrived immigrants began settling in southern Alameda County in the 1850s, purchasing property from Don Guillermo Castro's Rancho San Lorenzo. The area that would become Castro Valley served as a stopping point for travelers and grew into a small community. In 1854, Castro platted the town which he called San Lorenzo, establishing the basic layout of the modern city of Hayward. Hayward's location as a stage stop between Oakland and San Jose, as well as the development of a short-lived local rail line between Alameda and Hayward spurred early growth near the Project area. Maps from 1878 (Thompson & West) depict the Project's general area as one of many parcels owned by Faxon Dean Atherton, who amassed a fortune importing and exporting goods during the Gold Rush. By 1890, the Castro Valley area was described as "... one series of

vegetable gardens. From East Oakland to Niles, Sunol, and Livermore is an almost uninterrupted series of orchards of deciduous fruits, vineyards and berry gardens.”⁴ By the early 1900s, lands in the Project vicinity were one of the country’s largest producers of peas, rhubarb, apricots and tomatoes⁵.

20th Century Expansion

The turn-of-the-century ushered in a new era for Castro Valley farmers, as chicken ranches joined the Valley’s orchards. The enterprise dominated local agriculture. Though the small community continued to grow, and thoroughfares like Castro Valley Boulevard began to fill with businesses, the area maintained its largely rural character during the early 20th-century.

Cultural Resources at the Project Site

Records Search

On September 17, 2015, WSA conducted a records search of the Project site at the Northwest Information Center at Sonoma State University (NWIC) (File No. 15-0404). The records search included a review of cultural resource and excavation reports and recorded cultural resources within a 1/4-mile radius of the Project site. The records search also included a review of the Office of Historic Preservation’s Directory of Historic Property Data File for Alameda County, and the California Inventory of Historic Resources. A total of three cultural resources studies have been conducted within 1/4 mile of the Project site, but none within the Project site itself. These previous studies identify eight previously recorded resources located outside of but within ¼-mile of the Project site. Seven of these recorded resources are single-family homes dating from the 1920s to the 1950s, and one resource is a historic-era rock quarry. No archaeological resources have been recorded within 1/4 mile of the Project site.

Native American Consultation

WSA contacted the Native American Heritage Commission (NAHC) by email on September 14, 2015, requesting information on sacred lands and a contact list of local tribal representatives. A response was received from the NAHC on September 22, 2015 noting, “A record search of the sacred land file has failed to indicate the presence of Native American cultural resources in the immediate project area.” A list of Native American contacts was included in the response. WSA contacted the Native American representatives by letter on September 30, 2015, informing them of the Project. Follow-up phone calls to the Native American representatives were placed on October 14, 2015. No comments or recommendations were received. A record of the Native American consultation can be found in the Appendix.

Archaeological Reconnaissance Survey

A pedestrian archaeological reconnaissance survey was conducted by WSA Staff Archaeologist Thomas Young on October 14, 2015, using transect intervals of not more than 30 m (98 ft.). All exposed ground surface within the Project site was examined for the presence of identifiable prehistoric site indicators. Prehistoric site indicators include, but are not limited to areas of darker soil with concentrations of ash, charcoal, bits of animal bone (burned or unburned), shell, flaked stone, ground stone, or even human bone. No archaeological cultural resources were observed on the Project site during the survey. The archaeological survey of the Project site did not identify any evidence of previously unrecorded archae-

⁴ Markham, Henry H., 1893 *Resources of California*. State Office, Sacramento, CA.

⁵ Willard, Ruth Hendricks, 1988 *Alameda California Crossroads: An Illustrated History*. Windsor Publications, Inc. Northridge, CA.

ological resources, and a records search indicates that no previously recorded archaeological resources are located on the property.

Based on the records search, the attempted consultation with Native American representatives and the site survey, there is no known evidence of Native American/tribal cultural resources on the Project site.

Project Area History/Archival Research

At the time Thompson & West's 1878 atlas of Alameda County was published, the project area was part of an undeveloped and un-sectioned tract of hilly land owned by F. D. Atherton, bounded on the east by Palomares Creek and the north by San Lorenzo Creek. The nearest populated areas bordered Dublin Road, which loosely followed the channel of San Lorenzo Creek between about a quarter mile and a half mile to the north. By 1899, the USGS 15' topographic quadrangle for Hayward, Calif. included one building at the approximate location of the main house at 3289 D Street, at the time one of only three houses on the short stretch of road extending northeast from Fairview Avenue. Assessor's map books from 1898 and 1901, in the collection of the Hayward Area Historical Society, show that the undivided 20 acre parcel encompassing the project area, with its northwest corner at Quarry Street and Cemetery Avenue was owned by F. E. Garcia. The Garcia name was held by families in Eden Township who were first and second generation Portuguese immigrants from the Azores, and the landowner might have been among these residents.

The 1915 15' USGS topographic quadrangle shows the same arrangement of buildings, with only one structure depicted in the project area. Though street addresses for the area are not listed in the 1920 United States Census for the vicinity, as most residents are recorded as living on farms, it is possible to ascertain the character of settlement around the project area at this time. Resident families along Fairview Avenue between Maud Avenue and Cemetery Road and in the Fairview Precinct were headed by first-generation Californians or immigrants from the Azores, Norway, Germany, or Italy. Many operated fruit and poultry farms, while other residents had vocations including automobile mechanic, plumber, electrician, and one "inheritance law" attorney. The majority owned, rather than rented, their homes.

The 1930 census shows a similar general pattern of residents along Fairview Avenue, and includes a listing for Theodore W. and Delia Lakin at Box 438B. The Lakin family lived at what would become 3291 Quarry Road (Thomas Brothers 1938), or D Street between 1930 and 1948, and the Kansas-born Theodore's listed occupation changed from poultry farmer in 1930 to engineer beginning in 1936. A. 1956-1957 Assessor's parcel map shows that Theodore Lakin still owned the property at this time. The parcel included what is now Lot 5 and part of the narrow adjacent Lot 6, which provided the access road to his residence at 3291 D Street. The 1957 Southern Alameda County Telephone Directory lists a Priscilla O. Lakin at the address, now 3291 D Street rather than Quarry.

Poultry farmer Chancie E. Quinn and Chancie A. Quinn (likely father and son) registered to vote in 1934 as residents of 3247 Quarry Road. By 1940, Mrs. Alma and Ray Gish, both born in the United States, and their 6 year old daughter Patricia Ann lived at 3247 Quarry Road, neighboring the Lakins. Though poultry farms still populated Fairview Ave. in 1940, Ray Gish listed his occupation as Foundry Moulder. By 1942 the Gish family had left 3247 Quarry Road, and the property was occupied by the family of fire engine operator Joseph Francisco and his wife, Winifred.

After the Second World War, increased demand for housing in the East Bay reached to the hills overlooking Hayward, and the 1947 USGS 7.5' quadrangle for Hayward and a 1947 aerial photo taken as part of a survey set for transit planning both show growing suburban housing developments encroaching on former orchard lands in the vicinity. The project area at this time was still more irregularly settled, with buildings at the current locations of the main houses at 3247, 3289, and 3291 D

Street. The aerial photo shows regular rows of an orchard stretching across the parcels of 3289 and 3291 from D Street.

A ca. 1956-1957 set of Assessor's maps assembled into a Real Estate Atlas of Alameda County lists Harry R. and Helen A. Pringle as the owners of the parcel at 3289 D Street, as well as the narrow property to the west including 3265-3269 D Street. Helen Pringle, who worked at a hair salon in Hayward, moved to 3289 Quarry/D Street around 1947, and lived there until at least 1965. J. P. and W. L. Frascisco owned the parcel at 3247 D Street (which at the time had the same dimensions as today). Seamstress Mrs. H.K. Fitzpatrick and Mary E. Card lived at 3231 Quarry Avenue in 1948, and Fitzpatrick is listed as the home's owner in a 1951 directory. The parcel was owned in the mid-1950s by Peter W. and Mary J. Diederich.

Architectural Survey and Assessment

WSA architectural historian Aimee Arrigoni conducted the architectural survey and assessment of the Project area on October 14, 2015. Potential historic site indicators include, but are not limited to foundations, fence lines, ditches, standing buildings, objects or structures such as sheds, or concentrations of materials at least 50 years in age, such as domestic refuse (glass bottles, ceramics, toys, buttons or leather shoes), or refuse from other pursuits such as agriculture (e.g., metal tanks, farm machinery parts, horse shoes) or structural materials (e.g., nails, glass window panes, corrugated metal, wood posts or planks, metal pipes and fittings, etc.). That survey documents eight standing structures on four properties within the Project site that are 45 years of age or older. These include four main residences, a secondary unit, a barn, a garage and a shed (see **Figure 7-1**). Ms. Arrigoni evaluated the eligibility of these structures for listing in the CRHR, and those conclusions are presented below.

3289 D Street - Residence and Barn

The two-story residence at 3289 D Street was presumably built originally in the early 20th century. However, it has been so heavily modified since its date of construction by a variety of room additions, new roofline styles and alterations to its façade and exterior finish that the original building is virtually unrecognizable. The property also contains a barn to the northeast of the residence, accessed via the driveway that runs along the south side of the home. While they are located on the same parcel, the barn is separated from the residence by a chain link fence. A low, covered wood-frame shade structure, possibly used for chickens or rabbits (identified as a rabbit hutch in Figure 7-1), is located at the rear of the home and is no longer structurally sound. The rabbit hutch is assessed as a part of the residence.

WSA's architectural historian recommends the County find that neither the residence nor the barn at 3289 D Street is associated with events that have made a significant contribution to the broad patterns of California's history. They are loosely associated with the early 20th century development of Alameda County, but do not have an important association with this broad pattern. Neither the residence nor the barn is associated with the lives of people considered important to California's past. Neither the residence nor barn embodies the distinctive characteristics of a type, period, region, or method of construction, nor do they represent the work of an important creative individual or possess high artistic values. The house has been expediently remodeled over time and the barn is simply constructed and lacks architectural detail. They do not reflect a specific aesthetic and the builder used available building materials.

The residence and barn at 3289 D Street do not meet any of the criteria to be eligible for listing in the CRHR.

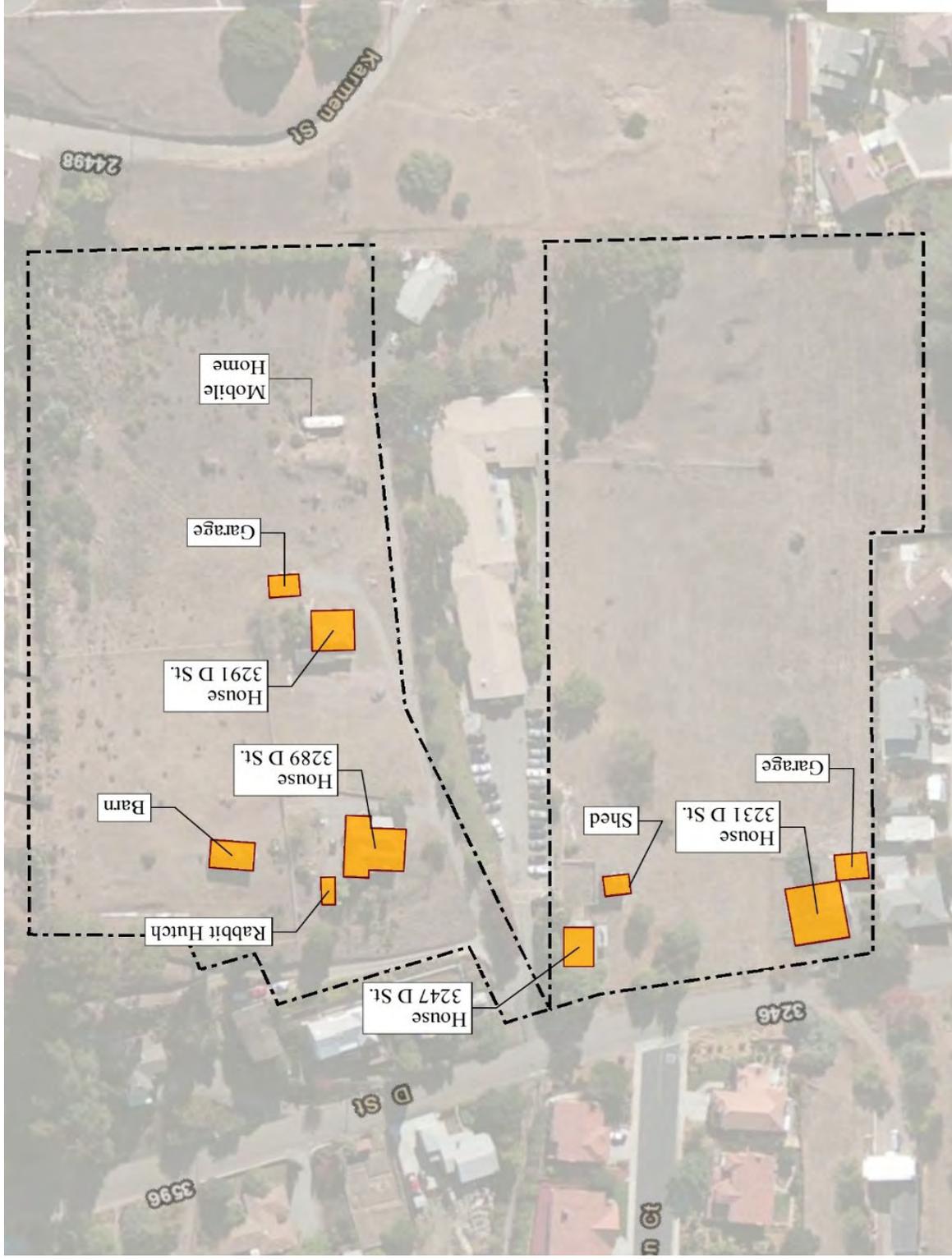


Figure 7-1
Cultural Resources Study Area



3291 D Street - Residence and Garage Renovation

The original portion of the main residence at 3291 D Street was likely built in the early 20th century and appears to have been a single-story residence with a rectangular plan and a dormer on at least one side of the hipped roof (today only the dormer on the west side survives). Since that time, it has been heavily modified and no longer reflects its original form or design elements. A second structure has been constructed at the rear of the main residence. Originally permitted as a garage, it was ultimately finished as an expediently constructed rental unit. It is two-stories and finished in stucco (painted tan) with no trim around the window and door openings.

Neither the residence nor the rear unit at 3291 D Street is associated with events that have made a significant contribution to the broad patterns of California's history. The main residence is loosely associated with the early 20th century development of Alameda County, but does not have an important association with this broad pattern. Neither the residence nor the rear unit at 3291 D Street is associated with the lives of people considered important to California's past. Neither the residence nor the rear unit embodies the distinctive characteristics of a type, period, region, or method of construction, nor do they represent the work of an important creative individual or possess high artistic values. The house has been expediently remodeled over time and the rear unit incorporates modern materials and lacks architectural detail.

The residence and rear unit at 3291 D Street do not meet any of the criteria to be eligible for listing in the CRHR.

3247 D Street - Residence and Shed

The single-story house at 3247 D Street was built in the California Bungalow style, a builder's simplification of the Craftsman bungalow that was popular between ca. 1905 and 1925. It embraced basic Craftsman forms like the covered porch and gently pitched broad gables, but was built with a simpler level of detail. The residence retains many original features, such as its rectangular plan, the gabled roof above the porch that mimics the primary roof, the square columns at the corners of the porch, the small porch railing, and the three-part windows that flank the front entry door. A wood-framed shed covered in corrugated metal has been built behind the residence. It has metal windows and the portion of the shed not supported by the sloping ground beneath it has been braced with modern pressure treated lumber.

Neither the residence nor shed at 3247 D Street is associated with events that have made a significant contribution to the broad patterns of California's history. The main residence is loosely associated with the early 20th century development of Alameda County, but does not have an important association with this broad pattern. Neither the residence nor the rear unit at 3247 D Street is associated with the lives of people considered important to California's past. Neither the residence nor the rear unit embodies the distinctive characteristics of a type, period, region, or method of construction, nor do they represent the work of an important creative individual or possess high artistic values. The house has been expediently remodeled over time and the rear unit incorporates modern materials and lacks architectural detail.

Neither the residence nor the shed at 3247 D Street meet any of the criteria to be eligible for listing in the CRHR.

3231 D Street - Residence and Garage

The residence at 3231 D Street appears to have been built in the mid-20th century and has some of the characteristics of Ranch style architecture that was popular at the time, but in general lacks the design elements that really characterized the style. The single-story residence is built on a slope and has a

partial basement. A detached wood garage with a hipped roof is located at the end of the driveway located along the west edge of the residence. The garage has a large wood garage door and several small additions have been made on the east side.

Neither the residence nor garage at 3231 D Street is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. Neither the residence nor garage at 3231 D Street is associated with the lives of people considered important to California's past. Neither the residence nor the garage embodies the distinctive characteristics of a type, period, region, or method of construction, nor do they represent the work of an important creative individual or possess high artistic values

The residence and garage at 3291 D Street do not meet any of the criteria to be eligible for listing in the CRHR.

Regulatory Setting

This section is consistent with both federal and state regulatory requirements for cultural resources pursuant to Sections 106 and 110 of the National Historic Preservation Act (NHPA) of 1966 (as amended), its implementing regulations (36 Code of Federal Regulations [CFR] Part 800) and the CEQA. Cultural resources include prehistoric and historic archaeological sites, districts and objects; standing historic structures, buildings, districts and objects; and locations of important historic events or sites of traditional/cultural importance to various groups.

Federal

National Historic Preservation Act

The National Historic Places Act of 1966 (NHPA; as amended) established the federal government's policy on historic preservation and the programs, including the National Register of Historic Places (NRHP), through which that policy is implemented. Under the NHPA, historic properties include "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in" the NRHP (16 USC Section 470w (5)). For listing on the NRHP, an historical resource must be significant at the local, state or national level, under one of four criteria. A quality of significance in American history, architecture, archaeology, engineering and culture is present in districts, sites, buildings, structures and objects that possess integrity of location, design, setting, materials, workmanship, feeling and association, and:

- A. that are associated with events that have made a significant contribution to the broad patterns of our history; or
- B. that are associated with the lives or persons significant in our past; or
- C. that embody the distinctive characteristics of a type, period or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- D. that may have yielded, or may be likely to yield, information important in prehistory or history.

The NHPA and its implementing regulations (16 USC Section 470 et seq., 36 CFR Part 800, 36 CFR Part 60 and 36 CFR Part 63) require the Lead Agency (Alameda County Planning Department, in this instance) to consider the effect of a proposed project on historic properties. NHPA also requires that the Lead Agency provide the Advisory Council on Historic Preservation and the State Historic Preservation Officer

with a reasonable opportunity to comment on any undertaking that could adversely affect cultural properties listed or eligible for listing on the NRHP.

State

Historic Resources

CEQA equates a substantial adverse change in the significance of a historic resource with a significant effect on the environment (Section 21084.1 of the Public Resources Code). It defines a substantial adverse change as any proposed demolition, destruction, relocation or alteration that would impair a resource's historic significance (Section 5020.1). Section 21084.1 stipulates that any resource listed in, or eligible for listing in, the California Register is presumed to be historically or culturally significant.

The criteria for listing on the California Register are very similar to listing on the NRHP. The historic resource may be listed in the California Register if it meets one or more of the following criteria:

- (1) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
- (2) It is associated with the lives of persons important to local, California or national history;
- (3) It embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of a master or possesses high artistic values; or
- (4) It has yielded or has the potential to yield information important in the prehistory or history of the local area, California or the nation.

Resources listed in a local historic register or deemed significant in an historic resource survey (as provided under Section 5024.1g) are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates they are not. A resource that is not listed in or determined to be eligible for listing in the California Register, is not included in a local register of historic resources, or is not deemed significant in a historic resource survey may nonetheless be considered historically significant by the Lead Agency for purposes of CEQA (Section 21084.1; Section 21098.1), if there is substantial evidence or a fair argument for such a determination (Section 15384).

Archaeological Resources

CEQA requires a Lead Agency to identify and examine environmental effects that may result in significant adverse effects. Where a project may adversely affect a unique archaeological resource, Section 21083.2 requires the Lead Agency to treat that effect as a significant environmental effect. When an archaeological resource is listed in or is eligible to be listed in the California Register, Section 21084.1 requires that any substantial adverse effect to that resource be considered a significant environmental effect. Sections 21083.2 and 21084.1 operate independently to ensure that potential effects on archaeological resources are considered as part of a project's environmental analysis. Either of these benchmarks may indicate that a project may have a potential adverse effect on archaeological resources.

Tribal Cultural Resources

The Native American Historic Resource Protection Act (Public Resources Code section 21083.09, added by Assembly Bill 52 or AB 52 [2014]) is intended to minimize conflict between Native American and development interests. AB 52 adds "tribal cultural resources" to the specific cultural resources protected under CEQA, and requires lead agencies to notify relevant tribes about development projects. It also mandates lead agencies to consult with tribes if requested, and sets the principles for conducting and

concluding the required consultation process. A tribal cultural resource is defined as a site, feature, place, cultural landscape, sacred place or object with cultural value to a California Native American tribe. AB 52 applies to all projects that have a notice of preparation or notice of negative declaration/mitigated negative declaration filed on or after July 1, 2015. If an agency formally decides to undertake a project after July 1, 2015, AB 52 requirements need to be incorporated.

On August 8, 2016 the Secretary for the California Natural Resources Agency certified and adopted amendments to the CEQA Guidelines including new regulations relative to tribal cultural resources. The following language was adopted for the revised CEQA Guidelines:

- e) Would the project cause a substantial adverse change in the significance of a tribal cultural resource defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:
 - a) 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
 - b) 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. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

The Notice of Preparation (NOP) for this EIR was issued on June 23, 2016, and therefore its provisions are applicable to this Project. As indicated in the Setting section above, a list of Native American contacts was provided by the NAHC, and these contacts were contacted by WSA by letter dated September 30, 2015 informing them of the Project. Follow-up phone calls to the Native American representatives were placed on October 14, 2015. No comments or requests for further consultation were received.

Other California Laws and Regulations

Other requirements for cultural resources management include Code Chapter 1.7, Section 5097.5 (Archaeological, Paleontological, and Historical Sites) of the California Public Resources Code.

The disposition of Native American burials is governed by Section 7050.5 of the California Health and Safety Code and Sections 5097.94 and 5097.98 of the Public Resources Code and falls within the jurisdiction of the NAHC. If human remains are discovered, the County Coroner must be notified within 48 hours and there should be no further disturbance to the site where the remains were found. If the remains are determined by the coroner to be Native American, the coroner is responsible for contacting the NAHC within 24 hours. The NAHC, pursuant to Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased Native American so they can inspect the burial site and make recommendations for treatment or disposal.

Local

Alameda County

Alameda County's policies regarding archaeological and historic resources are that they should be preserved and maintained "to the maximum extent possible...including but not limited to those listed on official State and National Registers." When site preparation and construction activities are proposed, the County's policy follows the State laws that require "adequate identification" of the resources, and,

where appropriate, preserves them (Alameda County, 1981, 1985). To implement these policies, the County has created a Park, Historic, and Recreation Commission and has adopted an overlay zoning designation to allow creation of historic preservation districts (for the latter, see Chapter 17.20, Alameda County General Code).

Alameda County relies on information presented in a technical report prepared in 1976 entitled, “Archaeology in Alameda County: A Handbook for Planners.” That document assesses the potential for archaeological resources throughout the County, using a 4-step sensitivity scale and map that identifies areas of the county that range from minimal to moderate to high to extreme sensitivity. The Project site is in an area that is designated as having “moderate” sensitivity to the potential for encountering archaeological resources.⁶

Impacts and Mitigation Measures

The following section describes potentially significant Project impacts to cultural resources. Mitigation recommendations are made to avoid, minimize, or mitigate such impacts where feasible.

Significance Criteria

The Project would have a significant environmental impact if it were to:

1. Cause a substantial adverse change in the significance of a historic resource as defined in Section 15064.5 of the Public Resources Code or of an historic property as defined by the National Historic Preservation Act.
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the Public Resources Code.
3. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.
4. Disturb any human remains, including those interred outside of dedicated cemeteries.
5. 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:
 - a) 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
 - b) 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. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

⁶ Archaeological Sensitivity in Alameda County, in Archaeology in Alameda County: A Handbook for Planners. 1976.

Historic Resources

Cultural-1: Historic Resources. The Project would not cause a substantial adverse change in the significance of a historic resource or of an historic property. **(LTS)**

As concluded in the WSA Cultural Resource Assessment and summarized in the Setting section above, none of the existing structures on the Project site are eligible for listing on the CRHR or the NRHP, and none are listed on any local register of historic places. As such, none of these structures qualify as historic resources. Demolition of the existing structures on the Project site would have **no impact** on historic resources.

Archaeological Resources, Paleontological Resources, Tribal Cultural Resources, and/or Human Remains

Cultural-2: Archaeological Resources, Paleontological Resources, Tribal Cultural Resources, and/or Human Remains. It is possible that construction work associated with the Project could disturb as-yet unknown archaeological resources, paleontological resources, tribal cultural resources and/or human remains **(LTS with Mitigation)**.

There are no unique geological features found on the Project site, consistent with the lack of such features in the surrounding area. Paleontological resources are not known to be located in the vicinity, therefore none would be expected to be found within the Project site boundaries during construction. The Castro Valley General Plan indicates that there are no known paleontological resources within the study area as defined in that Plan, which is immediately adjacent to the Fairview Area. Therefore, it can be concluded that there are no known paleontological resources within the Fairview area or within the boundaries of the Project site. As indicated in the WSA CRAR, there are no known occurrences of archaeological resources, or known tribal cultural resources at the Project site.

However, construction at the Project will require grading and excavation to a depth of 15 to 20 feet in some locations. This grading work could potentially unearth and directly or indirectly damage previously unrecorded and currently unknown cultural resources. Although unlikely, disturbance of previously unrecorded archaeological resources, tribal cultural resources, paleontological resources and/or human remains represents a potentially significant environmental impact associated with the Project.

Mitigation Measures

Mitigation Measure Cultural -2: Halt Construction/Assess Significance of Find/Follow Treatment Plan.

Prior to the initiation of ground-disturbing activities (including clearing vegetation and demolition procedures), the developer or contractor shall inform all supervisory personnel and all contractors whose activities may have subsurface soil impacts of the potential for discovering archaeological resources, paleontological resources, tribal cultural resources and/or human remains, and of the procedures to be followed if these previously unrecorded cultural resources are discovered. These procedures shall include:

- halting all ground-disturbing activities within 100 feet of the area where a potential cultural resource has been found;
- notifying a qualified archaeologist of the discovery; and
- following a treatment plan prescribed by the appropriate professional if the cultural resource is deemed significant, in accordance with federal or state law.

In the event cultural resources as defined above are encountered during ground disturbing activities, the developer shall, subject to approval by the County of Alameda, retain an on-call

archaeologist to review the excavation work, assess the significance of the potential cultural resource and prescribe a treatment plan. The archaeologist will consult with a paleontologist or tribal cultural resource specialist as required. The archaeologist shall report any finds in accordance with current professional protocols. The archaeologist shall meet the Professional Qualifications Standards mandated by the Secretary of the Interior and the California Office of Historic Preservation.

In the event that any human remains are uncovered at the Project site during construction, there shall be no further excavation or disturbance of the site or any nearby area until after the Alameda County Coroner has been informed and has determined that no investigation of the cause of death is required, and (if the remains are determined to be of Native American origin) the descendants from the deceased Native American(s) have made a recommendation to the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.

Resulting Level of Significance

Implementation of Mitigation Measure Cultural 7-1 would reduce the Project's potential impact related to discovery and potential damage to as-yet unknown and unanticipated archaeological resources, tribal cultural resources, paleontological resources and/or human remains to a less than significant level by halting all ground work if a resource is discovered during grading, and implementing recommendations to be made by the proper cultural resources professional in accordance with state and federal law.

Hydrology and Water Quality

This chapter evaluates the Project's potential impacts on hydrology and water quality within its watersheds, which extend from the Project sites in both east- and westward directions and downhill westerly to San Francisco Bay. This chapter describes existing drainage conditions in the Project area, and evaluates potential changes to area hydrology and water quality that may result from development of the Project. The analysis and discussion in this chapter is based primarily on the following technical information, which is incorporated by reference and included in the Appendix to this EIR:

- Balance Hydrologics, Inc., *DRAFT - Summary of Preliminary Stormwater Infrastructure Sizing for the D Street Properties (Tracts 8296 and 8297)*, Alameda County, California, dated September 2015. (**Appendix F**)
- Carlson Barbee & Gibson, Inc., Vesting Tentative Map, *Preliminary Stormwater Management Plan for D Street Properties*, March 2016.

This technical information was prepared primarily to identify requirements for stormwater management infrastructure for the Project to meet a range of regulatory requirements that address the water quality of stormwater runoff from the site, flow controls to minimize impacts associated with increased stormwater flows from the site, and management of stormwater to avoid flooding.

Environmental Setting

Local Topography and Existing Drainage Patterns

The Fairview area is characterized by gentle hills and three main ridgelines that extend downward from the upper ridges of the East Bay Hills westward to central Hayward, and which divide the area into watersheds as shown in **Figure 8.1**. Each watershed drains to one of the three main creeks in the area that flow to San Francisco Bay, including San Lorenzo Creek, Sulphur Creek and Ward Creek.

Most of the Fairview area drains into San Lorenzo Creek, which begins where Palomares and Eden Canyon Creeks merge in the hills east of Castro Valley, about a mile and a half upstream from the Don Castro Reservoir. The Don Castro Reservoir captures and holds creek flows to avoid downstream flooding and also provides a regional recreation area with a swimming lagoon.

The Five Canyons area of Fairview is within a large watershed of approximately one and a half square miles that contains three unnamed "blue line" creeks (i.e., mapped by the United States Geological Survey, or USGS). These creeks flow into San Lorenzo Creek almost directly upstream from the Don Castro reservoir, one of which is referred to as Deer Canyon Creek.

The west side of the Five Canyons watershed is separated from the east side of the Sulphur Creek and lower San Lorenzo Creek watershed by a ridge that extends north from near the intersection of Fairview Avenue and Five Canyons Parkway, through the middle of the Project site, and northwesterly towards the Don Castro Reservoir.

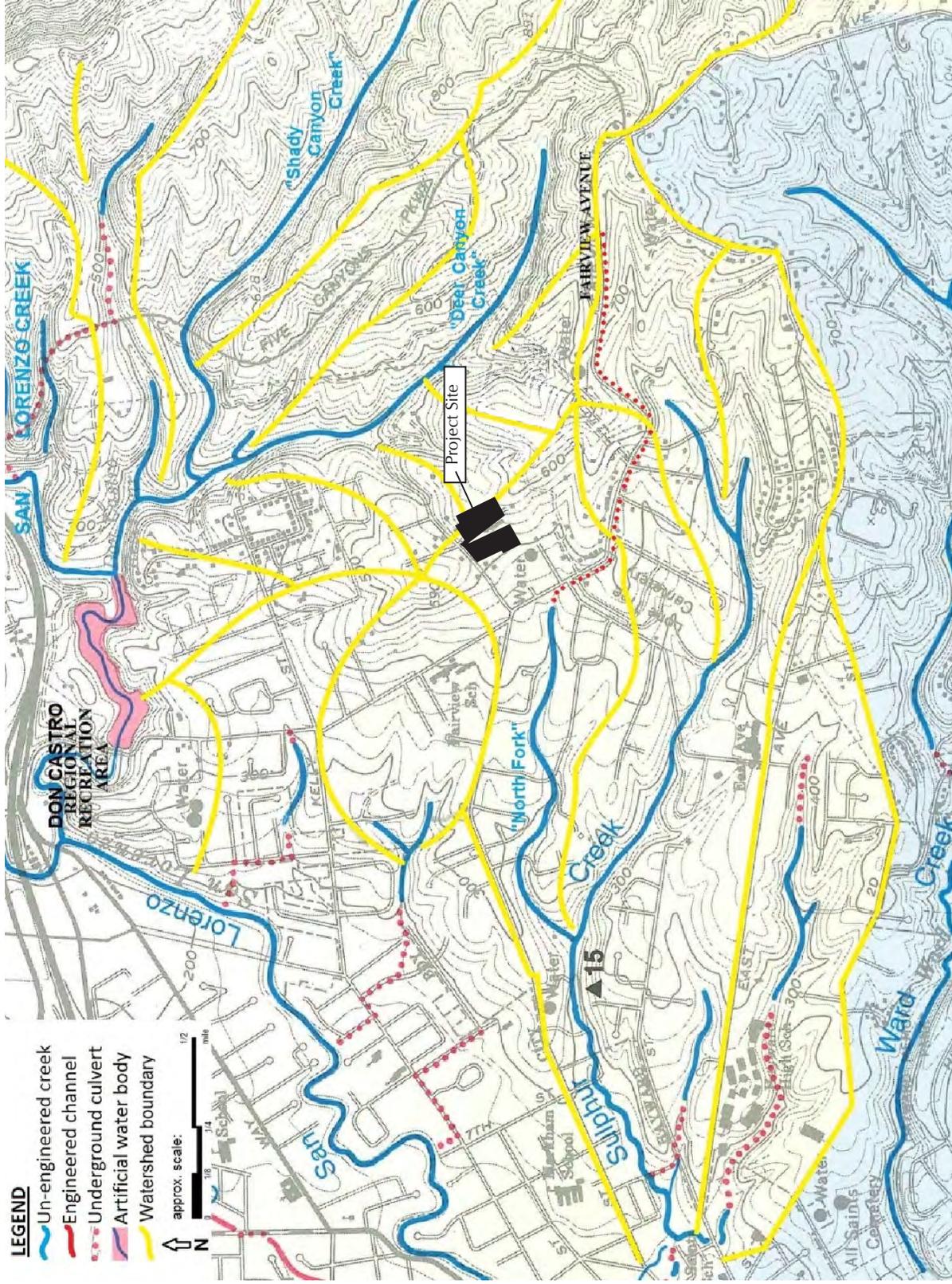


Figure 8-1
Watersheds, Creeks and Drainage Facilities in the Fairview Area

Source: Oakland Museum of California, 1997 – with Alameda County Planning Department annotations

Fairview Avenue and D Street follow another ridgeline that forms the northern side of the Sulphur Creek watershed. Second Street forms the northern boundary of the Ward Creek watershed. The Sulphur Creek watershed is further divided into northern and southern branches or forks.

In general, surface runoff begins when rainfall exceeds the saturation point of the soil and develops into overland flow. Surface runoff begins as overland flow across landscapes, pavements, compacted earth and other surfaces, and makes its way to existing storm drain facilities or open creeks. Streams and creeks emerge when the water table (groundwater) intersects with steep slopes, or where opposite slopes intersect to form valleys where surface flows continue downhill without percolating into the soil (i.e., when the amount of surface water exceeds the ability to be absorbed). Surface waters in the Fairview area flow through a mixture of natural creeks, open engineered channels, underground conduits (or stormwater drainage pipes) as well as many short conduits under roads and driveways.

Existing Drainage Patterns on the Project Site

Figure 8-2 shows the three separate sub-watersheds which capture stormwater drainage from the Project sites:

- The western Project site (Tract 8296) is mostly open ground (labeled Ex-W on **Figure 8-2**), and most stormwater infiltrates through the soil into shallow groundwater. Excess stormwater sheet-flows as surface runoff downslope to the west, into the existing adjacent residential neighborhoods or the East Bay Municipal Utility District water storage tank property. Some portion of this surface runoff flows to the existing storm drain system along Fairview Avenue that drains by an outfall into the north branch of Sulphur Creek, just west of Fairview Avenue and south of D Street.
- The eastern Project site (Tract 8297) is situated on a ridge. Under existing conditions, roughly half of the eastern site's surface runoff (labeled Ex-E1 on **Figure 8-2**), excluding infiltration to the subsurface, flows westward toward the Hilltop Convalescent Center property, and in turn drains toward D Street. Due to deteriorated pavement on the Center's parking lot, there is some degree of infiltration to the subsurface. Surface or sheet flow runoff from the Center and the northerly portion of the eastern site onto D Street drains easterly along the gutter into a drain near Machado Court and in turn to an outfall into a branch of Deer Canyon Creek.¹
- Most of the remainder of the eastern site (Ex-E2 on **Figure 8-2**) flows to the east, toward a concrete V-ditch along a portion of the west side of the Machado Court subdivision. From the V-ditch, it is collected into an existing storm drain line that crosses Machado Court, with a separate outfall into another branch of Deer Canyon Creek. As such, all of the eastern site stormwater flows through the Five Canyons Open Space area and eventually joins San Lorenzo Creek at Don Castro Reservoir.
- The northeastern portion of the eastern site's surface runoff, with north and east-facing slopes behind the homes along D Street (an area not labeled on **Figure 8-2**), drains through the Machado Court neighborhood and through properties along the south side of D Street.

¹ Under existing conditions, a small portion of the Hilltop Convalescent Center is shown as being within sub-watershed Ex-E1 and draining to the northwest toward D Street. The hydrology analysis shows that, with changes in runoff directions due to the Project, this area will be channeled to a proposed new storm drain line in D Street that flows eastward. This is discussed in further detail and shown in Figure 8-6 later in this chapter.



Figure 8-2
Pre-Project Watershed Map



Regulatory Setting

Construction of the proposed Project is subject to several regulatory programs, laws, and regulations that aim to protect surface water resources. In some cases, federal laws are administered and enforced by state and local government. In other cases, state and local regulations in California are stricter than those imposed by federal law. This section summarizes relevant regulatory programs, laws, and regulations with respect to hydrology and water quality and how they relate to the proposed Project.

Federal Regulations

Clean Water Act (CWA)

The CWA established the basic structure for regulating discharges of pollutants into the waters of the U.S. and gave the USEPA the authority to implement pollution control programs such as setting wastewater standards for industry. The CWA sets water quality standards for all contaminants in surface waters. The statute employs a variety of regulatory and non-regulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The U.S. Army Corps of Engineers (USACE) has jurisdiction over all waters of the U.S. including, but not limited to, perennial and intermittent streams, lakes, and ponds, as well as wetlands in marshes, wet meadows, and side hill seeps. Under Section 401 of the CWA, every applicant for a federal permit or license for any activity that may result in a discharge to a water body must obtain State Water Quality Certification that the proposed activity will comply with state water quality standards.

National Pollutant Discharge Elimination System

The CWA has nationally regulated the discharge of pollutants to the waters of the U.S. from any point source since 1972, but 1987 amendments to the CWA added section 402(p) which established a framework for regulating non-point source (NPS) storm water discharge. The National Pollutant Discharge Elimination System (NPDES) permit program under the CWA controls water pollution by regulating point and nonpoint sources that discharge pollutants into “waters of the U.S.” California has an approved state NPDES program. The USEPA has delegated authority for NPDES permitting to the California State Water Resources Control Board (SWRCB), which has nine regional boards. The San Francisco Bay RWQCB regulates water quality in the Project area.

State Regulations

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, Division 7 of the California Water Code, requires the State Water Resources Control Board (SWRCB) to adopt water quality control plans. The purpose of these plans is to establish water quality objectives for specific water bodies. The act also authorizes the NPDES program under the CWA, which establishes water quality requirements for discharges to waters of the state. Most of the implementation of SWRCB’s responsibilities is delegated to nine regional boards. The San Francisco Bay RWQCB has established the regional basin plan and the permit requirements for stormwater runoff for the Project site (see Regional Water Quality Control Board section below).

Regional Regulations

Regional Water Quality Control Board

The San Francisco Bay Regional Water Quality Control Board (RWQCB) is responsible for the protection of beneficial uses and the quality of water resources within the San Francisco Bay region, and has developed, adopted and implements the San Francisco Bay Water Quality Control Plan (Basin Plan) as the master policy document, which contains descriptions of the legal, technical and programmatic bases of water quality regulation in the San Francisco Bay Region. The San Francisco Bay RWQCB also administers the NPDES stormwater permitting program and regulates stormwater in the San Francisco Bay region.

Construction General Permit

Stormwater discharges from construction activities on one acre or more are regulated by the RWQCB and are subject to the permitting requirements of the NPDES General Permit for Discharges of Stormwater Runoff Associated with Construction Activity (Construction General Permit). The RWQCB established the Construction General Permit program to reduce surface water impacts from construction activities. Construction associated with the Project would be required to comply with the current NPDES permit requirements to control stormwater discharges from the construction site.

The Construction General Permit requires preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) for construction activities. The SWPPP must include specifications for best management practices (BMPs) that would need to be implemented during project construction. BMPs are measures that are undertaken to control degradation of surface water by preventing soil erosion or the discharge of pollutants from the construction area. The SWPPP must describe measures to prevent or control runoff after construction is complete and identify procedures for inspecting and maintaining facilities or other project elements. Examples of typical construction BMPs include scheduling or limiting activities to certain times of year, installing sediment barriers such as silt fence and fiber rolls, maintaining equipment and vehicles used for construction, tracking controls such as stabilizing entrances to the construction site, and developing and implementing a spill prevention and cleanup plan. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling.²

The California Stormwater Quality Association (CASQA) has also established BMPs for the State of California in the California Storm Water Best Management Practice Handbook in 2003.

It is the responsibility of property owners to obtain coverage under the Construction General Permit by submitting a Notice of Intent (NOI) with the SWRCB's Division of Water Quality, indicating their intention to be covered under the Construction General Permit and providing general information on the types of construction activities that will occur on the site.

NPDES C.3 Provisions

The NPDES Permit also includes performance standards for new development, also referred to as Provision C.3 requirements. The C.3 requirements include measures for permittees to use in planning appropriate source controls in site designs to include stormwater treatment measures in development projects to address both soluble and insoluble stormwater runoff pollutant discharges. An additional goal is to prevent increases in runoff flows primarily accomplished through implementation of low impact development (LID) techniques and "green" infrastructure (pavers, rain gardens, landscaping, and

² California EPA, State Water Resources Board, Construction General Permit Fact Sheet, September 2009, as modified. http://www.swrcb.ca.gov/water_issues/programs/stormwater/constpermits.shtml

trees) to slow stormwater runoff, remove pollutants, and improve water quality. Provision C.3 requires that suitable and effective means of controlling volume and flow rates are applied to each water quality treatment method or system. These requirements are implemented through local regulations, discussed below.

A “significant redevelopment project” is defined as a project on a previously developed site that results in addition or replacement of total of 43,560 square feet (one acre) or more of impervious surface. According to the C.3 provision, projects of greater than 1 acre qualify as “significant redevelopment projects” and are required to comply with the C.3 provisions of the NPDES Permit.

Local

Alameda Countywide Clean Water Program

The Alameda Countywide Clean Water Program was established in 1991 and includes 17 member agencies (including the 14 cities of Alameda County, plus the Alameda County Flood Control District, Alameda County and the Zone 7 Water Agency) that work together to protect creeks, wetlands and San Francisco Bay, including jointly funding water quality related objectives. The member agencies have developed performance standards to clarify the requirements of a stormwater pollution prevention program, adopted stormwater management ordinances, conducted extensive education and training programs, and reduced stormwater pollutants from industrial areas and construction sites.

The Alameda County Flood Control & Water Conservation District (District) is a separate legal entity apart from the County of Alameda, created in 1949 to provide for the control of flood and storm waters, and conservation of water resources. The District provides administrative and contracting services for the Alameda Countywide Clean Water Program to help comply with federal and state requirements to improve water quality and better manage urban stormwater and runoff.

Municipal Regional Stormwater NPDES Permit

The Municipal Regional Stormwater NPDES Permit (MRP) issued by the RWQCB (Permit No. CAS612008), is designed to enable county-wide agencies to meet CWA requirements, and includes a comprehensive plan to reduce the discharge of pollutants to creeks, San Francisco Bay and the ocean, to the maximum extent possible. The MRP addresses the following major program areas: regulatory compliance, focused watershed management, public information/participation, municipal maintenance activities, new development and construction controls, illicit discharge controls, industrial and commercial discharge controls, monitoring and special studies, control of specific pollutants of concern, and performance standards.

The District’s Clean Water Division represents unincorporated Alameda County as a co-permittee of this MRP and administers the stormwater program within unincorporated Alameda County, primarily by controlling pollution in the local storm drain sewer systems. Activities include commercial and industrial inspection, watershed assessment and monitoring, new development and construction site control, illicit discharge control, and public outreach. The District relies on the staff of the Alameda County Public Works Agency to carry out its mission.

Alameda County Regulations

Although staff is shared between the Alameda County Public Works Agency and the District, there is no legal link between the two. Alameda County, through the County Public Works Agency, regulates stormwater programs of the MRP through Chapter 13.08 of the County General Ordinance Code. Alameda County Public Works Agency’s Development Services Department, Clean Water Division

implements programs mandated by the Clean Water Act and required by the California Water Quality Control Board. Its objective is to improve water quality by means of comprehensive watershed management strategies. The majority of the work in the Clean Water Division involves coordinating and supporting the work required to implement NPDES permits within the unincorporated area throughout Alameda County.

Stormwater Management and Discharge Control Ordinance

The Alameda Code Title 13, Chapter 13.08: Stormwater Management and Discharge Control is intended to ensure the future health, safety, and general welfare of county citizens by; a) eliminating non-stormwater discharges to the municipal separate storm drain; b) controlling the discharge to municipal separate storm drains from spills, dumping or disposal of materials other than stormwater; and c) reducing pollutants in stormwater discharges to the maximum extent practicable. The requirements of this Code chapter assure consistency with the requirements of the federal CWA and NPDES Permit, and enable the Director of Public Works to adopt regulations establishing controls on the volume and rate of stormwater runoff from new developments to minimize the discharge and transport of pollutants.

Engineering Design Guidelines

The 2008 Engineering Design Guidelines prepared by the County Public Works Department requires among other things that the design of storm drain facilities must conform to the requirements established in the current Alameda County Flood Control and Water Conservation District's "Hydrology and Hydraulics Criteria Summary." This Summary provides guidance on stormwater quality control measures including;

- Treatment controls – the removal of pollutants from stormwater prior to releasing the stormwater to the public stormwater system;
- Source controls – preventing contact between stormwater and potential sources of pollutants;
- Site design – reducing impacts to waterways by reducing the amount of impervious surface, or by reducing the flow of water from impervious surfaces; and
- Hydro-modification management – controlling increases in peak runoff flow and volume when these increases would likely have negative impacts, including erosion of creek banks and siltation, on creeks and other waterways. Such controls may include but are not limited to detention basins and site design methodologies. For certain projects, flow duration control facilities are required, which detain excess stormwater and release it at rates which match pre-development conditions.

Grading Ordinance

The Alameda Code Title 15, Chapter 15.36, Grading, Erosion and Sediment Control, is intended to control the construction of cuts and fills on private property, particularly with regard to limiting sedimentation of the County stormdrain and flood control systems. Pursuant to this ordinance, no grading activity may occur in such a manner that quantities of dirt, soil, rock, debris or other material substantially in excess of natural levels are washed, eroded or otherwise discharged into a watercourse, a flood control facility, or other drainage system. It is the intent of this ordinance that no grading will obstruct, impede or interfere with the natural flow of stormwater in such manner as to cause flooding, accelerated erosion or result in an illicit discharge. Any proposed grading that could impinge upon, restrict access to, or result in the discharge of stormwater into a watercourse or a flood control facility may require a separate permit under the provisions of the County Watercourse Protection Ordinance (Section 13.12) or the County's permit requirements under the Grading, Erosion and Sediment Control

ordinance. Any grading associated with the construction of landscaped-based stormwater control facilities intended to control the discharge of stormwater into a watercourse or flood control facility must be authorized by a separate permit issued under the provisions of the County Stormwater Management and Discharge Control Ordinance (see discussion of Chapter 13.08 above). Further, any proposal for grading work that will disturb more than one acre of soil is required by Chapter 15.36 to be referred to the RWQCB for review of a Storm Water Pollution Prevention Plan (SWPPP).

Subdivision Ordinance

The County Subdivision Ordinance (Title 16 of the General Ordinance) provides that the design of subdivisions within the county shall . . . conform to the land use and circulation policies of the County General Plan, and shall conform to . . . officially adopted standards for . . . erosion and siltation control and design standards adopted by the . . . flood control district in which the subdivision is located.”

Impacts and Mitigation Measures

The following section describes potentially significant Project impacts to hydrology and water quality. Mitigation recommendations are made to avoid, minimize, or mitigate such impacts where feasible.

Significance Criteria

Based on CEQA Guidelines, the Project would have a significant environmental impact if it were to:

1. Violate any water quality standards, conflict with water quality objectives, fail to meet waste discharge requirements, significantly degrade any surface water body or groundwater, or adversely affect the beneficial uses of such waters, including public uses and aquatic, wetland and riparian habitat.
2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would 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 would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
3. 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 would result in substantial erosion or siltation on- or off-site (i.e. within a watershed).
4. 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 (e.g., due to increased impervious surfaces) in a manner which would result in flooding on- or off-site (i.e. within a watershed).
5. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems due to changes in runoff flow rates or volumes.
6. Significantly increase in pollutant discharges to receiving waters (marine, fresh, and/or wetlands) during or following construction (considering water quality parameters such as temperature, dissolved oxygen, turbidity, and typical stormwater pollutants such as heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash).
7. Increase any pollutant for which a water body is listed as impaired under Section 303(d) of the Clean Water Act.

8. 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.
9. Place within a 100-year flood hazard area structures which would impede or redirect flood flows.
10. 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.
11. Result in inundation by seiche, tsunami, or mudflow.

Construction-Period Water Quality

Hydro-1: Construction Effects on Water Quality. Construction of the proposed Project would involve grading activities that would disturb soils at the site. Such disturbance could present a threat of soil erosion by subjecting unprotected bare soil areas to runoff during construction, which could result in siltation and degradation of water quality in receiving waters. This is a potentially significant impact. **(LTS with Regulatory Compliance)**

Degradation of water quality and violation of water quality standards can occur as a result of typical construction activities. These include construction activities that may loosen soils and increase erosion and downstream siltation, or from the accidental spill or release of construction-related chemicals that may contact surface waters. Construction of the Project would involve excavation, soil stockpiling and substantial grading that would dislodge soil particles and therefore potentially cause soil erosion. The dislodged soil particles, if not properly managed, could be washed into waterways by rain or by water used during construction. Project construction would also involve use of motorized heavy equipment, including trucks and dozers that require fuel, lubricating grease, and other fluids. Accidental chemical release or spill from a vehicle or equipment could affect surface water. Such spills could get washed into the creek or could infiltrate into soil affecting groundwater quality.

Regulatory Compliance

Construction General Permit (NPDES)

The Project would disturb more than one acre and therefore the Project applicant is required to comply with the NPDES Construction General Permit issued by the SWRCB. The Project will be required to comply with these regulations and related state and federal laws, which the SWRCB and the County consider to be necessary to avoid substantial adverse water quality and stormwater flow impacts.

- (1) **Construction General Permit.** The Project applicant shall submit a Notice of Intent to the SWRCB, indicating their intention to be covered under the Construction General Permit, and providing necessary information on the types of construction activities that are proposed to occur on the site.

Stormwater Pollution Prevention Plan

The Construction General Permit further requires the Project applicant to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) for construction activities. The SWPPP must include specifications for best management practices (BMPs) that would be implemented during project construction.

- (2) **SWPPP.** As required by the NPDES General Construction Permit and prior to any grading activity on the site, the Project applicant shall prepare and implement a SWPPP. The SWPPP shall be consistent with the terms of the Construction General Permit, recommendations of the RWQCB staff, the Manual of Standards for Erosion and Sedimentation Control Measures by the Association of Bay

Area Governments, and local policies and regulations commendations of the County of Alameda (Chapter 13.08: Stormwater Management and Discharge Control, and Chapter Ch. 15.36, Grading, Erosion and Sediment Control).

Stormwater Quality Control BMPs

The Project applicant's required SWPPP must include specifications for best management practices (BMPs) to be implemented during project construction. The SWPPP must describe those BMPs to be implemented to control degradation of surface water by preventing soil erosion and the discharge of pollutants (e.g. paint, solvents, concrete, petroleum products, etc.) from the construction area and/or to downstream waters. Examples of typical construction BMPs include scheduling or limiting activities to certain times of year, installing sediment barriers such as silt fence and fiber rolls, maintaining equipment and vehicles used for construction, tracking controls such as stabilizing entrances to the construction site, and developing and implementing a spill prevention and cleanup plan. Non stormwater management measures include installing specific discharge controls during activities such as paving operations, vehicle and equipment washing and fueling.

(3) **Stormwater Quality Control Plan BMPs.** BMPs shall be utilized during construction to prevent excessive stormwater runoff, to prevent stormwater runoff from carrying materials onto adjacent properties, public streets or to creeks, and to minimize contamination of stormwater runoff. These detailed BMP shall be included as part of the SWPPP, and as part of a Stormwater Quality Control Plan (SWQCP) to be submitted to the County, and shall be implemented at the site during grading and construction. Typical BMPs may include, but are not limited to:

- Stormwater drainage connections and runoff controls shall be designed and constructed prior to beginning demolition and/or grading in order to control any stormwater runoff created during these activities. Connections and flow controls shall be established based on estimated natural or current runoff, if needed.
- Only clear land which will be actively under construction in the near term (e.g., within the next 6-12 months), minimize new land disturbance during the rainy season, and avoid clearing and disturbing sensitive areas (e.g., steep slopes and natural watercourses) and other areas where site improvements will not be constructed.
- Provide temporary stabilization of disturbed soils whenever active construction is not occurring on a portion of the site through water spraying or application of dust suppressants, and gravel covering of high traffic areas. Provide permanent stabilization during finish grade and landscape the Project site.
- Safely convey runoff from the top of the slope and stabilize disturbed slopes as quickly as possible.
- Delineate the Project site perimeter to prevent disturbing areas outside the Project limits. Divert upstream run-on safely around or through the construction.
- Sediment controls shall be provided at the edge of disturbed areas including such facilities as silt fences, inlet protections, sediment traps and check dams. Silt fences or straw wattles shall be installed prior to any grading at the project site and shall be operable during the rainy season (October 15 to April 15).
- Between October 15 and April 15, all paved areas shall be kept clear of earth materials and debris, and all sediment barriers shall be inspected and repaired at the end of each working day and, in addition, after each storm.

- Runoff from the Project site should be free of excessive sediment and other constituents.
- Control tracking at points of ingress to and egress from the Project site.
- Retain sediment laden waters from disturbed, active areas within the Project site.
- Perform construction activities in a manner to keep potential pollutants from coming into contact with stormwater or being transported off site to eliminate or avoid exposure.
- Store construction, building, and waste materials in designated areas, protected from rainfall and contact with stormwater runoff. Dispose of all construction waste in designated areas, and keep stormwater from flowing onto or off these areas. Prevent spills and clean up spilled materials.

Resulting Level of Significance

Compliance with all required regulations (as indicated above) would reduce the Project's potential impacts on stormwater quality and runoff related to construction activities to a less than significant level by requiring implementation of a SWPPP that includes BMPs for preventing construction period stormwater pollution, as well as monthly inspections of the construction site by the County pursuant to NPDES permit requirements.

Post-Construction Water Quality

Hydro-2: Post-Construction Effects on Water Quality. Future residents of the Project would increase the potential for discharge of residential and urban-related pollutants into stormwater runoff. Additionally, the construction of homes, roads and other infrastructure associated with Project would increase impervious surface area on the site, allowing stormwater flows across the site to serve as a vehicle for pollution entering the stormwater drainage system. This potential for polluted discharge is a potentially significant impact. **(LTS with Regulatory Compliance)**

Once the Project is constructed and occupied, future residents may generate water quality pollutants that can be washed by rainwater from roofs, landscape areas, and streets and parking areas into the drainage network. These nonpoint source (or NPS) pollutants typically include sediment, fuel, lubricating grease and other fluids from vehicles, as well as fertilizers, pesticides, and herbicides, but can also include bacteria and viruses, organics and trash. If not properly managed, these NPS pollutants could be washed into waterways by rain or irrigation systems, and could have adverse effects on wildlife, vegetation and human health. NPS pollutants could also infiltrate into groundwater and degrade the quality of potential groundwater resources.

Regulatory Compliance

Pursuant to the Municipal Regional Stormwater NPDES Permit (MRP), the Project is required to meet performance standards for new development as defined in the NPDES Provision C.3 requirements. These C.3 provisions require the Project to implement source controls and stormwater treatment measures in the Project's plans and designs to address soluble and insoluble stormwater runoff pollutant discharges.

- (4) **Post-Construction BMPs.** The Project shall implement Tier 2 post-construction BMPs as defined in Table 2 of the Regional Board Staff Recommendations for New and Redevelopment Controls for Stormwater Programs section of Alameda County's Stormwater Management Plan. Under Tier 2 BMPs, drainage from all paved surfaces, including streets, parking lots, driveways and roofs should

be routed through an appropriate treatment mechanism before being discharged into the storm drain system. The BMPs are designed to meet the “maximum extent practicable” definition of treatment as specified in the federal Clean Water Act. Specific post-construction BMPs to be implemented at the Project site should include, but are not limited to the following:

- Minimize directly connected impervious area at residential lots. All rainfall from residential rooftops and in-lot impervious surfaces should be routed through lawn areas or other pervious surfaces within yards, where infiltration can filter pollutants through the soil before such runoff reaches the storm drain system. Although existing soils on the Project sites have been identified as having moderate to moderately slow infiltration rates, the upper layers of soils generally consist sandy and silty clays for which infiltration-based stormwater management solutions can be effective.
- Biofilters, also known as vegetated swales are vegetated slopes and channels that should be designed into the Project to transport shallow depths of runoff slowly over vegetation. Biofilters can be effective at the site if flows are slow and depths are shallow. This can generally be achieved by grading the site and sloping pavement in a way that promotes sheet flow of runoff. For biofilter systems, features that concentrate storm flows (such as curb and gutter, paved inverts, and long drainage pathways across pavement) must be minimized. The slow movement of runoff through the vegetation will provide an opportunity for sediments and particulates to be filtered and degraded through biological activity. A biofilter system may also provide an opportunity for stormwater infiltration which can further remove pollutants and reduce runoff volumes.
- Retention and detention systems should be designed primarily to store runoff for one to two days after a storm, prior to discharge into the storm drain system. A properly designed retention/detention system will release runoff slowly enough to reduce downstream peak flows, allow fine sediments to settle, and uptake dissolved nutrients from the runoff in wetland vegetation.

(5) **Post-Construction BMP Design Criteria.** The post-construction water quality treatment BMPs shall be designed and constructed to incorporate, at a minimum, the hydraulic sizing design criteria as published in the Alameda County Clean Water Program’s *C.3 Technical Guidance Manual* for treatment of stormwater runoff.

Project’s Proposed Stormwater Management Plan

The Project applicant has prepared a Preliminary Stormwater Management Plan for the Project that includes stormwater quality management BMPS intended to meet the regulatory requirements for water quality treatment, consistent with the MRP’s NPDES C.3 requirements.³ This Preliminary Stormwater Management Plan, to be constructed together with the features of the Project’s proposed grading plan, utilizes a variety of means to capture and treat stormwater in a manner intended to be consistent with applicable Clean Water Act and local regulations, including the use of biofiltration areas and detention basins.

³ Balance Hydrologics, Inc., *DRAFT - Summary of Preliminary Stormwater Infrastructure Sizing for the D Street Properties* (Tracts 8296 and 8297), Alameda County, California, September 2015 (see **Appendix x**), and Sheets 4 of the proposed Vesting Tentative Map, Preliminary Stormwater Management Plan for Tracts 8296 and 8297.

Water Quality Treatment for Residential Lots

Each residential lot within the Project is proposed to contain a biofiltration/bioretenion basin to treat runoff from impervious surfaces within the lot boundary. Most of the individual lot treatment basins will be sized to treat the projected volume of stormwater originating from within the lot only (i.e. the roofs and driveways). The size of each treatment filter facility will vary depending on the final architectural plans for each lot, and the amount of impervious surfaces on that lot.

Portions of those residential lots on the westerly side of the western parcel (Tract 8296) and the easterly side of the eastern parcel (Tract 8297) will be graded as fill slopes. The sloped areas are not included in the Project's drainage area, will not contain any new impervious surfaces, and are thus considered self-treating.

Water Quality Treatment for Streets Sidewalks– Tract 8297

As indicated in **Figure 8-3**, runoff from the eastern parcel's street (Tract 8297) that originates from the lower, northern portion of this street (in front of Lot 15 and downhill to D Street), will be collected and drained toward a biofiltration basin (Basin B), proposed to be located within the northeast corner of the western parcel (in Tract 8296). This basin will filter stormwater from this portion of the street through soil and organic matter to capture contaminants from the street pavements as well as fertilizer and pesticides from treated landscaping. Runoff from the eastern parcel's street that originates from the middle segment of this street (the segment bordering Lots 1, 2, 3, 13, and 14) will be collected and drained to a similar biofiltration basin (Basin A) located on Parcel A of this Tract, where this stormwater will be similarly treated. Runoff from the eastern parcel's street that originates from the southern segment of this street (along the frontage of Lots 4 through 12) will be collected and treated by a series of biofiltration features located along the frontage of this street.

Water Quality Treatment for Streets Sidewalks– Tract 8296

As shown on **Figure 8-4**, runoff from the western parcel's street (Tract 8296) will be collected and drained to a biofiltration basin (B-E) located between Lots 8 and 9. This basin is also sized to treat runoff from impervious surfaces on Lots 8 and 9 as well.

Total Water Quality Treatment Sizing Calculation

The proposed bio-treatment facilities were sized for water quality treatment with the combination flow and volume method as described in the Alameda County Clean Water Program's C.3 Technical Guidance Manual. All sizing is based on a mean annual precipitation rate of 22.0 inches. Water quality parameters for these facilities are summarized below in **Table 8-1**, and detailed calculations and schematic designs for proposed bioretention basins are shown on **Figure 8-5**.

Resulting Level of Significance

Compliance with all required regulations (as indicated above) would ensure that the Project's potential impacts on stormwater quality related to post-construction activities remain at a less than significant level, by requiring stormwater quality treatment consistent with the MRP's NPDES C.3 requirements.

The Project includes a preliminary Stormwater Management Plan that proposes stormwater quality management BMPS intended to meet these regulatory requirements. However, that preliminary analysis was intended to demonstrate only that the proposed system can meet the regulatory requirements within the spatial constraints of the Project site, and recognizes that additional detailed analysis will need to demonstrate that the final proposed system meets all pertinent regulatory requirements.



Figure 8-3
Preliminary Stormwater Management Plan, Tract 8297



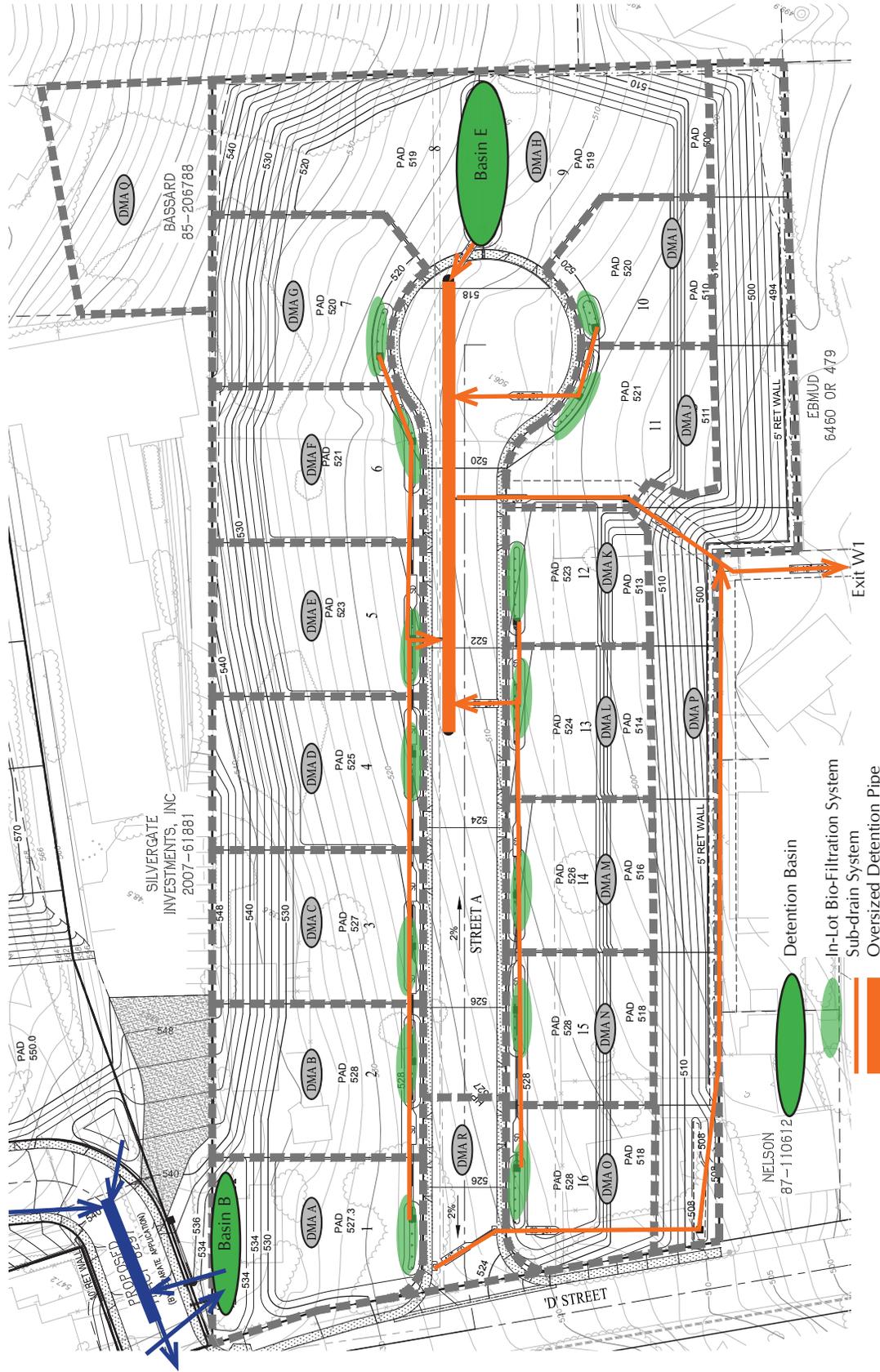


Figure 8-4
Preliminary Stormwater Management Plan, Tract 8296

Tract 8297

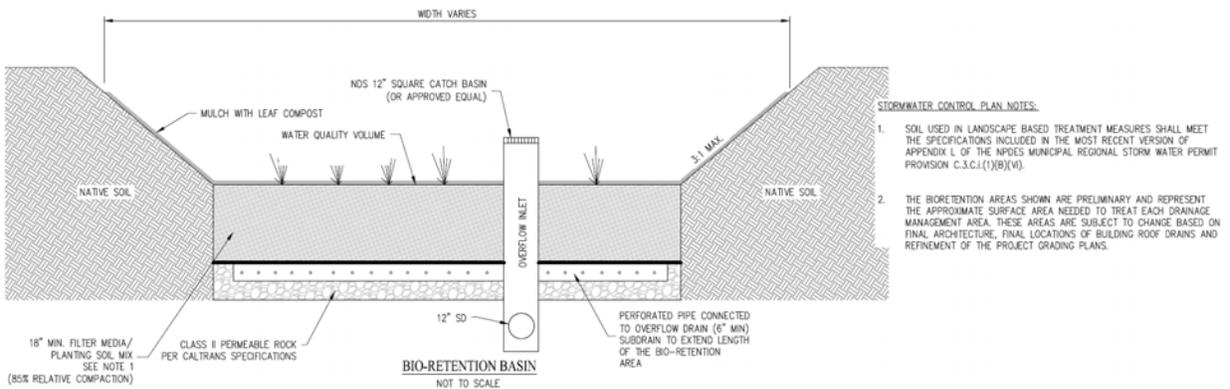
DMA	TREATMENT TYPE	TOTAL DMA AREA	IMPERVIOUS AREA	PROVIDED/REQUIRED BIO-RETENTION AREA
DMA A	BIO-RETENTION (BASIN A)	15,499 SF	4,625 SF	185 SF
DMA B	BIO-RETENTION (BASIN B)	12,196 SF	4,387 SF	175 SF
DMA C	BIO-RETENTION (BASIN C)	11,963 SF	4,907 SF	195 SF
DMA D	BIO-RETENTION (BASIN D)	9,837 SF	4,615 SF	185 SF
DMA E	BIO-RETENTION (BASIN E)	11,666 SF	6,837 SF	275 SF
DMA F	BIO-RETENTION (BASIN F)	9,069 SF	4,589 SF	185 SF
DMA G	BIO-RETENTION (BASIN G)	12,498 SF	5,229 SF	210 SF
DMA H	BIO-RETENTION (BASIN H)	12,656 SF	4,840 SF	195 SF
DMA I	BIO-RETENTION (BASIN I)	14,099 SF	4,716 SF	190 SF
DMA J	BIO-RETENTION (BASIN J)	14,790 SF	4,132 SF	165 SF
DMA K	BIO-RETENTION (BASIN K)	13,910 SF	6,462 SF	260 SF
DMA L	BIO-RETENTION (BASIN L)	11,666 SF	4,592 SF	185 SF
DMA M	BIO-RETENTION (BASIN M)	12,996 SF	4,823 SF	195 SF
DMA N	BIO-RETENTION (BASIN N)	11,594 SF	4,789 SF	195 SF
DMA O	BIO-RETENTION (BASIN O)	13,282 SF	4,735 SF	190 SF
DMA P	BIO-RETENTION (BASIN P)	15,090 SF	3,575 SF	145 SF
DMA Q	BIO-RETENTION (BASIN Q)	8,939 SF	6,551 SF	265 SF
DMA R	SELF TREATING AREA	4,824 SF	0 SF	0 SF

NOTES:
THIS SITE IS SUBJECT TO HYDROMODIFICATION CONTROLS. PRELIMINARY BIO-RETENTION SIZED TO BE 4% OF IMPERVIOUS SURFACE. FINAL DESIGN WILL INCLUDE A COMBINATION FLOW AND VOLUME BASED SIZING METHOD PER C.3.c OF THE MUNICIPAL REGIONAL PERMIT. OVERSIZED PIPE DETENTION TO BE SIZED BY BALANCE HYDROLOGICS, INC. AND WILL BE SUBJECT TO FINAL DESIGN.

Tract 8296

DMA	TREATMENT TYPE	TOTAL DMA AREA	IMPERVIOUS AREA	PROVIDED/REQUIRED BIO-RETENTION AREA
DMA A	BIO-RETENTION (BASIN A)	10,162 SF	3,313 SF	135 SF
DMA B	BIO-RETENTION (BASIN B)	10,021 SF	3,313 SF	135 SF
DMA C	BIO-RETENTION (BASIN C)	10,021 SF	3,313 SF	135 SF
DMA D	BIO-RETENTION (BASIN D)	10,021 SF	3,313 SF	135 SF
DMA E	BIO-RETENTION (BASIN E)	10,021 SF	3,313 SF	135 SF
DMA F	BIO-RETENTION (BASIN F)	10,044 SF	3,313 SF	135 SF
DMA G	BIO-RETENTION (BASIN G)	10,022 SF	3,313 SF	135 SF
DMA H	BIO-RETENTION (BASIN H)	49,395 SF	32,552 SF	1,302 SF
DMA I	BIO-RETENTION (BASIN I)	6,466 SF	3,313 SF	135 SF
DMA J	BIO-RETENTION (BASIN J)	8,388 SF	3,313 SF	135 SF
DMA K	BIO-RETENTION (BASIN K)	6,044 SF	3,313 SF	135 SF
DMA L	BIO-RETENTION (BASIN L)	6,873 SF	3,313 SF	135 SF
DMA M	BIO-RETENTION (BASIN M)	6,954 SF	3,313 SF	135 SF
DMA N	BIO-RETENTION (BASIN N)	6,968 SF	3,313 SF	135 SF
DMA O	BIO-RETENTION (BASIN O)	7,206 SF	3,313 SF	135 SF
DMA P	SELF TREATING AREA	27,451 SF	0 SF	0 SF
DMA Q	SELF TREATING AREA	12,438 SF	0 SF	0 SF
DMA R	BIO-RETENTION (BASIN R)	5,044 SF	5,044 SF	201 SF

- NOTES:
1. THIS SITE IS SUBJECT TO HYDROMODIFICATION CONTROL AND IS BEING PROVIDED BY THE 72" STORM DRAIN
 2. PRELIMINARY BIO-RETENTION AREA IS SIZED TO BE 4% OF THE IMPERVIOUS SURFACE. FINAL DESIGN WILL A COMBINATION FLOW AND VOLUME BASED SIZING METHOD PER C.3.c OF THE MUNICIPAL REGIONAL PERMIT.
 3. OVERSIZED PIPE DETENTION TO BE SIZED BY BALANCE HYDROLOGICS, INC. AND WILL BE SUBJECT TO FINAL
 4. ROOF DRAINAGE FROM THE REAR PORTION OF HOMES WITHIN DMA'S H-0, SHALL BE DIRECTED TO THE FRO OF THE LOT FOR TREATMENT IN THE BIO-RETENTION AREA ON THAT LOT.



Bio-Retention Basin

Figure 8-5
Bio-Retention Basin Calculations and Schematic Design

Source: CBG Inc.

Table 8-1: Bio-Treatment Area

	Effective Impervious Area (sf)	Required Capture Volume (cf)	Required Surface Area (sf)	Proposed Surface Area (sf)	Pond Depth (in.)
B-A	37,947	2,540	1,138	1,154	6.3
B-B	6,790	455	204	325	0
B-C (In lot basins in Tract 8297) ¹	25,870	1,732	776	933	2.2
B-D (In lot basins in Tract 8296) ¹	27,416	822	822	980	2.4
B-E ²	39,446	2,640	1,183	1,202	6.3

Notes:

1. Modeled as one large basin for preliminary analysis
2. Sized to treat street and Lots 8 and 9 in Tract 8296

Source: Balance Hydrologics, September 2015

Subsequent design level engineering plans will need to be submitted to the Alameda County Public Works' Clean Water Program pursuant to Subdivision Map and improvement plan approvals, and similar design level plans will need to be submitted to the RWQCB pursuant to their permit approval process. These design level engineering plans must demonstrate how all Alameda County and RWQCB requirements for post-construction BMPs will be met, consistent with the County's NPDES permit for stormwater discharge. These plans must also demonstrate how a comprehensive approach to water quality BMPs is to be implemented for the Project. With final regulatory compliance and approvals of these design level plans, impacts related to post-construction water quality will be reduced to a level that is less than significant.

Increased Stormwater Runoff

Hydro-3: Post-Construction Effects on Stormwater Runoff and Drainage System Capacity.

Development of the site would increase the amount of impervious surface due to construction of streets, sidewalks, driveways and single family homes, thereby potentially increasing stormwater runoff. Without controls, this increased runoff could substantially alter the existing drainage patterns from the site, or could contribute runoff water that would exceed the capacity of existing stormwater drainage systems. **(LTS with Regulatory Compliance)**

Western Parcel (Tract 8296)

The western parcel of the Project site (Tract 8296) is mostly open ground, with only approximately 0.22 acres of this 4.61-acre parcel (or 5%) covered in impervious surfaces associated with the existing residences. Stormwater from this parcel initially infiltrates through the soil into shallow groundwater, but once the soils reach their saturation point, stormwater sheet flows as surface runoff downslope to the west into existing residential neighborhoods or onto the East Bay Municipal Utility District's water storage tank property. This flow is eventually captured in the storm drain systems of these off site properties, conveyed in storm drain pipes under Fairview Avenue, which connect to an outfall into the northern branch of Sulphur Creek.

The Project's proposed grading plan would alter existing grades and surface runoff from the site, and new street pavement, new roofs, sidewalks and other features would result in a substantial increase in impervious surfaces. Under the Project, approximately 1.93 acres of this 4.61-acre parcel (or 42%) would be covered in impervious surfaces associated with new development. These Project changes could affect the direction and increase the volume of stormwater flows from the site, with potential adverse effects on downstream drainage facilities or neighboring properties.

Eastern Parcel (Tract 8297)

The eastern parcel of the Project site (Tract 8297) is also mostly open ground, with approximately 1.21 acres of this 5.17-acre parcel (or 23%) covered in impervious surfaces associated with the existing residences. Approximately half of the storm flow from this parcel sheet flows downslope to the west towards the Hilltop Convalescent Center property, where it then drains northward towards D Street and then eastward along the gutter. Most of the remaining storm flow from this parcel, as shown in Figure 8-2, flows downslope to the east, towards the Machado Court neighborhood. This flow is captured by a concrete V-ditch on a portion of the west side of the Machado Court subdivision, and enters into an underground storm drain line that drains to an outfall to an upper branch of Deer Canyon Creek and through the Five Canyons Open Space area towards San Lorenzo Creek at Don Castro Reservoir.

The Project's proposed grading plan would alter existing grades and surface runoff from the site, and new street pavement, new roofs, sidewalks and other features would result in a substantial increase in impervious surfaces. Under the Project, approximately 2.68 acres of this 5.17-acre parcel (or 52%) would be covered in impervious surfaces associated with new development. These Project changes could also affect the direction and increase the volume of stormwater flows from the site, with potential adverse effects on downstream drainage facilities or neighboring properties.

Regulatory Compliance

Pursuant to the Municipal Regional Stormwater NPDES Permit (MRP), the Project is required to meet performance standards for new development as defined in the NPDES Provision C.3 requirements. These C.3 provisions enable the County to use its planning authority to require appropriate flow controls to prevent increases in runoff flows from new development and redevelopment projects. Specifically, the 2008 Engineering Design Guidelines prepared by the County Public Works Department requires, among other things, that the design of storm drain facilities for certain projects that may adversely affect creeks or the capacity of storm drain system must control increases in peak runoff flow and volume by detaining excess stormwater and releasing it at rates which match pre-development conditions.

Because flows from the Project site ultimately drain to both Sulphur Creek and Deer Canyon Creek, and to storm drain facilities within D Street that have capacity limitations, the flow controls are required:

- (6) **Detention of Increased Stormwater Flows.** The Project's storm drain system shall be designed to provide for oversized underground conduits (pipes) and/or detention basin that provide for the detention of increased storm water flows attributable to the Project. The amount of required detention storage shall be equal to the difference in volume of the increased runoff attributed to the Project, less the volume of existing runoff from the site(s). Assurances shall be provided for the continued maintenance of these storage facilities by the Project's homeowners association.

Project's Proposed Stormwater Management Plan

Flow Controls

The Project applicant has prepared a Preliminary Stormwater Management Plan for the Project that is intended to meet the County's NPDES C.3 flow control standards to limit post-construction stormwater flows to a level that would not be greater than the amount or rate of runoff flowing off the site under existing, pre-development conditions. As shown in Figures 8-3 and 8-4, this Preliminary Stormwater Management Plan includes the following water quality treatment and flow control features:

- The in-lot bioretention facilities within each Tract will drain treated runoff via under-drains that are connected in series, and routed to underground oversized pipes designed for flow control or detention.
- Runoff originating from the lower portion of the street in the eastern parcel (Tract 8296), between Lot 15 and D Street, will drain toward a combination water quality treatment/flow control basin (bioretention Basin B, on the northeast corner of Tract 8297). After passing through the basin, the runoff will combine with drainage from the existing Hilltop Care Center and be conveyed into an underground detention structure in the form of an oversized pipe (72" or 6' diameter, about 80' long) located under the new street directly south of D Street. A controlled valve release from the detention structure would drain off-site to a new stormwater main to be built along the south side of D Street for release towards Deer Canyon Creek.
- Runoff originating from the middle segment of the street on the eastern parcel will be directed along gutters into a bioretention basin (Basin A) and then, after treatment, into the same underground, oversized pipe for flow control adjacent to D Street, and in turn connects to the new storm drain system proposed along the south side of D Street. Runoff from the lots adjacent to this segment (lots 1, 2, 3, 13 and 14, and Parcel A) will pass through their individual bioretention areas and then directly to the oversized detention pipe.
- Runoff from the remainder of the street in the eastern parcel (Tract 8296) would flow first into the nearest adjacent individual lot bioretention areas, from which it is routed to a separate underground oversized pipe (260-foot long, 6-foot diameter) under the southern end of the new street, also outfitted with an outlet control structure to meet flow control requirements. From there, flow will be routed via a new storm drain line to the existing storm drain system line through the Machado Court neighborhood.
- Runoff from the street in the western parcel (tract 9297) will flow from the individual water quality treatment/flow control basins (bioretention areas) to Basin E, which will have an outlet control structure that would collect excess runoff and channel it to another underground, oversized pipe (250-foot long, 6-foot diameter) for detention and flow control. From there, runoff will exit the site through the existing storm drain to the west, located along the north side of the EBMUD water tank site.

The Project's flow control system is sized using the Bay Area Hydrology Model (BAHM) and the hydrologic data embedded in the BAHM software. Stage storage discharge tables were used to simulate the outlet control structure for the respective retention basins and/or detention pipes. All modeling was completed in conformance with the guidelines of the Alameda County Flood Control and Water Conservation District. Design storms for the 10-year event were estimated based on the mean annual precipitation rate for the site, and unit values developed by the County. The Alameda County Type I storm distribution was used to transform the storm depths to a 24-hour accumulated rainfall distribution. The design storms were input to HEC-HMS, and the pre- and post-Project sub-basins.

As indicated in **Table 8-2**, changes to the hydrology of the Project site were evaluated at three points that represent outfalls of the existing watersheds of the Project site (see **Figure 8-6**). As demonstrated in Table 8-2, peak flows and annual flow rates would be adequately handled by the proposed drainage and stormwater management system, and would result in equal or lesser amounts of stormwater leaving the site than occurs under pre-development conditions.

Table 8-2: Comparison of Pre- and Post-Project Runoff Volumes (cfs)

Analysis Point	Pre-Project Peak Runoff		Post-Project Peak Runoff	
	10-Year	100-Year	10-Year	100-Year
E1	2.4	3.9	2.4	3.6
E2	1.2	2.1	1.1	2.0
WI	2.8	5.0	2.7	5.0

Source: Balance Hydrologics, September 2015

No modification of the offsite stormdrain systems or creeks is proposed or required, as the modeling indicates that the rate of stormwater flows leaving the Project site would be no greater than the flows that currently enter these systems and creeks. The onsite stormwater protection plan for the Project would prevent erosion, siltation and on- or offsite flooding, including the flows in the North Fork of Sulphur Creek.

Resulting Level of Significance

Compliance with all required regulations (as indicated above) would reduce the Project's potential impacts related to increased stormwater flows off the Project sites to a less than significant level by managing and controlling stormwater such that future flows will be less than or equal to existing runoff conditions.

The Project's preliminary Stormwater Management Plan will require additional detailed analysis to demonstrate that the final proposed system meets all pertinent regulatory requirements. Subsequent design level engineering plans will need to be submitted to the Alameda County Public Works' Clean Water Program pursuant to Subdivision Map and improvement plan approvals, and similar design level plans will need to be submitted to the RWQCB pursuant to their permit approval process. These design level engineering plans must demonstrate how all Alameda County and RWQCB requirements for flow controls will be met. With final regulatory compliance and approvals of these design level plans, impacts related to post-construction increases in stormwater flow will be reduce to a level that is less than significant.



Figure 8-6
Post-Project Watershed Map

Increased On-Site Flooding Potential (100-Year Storm Event)

Hydro4: Flooding Potential. The Project's increase in runoff flow rates and volumes during significant storm events could potentially exceed the capacity of existing or planned stormwater drainage systems in a manner that could result in flooding on- or offsite. **(LTS with Regulatory Compliance)**

As described above, development of the Project would result in a substantial increase in the amount of impervious surfaces (from approximately 1.43 acres to 4.61 acres, or more than three times the amount of impervious surface). These increased impervious surfaces will increase the amount of runoff from the site under typical (i.e., 10-year) storm conditions, but will also increase runoff associated with more severe storm events (i.e., 100-year storm).

Regulatory Compliance

The Municipal Regional Stormwater NPDES Permit (MRP) performance standards and the 2008 Engineering Design Guidelines prepared by the County Public Works Department also apply to required flow controls for the typical 10-year design storm described above under Impact Hydro-3, as well as for larger (i.e., 100-year) design storms.

Project's Proposed Stormwater Management Plan

As indicated in Table 8-2 above, peak runoff from the Project sites is managed and controlled by the proposed Stormwater Management Plan to maintain not only the typical 10-year storm event, but also store and gradually release the 100-year design storm as well. The Project's proposed stormwater protection facilities will reduce the rate of runoff and the potential for on-site flooding and flooding of adjacent privately owned homes during severe storms by designing for those storm flows that bypass the bioretention basins to be conveyed into underground oversized pipes, which will serve as stormwater storage and detention. Release of stormwater from these underground detention pipes would be controlled by the smaller sizing of their outlet pipe, which are sized similar to the offsite stormdrain systems.

The stage-storage discharge table used for flow control of the detention basin design was used to model flood control capabilities of the proposed stormwater plan for large storms. Iterations of the model were run with system configurations until all stormwater treatment, flow controls and flood control criteria were met. For the purposes of flood control modeling, the only surface storage areas included in the model are the bioretention basins (Basins A, B and E). There will be additional storage volume at the individual lot bioretention basins as well, and therefore the results are conservative from a peak flow control perspective.

Resulting Level of Significance

As indicated above, the Project's preliminary Stormwater Management Plan will require additional detailed analysis to demonstrate that the final proposed system meets all pertinent regulatory requirements, including appropriate flood control. Subsequent design level engineering plans will need to be submitted to the Alameda County's Public Works Agency pursuant to Subdivision Map and improvement plan approvals. These design level engineering plans must demonstrate how all Alameda County requirements for flood controls will be met. With final regulatory compliance and approvals of these design level plans, impacts related to post-construction increases in stormwater flow will be reduce to a level that is less than significant.

Groundwater Recharge

Hydro-5: Groundwater Recharge. The Project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge, such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The Project would not cause the production rate of pre-existing nearby wells to drop to a level that could not support existing or planned land uses. **(LTS)**

The Project would be served by municipal water from the East Bay Municipal Utilities District (EBMUD) and would not directly utilize or deplete groundwater supplies. Most all surrounding land uses also obtain municipal water supply, and there are no groundwater wells in the immediate vicinity that rely on the groundwater underlying the site or that would be adversely affected by a reduction in the amount of groundwater percolation from the site.

The Project site does not represent a major groundwater or aquifer recharge source for the region due to the relatively small size of the Project site. Based on the geology report for the Project, the site is underlain by weak to moderately strong sandstone. Soils borings conducted on site were drilled to depths varying between 5 and 15 feet below ground surface, and none of the boring encountered groundwater. Storm water that percolates through the top layers of soil on the site encounter bedrock sandstone at depths of between 3 feet to 12 feet below surface, which directs underground flow offsite to the west toward Sulphur Creek.

The Project's proposed stormwater management plan will generally maintain the existing rate of stormwater flow leaving the site, and would not substantially change percolation rates in open creeks that are downstream of the site.

The Project's impacts on groundwater or groundwater recharge would be less than significant.

Mitigation Measures

None needed.

Flood Zone Hazards

The Project site is not within a FEMA-designated 100-year flood zone.⁴ Since the Project site is not located near the coast, it is also outside the coastal flood zone. Accordingly, the Project would have no impact related to flood zone hazards. **(No Impact)**

Flooding (Levee or Dam Failure, Seiche, Tsunami, Mudflow, or Climate Change Induced Sea Level Rise)

The Project would not result in any impacts related to flooding as a result of a dam or levee failure, or inundation by seiche, tsunami, mudflow or sea level rise. **(No Impact)**

According to maps published by the Association of Bay Area Governments (ABAG), the Project is not located downstream of a dam, nor are there any levees near the Project site.⁵

The Project site is not susceptible to inundation by coastal hazards, such as tsunamis, extreme high tides, or sea level rise, due to the elevation of the area and the distance from the margin of the San Francisco Bay and Pacific Ocean. The Project site is not susceptible to mudflows (rainfall induced

⁴ FEMA. Flood Insurance Rate Map (FIRM) Map No. 06001C0291G, August 2009

⁵ ABAG Resilience Program Map 2016; <http://gis.abag.ca.gov/website/Hazards/?hlyr=femaZones#nogo1>

landslides).⁶ The Project is not close enough to an enclosed large body of water to be susceptible to a seiche, and is not located at a lower elevation such that a dam or levee that could cause flooding of the Project site upon failure.⁷

⁶ Ibid.

⁷ Safety Element, Alameda County, pg. 42 Feb. 4 2014

Land Use and Planning

This chapter describes existing land uses, the General Plan land use classification and zoning designation of the Project sites, and applicable General Plan policies. The chapter evaluates the Project's consistency with applicable policies, and describes the extent to which any inconsistency represents a significant environmental effect.

The Project site is located in the Fairview area of unincorporated Alameda County in the rolling hills east of the city limits of Hayward. Surrounding land uses include residential subdivisions bordering D Street and Fairview Avenue. These nearby residential areas are interspersed with several large undeveloped parcels of one-half acre to ten or more acres, all of which are designated for residential use. The community character is a mixture of suburban and rural residential uses, and various institutional and semi-public uses. Development on the south side of Fairview Avenue (from Hansen Road to Five Canyons Parkway) is generally more sparse and rural than properties to the north.

Regulatory Setting

Alameda County General Plan

The Alameda County General Plan expresses the County's vision for the future and is the roadmap for achieving the community's desired quality of life. It is an assessment of current and future needs, and the resources needed to implement its goals and policies. The Alameda County General Plan consists of several documents. The countywide Housing, Conservation, Open Space, Noise, Seismic and Safety, and Scenic Route Elements contain goals, policies, and actions that apply to the entire unincorporated area. Additionally, three Area Plans contain land use and circulation elements for their respective geographic areas, as well as area-specific goals, policies and actions for circulation, open space, conservation, safety, and noise. The Project site falls within the Eden Area portion of the General Plan, although the Eden Area Plan notes that the *1997 Fairview Area Specific Plan* contains the goals, policies, and zoning regulations that apply to this area.

Fairview Area Specific Plan

The *Fairview Area Specific Plan* is part of the Alameda County Eden Area General Plan and, as such, is the controlling document to guide land use decisions with planning policies, principles and guidelines applicable to the Project site. The Specific Plan (hereafter after referred to as the Specific Plan, or Plan) provides detailed planning policy for the Fairview sub-area of the County, and is a component of the adopted County General Plan. The Plan provides land use, circulation, development, environmental, infrastructure and implementation policies for the Fairview Area.

As noted in the Plan, the Specific Plan may be administered as, and thus have the force of, zoning. Policies and regulation developed in the Fairview Area Specific Plan take precedent over and replace standard zoning and the provisions of the Alameda County Zoning Ordinance within the Plan Area.

Where the Specific Plan is silent, provisions of the Zoning Ordinance apply. Enforcement of the provisions of the Plan is to be done in the same manner as enforcement of the provisions of the Zoning Ordinance, and similarly violation of the provisions of the Plan constitute a violation of the Zoning Ordinance. The *Plan* states its fundamental purpose and intent as follows:

“The intent of the Plan is to preserve existing residential areas, *protect and preserve important environmental resources and significant natural features* in the Fairview area, and promote development that is sensitive to variations in topography and the rural residential character of the area” (emphasis added).¹

The Specific Plan identifies a variety of important environmental resources or significant natural features throughout its policies, principles and guidelines, as found in the Natural Features chapter and subsequent sections (Geology, Erosion and Sedimentation, Flood Hazards, etc.). Some of its policies and guidelines are explicit and clearly directive, such as “The County shall require that roadways and developments be designed to minimize impacts to wildlife corridors and regional trails.” Other policies use phrases and terms such as “shall encourage”, “should” (as opposed to shall) and “minimize”, each of which require interpretation as to whether non-compliance would be considered to be a conflict. However, in this chapter, each environmental resource or feature referenced in a policy, principle or guideline of the *Specific Plan* is recognized as important or “significant”, and that preserving or avoiding damage or loss of such resources or features is the intent of the *Specific Plan*. The Plan’s land use limitations on density, setbacks, height, uses and open space are recognized as intended to maintain and enhance the development qualities of the Fairview area. It is Alameda County Planning Department’s view that conflict with certain of the *Plan’s* development limitations represents an adverse environmental consequence or significant impact for the purposes of CEQA. The focus of CEQA is on physical and adverse changes to the environment, and it is therefore important to distinguish which policies and guidelines serve the purpose of avoiding or mitigating an environmental effect, and which policies and guidelines were included for other purposes (i.e., general neighborhood quality, home design, setbacks, etc.).

The *Specific Plan* establishes zoning districts for several different areas or neighborhoods within the *Plan* area. The Project site is designated in the R-1-B-E district (Single Family Residential, with a combining B-E district overlay, specifying a minimum building site area requirement of 10,000 square feet). The Plan also provides that in hillside areas (sites with an average slope exceeding 10%), the maximum allowable density is 3.5 units per gross acre of developable area of a site, which includes only areas of less than 30% slope, areas outside private streets, shared driveways, visitor parking, and riparian areas as defined in the Plan.

Impacts and Mitigation Measures

The following section describes potentially significant Project impacts related to conformity with the land use policies and guidelines set forth in the *Fairview Area Specific Plan*. Mitigation recommendations are made to avoid, minimize, or mitigate such impacts where feasible.

Significance Criteria

The Project would have a significant environmental impact if it were to:

¹ *Fairview Area Specific Plan*, Adopted by the Alameda County Board of Supervisors, September 4, 1997, p. 1.

1. Physically dividing an established community.
2. 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.
3. Conflict with any applicable habitat conservation plan or natural community conservation plan.

Division of an Established Community

Land Use-1: Development at the Project site would not divide an established community. **(No impact)**

The Project site is located within a previously developed neighborhood and is not located between nor used for passage between existing communities.

Conflicts with Land Use Plan, Policy or Regulation

Land Use-2: The Project would conform to the vast majority of the applicable land use policies and guidelines of the Fairview Area Specific Plan, but would conflict with certain policies and guidelines that were adopted by the County to avoid or mitigate environmental effects, including substantial changes to topography and natural characteristics, and result in potentially significant adverse effects. **(Significant – Less than Significant with Mitigation)**

The Fairview Area Specific Plan, adopted by the County Board of Supervisors in 1997, includes principles and guidelines addressing a broad range of topic areas including land use, residential density, open space and other environmental considerations. Policies and guidelines that pertain to natural features generally call for retention of natural topography and other natural characteristics of sites within the Fairview area, and define those existing visual and natural characteristics that should be preserved with new developments.

The Fairview Area Specific Plan policies applicable to the Project site are set forth in **Table 9.1** below, along with a consistency assessment that evaluates the degree to which relevant elements of the Project are consistent with, or inconsistent with each such provision. Although the Project conforms to the vast majority of the Plan policies and guidelines, it is not consistent with several selected policies and guidelines, as indicated below. In a few cases, consistency is undetermined because there is insufficient detail available about the Project; however, conditions of approval and final plan preparation may provide an assurance of compliance. The Project's most substantial anticipated physical changes to the site and the area are related to its required grading. Figures 9.1 and 9.2 illustrate existing and post-Project topographical conditions on the sites, and aid in the analysis below.

Table 9.1: Evaluation of Consistency with Fairview Area Specific Plan

Fairview Area Plan Policies, Principles and Guidelines:	Project's Relative Consistency:	
Policy A.: Extent of Urban Area – the Urban Area Boundary in the Specific Plan defines the area in which urban development is allowed.	Consistent	The Project site is within the Urban Area Boundary as identified by the Specific Plan.
Policy B.1: Conventional Single-Family Development. New single family parcels must be consistent with the existing land use pattern of the surrounding neighborhood, and may not create lots substantially smaller or narrower than prevailing lots in the neighborhood. In the hillside areas as defined by the Plan to include sites with average slope of more than 10%, the maximum density allowed is 3.5 units per gross acre of developable site area. Developable site area includes only areas of less than 30% slope, areas outside private streets, shared access streets and driveways, and outside riparian or wetland areas.	Consistent	The currently proposed lot sizes (including area and width) and overall density of the Project's proposed residential lots are consistent with the existing land use pattern of single-family development and prevailing lot sizes and widths of the surrounding neighborhood. The Project site is in a hillside area and is therefore limited to 3.5 units per acre. The Project's eastern tract would have a total developable area 5.04 acres with a small amount of 30% or steeper slope subtracted (estimated as 5,700 square feet); no private street is proposed. The resulting density would be 3.0 units per acre of developable site area on the eastern tract, well within the limit of 3.5 units per acre. The western tract has a gross developable area of 4.55 acres of its total 4.61 acres, after a small amount of 30% or steeper slope (about 2,400 square feet) is deducted. The proposed 16 units on the western site would thus result in about 3.5 units per acre, and thus compliant with the allowable density.
Policy B.4: Residential Building Setbacks – minimum 15' side and 30' front, in the R-1-B-E (10,000 sq. ft. min. bldg. site area) district. (Note: Policies B.2 and B.3 are not relevant to the subject Project)	Consistent	The lot dimensions and proposed building setbacks are consistent with (or exceed) the applicable minimum setback requirements of the Specific Plan for the zone district.
Policy B.5: Residential Building Lot Coverage – not more than 30 percent in the R-1-B-E (10,000 sq. ft. min. bldg. site area) district	Consistent	Proposed building envelopes range from 7 percent to 24 percent of the gross area of each lot, and are therefore less than the 30 percent maximum lot coverage, consistent with the Specific Plan.
Policy B.6: Residential Open Space – minimum of 1,000 sq. ft. of private, usable open area per lot. Such open areas include only: 1) areas not visible from the fronting street; 2) areas with a ground slope less than 20% gradient; 3) areas not covered by off-street parking or any access thereto; 4) any open area with a minimum 15 feet in its least dimension; and 5) roof-top areas designed for outdoor residential use or outside deck spaces more than 8 feet in least dimension.	Consistent	The Project's Site Plan shows that each lot would have at least 1,000 square feet of usable open space area, consistent with the dimensional standards of the Specific Plan. As illustrated on Figures 3-5 and 3-6 , the Project would provide level rear yards on most of the eastern tract, but almost no level rear yards on any of the western tract lots. However, the 15-foot wide side yards could be counted as useable open spaces, and as limited to maximum building lot coverage of 30 percent, there would be adequate useable open space.
Policy B.7: Residential Building Height – two stories and 25 feet except as provided for by the Zoning Ordinance, and Specific Plan	Consistent	All homes would be 25 feet or less in average height, consistent with the <i>Specific Plan</i> . The exception provided for by the Zoning Ordinance

Table 9.1: Evaluation of Consistency with Fairview Area Specific Plan

Fairview Area Plan Policies, Principles and Guidelines:	Project's Relative Consistency:
guidelines to step structures with the natural terrain, or cut into the hillside to reduce effective bulk, and using graduated heights and varied setbacks to reduce building scale.	(which also incorporates the County's 2014 <i>Residential Standards and Design Guidelines</i>), requires height to be measured above natural grade, and allows a height of up to 30 feet for building portions that are at least 15 feet from any property line (which would apply to all building portions due to the 15-foot minimum setback). On the Tract 8296 Tract, Lots 9 through 16 will have split grades.
Policies C. Traffic and Circulation	Note: The policies for traffic and circulation are addressed in Chapter 11, Transportation. No significant transportation impacts or conflicts with the Plan's circulation policies were identified.
Policy D.1.a: The County shall encourage that existing riparian woodland habitat be protected.	Consistent There is no riparian or oak woodland habitat on the Project site.
Policy D.1.b: The County shall encourage no net loss of riparian and seasonal wetlands.	Consistent There is no riparian or seasonal wetland habitat on the Project site.
Policy D.1.c: The County shall encourage the preservation of oak woodland plant communities.	Consistent There are no oak woodland plant communities on the Project site.
Policy D.1.d: The County shall encourage preservation of areas known to support special status species.	Consistent There are no known special status species on the Project site.
Policy D.1.e: The County shall require that roadways and developments be designed to minimize impacts to wildlife corridors and regional trails.	Consistent There are no known wildlife corridors through the Project site, and no regional trails cross through the Project site.
Principle D.2.a: All development proposals shall strive for maximum retention of the natural topographic features, landscape features, and qualities of the site. Development should seek to enhance these natural features and qualities.	Inconsistent The Project does not strive for maximum retention of the natural topography, but would instead substantially re-grade the two sites to accommodate development on flat pads, whereas the existing sites feature slopes of 5 to 20% or greater. Figures 9.1 and 9.2 illustrate existing and post-Project topographical conditions on the sites. Cut and fill throughout both Tracts would result in cuts of over 20 feet (Lot 1 of the eastern tract has an existing elevation of 587' above sea level and is proposed with a pad elevation of 565' above sea level; Lot 15 also in the eastern tract would have a similar extent of excavation), and fill in other locations of up to 20 feet. However, it is difficult to ascertain how the development could better serve to enhance the sites' natural

Table 9.1: Evaluation of Consistency with Fairview Area Specific Plan

Fairview Area Plan Policies, Principles and Guidelines:	Project's Relative Consistency:
	topography and qualities, and it is well-established and accepted practice to grade slopes to create flat pads for homes and conventional level outdoor yard areas. <i>See text for further discussion.</i>
<p>Principle D.2.b: All development proposals shall take into account and be judged by the application of current principles of land use planning, soil mechanics, engineering geology, hydrology, civil engineering, environmental and civic design, architecture, and landscape architecture in hill areas. Such current principles include but are not limited to:</p> <p>1): Planning of development to fit the topography, soils, geology, hydrology, and other conditions existing on the proposed site;</p>	<p>Consistent The engineering aspects of the Project, including its geotechnical engineering, hydrology and drainage management and treatment and street and utility design have been reviewed by County Public Works Agency staff and have been found, in principle, consistent with County civil engineering standards for drainage, hydrology, geotechnical and environmental considerations. With regard to architecture and landscape architecture design in hill areas, the project is typical of hillside subdivisions in the nearby vicinity and region-wide. Detailed landscape plans have not yet been prepared.</p>
<p>2): Orienting development to the site so that grading and other site preparation is kept to a minimum;</p>	<p>Consistent The Project does not minimize grading or site preparation; however, grading is kept to a minimum to meet the basic objectives of the proposed development.</p>
<p>3): Shaping of essential grading to complement and blend with natural landforms and improve relationships to other developed areas;</p>	<p>Inconsistent The Project's proposed grading does not closely match or blend with natural landforms or adjacent development. Many new 2:1 slopes are proposed around most of the sites perimeters. In the upper or eastern tract, proposed grading would remove the northern hilltop and greatly reshape the "saddle" topography to create flat development pads. On the lower Tract, the Project would re-grade sloping property to create a flat roadbed and benched building pads. However, the Project's grading would be consistent with nearby development, such as along Carlson Court and Jelincic Drive. <i>See text for further discussion.</i></p>
<p>4): Develop large tracts in workable units on which construction can be completed within one construction season;</p>	<p>Consistent The 31-unit Project is comprised of two "workable" units that can be completed jointly in one construction season, and would not need to leave earth exposed during the rainy season.</p>
<p>5): Allocating to public or private open space, those areas not well suited to development;</p>	<p>Consistent The Project site does not have areas of exceptional topography (very steep slopes or outcrops) or natural or riparian areas that are not suited for development.</p>
<p>6): Landscaping of areas around structures, and blending them with the natural landscape;</p>	<p>Consistent The Project applicant would employ Bay-Friendly landscaping principles to the landscaping around future homes and around the detention</p>

Table 9.1: Evaluation of Consistency with Fairview Area Specific Plan

Fairview Area Plan Policies, Principles and Guidelines:	Project's Relative Consistency:
	basins and within Parcel A. The Project's new landscaping would help to screen and blend the new development with the surroundings over time.
7): Placing, grouping and shaping of man-made structures to complement one another, the natural landscape, and provide visual interest;	Inconsistent The Project's new residential structures would not be grouped or shaped to compliment the natural landscape, but would instead be constructed in a linear pattern fronting the Project's relatively straight and leveled internal roadways. Relatively deep excavations are proposed to create large flat lots at locations where split pads and reduced excavation would be feasible, would provide greater visual interest and would be more complementary to natural landforms. See <i>text for further discussion</i> .
8): Locating building pads so that the views of prominent ridgelines are not interrupted or interfered with by buildings;	Consistent The photo-simulations in Chapter 4 show that views of the Project from public viewpoints off-site will be substantially obscured by existing intervening houses, trees and landforms. This would be true whether the new homes were placed on building pads under the mass grading plan as proposed, or were constructed on existing native grades. The Project's new homes would be visible on the ridgeline, but existing structures are already visible along this ridgeline including some of those structures that the Project will replace.
9): Using a variety of housing types, housing clusters and special house construction techniques in residential areas to permit steep slopes, wooded areas, and areas of special scenic beauty to be preserved	Consistent Neither of the Project's sites contains wooded areas or areas of special scenic beauty that might be considered for preservation, nor do the Project sites have substantial areas with steeper slopes of particular visual interest.
10): Giving special consideration to the design of public and private streets to minimize grading and other site alteration;	Inconsistent The Project does not minimize grading or other site alteration, including the grading proposed for new local streets.
11): Giving special consideration to the design of such visual elements as street lighting, fences, sidewalks, pathways, and street furniture to enable maximum identity and uniqueness of character to be built into each development;	Undetermined Street furniture, fencing details and special features have not yet been proposed. However, these concerns are not within the scope of the environmental review of this EIR, and will be dealt with by separate County planning analysis or by recommended conditions of approval.
12): Minimizing disruption of existing plant and animal life;	Consistent Mitigation measures have been identified to ensure that special-status or other unique plant and animal life will be protected (see Chapter 6, Biological Resources); related analysis also indicates there is limited

Table 9.1: Evaluation of Consistency with Fairview Area Specific Plan

Fairview Area Plan Policies, Principles and Guidelines:	Project's Relative Consistency:
	potential on the Project sites for such species.
13): Design lots so that adequate area is available for yards and landscaping;	Consistent As illustrated with conceptual building outlines on Figures 3-5 and 3-6, the Project would provide level rear yards on most of the eastern tract, but almost no level rear yards on any of the western tract lots. Final building footprints would be limited to maximum building lot coverage of 30 percent and would be required to provide useable open space, which could include the 15-foot wide side yards.
14): Designing an attractive, safe, and convenient network of walkways for pedestrians throughout a development; with connections to public facilities such as schools, parks, and existing trail systems;	Consistent The Project includes sidewalks on each side of the public street and will add new sidewalks along its D Street frontage. Although there is no direct sidewalk connection to public facilities or trail systems provided along D Street or otherwise on the site, it is not substantially the developer's obligation to provide sidewalks on public streets for this purpose, but primarily a County obligation. <i>However, see text for further discussion.</i>
Guideline D.3.a. Natural and man-made slopes of 30% gradient or greater should not be developed or altered. Exceptions may be granted for road construction if it is the only feasible access to a site, modifications of minor terrain features, and custom designed homes and lots that otherwise conform to the intent of these policies.	Consistent Neither of the Project sites contain substantial areas with slopes of 30% or greater. Minor, isolated areas of 30% or greater slopes are present, but are not prominent features of the site.
Guideline D.3.b. Only individual lot grading should occur in areas exceeding 20% slope (such grading is defined as that which can be wholly contained within a single lot, as needed to fit the house, an access driveway and useful yard areas).	Inconsistent There are some limited areas with slopes exceeding 20% on the eastern tract, and a more substantial area on the western tract. On the eastern tract, the largest such area would be graded for the new street and the Guideline is therefore not applicable. On the western tract, however, a larger area is proposed for mass, uniform grading to accommodate flat building pads, instead of individual lot grading.
Guideline D.3.c. Buildings should be designed with stepped, pier and grade beam, or a custom foundation to reduce grading, to avoid contiguous stair-stepped padded lots, and to retain a more natural appearance. On sloping lots, tall downhill facades should be avoided by stepping structures with the natural terrain. (This policy is understood to promote stepping or splitting the grade of lots between the front and back, but to limit uniform side-to-side stepping between adjacent lots, and to encourage buildings that similarly 'step	Inconsistent The Project proposes split pad foundations on the west side of the western tract, which may be recognized as custom foundations. The split pad homes would step down with the slope to avoid tall downhill façades. All other lots would have single pad elevations, which implies they would use only slab foundations and not pier and grade beam foundations (i.e., that do not rely on a level pad). The Project would avoid side-to-side, uniform "stair-stepped" lots (evenly distributed

Table 9.1: Evaluation of Consistency with Fairview Area Specific Plan

Fairview Area Plan Policies, Principles and Guidelines:	Project's Relative Consistency:
down' parallel to the sloping grade or split grades).	retaining walls along lot lines) by developing nearly level streets.
Guideline D.3.d. The vertical height of a graded slope or combination retaining wall and slope between single-family dwellings should not exceed 10 feet in the rear yards, or 5 feet within a side yard between lots	Inconsistent Generally, most of the Project would not include graded slopes or retaining walls between new homes. However, one new lot (Lot 15 on the eastern tract) would have slopes exceeding 10 feet between this lot and two adjacent lots of the subdivision.
Guideline D.3.e. The maximum horizontal distance of graded slope should not exceed 20 feet, at 2:1 (horizontal to vertical) gradient.	Inconsistent The Project proposes several portions of the Project site with regraded slopes of 2:1 and that would substantially exceed more than a 20-foot length.
Guideline D.3.f. Development near or on a prominent ridgeline should be subordinate to the surrounding environment. Residences should blend into the natural topography creating minimal visual disturbance to the existing ridgeline and views. Rows of residences with similar setbacks and elevations shall be discouraged.	Inconsistent The portion of the Project that is proposed along the upper ridgeline of the upper Tract (8297) would include rows of new homes with similar setbacks and building elevations. Due to the relatively deep excavations of the ridgeline to provide building pads on lots 1 and 2 of the eastern tract, the two-story homes would have a lower profile on the ridge than if they were built on or closer to the existing grade, or on split pads, and therefore the development may be considered as "blending" into the natural topography and minimizing visual disturbance of the ridgeline and area views, including from Lone Tree Cemetery and area homes. The Project would also establish four rows of residences with nearly identical setbacks and elevations that would be monotonous on a broad scale, even though design details as shown in preliminary elevations (see Figures 3-5 and 3-6) could moderate such an effect.
<p>Policy D.4 – Large, mature, natural and introduced trees are to be preserved unless: a) Alternative designs that would preserve the trees are found by the County to be infeasible or undesirable; or b) a certified arborist, as determined acceptable by the County Planning Director, recommends that the trees be pruned or removed because they are: 1) dead, dying, or in irreparable condition; or 2) will be a fire or safety hazard.</p> <p>Eucalyptus trees shall be thinned and pruned for safety reasons. Any eucalyptus trees removed shall be replaced with native trees, with reestablishment by the developer of at least five 15-gallon-sized trees or one boxed, native specimen tree for every large tree removed, subject to Planning Director approval of the species, location and</p>	<p>Undetermined /Potentially Inconsistent The Project sites contain numerous mature trees, which are described broadly in Chapter 6 (Biological Resources) as including a mix of native and non-native species, introduced ornamental and screening trees. An arborist report has not yet been commissioned by the developer or requested by the County, as the biological analysis is deemed to provide adequate description for the purposes of CEQA and this EIR. A more formal inventory by the biological resource consultant or an arborist will be required as a condition of approval in order to determine how the developer will comply with Policy D.4.</p> <p>The Project grading as proposed would require removal of all trees on the sites. An alternative design that preserves all the trees is not feasible, but some preservation does appear feasible without</p>

Table 9.1: Evaluation of Consistency with Fairview Area Specific Plan

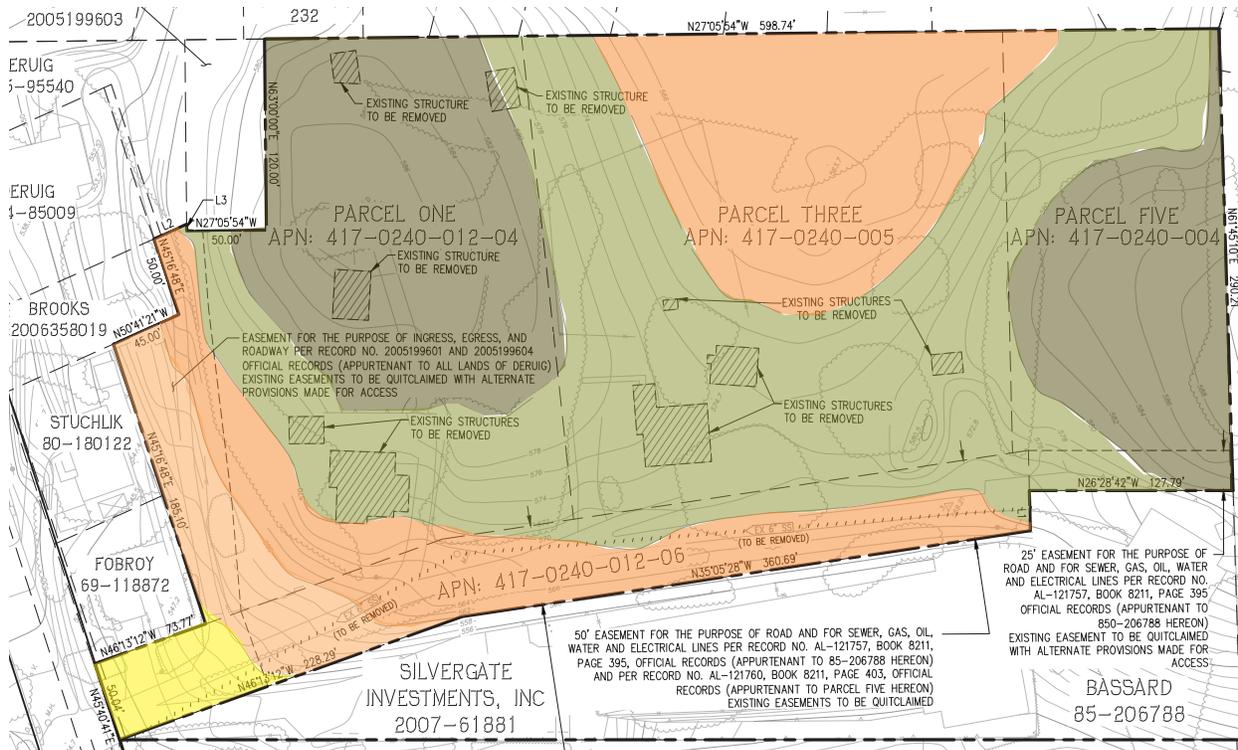
Fairview Area Plan Policies, Principles and Guidelines:	Project's Relative Consistency:
method of installation. Large, mature trees are those of the following sizes: a) 20" diameter breast height (dbh) or greater in circumference measured 4.5 feet above ground level for trees native to this area of California; and b) 30" dbh or greater in circumference measured 4.5 feet above ground level for introduced tree species (e.g., eucalyptus).	substantially altering the Project's lot sizes and configuration. The preservation of eucalyptus trees is generally undesirable due to fire safety considerations, although the individual specimens on the south side of the western tract are prominent in most views toward the site (see Chapter 4, Figures 4.2 and 4.3). In general, however, no significant visual impacts are associated with removal of trees from the sites.
Policy D.6. A landscape plan prepared by a registered landscape architect shall be submitted for all development projects. The plan shall include landscaping of slopes, especially around the development's perimeter, to mitigate the effects of grading and man-made structures. The landscaping shall be installed and inspected (or guaranteed through a bond) as a part of the grading improvements or subdivision improvements. The Planning Director may waive this requirement for projects which retain significant natural vegetation.	Inconsistent/ Undetermined A landscape plan has not yet been prepared or submitted, pending review of the draft EIR. However, a plan will be required to be submitted prior to consideration of the Project by the County Planning Commission, unless, as provided by the policy, significant natural vegetation is retained, which could include the trees on the sides of the Project sites noted above.

Under the 1970 CEQA Statute and its adopted Guidelines, conflicts with applicable plans, policies or regulations do not typically result in a significant effect on the environment. As stated in Section 15358 (b) of the CEQA Guidelines (definitions, *effects* or *impacts*), “effects analyzed under CEQA must be related to an adverse physical change.” A related definition of the *environment* extends to “physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance.” (Section 15360). Further, Appendix G of the CEQA Guidelines (the environmental checklist form, which is the effective basis for significance criteria in this and any EIR) makes explicit the focus on whether a project would “conflict with any applicable land use plan, policy, or regulation . . . adopted for the purpose of avoiding or mitigating an environmental effect.” A response in the affirmative, that there is a conflict with a land use policy, does not necessarily indicate the Project would have a significant environmental effect, unless an adverse physical change would occur.

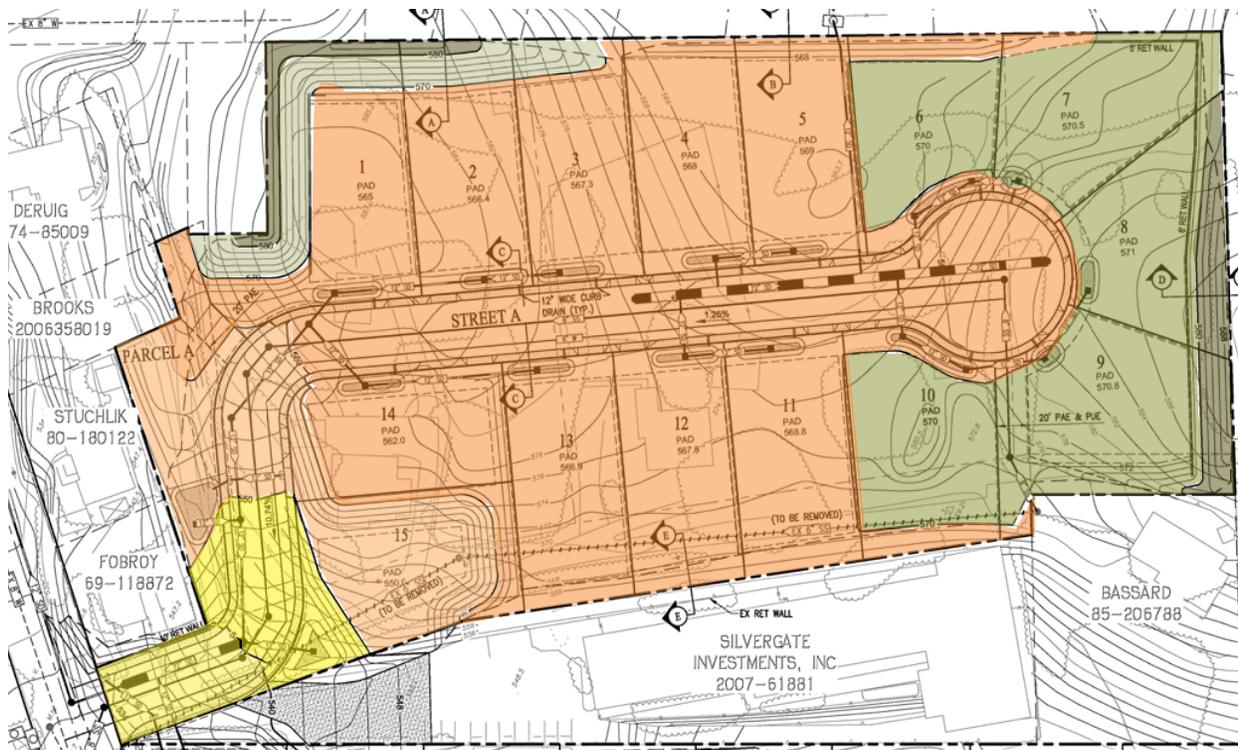
However, the County considers conflict with adopted policies of its General Plan (which extend to the Fairview Area Specific Plan) to represent potentially significant environmental impacts, where those policies are specifically adopted to protect environmental qualities. Neither the CEQA Statutes nor Guidelines provide specific thresholds of significance for such impacts. Rather, Section 15064.7 provides that “each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects.” The same section defines thresholds of significance as “an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency.”

As indicated above in Table 9.1, the Project is consistent with the substantial majority of the principles and guidelines of the Fairview Area Specific Plan. However, as also shown in Table 9.1, inconsistencies with the Plan’s principles include:

- Principle D.2.a/2.b-3/2.b-7 – Substantial regrading of the Project sites and deep excavations would not retain natural topographic features or blend with its natural landforms (see **Figures 9.1 and 9.2**);
- Principle D.3.b – Mass site grading is proposed across areas where existing slope exceeds 20%, rather than individual lot grading (see **Figure 9.3**);
- Principle D.3.c – Flat pad lots are used throughout most of the Project sites that do not retain a natural appearance, rather than custom foundations;
- Principle D.3.d/e – Grading would result in new slopes with heights greater than 10 feet between homes, and 2:1 slopes that exceed 20 feet in horizontal distance (see **Figures 9.4 and 9.5**);
- Principle D.3.f – Rows of residences with similar setbacks and elevations would be created;



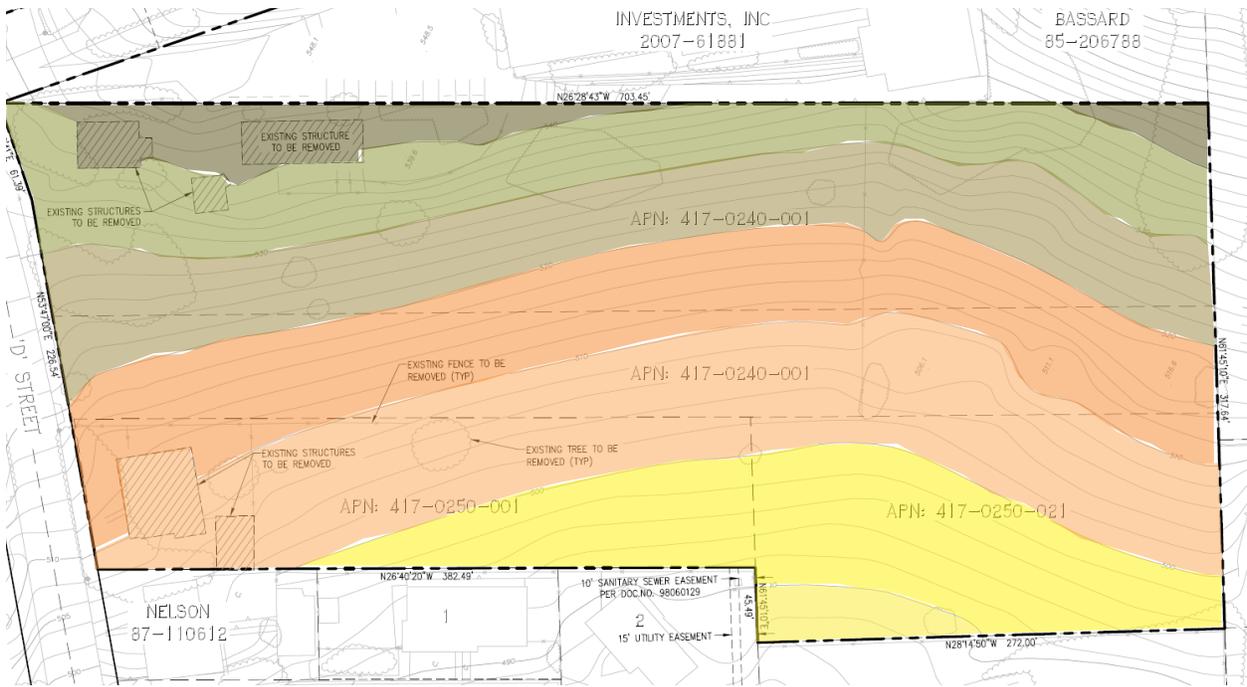
Natural Topography



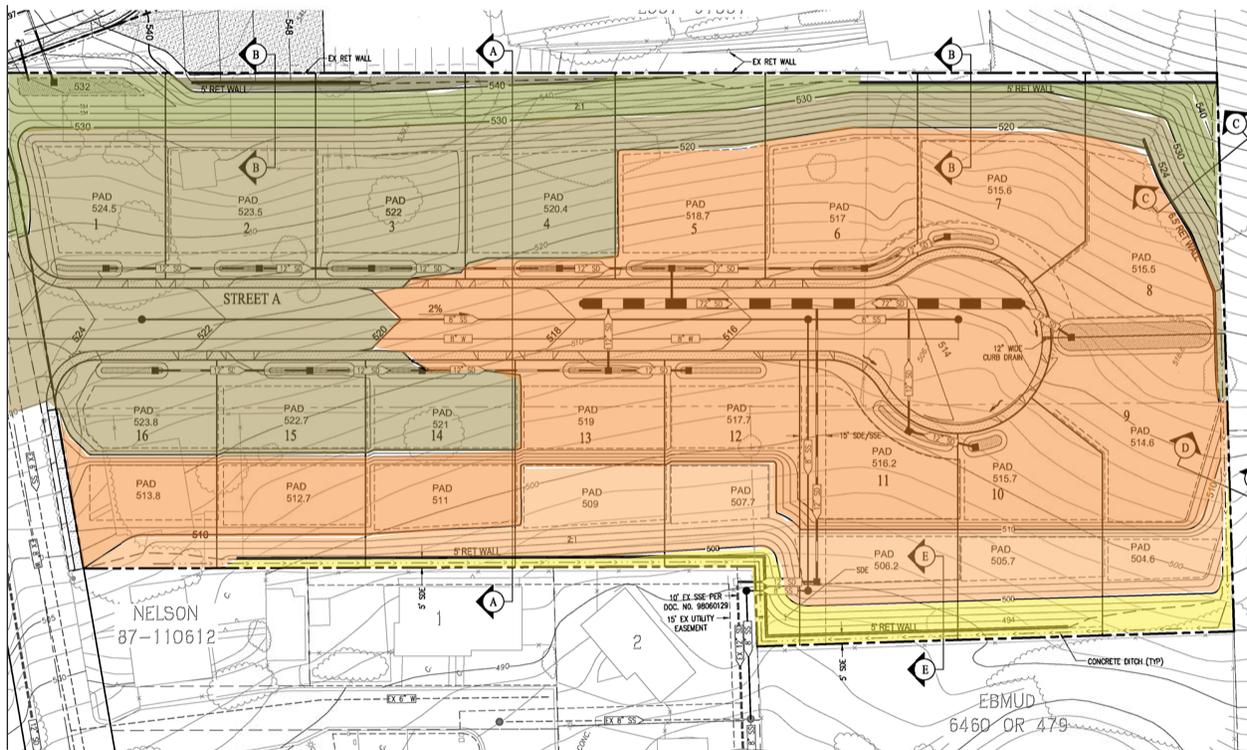
Graded Landform

Figure 9-1
Changes in Natural Topography - Tract 8297





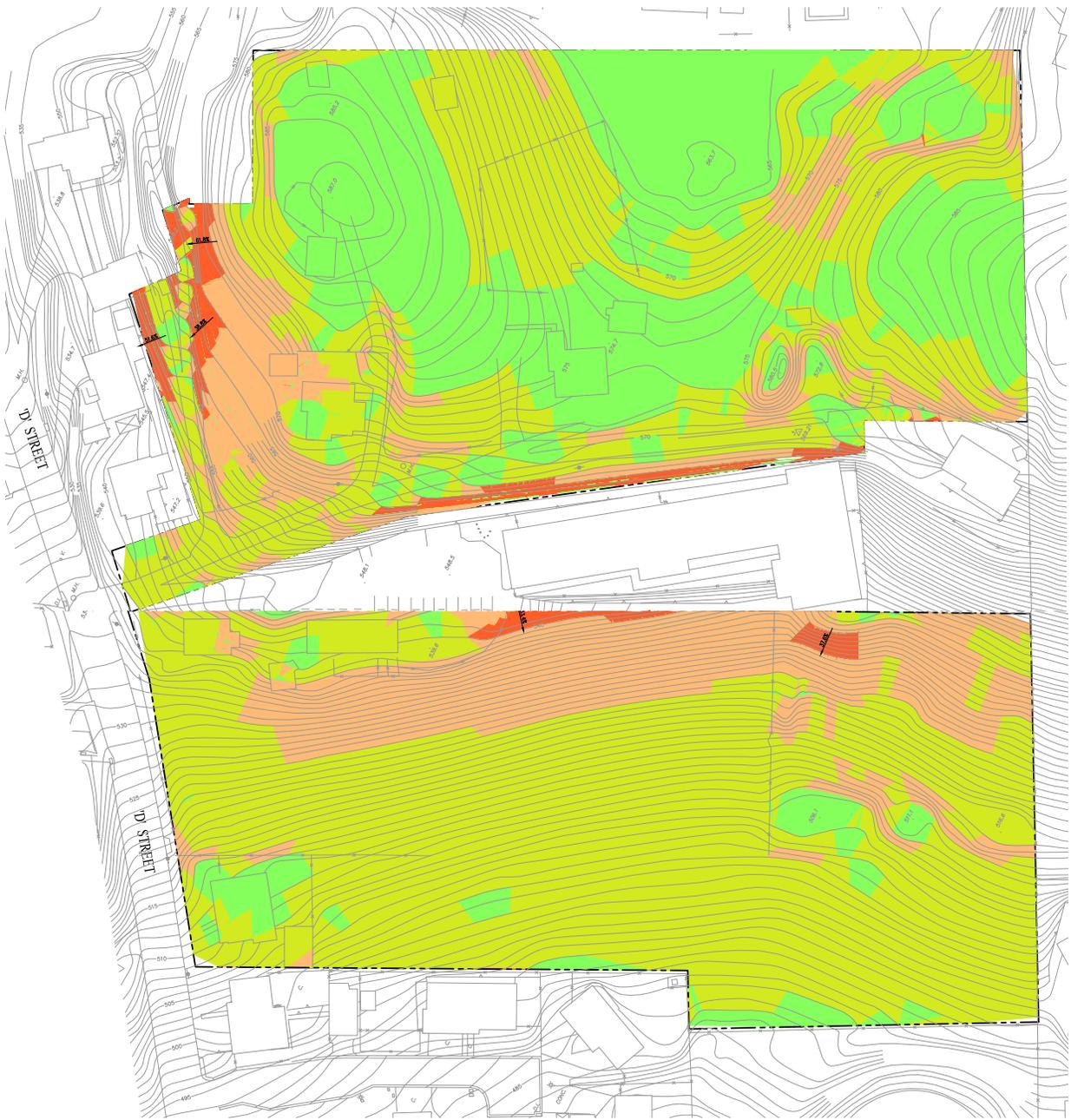
Natural Topography



Graded Landform

Figure 9-2
Changes to Natural Topography - Tract 8296





- Slope = 0% to 10%
- Slope = 10% to 20%
- Slope = 20% to 30%
- Slope = greater than 30%

Figure 9-3
Existing Slope at Project Sites



Source: CB&G, Inc.

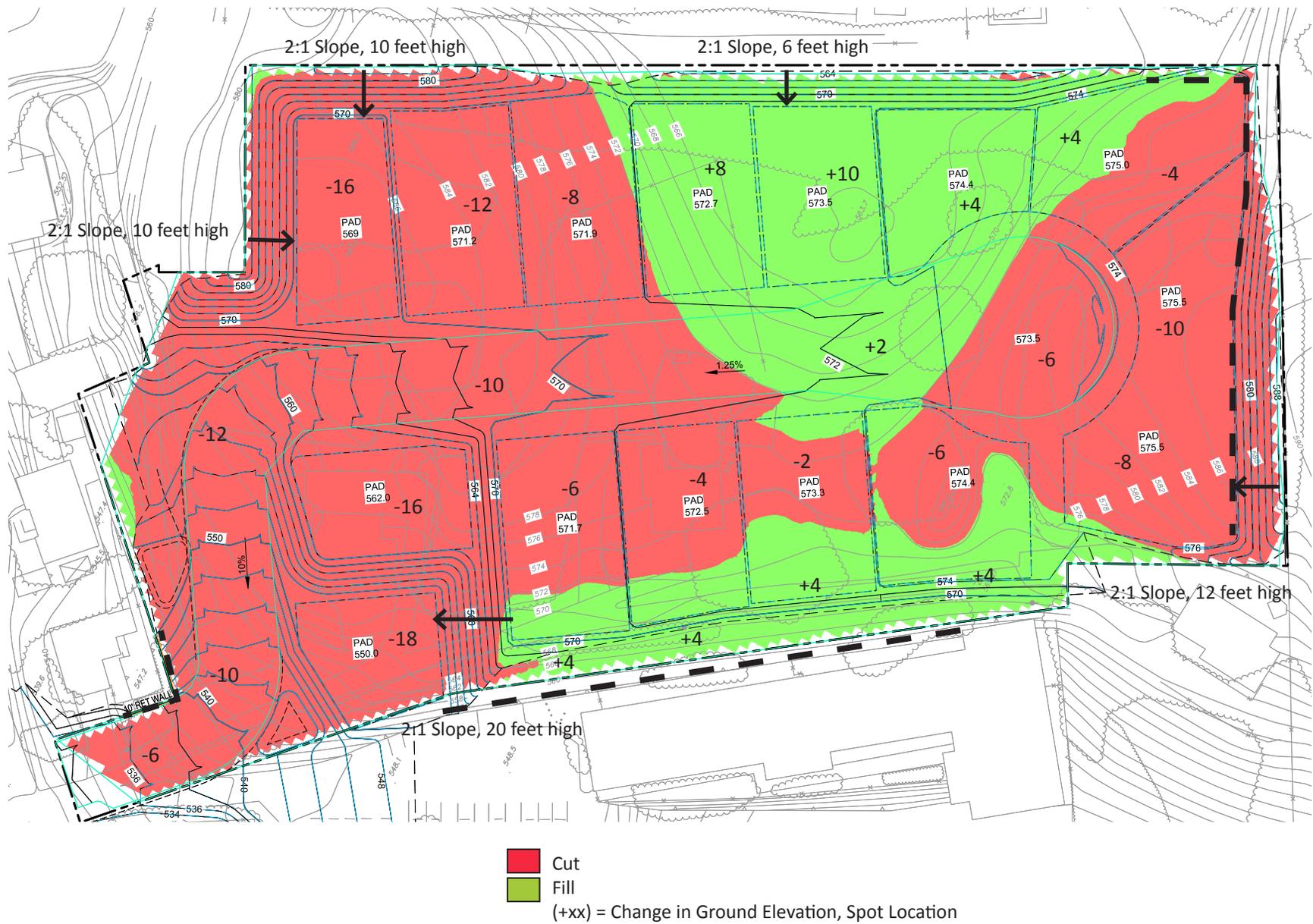


Figure 9-3
Cut and Fill Diagram, Tract 8297

Source: CB&G, Inc.

Certain of those physical changes identified in Table 9.1 as being inconsistent with the Fairview Area Specific Plan (i.e., long and/or tall slopes, flat building pads or similar-appearing residences) are not necessarily adverse environmental effects under CEQA, but rather may be interpreted as policy matters more relevant to the County's decision-making process when considering the merits of the Project. However, the County considers substantial changes to topography, and development that is in sharp conflict with certain *Fairview Plan* policies pertaining to the natural environment to be significant environmental impacts. *Failing to achieve* certain development characteristic sought in the *Plan* may not result in environmental effects, but *physical changes* to existing topography resulting from new development, where the topography is clearly recognized as an essential environmental quality of the district, is an adverse effect. The key question is whether such effects are significant or less-than-significant. The *Plan* provides clearly defined guidelines that serve as appropriate thresholds to determine significance, primarily in the Natural Features section (Principles and Guidelines leading with the letter D) and particularly with Principle D.2.b and the 14 enumerated principles.

The *Plan* also anticipates a review process for new development, including community input and decision-making on the relative merits of projects based on their consistency with neighborhood character. The *Plan* states that "significant changes to the neighborhood character that cannot be mitigated, or which can be mitigated but which significantly adversely impact the neighborhood, may be grounds for denial of a project."² The *Plan* requires an evaluation to address traffic conditions, street widths, parking, public services and utilities, building height, natural features such as mature vegetation and creeks, slopes and grading, and retention of existing areas of contiguous open space. These evaluations are not necessarily part of the CEQA process, but are fundamental to the process of deciding whether to approve, deny or require modifications to the Project:

- traffic and related concerns and public utilities and services are addressed in other sections of this draft EIR;
- building height is not an environmental concern for a project of this type;
- mature trees, slopes and grading are discussed in Table 9.1, but there are no creeks on the sites and there are no existing areas of contiguous open space (i.e., critical natural habitat, woodlands, creek banks or wetland areas) on or immediately adjacent to the site.
- The changes to topography from Project's proposed grading are not strictly aesthetic or visual effects. Chapter 4: Aesthetics concluded that no substantial adverse effects on a scenic vista, scenic resources or the existing visual character or quality of the site or its surroundings would occur. Furthermore, the Project's altered land form would not be substantially visible from public off-site viewing locations.

Additionally, many of the principles and policies in Table 9.1 are not mandatory requirements, but advisory. This includes Principle D.2.a, whereby; "All development proposals *shall strive for maximum retention* of the natural topographic features, landscape features, and qualities of the site. Development *should* seek to enhance these natural features and qualities" (emphasis added). This principle combines the terms 'shall', 'strive,' 'maximum' and 'should', such that there is not a clearly defined guideline or threshold by which a conflict can be measured. Whereas Principle D.2.b leads with the word 'shall', it is understood to be advisory that the layout of subdivisions take into account and be judged by the more specific design principles.

² Ibid, p. 4.

Nonetheless, the topographical alteration of the site by the Project is considered by the County to represent a significant adverse conflict with plan policies adopted to preserve natural physical features, and therefore Project changes, mitigation measures or alternatives to the Project are required to be considered.

Mitigation Measures

Mitigation Measure Land Use-2: Topography Preservation. The grading of the Project sites shall provide for split pads on Lots 1, 2, 8 and 15 of Tract 8297. Custom grading with the same effect, or pier and grade beam construction may be substituted on all or a portion of these lots, to the satisfaction of the Planning Director.

Resulting Level of Significance

Implementation of Mitigation Measure Land Use-1 would reduce the severity of topographic changes and incompatibility with the Specific Plan to a less-than-significant level, and provide for adequate conformity to the existing topography and community characteristics as defined in the Fairview Area Specific Plan.

Conflict with a Conservation Plan

Land Use-3: Development at the Project site would not conflict with any conservation plan. **(No impact)**

The Project site is not within an applicable conservation plan regional boundary. Project consistency with relevant conservation strategies is addressed in Chapter 6: Biological Resources.

Cumulative Land Use Impacts

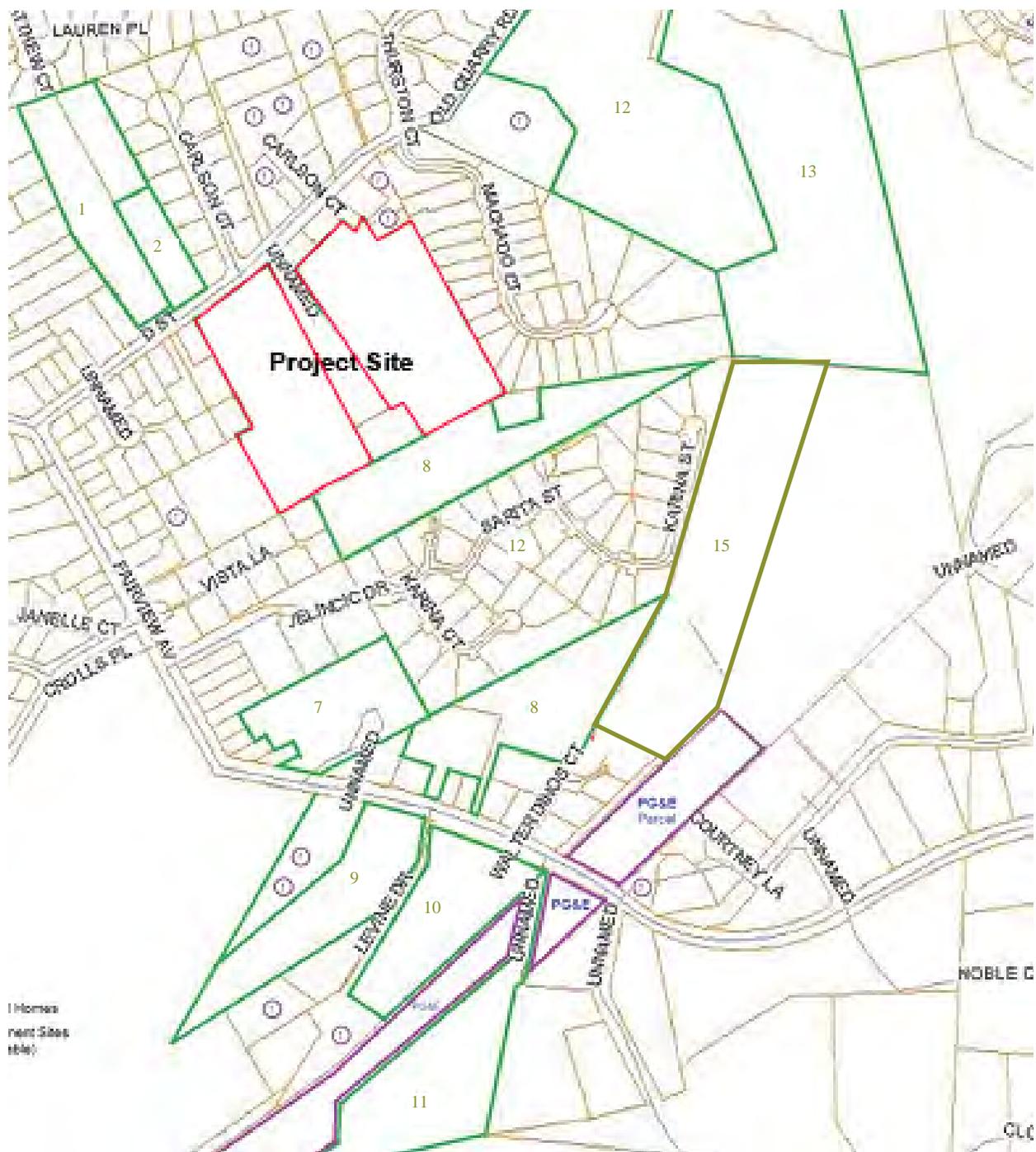
Land Use-4: Cumulative Land Use Effects. The Project, in combination with other past, present and reasonably foreseeable future development is not anticipated to result in cumulatively significant land use impacts.

Section 15130 of the CEQA Guidelines requires an EIR to discuss cumulative impacts of a proposed Project when the Project's incremental effect may be cumulatively considerable.

Potential Cumulative Development Scenario

For this EIR, an estimate of potential future development in the Fairview area was prepared by Alameda County Planning Department staff, looking forward over a 20-year time horizon. The geographic area where future development potential is projected involves undeveloped properties in the immediate vicinity of the Project site (see **Figure 9.6**). County staff has identified the potential future cumulative development scenario for these properties, as described below.

A total of 205 additional single-family residential dwelling units could theoretically be approved and built on currently undeveloped or under-developed residentially-designated parcels in the vicinity of the Project sites, as shown in **Table 9.2**. This estimate is a result of a simple mathematical calculation of lot sizes and allowable residential densities based on zoning; no constraining environmental or other factors are taken into account. Most of these potential future residential lots (an estimated 65%) would be subject to the same 10,000 square foot minimum lot size restriction that applies to the Project site; 14% would involve 20,000 square foot minimum lot sizes, and 21% would be on 1-acre or larger lots.



1 Home
near Sites
able

Numbers shown indicate potential number of new residential units under cumulative development

Figure 9-6
Other Potential Cumulative Development
in the Vicinity



Source: Alameda County Planning Department

This quantity of new residential development is unlikely to be achieved due to the necessity of setting aside between 15% and 30% of the gross area of each site for roadway access and other infrastructure, as well as accommodating other physical constraints (e.g., slope and other environmental factors). The net new development on these identified parcels would likely result in a reduction in gross development potential, such that a more likely and feasible net cumulative development potential is a total of approximately 130 residential units.

Historical growth rates in the Fairview area are relatively low, with an average of only 4 new residential units being built annually over the past 56 years (since 1960). The annual projected growth rate for this area, as estimated by the Association of Bay Area Governments (ABAG - the regional planning agency for the San Francisco Bay Area) is only 0.9% per year. At this growth rate, only about half of these potential 130 likely potential net new residential units would be built over the next 30 years.

County staff has estimated that the most likely cumulative development potential for this portion of the Fairview area is represented by construction of approximately half of the 130 assumed net development potential, or approximately 65 new residential units over the next 18 years (between now and 2035), reflecting an average growth of about 1 percent per year.

Cumulative Land Use Impacts

Together with the Project, all anticipated cumulative development in this portion of the Fairview area would not physically divide an established community. This projected cumulative development would occur as redevelopment of more sparsely-developed rural areas on the edge of the suburban communities of Fairview, and would represent an increase of infill of suburban density development. This cumulative development would not conflict with any applicable habitat conservation plan or natural community conservation plan, as no such plans apply to this area.

Table 9.2: Gross Cumulative Development Potential, Likely Developable Parcels

Site No.	Site APN	Street Address	Acres (est.)	Gross Potential Units
-	417-220 & 240 – var.	D St. & Ohlone Way	1.7	7
-	417-220 & 240 – var.	Fairview Ave.	2.8	6
-	425-0050-022-1 etc.	Noble Canyon ¹	9.8	4
-	417-261-017 to 056	Sarita & Karina St. ¹	7.1	31
1	417-220-11-1 & 12-1	3216 D St.	3.4	15
2	220-11-4	3230 D St.	1.0	4
3	261-61	3290 Jelincic	4.4	19
4	261-10	24694 Fairview	3.0	13
5	270-003/006	24830 Fairview	4.3	19
6	425-010-002-02	24717 Fairview	3.7	8
7	425-020-001-02	24787 Fairview	3.3	7
8	425-020-003-04	24867 Fairview	5.6	12
9	417-260-4-0 & 270-9-0	24850 Fairview	10.1	15
10	417-0230-005-01	3664 D St. (Quarry Rd.)	10.0	9
11	417-0230-006-00	3552 D St. (Quarry Rd.)	12.2	12
12	85A-6000-004 to 028	5262 to 5499 Hilltop Rd. ¹	31.0	<u>24</u>
Totals				±205²

¹ Approved subdivision without homes built, except some on Sarita & Karina Streets. (No reductions due to net or environmental factors).

² Includes 15 units already on these sites.

Like the Project, other cumulative development distributed in the Fairview area would also be subject to the County's land use entitlement and environmental review process. County zoning under the Fairview Area Specific Plan identifies this area for residential development at densities at, or higher than the densities assumed under the cumulative development scenario. It is reasonable to assume that future cumulative development on these other sites would be of densities similar to the Project, and consistent with existing zoning. Each project under the cumulative development scenario would also be evaluated and considered with respect to consistency and applicability of the policies, principles and guidelines of the *Fairview Area Specific Plan*. As such, this cumulative development scenario is not expected to result in cumulative land use effects to which the Project would contribute.

This chapter of the EIR presents the environmental noise and vibration assessment for the proposed Project. This chapter presents background information on community noise and vibration, applicable regulatory standards, and a description of the existing site conditions. The assessment of noise and vibration impacts identifies potentially significant impacts and measures necessary to avoid or reduce these impacts to less than significant levels.

- Technical analysis for this chapter of the EIR was conducted by noise consultants Illingworth & Rodkin, Inc. (see **Appendix B**)

Environmental Setting

Fundamental Concepts of Environmental Acoustics

For the purpose of this analysis, noise may be defined as unwanted sound. Noise is generally considered objectionable when it is disturbing or annoying. The objectionable nature of sound could be caused by its pitch or its loudness. Pitch is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. Loudness is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A decibel (dB) is a unit of measurement which indicates the relative amplitude of a sound. The zero on the dB scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in dBs are calculated on a logarithmic basis. An increase of 10 dBs represents a 10-fold increase in acoustic energy, while 20 dBs is 100 times more intense, 30 dBs is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 dB increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Generally, a 3 dB increase in sound levels or less is not detected or perceived. Technical terms are defined in **Table 10.1**.

There are several methods of characterizing sound. The most common in California is the A-weighted sound level (dBA). This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in **Table 10.2**. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be used. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq} . The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Table 10.1: Definitions of Acoustical Terms

Term	Definitions
Decibel	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e.g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hertz (Hz) and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level	The average A-weighted noise level during the measurement period.
L_{max} , L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
Day/Night Noise Level	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 dBs to levels measured in the night between 10:00 p.m. and 7:00 a.m.
Community Noise Equivalent Level	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 p.m. to 10:00 p.m. and after addition of 10 decibels to sound levels measured in the night between 10:00 p.m. and 7:00 a.m.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.

Source: *Handbook of Acoustical Measurements and Noise Control*, Harris, 1998.

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet		Vacuum cleaner at 10 feet
Commercial area	70 dBA	Normal speech at 3 feet
Heavy traffic at 300 feet		
	60 dBA	
Quiet urban daytime		Large business office
	50 dBA	Dishwasher in next room
Quiet urban nighttime		
Quiet suburban nighttime	40 dBA	Theater, large conference room
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	

Source: *Technical Noise Supplement, California Department of Transportation, September 2013.*

Since the sensitivity to noise increases during the evening and at night—because excessive noise interferes with the ability to sleep—24-hour descriptors have been developed that incorporate artificial noise "penalties" (or adjustments) added to quiet-time noise events. The Community Noise Equivalent Level (CNEL) is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 p.m. – 10:00 p.m.) and a 10 dB addition to nocturnal (10:00 p.m. – 7:00 a.m.) noise levels. In effect, a 55 dBA level of noise occurring at 3:00 a.m. is deemed to have the same level of 'community' impact as a 65 dBA level occurring at 3:00 p.m. The day/night average sound level (L_{dn}) is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Fundamental Concepts of Ground-borne Vibration

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One method is the Peak Particle Velocity (PPV). The PPV is defined as the maximum instantaneous positive or negative peak of

the vibration wave. In this report, a PPV descriptor with units of mm/sec or in/sec is used to evaluate construction generated vibration for building damage and human complaints. **Table 10.3** displays the reactions of people and the effects on buildings that continuous vibration levels produce.

Table 10.3: Reactions of People and Damage to Buildings from Continuous or Frequent Intermittent Vibration Levels

Velocity Level, PPV (in/sec)	Human Reaction	Effect on Buildings
0.01	Barely perceptible	No effect
0.04	Distinctly perceptible	Vibration unlikely to cause damage of any type to any structure
0.08	Distinctly perceptible to strongly perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
0.1	Strongly perceptible	Virtually no risk of damage to normal buildings
0.3	Strongly perceptible to severe	Threshold at which there is a risk of damage to older residential dwellings such as plastered walls or ceilings
0.5	Severe – Vibrations considered unpleasant	Threshold at which there is a risk of damage to newer residential structures

Source: *Transportation and Construction Vibration Guidance Manual, California Department of Transportation, September 2013*. Note: PPV - Peak Particle Velocity.

The annoyance levels shown in **Table 10.3** should be interpreted with care since vibration may be found to be annoying at much lower levels than those shown, depending on the level of activity or the sensitivity of the individual. To sensitive individuals, vibrations approaching the threshold of perception can be annoying. Low-level vibrations frequently cause irritating secondary vibration, such as a slight rattling of windows, doors, or stacked dishes. The rattling sound can give rise to exaggerated vibration complaints, even though there is very little risk of actual structural damage.

Construction activities can cause vibration that varies in intensity depending on several factors. The use of pile driving and vibratory compaction equipment typically generates the highest construction related ground-borne vibration levels. Because of the impulsive nature of such activities, the use of the PPV descriptor has been routinely used to measure and assess ground-borne vibration and almost exclusively to assess the potential of vibration to induce structural damage and the degree of annoyance for humans.

The two primary concerns with construction-induced vibration, the potential to damage a structure and the potential to interfere with the enjoyment of life, are evaluated against different vibration limits. Studies have shown that the threshold of perception for average persons is in the range of 0.008 to 0.012 in/sec PPV. Human perception to vibration varies with the individual and is a function of physical setting and the type of vibration. Persons exposed to elevated ambient vibration levels, such as people in an urban environment, may tolerate a higher vibration level.

Structural damage can be classified as cosmetic only, such as minor cracking of building elements, or may threaten the integrity of the building. Safe vibration limits that can be applied to assess the potential for damaging a structure vary by researcher and there is no general consensus as to what amount of vibration may pose a threat for structural damage to the building. Construction-induced vibration that can be detrimental to the building is very rare and has only been observed in instances where the structure is at a high state of disrepair and the construction activity occurs immediately adjacent to the structure.

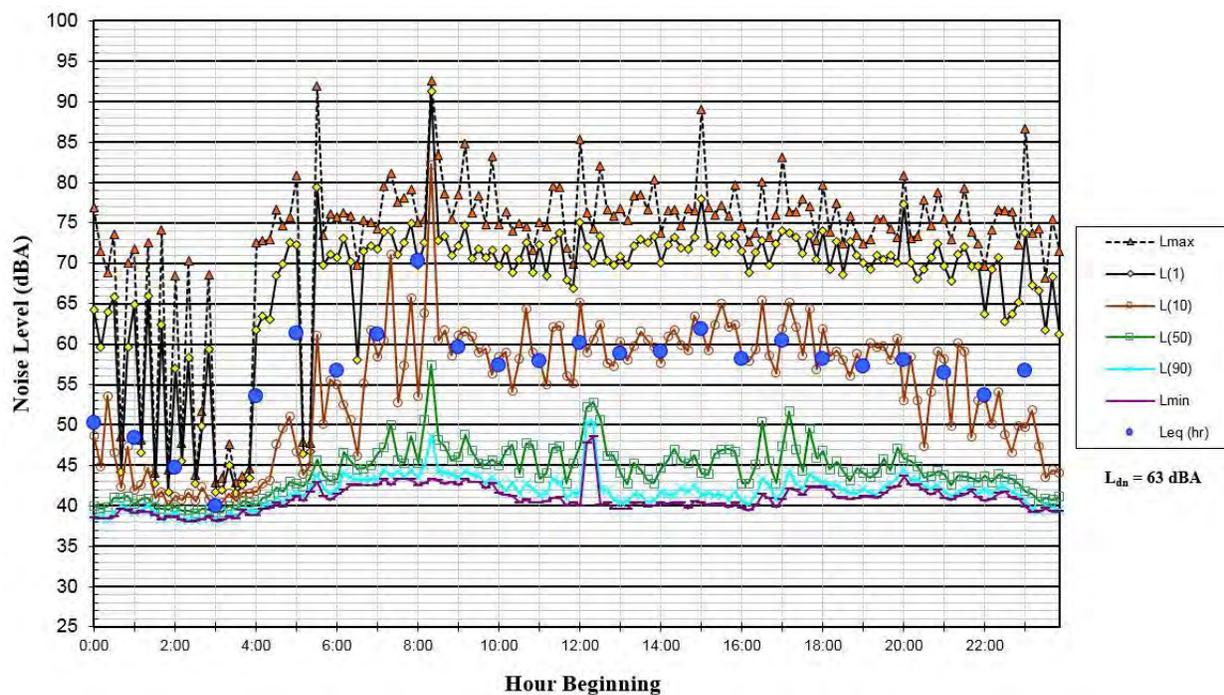
Local Physical Setting

Existing Site

The Project site is located in the unincorporated Fairview area of Alameda County. Residential land uses bound the two Project sites on all sides, though at varying density. The Hilltop Care Convalescent and Medical Home is located between the two Project parcels. Vacant lots approved for residential uses are located directly to the south. The residential uses and the Care Facility are considered sensitive receptors for the purpose of this chapter of the EIR. The existing noise environment in the Project vicinity results primarily from local traffic along D Street and the other surrounding neighborhood roadways. Intermittent noise from aircraft overhead also contributes to the noise environment.

A noise monitoring survey was conducted to document existing noise conditions at the Project site between Thursday, February 4, 2016 and Tuesday, February 9, 2016. Long-term noise measurement LT-1 was positioned on a utility pole near 3231 D Street, along the northern boundary of the western parcel. LT-1 was approximately 20 feet from the centerline of D Street and about 10 feet above the ground.¹ Noise levels measured at this site were primarily the result of traffic on D Street. Hourly average noise levels typically ranged from 54 to 70 dBA L_{eq} during the day and 40 to 65 dBA L_{eq} at night. The calculated L_{dn} at this location ranged from 60 to 64 dBA L_{dn} . **Table 10.4** shows a representative example of the daily trend in noise levels at LT-1. Generally, the spikes shown in the graph of noise levels under the L_{max} condition represent aircraft fly-overs.

¹ Illingworth & Rodkin 2016.

Table 10.4: Noise Levels Recorded at LT-I on Friday, February 5, 2016 (D Street)

Regulatory Setting

County of Alameda General Plan Noise Element

The County of Alameda Countywide General Plan Noise Element contains goals, objectives, and implementation programs for the entire county to provide residents with an environment free from excessive noise. It promotes compatibility of land uses with respect to noise. The Countywide Noise Element does not explicitly state what the acceptable noise levels are for residential outdoor use areas or indoor use areas; however, the Noise Element recognizes the EPA noise level standards, which indicate that exterior noise is limited to 55 dBA L_{dn} for residential land uses, and interior noise is limited to 45 dBA L_{dn} . The Noise Element also recognizes noise and land use compatibility standards developed by an ABAG sponsored study, the *Regional Airport Systems Study*. The adopted noise standards from this study are shown in **Table 10.5**. Acceptable exterior noise levels would be at or below 65 dBA CNEL. Moderate impacts would occur with exterior noise levels between 65 and 70 dBA CNEL, and noise levels exceeding 70 dBA CNEL would cause a significant impact.

Table 10.5: Simplified Land Use Interpretations of Community Equivalent Level Noise Exposure, Approximate CNEL Value (dBA)

	55	60	65	70	75	80	85
Residential / Education	Little Impact		Mod. Impact		Significant Impact		
Commercial	Little Impact			Mod. Impact		Significant Impact	
Industrial	Little Impact				Mod. Impact		Significant Impact
Agriculture / Open Space	Little Impact				Mod. Impact		

Little Impact
 Mod. Impact
 Significant Impact

Source: Adopted from Regional Airport Systems Study, Final Plan, June 1972, by Alameda County Planning Department, July 1975.

County of Alameda General Code

The County of Alameda General Code Chapter 6.60 establishes the Countywide Noise Ordinance. This chapter contains policies to control unnecessary, excessive, and annoying noise in the County. The following sections are applicable to the proposed Project:

Chapter 6.60.040: Exterior noise level standards. (A) It is unlawful for any person at any location within the unincorporated area of the County to create any noise or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the exterior noise level when measured at any single- or multiple-family residential, school, hospital, church, or public library situated in either the incorporated or unincorporated area to exceed the noise level standards as set forth in **Table 10.6** (Table 6.60.040A of the General Code). (B) In the event the measured ambient noise level exceeds the applicable noise level standard in any category above, the applicable standard shall be adjusted so as to equal said ambient noise level. (C) Each of the noise level standards specified in Table 6.60.040A shall be reduced by 5 dBA for simple tone noises, noises consisting primarily of speech or music or for recurring impulsive noises.

Table 10.6: Receiving Land Use – Single- or Multiple-Family Residential, School, Hospital, Church, or Public Library properties: Noise Level Standards, dBA

Cumulative Number of Minutes in any one-hour time period	Daytime	Nighttime
	(7:00 a.m. to 10:00 p.m.)	(10:00 p.m. to 7:00 a.m.)
30 minutes	50 dBA	45 dBA
15 minutes	55 dBA	50 dBA
5 minutes	60 dBA	55 dBA
1 minutes	65 dBA	60 dBA
0 minutes	70 dBA	65 dBA

Chapter 6.60.050: Prohibited noise disturbances. (B) Notwithstanding any of the provisions of this chapter, the following acts are prohibited within the unincorporated area of the county of Alameda, subject only to the exceptions of Section 6.60.070:

- 1) **Radio, Television Sets, Musical Instruments and Similar Devices.** Operating, playing or permitting the operation or playing of any radio, stereo, television set, audio equipment, electronic equipment, drum, musical instrument, or device which produces or reproduces sound at any time of day plainly audible at a distance of fifty (50) feet from such device. This section does not apply to places of public entertainment or to events for which a lawful permit has been obtained, provided that the activities producing sound are being conducted in compliance with the permit. This section does not apply to the operation of sound amplification systems in vehicles to the extent those systems are subject to California Vehicle Code Section 27007.
- 7) **Loading and Unloading.** Loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, garbage cans, or similar objects between the hours of 9:00 p.m. and 6:00 a.m. in such a manner as to cause a noise disturbance across a residential real property line or at any time to violate the provisions of Section 6.60.040.
- 8) **Vibration.** Operating or permitting the operation of any device that creates a vibration which is above the vibration perception threshold of an individual at or beyond the property boundary of the source if on private property or at 150 feet (46 meters) from the source if on a public space or public right-of-way.

Chapter 6.60.070: Special provisions or exceptions. (E) **Construction.** The provisions of this chapter shall not apply to noise sources associated with construction, provided said activities do not take place before 7:00 a.m. or after 7:00 p.m. on any day except Saturday or Sunday, or before 8:00 a.m. or after 5:00 p.m. on Saturday or Sunday.

Impacts and Mitigation Measures

The following section describes potentially significant Project impacts related to noise exposure. Mitigation recommendations are made to avoid, minimize, or mitigate such impacts where feasible.

Significance Criteria

The Project would have a significant environmental impact if it were to result in:

1. 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.
2. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
3. A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project.
4. A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project.

Significant impacts could also result if the Project were located within an airport land use plan area (or within two miles of a public airport or public use airport if the County had no land use plan such airport for such an airport), and if the Project would as a result expose people residing or working on the Project site to excessive noise levels. Lastly, if the Project was within the close vicinity of a private airstrip, and

would as a result expose people residing or working in the Project area to excessive noise levels, a significant impact could occur. Although the Project site is not in an airport land use area, or near any other public use airport or private airstrip, a discussion of potential aircraft effects is included below.

Construction-Period Noise

Noise-1: Construction Noise. Construction activities associated with the Project would not expose persons to, or generate noise levels in excess of standards established in the County General Plan or County General Code, but would substantially increase temporary and periodic ambient noise levels in the Project vicinity above levels existing without the Project. **(Less than Significant with Mitigation)**

Construction noise associated with the Project would temporarily elevate existing ambient noise levels. One of the thresholds used to determine whether a significant noise impact would occur is, if the Project would generate noise levels that would exceed local criteria established in the General Plan or General Code. According to Chapter 6.60.070 of the County's General Code, established noise standards do not apply to temporary noise sources associated with construction, provided that all construction activities occur between 7:00 a.m. and 7:00 p.m. on weekdays and between 8:00 a.m. and 5:00 p.m. on weekends.

The second applicable threshold is whether the Project would substantially increase temporary and/or periodic ambient noise levels in the Project vicinity above levels existing without the Project. Construction activities are considered to be temporarily or periodically significant if they would increase ambient noise levels by sensitive receptors (typically existing building walls, not at property lines) by an hourly average noise level exceeding 60 dBA L_{eq} , and/or increase the ambient noise levels by a least 5 dBA L_{eq} for a period of more than 1 year. A detailed construction equipment list and expected constructed timeframe was not provided, but construction activities are expected to include demolition, site preparation (clearing trees and vegetation), excavation and grading work, building construction, paving, and architectural coating, each of which will result in increased noise levels in the surrounding area. The construction period for all of these activities combined could take up to 24 months to complete. Therefore, construction noise is considered to be potentially significant.

Estimated Construction Noise Levels

Construction noise levels will vary on a day-to-day basis, depending on the type and amount of equipment operating on site and the specific task that is being completed on a particular day. Certain construction activities generate considerable amounts of noise, especially during earth-moving activities when heavy equipment is used. The highest maximum noise levels generated by Project construction would typically range from about 80 to 91 dBA L_{max} at a distance of 50 feet from the noise source. For the proposed Project, pile driving, which generates high noise levels, would not be expected.

Typical range of hourly average noise levels generated by different phases of construction for new residential development, measured at a distance of 50 feet, are indicated below.²

- During busy early phases of construction, typical hourly average construction-generated noise levels range from about 81 to 88 dBA L_{eq} measured at a distance of 50 feet (e.g., ground clearing activity averages 83 dBA L_{eq} at 50 feet, excavation activity ranges from 88 to 75 dBA L_{eq} at 50 feet, and foundation construction and pouring averages approximately 81 dBA L_{eq} at 50 feet).

² Source: U.S. Environmental Protection Agency, 1973, Legal Compilation on Noise, Vol. 1, p. 2-104.

- Hourly average construction noise levels associated with the erection of the residential buildings, such as hammer and drilling related noise, typically range from approximately 65 to 71 dBA Leq at a distance of 50 feet, but can reach as high as 81 dBA Leq for large projects with multiple pieces of equipment. The noise levels associated with construction of the residential units is typically substantially less than noise levels associated with grading and pavement activities during Project site preparation.
- Once construction moves indoors, minimal noise (typically in the range of 72 dBA at 50 feet) would be generated at off-site locations.

Construction-generated noise levels drop off at a rate of about 6 dBA per doubling of the distance between the source and receptor. Shielding by buildings or terrain can provide an additional 5 to 10 dBA noise reduction at distant receptors.

Adjacent land uses are located within 10 feet of the shared property lines of the Project site. From the center of the Project site, the adjacent Care Facility would be approximately 170 feet from Tract No. 8297 and approximately 160 feet from Tract No. 8296. At these distances, typical hourly average noise levels would range from 70 to 78 dBA Leq, with maximum instantaneous noise levels ranging from 69 to 81 dBA Lmax. The existing adjacent residences to the east and west of the Project site are approximately 160 to 210 feet from the center of the Project site. At these distances, typical hourly average noise levels would range from 69 to 78 dBA Leq, with maximum instantaneous noise levels ranging from 68 to 81 dBA Lmax. Noise generated by construction activities would temporarily elevate noise levels at adjacent noise-sensitive receptors to levels exceeding ambient levels by more than 5 dBA.

Mitigation Measures

Regulation of the hours of construction, as well as regulation of the arrival and operation of heavy equipment and the delivery of construction material, is necessary to address this temporary construction noise threshold and to protect the health and safety of persons, promote the general welfare of the community, and maintain quality of life.

Mitigation Measure Noise-1: Best Management Practices to Reduce Construction Noise Levels. The following mitigation shall be implemented to reduce construction noise emanating from the Project site to the surrounding sensitive land uses:

- Comply with construction hours established within the Noise Ordinance to limit hours of exposure. The County's General Code limits construction activities to the hours of 7:00 a.m. to 7:00 p.m. on weekdays and between the hours of 8:00 a.m. and 5:00 p.m. on weekends.
- Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
- Unnecessary idling of internal combustion engines should be strictly prohibited.
- Locate stationary noise-generating equipment, such as air compressors or portable power generators, as far as possible from sensitive receptors. Construct temporary noise barriers or partial enclosures to acoustically shield such equipment where feasible.
- Construct solid plywood fences around construction sites adjacent to operational business, residences or other noise-sensitive land uses where the noise control plan analysis determines that a barrier would be effective at reducing noise.

- Erect temporary noise control blanket barriers, if necessary, along building façades facing construction sites. Noise control blanket barriers can be rented and quickly erected.
- Utilize "quiet" air compressors and other stationary noise sources where technology exists.
- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the Project site.
- Route construction-related traffic along major roadways and away from sensitive receptors where feasible.
- The contractor shall prepare a detailed construction plan identifying the schedule for major noise-generating construction activities. The construction plan shall identify a procedure for coordination with adjacent residential land uses so that construction activities can be scheduled to minimize noise disturbance.
- Designate a "disturbance coordinator" who would be responsible for responding to any complaints about construction noise. The disturbance coordinator will determine the cause of the noise complaint (e.g., bad muffler) and will require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include in it the notice sent to neighbors regarding the construction schedule.

Resulting Level of Significance

With implementation of Mitigation Measure Noise-1, construction-period noise levels would be reduced to a less-than-significant level through implementation of noise-reducing best management practices during construction activities.

Construction Vibration

Noise-2: Construction Vibration. The proposed Project could expose sensitive residential receptors to excessive groundborne vibration or groundborne noise levels during construction. **(Less than Significant with Mitigation)**

During construction of the Project, there is a potential to expose persons to excessive vibration levels. Ground-borne vibration levels exceeding 0.3 in/sec PPV would have the potential to result in cosmetic damage to normal buildings and would be considered excessive. Construction activities associated with the Project may generate perceptible vibration when heavy equipment or impact tools (e.g. jackhammers, hoe rams) are used. Construction activities generating such vibrations may include site preparation work, major excavation and grading work, foundation work, and new building framing and finishing. The proposed Project is not expected to require pile driving, which can cause excessive vibration, but does anticipate the need for cast-in-place concrete piers relying on drilling. The proposed construction activities would result in potentially significant vibration impacts.

According to the County's General Code, the operation of any device that creates a vibration which exceeds the vibration perception threshold of an individual at or beyond the property boundary of the source would be prohibited on any private property. For structural damage, the California Department of Transportation recommends a vibration limit of 0.5 in/sec PPV for buildings that are structurally sound and designed to modern engineering standards, 0.3 in/sec PPV for buildings that are found to be structurally sound but where structural damage is a major concern, and a conservative limit of 0.08

in/sec PPV for very old (“ancient”) buildings or buildings that are documented to be structurally weakened. No ancient buildings or buildings that are documented to be structurally weakened adjoin the Project site. Vibration levels of greater than 0.1 in/sec PPV would be perceptible according to **Table 10.3**, and perceptibility would increase to strong or severe at greater than 0.3 in/sec PPV. Ground-borne vibration levels exceeding 0.3 in/sec PPV are considered to be a significant vibration impact at the Project site.

Table 10.7 presents typical vibration levels that could be expected from construction equipment at a distance of 25 feet. Project construction activities such as excavators, drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.), will generate vibration in the immediate vicinity. Jackhammers typically generate vibration levels of 0.035 in/sec PPV, and drilling typically generates vibration levels of 0.09 in/sec PPV at a distance of 25 feet.

Table 10.7: Vibration Source Levels for Construction Equipment

Equipment	PPV at 25 feet, in/sec	Approximate L _v at 25 feet, VdB
Pile Driver (Impact)	upper range	112
	typical	104
Pile Driver (Sonic)	upper range	105
	typical	93
Clam shovel drop		94
Hydromill (slurry wall)	in soil	66
	in rock	75
Vibratory Roller		94
Hoe Ram		87
Large Bulldozer		87
Caisson Drilling		87
Loaded Trucks		86
Jackhammer		79
Small Bulldozer		58

Source: *Transit Noise and Vibration Impact Assessment, U.S. Department of Transportation, Office of Planning and Environment, Federal Transit Administration, May 2006.*

Vibration levels would vary depending on soil conditions, construction methods, and equipment used. Specific vibration effects and calculated PPV levels for adjacent land uses would include the following:

- The Hilltop Convalescent and Medical Care Facility, located on the wedge-shaped property between proposed Tract 8297 and 8296 is within 10 feet of the shared property lines of both development parcels. Assuming a credible worst-case scenario which would consist of the operation of vibratory tools at the shared property line, the care facility structure would be exposed to vibration levels up to 0.55 in/sec PPV as a result of clam shovel drops, and up to 0.58

in/sec PPV with the operation of a vibratory roller. The operation of other vibratory tools at a distance of 10 feet would result in vibration levels at or below 0.24 in/sec PPV.

- The nearest residential land uses to the north of Tract 8297 are located along the south side of D Street, and would also be within 10 feet of the shared property line of the Project site. Vibration levels could be up to 0.58 in/sec PPV at these residences as well.
- To the east of Tract 8297, the nearest residences are located 15 to 130 feet from the shared property line. Vibration levels at these residences would be up to 0.37 in/sec PPV.
- There is also a residence located approximately 40 feet to the southeast of the Tract 8297 site, and at this distance, vibration levels would be at or below 0.13 in/sec PPV.
- The single-family residences located adjacent to the western boundary of Tract 8296 would be approximately 10 to 20 feet from the shared property line. At these distances, vibration levels would be at or below 0.58 in/sec PPV.
- Opposite D Street, the nearest residences are located approximately 60 to 70 feet from the boundary of the Project site. At these distances, vibration levels would be expected to be at or below 0.08 in/sec PPV.

Since vibration levels expected at many of the adjacent land uses would exceed 0.3 in/sec PPV at many of the adjacent properties, this is considered a significant impact.

Mitigation Measures

Mitigation Measure Noise-2: Best Management Practices to Assure Acceptable Vibration Levels. The following mitigation shall be implemented by Project construction crews to avoid structural damage due to construction vibration and to reduce the perceptibility of vibration levels at nearby sensitive land uses:

- Minimize or avoid using clam shovel drops, vibratory rollers, and tampers near the shared property lines of the adjacent land uses.
- When vibration-sensitive structures are within 25 feet of the site, survey condition of existing structures and, when necessary, perform site-specific vibration measurements to direct construction activities. Contractors shall continue to monitor effects of construction activities on surveyed sensitive structures and offer repair or compensation for damage.
- Construction management plans shall include predefined vibration reduction measures, notification of scheduled construction activities requirements for properties adjoining the site, and contact information for on-site coordination and complaints.

Resulting Level of Significance

Implementation of Mitigation Measure Noise 10-2 would reduce the Project's potential impact related to construction vibration to a less than-significant level by minimizing the use of vibrating types of equipment and performing vibration measurements to direct construction activities when working close to existing structures.

Vehicle Traffic Noise

Noise-3: Vehicular Traffic Noise Increase. Traffic generated by the Project would not result in a substantial temporary, periodic or permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. **(Less than Significant)**

Existing plus Project

A significant traffic noise impact would occur if traffic generated by the Project would substantially increase noise levels at existing sensitive receptors. A substantial increase would occur if the L_{dn} at noise sensitive receptors were to increase by 5 dBA L_{dn} or greater where the existing-plus-Project ambient noise level would be less than 60 dBA L_{dn}, or if the noise level increased by 3 dBA L_{dn} or greater where the existing-plus-Project ambient noise level would be 60 dBA L_{dn} or greater.

Traffic data provided for the Project were reviewed by the EIR noise consultant to calculate potential Project-related traffic noise level increases along roadways serving the Project site. These data included peak-hour turning movement volumes at study intersections for existing conditions and existing plus Project conditions. Roadway link volumes under existing plus Project conditions were calculated based on the turning movement data, and compared to existing conditions in order to calculate the noise level increase anticipated with the development of the Project. Based on this comparison, traffic noise levels along roadways serving the Project site are calculated to increase by less than 1 dBA L_{dn} as a result of the Project on all studied roadways.

Cumulative

A significant cumulative noise impact would occur if the cumulative traffic noise level increase is 3 dBA L_{dn} or greater where future noise levels are projected to exceed 60 dBA L_{dn}, or is 5 dBA L_{dn} or greater where future noise levels are projected to be below 60 dBA L_{dn}; and if the Project would make a “cumulatively considerable” contribution to this overall cumulative noise. A cumulatively considerable contribution is defined as an increase of 1 dBA L_{dn} or more attributable solely to the proposed Project.

Cumulative traffic noise level increases were calculated by comparing the future traffic volumes and the Cumulative plus Project volumes to existing traffic volumes. The traffic noise increases calculated under both future scenarios were approximately 1 dBA L_{dn} in the Project site vicinity. Since the traffic noise level increase under both future scenarios is less than 3 dBA L_{dn}, no cumulative traffic noise impacts are identified. Furthermore, the Project would not make a cumulatively considerable contribution (i.e., more than 1 dBA L_{dn} or more attributable solely to the proposed Project).

Mitigation Measures

None needed.

Aircraft-Related Noise

Hayward Executive Airport is a city-owned public airport located approximately 3.8 miles southwest of the Project site. Oakland International Airport is a public airport located approximately 9 miles northwest of the Project site. The Project site does not fall within the airport influence areas of either airport, although the area is generally beneath a common flight path for freight and passenger aircraft approaching Oakland International Airport.

The Project would not generate any discernable increase in air traffic, and no change in noise from aircraft would occur that would substantially increase ambient noise levels at the Project site. Interior noise levels resulting from aircraft would be compatible with the proposed Project uses. **(No Impact)**

Noise and Land Use Compatibility

The effect of the environment on a project (as opposed to the effect of the project on the environment) is not normally considered an environmental impact under CEQA, based on a state Supreme Court ruling in 2015. Therefore, consideration of the noise environment potentially affecting future Project residents is not considered a significant impact in this EIR, but is nevertheless presented herein for informational purposes.

The County of Alameda General Plan Noise Element contains goals, objectives, and implementation programs for the entire County to provide residents with an environment free from excessive noise. It promotes compatibility of land uses with respect to noise. According to the General Plan, the following would be identified as an acceptable noise environment for the proposed Project:

- When exterior noise levels are at or below 65 dBA L_{dn}, the County considers there to be “little impact” at single-family residential land uses.
- The County recognizes that interior noise levels must be maintained at or below 45 dBA L_{dn}.

Exterior Noise Environment

The noise environment at the Project site is a result primarily from vehicular traffic along D Street and occasional aircraft flyovers. Transportation-related noise levels at the Project site were calculated based on adjustments made to existing noise level data, assuming increased traffic volumes along area roadways. Based on the traffic information provided at the time of this study, the plus-Project traffic conditions would result in a traffic noise increase from existing conditions of approximately 1 dBA L_{dn}. Therefore, noise levels at LT-1, which was set back from the centerline of D Street by 20 feet, would range from 61 to 65 dBA L_{dn} under plus-Project traffic conditions.

While no common outdoor use areas are included in the Project, each of the residences would have private backyards. On the eastern section of the Project (Tract 8297), the nearest residences would be set back from the centerline of D Street by at least 180 feet. These residences would also receive partial shielding from existing single-family residences located along D Street. The exterior noise levels at the residences on Tract 8297 would be at or below 55 dBA L_{dn}.

Two proposed residences on the western parcel of the Project (Tract 8296) would have setbacks of approximately 20 feet from the centerline of D Street, and with direct exposure to the noise. The residences adjacent to and nearest D Street, with setbacks of more than 20 feet from the centerline, would have exterior noise levels ranging from 61 to 65 dBA L_{dn}, which meets the allowable exterior noise standard for single-family residences. The backyards located further south of D Street would have exterior noise levels below 65 dBA L_{dn}. Therefore, the exterior noise environment at the Project site meets the County’s standards. This noise level is considered compatible with the proposed land use.

Interior Noise Environment

Interior noise levels within the residential units are required by the County to be maintained at or below 45 dBA L_{dn}. The exterior façades of the proposed residences located within 70 feet of the centerline of D Street would be exposed to exterior noise levels greater than 60 dBA L_{dn}, with the highest noise exposures occurring at unshielded residential façades nearest D Street. Noise levels at these unshielded façades are calculated to reach 65 dBA L_{dn}.

Interior noise levels will vary depending on the design of the building (primarily window area relative to wall area) and construction materials and methods. Standard construction provides approximately 15 dBA of exterior to interior noise reduction, assuming the windows are partially open for ventilation. Standard construction with the windows closed provides approximately 20 to 25 dBA of noise reduction

to interior spaces. In exterior noise environments ranging from 60 to 65 dBA L_{dn} , interior noise levels can typically be maintained below County standards with the incorporation of an adequate forced air mechanical ventilation system allowing the windows to be closed.

Residences located adjacent to D Street on Tract No. 8296 will require some form of forced-air mechanical ventilation to achieve this interior noise goal. The remaining residences on the site would achieve interior noise levels of 45 dBA L_{dn} assuming standard California construction methods only.

Measures to Consider to Ensure General Plan Consistency

The following measure should be included in the Project's design to maintain interior noise levels at or below 45 dBA L_{dn} , consistent with General Plan policies:

- Residential units located adjacent to D Street on Tract No. 8296 should be provided with forced-air mechanical ventilation, so that windows can be kept closed at the occupant's discretion to control noise.

As noted above, the effect of the existing noise environment on the Project would not be considered a significant environmental impact under CEQA. The above measure is not required under CEQA, but is recommended to be incorporated into the Project and/or its conditions of approval to ensure that interior noise levels at the proposed residences can be kept to 45 dBA L_{dn} or less, consistent with policies of the General Plan.

Transportation and Circulation

This chapter of the Draft EIR analyzes the potential impacts of the Project related to transportation and circulation. Transportation related issues of concern that are addressed include local motor vehicle traffic on roadways, bicycle and pedestrian circulation, and transit. Transportation impacts are assessed for the Project during weekday A.M. and P.M. peak-hour commute periods.

- Technical traffic and circulation analysis for this chapter of the EIR was conducted by TJKM, Inc., October 2016

Setting

Roadway Network

The majority of the unincorporated Fairview area is characterized by a mixture of many small older subdivisions, interspersed with new subdivisions, remaining large lots ranging from one to ten acres in active or passive agricultural use, and a few large institutional properties (churches, schools, various parks and open spaces, and the Lone Tree Cemetery). The easternmost area is dominated by the large Five Canyons subdivision, built in the 1980s. The roadway network in the area is dominated by a few east-west aligned major collector roads and relatively few north-south roads, all of which connect the predominately residential subdivisions in the area.

The primary roadways that provide access to the Project site and a large proportion of the Fairview area overall include D Street, Maud Avenue and Fairview Avenue. The posted speed limit on these roads is 30 mph.

D Street

D Street is an east-west arterial street that extends eastward from Winton Avenue through Hayward, where it passes close to the Hayward BART Station and intersects with both Mission and Foothill Boulevards, and into the unincorporated Fairview area to the east. West of Fairview Avenue and through all of the unincorporated Fairview area, D Street is a two-lane, two-way street also with a center double-yellow line with centerline reflectors. D Street extends east of its intersection with Fairview Avenue for about a quarter mile to serve adjacent properties including the Project site, but has no through connections except to other cul-de-sacs and Old Quarry Road, and an emergency gate between Thurston Court and Lori Way. Lori Way and other streets north of Thurston Court connect to the easternmost segment of Kelly Street.

Fairview Avenue

Fairview Avenue is a major collector street that extends south from D Street until it terminates at Hayward Boulevard inside the eastern Hayward hills, adjacent to the Stonebrae development in the Hayward city limits. Fairview Avenue is a two-lane, two-way roadway striped to prohibit passing in both

directions (i.e., double-yellow lines). Fairview Avenue is also highly unique among the vast majority of roads anywhere in the County in having three ‘roundabouts’ at its intersections with Hansen Road (also serving Vista Lane, a cul-de-sac), Five Canyons Parkway (which also serves Star Ridge Road), and at Hayward Boulevard (serving the Stonebrae development).

Maud Avenue

Maud Avenue is a two-lane, two-way collector street that extends from D Street north to Kelly Street about 200 feet west of the D Street/Fairview Avenue intersection. It provides a key route between D Street and Kelly Street, which in turn connects to Center Street and the Interstate 580 (I-580) freeway. The intersection of Maud and Kelly is signalized and is the nearest such intersection to the Project site.

Kelly Street

Kelly Street is a two-lane collector street extending roughly one mile from its three-way intersection with B/Center Streets, eastward towards its terminus bordering the Five Canyons Open Space Area, parallel and north of D Street. Its Maud Avenue intersection is roughly 1/2 mile from Center/B Street.

Center Street

Center Street is a two-lane collector street for a modest distance (about a sixth of a mile) north of its intersection with B and Kelly Streets, and for its principle length north of East Castro Valley Boulevard, within Castro Valley. However, it widens to up to five lanes for a variety of left and right turn lanes at its intersections with East Castro Valley Boulevard and Grove Way, and provides two left-turn pockets for the southbound approach to the B and Kelly Street intersection. It provides mostly indirect access to and from both east- and west-bound I-580.

Hansen Road

Hansen Road is a two-lane collector street that connects between Fairview Avenue to East Avenue just west of the Lone Tree Cemetery, about a tenth of a mile east of D Street.

Carlson Court

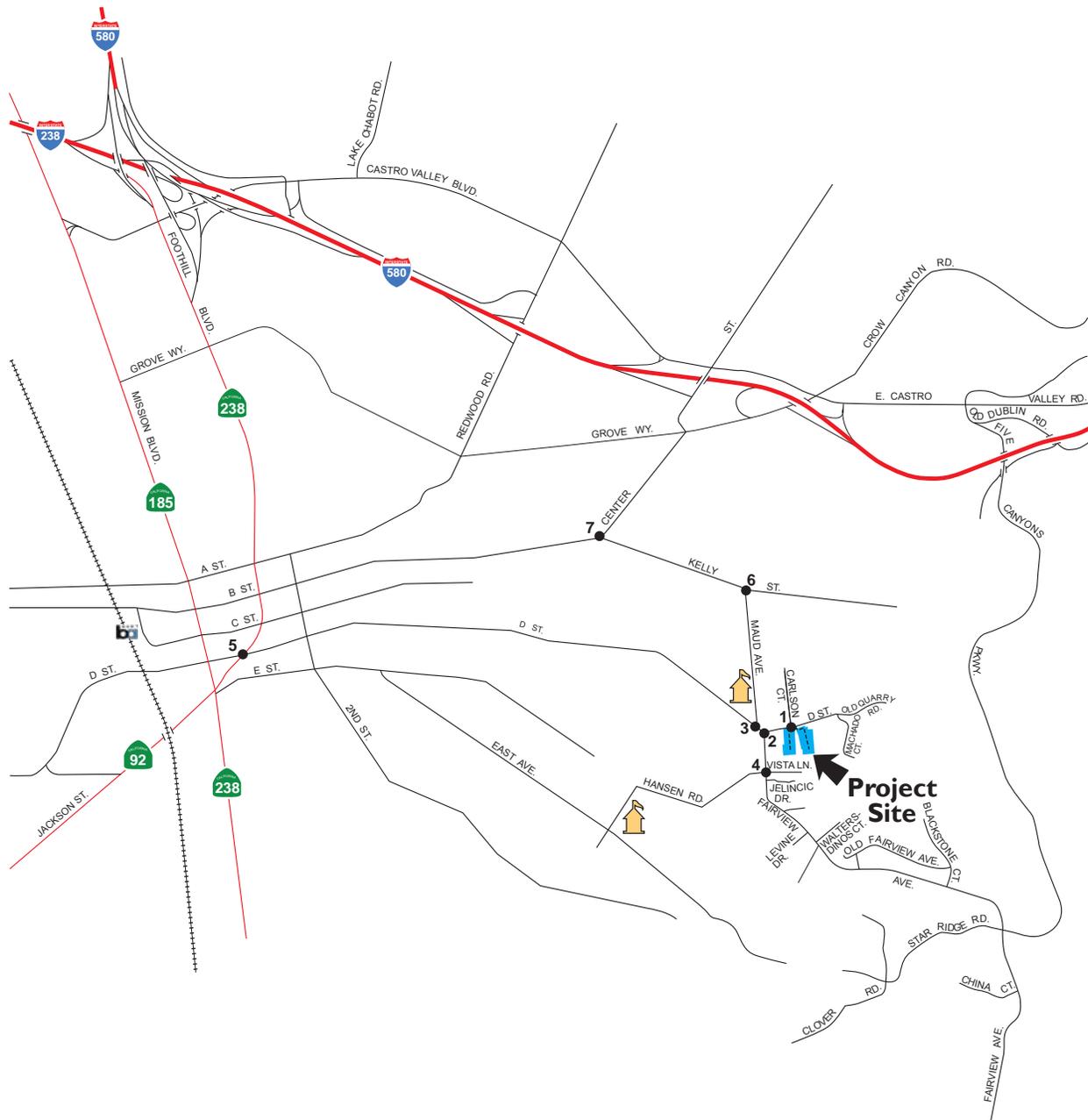
Carlson Court is a local residential cul-de-sac that intersects D Street adjacent to the Project site.

Study Area Intersections

The transportation impact study conducted for this EIR includes analysis of the following seven study intersections:

1. D Street & Carlson Court
2. D Street & Fairview Avenue
3. D Street & Maud Avenue
4. Fairview Avenue & Hansen Road & Vista Lane
5. D Street & Foothill Boulevard
6. Kelly Street & Maud Avenue
7. Kelly Street & Center Street & B Street

Figure 11.1 provides a vicinity map showing the key roadways and study intersection locations.



- LEGEND**
- Study Intersection
 - 🚇 BART Station
 - 🏠 School



Figure 11-1
Roadway Network & Study Intersections



Source: TJKM

Intersection Level of Service

Transportation engineers and planners commonly use a grading system called level of service (LOS) to measure and describe the operational status of the local roadway network. LOS is a description of the quality of a roadway facility's operation, ranging from LOS A (indicating free-flow traffic conditions with little or no delay) to LOS F (representing oversaturated conditions where traffic flows exceed design capacity, resulting in long queues and delays). At signalized and all-way stop controlled intersections, LOS is based average vehicle delay for the intersection as a whole and then given an LOS grade. Basing the LOS on average delay means that some individual movements, such as a left turn, may have longer delays than other movements, but provides a way to focus on the overall performance of each intersection. However, the volume and average peak hour delay of each movement is quantified, so traffic analyses can also focus on individual movements and identify concerns where a delay is unusual and can be mitigated without adversely affecting the overall LOS of the intersection. At side-street stop-controlled intersections (i.e., where one street is not stop-controlled), LOS is based on average vehicle delay for the worst approach (i.e., with the longest delay). Intersections, rather than roadway segments between intersections, are generally the capacity controlling locations for motor vehicle circulation networks.

Table 11.1 describes intersection LOS criteria for signalized intersections based on Highway Capacity Manual (HCM) 2010 methodology.

Table 11.1: Signalized Intersection LOS Criteria

Level of Service	Description
A	Very low control delay, up to 10 seconds per vehicle. Progression is extremely favorable, and most vehicles arrive during the green phase. Many vehicles do not stop at all. Short cycle lengths may tend to contribute to low delay values.
B	Control delay greater than 10 and up to 20 seconds per vehicle. There is good progression or short cycle lengths or both. More vehicles stop causing higher levels of delay.
C	Control delay greater than 20 and up to 35 seconds per vehicle. Higher delays are caused by fair progression or longer cycle lengths or both. Individual cycle failures may begin to appear. Cycle failure occurs when a given green phase does not serve queued vehicles, and overflow occurs. The number of vehicles stopping is significant, though many still pass through the intersection without stopping.
D	Control delay greater than 35 and up to 55 seconds per vehicle. The influence of congestions becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volumes. Many vehicles stop, the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Control delay greater than 55 and up to 80 seconds per vehicle. The limit of acceptable delay. High delays usually indicate poor progression, long cycle lengths, and high volumes. Individual cycle failures are frequent.
F	Control delay in excess of 80 seconds per vehicle. Unacceptable to most drivers. Oversaturation, arrival flow rates exceed the capacity of the intersection. Many individual cycle failures. Poor progression and long cycle lengths may also be contributing factors to higher delay.

Source: Highway Capacity Manual

Unsignalized Intersection Methodology

Operations for unsignalized intersections, which include conventional all-way stop-controlled intersections and all-way yield-controlled roundabouts, are also graded using the LOS A through F scale. LOS ratings for all-way stop-controlled intersections and all-way yield-controlled roundabouts are determined using the HCM2010 methodology. Under this methodology, operations are based on average control delay for the entire intersection. Side-street stop-controlled intersections are also evaluated using average control delay scales and LOS; however, unlike all-way stop-controlled intersections or roundabouts, side-street stop- or yield-controlled intersection delay is determined based on the worst operating controlled turning or through movement. **Table 11.2** presents the correlation between LOS and average control delay for unsignalized intersections.

Standards used for this analysis are discussed in more detail under the Significance Criteria subsection later in this chapter. LOS D or better is considered acceptable for purposes of this analysis.

Table 11.2: Unsignalized Intersection LOS Criteria

Level of Service	Description
A	Very low control delay less than 10 seconds per vehicle for each movement subject to delay.
B	Low control delay greater than 10 and up to 15 seconds per vehicle for each movement subject to delay.
C	Acceptable control delay greater than 15 and up to 25 seconds per vehicle for each movement subject to delay.
D	Tolerable control delay greater than 25 and up to 35 seconds per vehicle for each movement subject to delay.
E	Limit of tolerable control delay greater than 35 and up to 50 seconds per vehicle for each movement subject to delay.
F	Unacceptable control delay in excess of 50 seconds per vehicle for each movement subject to delay.

Source: HCM

Baseline (Existing) Conditions

Existing Intersection Lane Geometry and Traffic Control

The intersection of D Street and Carlson Court (Study Intersection #1) is the nearest intersection to the Project site, and is an unsignalized intersection with three approaches. The side-street approach from Carlson Lane is stop-sign controlled.

The intersection of D Street and Fairview Avenue (Study Intersection #2) is an unsignalized intersection with three approaches. The minor street approach, which is the westbound approach on D Street, is stop controlled. A left-turn pocket and a continuing through lane are provided for eastbound traffic on D Street, while one lane in each direction is provided on the other approaches.

The intersection of D Street and Maud Avenue (Study Intersection #3) is an unsignalized intersection with three approaches. All of the intersection movements are stop controlled except for the westbound right-turn movement from D Street, which is controlled by a yield sign. The westbound approach on D Street and the southbound approach on Maud Avenue have two lanes entering the intersection, while the eastbound approach on D Street has one lane entering the intersection.

The intersection of Fairview Avenue and Hansen Road (Study Intersection #4) is a roundabout with one-lane approaches under yield control in all directions.

The intersection of D Street and Foothill Boulevard (Study Intersection #5) is a signalized four-leg intersection. This is the highest volume intersection among the study intersections, and is the location most likely to be impacted based on existing level of service (LOS).

The intersection of Maud and Kelly Streets (Study Intersection #6) is a signalized four-leg intersection with one through lane per approach. The northbound approach has a left-turn lane and a recently installed right-turn lane, while the eastbound approach also has a right-turn lane.

The intersection of Kelly, Center and B Streets (Study Intersection #7) is a signalized three-leg intersection.

Existing Traffic Volumes

Existing vehicle, bicycle, and pedestrian counts were collected at study intersections #1 to #5 on February 3, 2016, and at study intersections #6 and #7 on September 8, 2016, when local public schools were in session. The turning movement volumes for the study intersections were taken during the typical A.M. peak period, between 7:00 A.M. and 9:00 A.M., and during the typical P.M. peak period, between 4:00 P.M. and 6:00 P.M. In addition, afternoon school peak period counts were conducted at the intersection of Maud and Kelly Streets (Study Intersection #6) between 2:00 P.M. and 4:00 P.M. Existing traffic volumes, lane geometry, and traffic controls for each study intersection are shown in **Figure 11.2**.

Existing Intersection Levels of Service

Table 11.3 presents a summary of the peak hour level of service analysis for each of the study intersections under Existing Conditions. The study intersections near the Project site operate at acceptable service levels of LOS D or better during both peak hours, except the intersection of D Street and Foothill Boulevard, which operates at LOS E during the p.m. peak hour.

Table 11.3: Peak Hour Intersection Levels of Service – Existing Conditions

ID	Intersection	Control	A.M. Peak Hour		Afternoon School Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS
1	D Street / Carlson Court	Minor Street Approach Stop	8.7	A	-	-	8.6	A
2	Fairview Avenue / D Street	Minor Street Approach Stop	11.3	B	-	-	10.3	B
3	D Street / Maud Avenue	All-Way Stop	13.9	B	-	-	12.6	B
4	Fairview Avenue / Vista Lane / Hansen Road	Roundabout	6.0	A	-	-	5.8	A
5	D Street / Foothill Boulevard	Signalized	49.1	D	-	-	60.5	E
6	Kelly Street/ Maud Avenue	Signalized	22.4	C	11.6	B	10.5	B
7	Kelly Street / Center Street – B Street	Signalized	28.5	C	-	-	23.3	C

Notes: Delay = Average Delay in seconds per vehicle

LOS = Level of Service

The delay and LOS at the all-way stop controlled intersection are for the overall intersection performance.

The delay and LOS at intersections with stop or yield control on the minor approach are for the worst-case minor approach.

The delay and LOS at the signalized intersections and roundabout are for the overall intersection performance.

Intersection #1 D St./ Carlson Ct.	Intersection #2 D St./ Fairview Ave.	Intersection #3 D St./ Maud Ave.	Intersection #4 Fairview Ave./ Hansen Rd./Vista Ln.	Intersection #5 D St./ Foothill Blvd.
<p> 5 (6) 2 (0) 0 (1) 38 (23) 2 (5) 11 (30) </p>	<p> 47 (34) 13 (5) 1 (5) 265 (179) 14 (29) 235 (229) </p>	<p> 198 (110) 168 (159) 159 (144) 142 (75) 158 (157) 79 (123) </p>	<p> 150 (110) 85 (123) 7 (11) 11 (4) 1 (1) 0 (0) 122 (107) 0 (0) 30 (29) 36 (40) 138 (80) 2 (1) </p>	<p> 93 (65) 1,004 (584) 254 (603) 341 (441) 2,285 (2,983) 99 (119) </p>
			Intersection #6 Kelly St./ Maud Ave.	Intersection #7 Kelly St./B St./ Center St.
			<p> 66 (26) (45) 43 (13) (11) 3 (2) (1) 3 (8) (3) 160 (99) (93) 113 (39) (29) 24 (35) (60) 43 (109) (143) 321 (201) (223) 281 (258) (221) 22 (21) (35) 40 (77) (80) </p>	<p> 479 (431) 250 (413) 399 (302) 208 (137) 450 (610) 165 (185) </p>

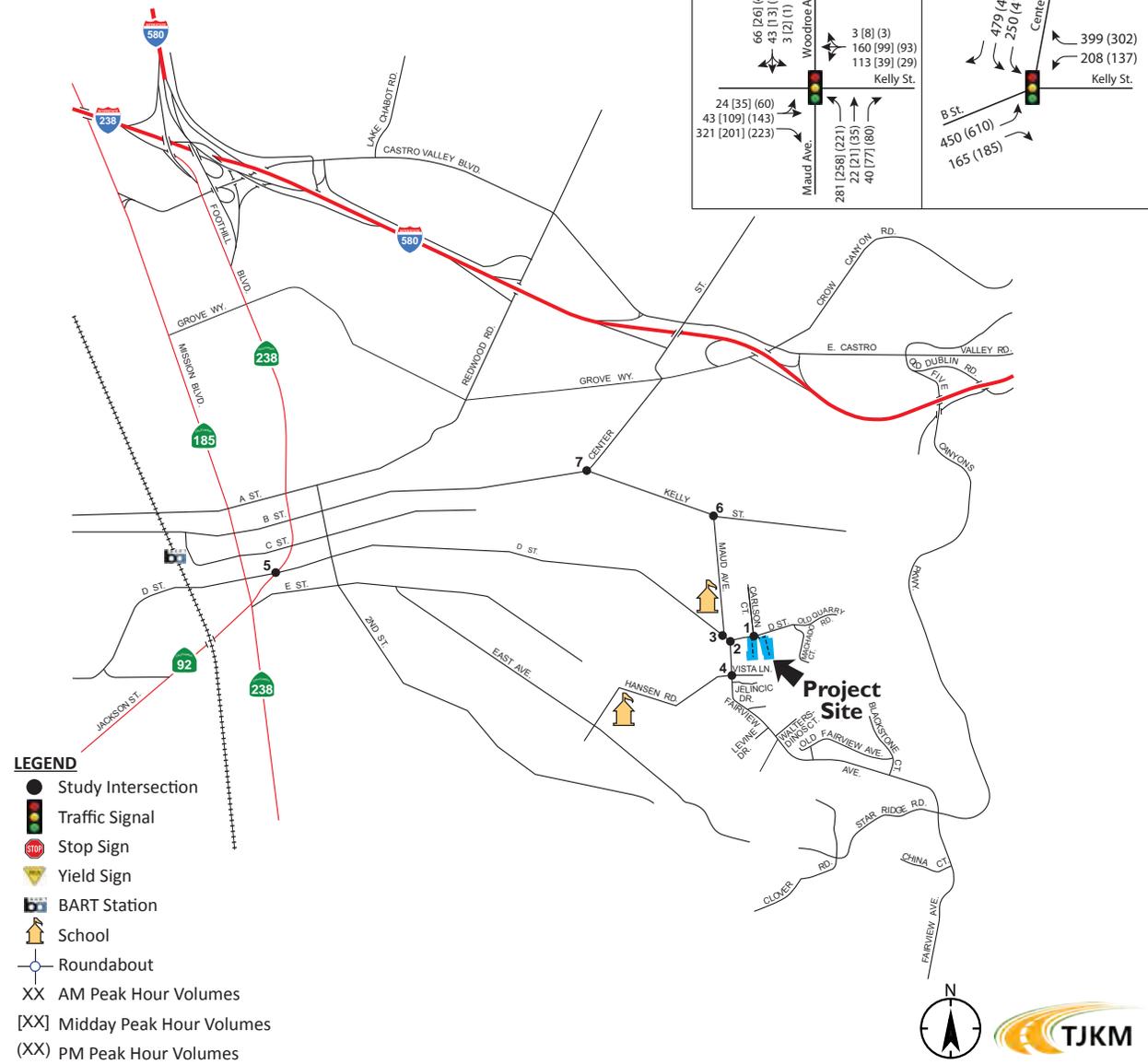


Figure 11-2
Existing Traffic Volumes, Lane Geometry, and Traffic Controls

Source: TJKM

Existing Freeway Operations

I-580 is located approximately 1.8 miles from the Project site and is the central east-west corridor in the regional freeway network through Alameda County, between the Bay Bridge and the Central Valley. Based on the most published Caltrans traffic data, peak hour traffic on Interstate 580 at Redwood Road in the Project vicinity averages more than 15,500 peak-hour vehicles. The Fairview area has access to and from I-580 at one main point, about 500 feet east of Grove Way (where it continues north as Crow Canyon Road) for west-bound on- and off-ramps. I-580 is often congested during peak hours, and periodically also congested during non-peak hours.

Pedestrian Conditions

Current pedestrian activity as counted at the study intersections amounts to less than seven pedestrians per peak hour. No sidewalks are provided on D Street east of Fairview Avenue. Existing sidewalks are provided along random, isolated segments of streets within vicinity of the Project, somewhat more concentrated west of the Fairview/Hansen roundabout and segments of D Street west of Fairview Avenue.

Pedestrian activity in the vicinity is constrained by the fragmented sidewalk network and lack of other walking pathways. The existing low-density development pattern in the study area makes it necessary for a vast majority of trips, or nearly every general purpose trip, to be made by car. It is possible that the little evidence of pedestrian usage along Fairview Avenue is an indication that walkers in the area stay on their local streets and small courts away from the comparatively busy Fairview Avenue, or may be more active during non-peak hours (i.e., leisure time or weekends). As infill development occurs and the area matures, the need and expectations for safe pedestrian routes along more of the area roadways can be anticipated, and walking is strongly encouraged by public health policies.

Bicycle Conditions

There are four classification of bicycle facilities in California:

- Class I – Multi-Use Trails (off-street),
- Class II – Bike Lanes (on-street, striped lanes),
- Class III – Bike Routes (on-street, signed only) and
- Class IV- Separated Bikeways (generally on-street but with physical separations from adjacent travel lanes).

In the Project study area, there are no classified Class I, II, III, or IV facilities, although Fairview Avenue is identified in the *Alameda County Bicycle Master Plan for Unincorporated Areas* as one of the roadways designated to become a Class III bike route, between D Street and the Hayward city limits.

TJKM collected A.M. and P.M. peak hour bicycle counts at all study intersections on February 3 and September 8, 2016. Current bicycle volumes were counted at less than five bicycles per hour at the study intersections. Bicycle volumes are relatively low within the study area. The evident low number of bicycle trips is also most likely due to the hilly terrain of the vicinity, limited and variable shoulders on Fairview Avenue, limited sight distance related to its various turns and curves, and speeds often above the posted speed limit, as noted above.

Transit Conditions

The proposed Project is located approximately 1/5-mile from the nearest existing bus stops at Maud and D Streets, served by AC Transit Route 95 with service to Hayward BART Station. AC Transit Route 95 operates at a peak load factor below 1.0, indicating available capacity for additional riders during peak hours. The Project site is roughly 2.4 miles from the Hayward BART station.

Future (Cumulative) Baseline Conditions

Future Baseline Development Scenario

The Future Baseline development scenario, also referred to as cumulative conditions, is based on a 20-year horizon to assess potential impacts from the proposed Project. For conservative traffic analysis purposes, the Future Baseline traffic analysis is based on the worst-case development potential for sites near the Project site. The gross development potential for other sites in the area was previously identified in the *Traffic Impact Study for the Fairview Tract #8057 Residential Development* (TJKM Transportation Consultants 2012).

The gross development potential is based on a tabulation of specific sites or small areas in the Project vicinity, roughly between Fairview Elementary School on the west to Five Canyons Parkway on the east, Lone Tree Cemetery and Star Ridge Road on the south and the Five Canyons Open Space on the north and east. These sites are currently undeveloped or under-developed and have a total estimated hypothetical capacity for 195 additional single-family residential dwelling units. This estimate of future residential development over a possible 20-year period is considered an extreme “worst case” scenario because it is a result of a mathematical calculation of lot sizes and allowable residential densities based on zoning without consideration of constraining access requirements, slope, environmental or other factors. County Planning staff, which prepared the estimate, consider such development to be physically impossible, because an average of 30% of every site must be subtracted to provide access and because it is almost impossible to create lots that are exactly the minimum lot size (e.g., 5,000 square feet where that lot size is the minimum required). However, it may serve to represent development trends not presently anticipated, such as more development in unforeseen locations, greater traffic loads from the Stonebrae development in the Hayward city limits, or possible changes to zoning that would allow secondary units or to moderately higher densities.

The gross development potential is higher than growth projections prepared by ABAG, which assumes an annual growth rate of 0.9 percent, consistent with current ABAG projections for the San Francisco Bay Area. Based on ABAG forecasts, the anticipated growth rate would result in less than 75 new single-family homes in the Project vicinity over a 20-year period, including the Project.

Trip Generation - Future Baseline Development

Trip generation for the potential future development was determined using trip rates contained from ITE (Institute of Transportation Engineers) *Trip Generation*. Based on the gross development potential in the area, the potential development of 195 net new single-family homes could be expected to generate a cumulative total of 151 trips during the A.M. peak hour, 195 trips during the P.M. peak hour, and 1,856 average weekday trips. The locations and trip generation for the additional development during the peak hours are summarized in **Table 11.4**. The average weekday trip generation from gross development potential in the area is summarized in **Table 11.5**.

Table I I.4: Peak Hour Trip Generation for Future Baseline Development Potential

Site	Parcel Location	Size	A.M. Peak Hour					P.M. Peak Hour				
			Rate	In: Out%	In	Out	Total	Rate	In: Out %	In	Out	Total
A	3216 D St.	14 units	0.75	25:75	3	8	11	1.01	63:37	9	6	15
B	3230 D St.	2 units	0.75	25:75	0	1	2	1.01	63:37	2	1	3
F	3290 Jelincic Dr.	19 units	0.75	25:75	4	11	14	1.01	63:37	13	7	20
G	24694 Fairview Ave.	12 units	0.75	25:75	2	7	9	1.01	63:37	8	5	13
H	24830 Fairview Ave.	18 units	0.75	25:75	3	10	14	1.01	63:37	12	7	19
I	24717 Fairview Ave.	7 units	0.75	25:75	1	4	5	1.01	63:37	5	3	8
J	24787 Fairview Ave.	6 units	0.75	25:75	1	3	5	1.01	63:37	4	3	7
K	24867 Fairview Ave.	11 units	0.75	25:75	2	6	8	1.01	63:37	8	4	12
L	3664 D St./Quarry Rd.	8 units	0.75	25:75	2	5	6	1.01	63:37	6	3	9
M	3552 D St./Quarry Rd.	11 units	0.75	25:75	2	6	8	1.01	63:37	8	4	12
N	5262 to 5499 Hilltop Rd.	24 units	0.75	25:75	5	14	18	1.01	63:37	16	9	25
O	D St./Ohlone Way	7 units	0.75	25:75	1	4	5	1.01	63:37	5	3	8
P	D St./Ohlone Way	6 units	0.75	25:75	1	3	5	1.01	63:37	4	3	7
Q	Noble Canyon, Fairview Ave east of D St.	4 units	0.75	25:75	1	2	3	1.01	63:37	3	2	5
R	Sarita St./Karina St.	31 units	0.75	25:75	6	17	23	1.01	63:37	20	12	32
S	Fairview Avenue near Jelincic Drive	15 units	0.75	25:75	3	8	11	1.01	63:37	9	6	15
	Total	195 units			38	109	151			123	72	195

Notes: Single-Family Detached Housing Land Use (ITE Code 210) was assumed for all developments. Alphabetic site listing skips C, D & E, which were previously mapped as the subject project sites.

Table 11.5: Daily Trip Generation for Future Baseline Development Potential

Site	Parcel Location	Size	Rate	Weekday Daily			Total
				In: Out	In	Out	
A	3216 D St.	14 units	9.52	50:50	67	66	133
B	3230 D St.	2 units	9.52	50:50	9	10	19
F	3290 Jelincic Dr.	19 units	9.52	50:50	91	90	181
G	24694 Fairview Ave.	12 units	9.52	50:50	57	57	114
H	24830 Fairview Ave.	18 units	9.52	50:50	85	86	171
I	24717 Fairview Ave.	7 units	9.52	50:50	34	33	67
J	24787 Fairview Ave.	6 units	9.52	50:50	28	29	57
K	24867 Fairview Ave.	11 units	9.52	50:50	53	52	105
L	3664 D St./Quarry Rd.	8 units	9.52	50:50	38	38	76
M	3552 D St./Quarry Rd.	11 units	9.52	50:50	53	53	105
N	5262 to 5499 Hilltop Rd.	24 units	9.52	50:50	114	114	228
O	D St./Ohlone Way	7 units	9.52	50:50	33	33	67
P	D St./Ohlone Way	6 units	9.52	50:50	28	29	57
Q	Noble Canyon, Fairview Ave east of D St.	4 units	9.52	50:50	19	19	38
R	Sarita St./Karina St.	31 units	9.52	50:50	148	147	295
Fairview Tract #8057	Fairview Avenue near Jelincic Drive	15 units	9.52	50:50	71	72	143
	Total	195 units			928	928	1,856

Note: Single-Family Detached Housing Land Use (ITE Code 210) was assumed for all developments.

Future Baseline Trip Distribution and Assignment

TJKM used the trip distribution and assignment for the potential future cumulative development as prepared for the *Traffic Impact Study for the Fairview Tract #8057 Residential Development*¹, which was prepared based on consultation with County staff, expected future area traffic volumes, and TJKM's knowledge of the study area. The Future Baseline peak hour traffic volumes are shown in **Figure 11.3**. The expected lane geometry and traffic controls at the study intersections under Future Baseline Conditions are identical to Existing Conditions.

¹ Traffic Impact Study for the Fairview Tract # 8057 Residential Development, December 4, 2012

Intersection Level of Service Analysis – Future Baseline Conditions

Table 11.6 presents a summary of the peak hour level of service analysis for all study intersections under Future Baseline Conditions. For Future Baseline Conditions, the study intersections are expected to remain operating at acceptable service levels of LOS D or better, except the intersection of D Street and Foothill Boulevard that will continue operating unacceptably at LOS E during the P.M. peak hour.

Table 11.6: Peak Hour Intersection Level of Service – Future Baseline Conditions

ID	Intersection	Control	Existing Conditions						Future Baseline Conditions					
			A.M. Peak Hour		Afternoon School Peak Hour		P.M. Peak Hour		A.M. Peak Hour		Afternoon School Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	D Street / Carlson Court	Minor Street Stop	8.7	A	-	-	8.6	A	9.4	A	-	-	8.8	A
2	Fairview Avenue / D Street	Minor Street Stop	11.3	B	-	-	10.3	B	13.2	B	-	-	12.1	B
3	D Street / Maud Avenue	All-Way Stop	13.9	B	-	-	12.6	B	21.1	B	-	-	15.2	B
4	Fairview Avenue / Hansen Road	Roundabout	6.0	A	-	-	5.8	A	6.6	A	-	-	6.5	A
5	D Street / Foothill Boulevard	Signalized	49.1	D	-	-	60.5	E	49.9	D	-	-	62.8	E
6	Kelly Street/ Maud Avenue	Signalized	22.4	C	11.6	B	10.5	B	29.9	C	11.0	B	11.3	B
7	Kelly Street / Center Street – B Street	Signalized	28.5	C	-	-	23.0	C	38.7	D	-	-	24.7	C

Notes: Delay = Average Delay in seconds per vehicle

LOS = Level of Service

The delay and LOS at the all-way stop controlled intersection are for the overall intersection performance.

The delay and LOS at intersections with stop or yield control on the minor approaches are for the worst-case minor approach.

The delay and LOS at the signalized intersections and roundabout are for the overall intersection performance.

Regulatory Setting

This section provides a summary of the plans and policies of the County, and regional and state agencies that have policy and regulatory control over the Project study area with respect to traffic and transportation. Federal transportation regulations are applicable only to major federal highway or publicly funded public transportation proposals, and therefore do not apply to the proposed Project.

State Regulations

The California Department of Transportation (Caltrans) is responsible for planning, designing, constructing, and maintaining all interstate freeways and state routes. I-580 is the nearest roadway that is under Caltrans' jurisdiction, while Foothill Boulevard (State Route 238) is a Caltrans state route that intersects D Street west of the Project site. Caltrans requirements are described in their 2002 *Guide for the Preparation of Traffic Impact Studies*, which covers the information needed for Caltrans to review the impacts on state highway facilities; including freeway segments, on- and off-ramps, and signalized intersections.

Regional / Alameda County Regulations

Alameda Countywide Transportation Plan

The mission of the Alameda County Transportation Commission (ACTC) is to plan, fund and deliver a broad spectrum of transportation projects and programs to enhance mobility throughout Alameda County. Many projects and programs are at least partially funded by a county-wide transportation sales tax levied by the County. ACTC issued the Alameda Countywide Transportation Plan (CWTP) in 2012, which establishes performance measures for transportation projects. Such measures address traffic congestion, alternative (non-auto) mode use, accessibility to activity centers, accessibility to public transit, public transit usage, transit efficiency, travel time and system reliability for autos and transit, maintenance for roadways and transit, system safety, level of physical activity, and environmental policies (to reduce greenhouse gas and particulate emissions, for example). ACTC has also established land use based measures that address the importance of coordination between land use and transportation projects.

The CWTP is a long range policy document that guides future transportation investments, programs, policies and advocacy for all of Alameda County through 2040. The CWTP addresses all aspects of the countywide transportation system, including capital, operation and maintenance of freeways, buses, rail, ferries and other modes. It also addresses transportation programs that serve varying needs throughout the County, such as paratransit services for seniors and people with disabilities and safe access to schools. This document establishes a vision for Alameda County's transportation system, inventories needs and available funding and identifies gaps where funding and needs do not match and where additional funding sources need to be secured.

Analysis under Alameda County's Congestion Management Program (CMP) is required for projects that generate 100 or more P.M. peak hour trips.

Fairview Area Specific Plan

Set forth below are the policies and principles in the *Fairview Area Specific Plan* related to traffic and circulation.

Public Streets

It is the policy of the County to maintain a level of service C in the internal street system except at the intersection of Kelly, B, and Center which is to maintain a level of service D. Because improvements are required in both the internal street system and these key intersections in the City of Hayward in order to adequately accommodate existing and future vehicular traffic the following specific policies are adopted:

1. The County is committed to improving the traffic system immediately affecting the Fairview Area, while preserving the quality of life of surrounding existing residences. Improvements to the internal street system must take into consideration the needs of the existing residents, and pedestrians as well as motorists. The need for such improvements must be balanced against the desirability of preserving existing neighborhoods. It is the policy and preference of the community to avoid traffic signals in the Fairview area where possible.
2. The County and City must continue to carefully analyze major deficiencies in the internal street system as well as critical external intersections. They must also continue to evaluate street needs given projected automobile, bus, bicycle, and pedestrian traffic; estimate improvement costs to rectify problems; establish a priority and improvement schedule; and study alternative sources of funding. Critical intersections that have been identified include: 1) B Street/Center Street/Kelly Street; 2) Kelly Street/Maud Avenue; 3) Center Street/Grove Way; 4) Hansen Road/Fairview Avenue; 5) D Street/Maud Avenue; 6) D Street/Second Street; 7) E Street/Second Street; and 8) D Street/Seventh Street.
3. Since four of the critical intersections affecting the area are within the City of Hayward, and since a significant amount of traffic is and will be contributed by Hayward development, the City's participation, both technically and financially, in solutions to the traffic problems is essential.
4. Costs of improvements shall be borne, in large part, by new development, with the County and City providing additional funds if available.
5. The County and City shall maintain information on traffic in the area in order to fully and quickly evaluate effects of new developments and timing of improvements.
6. The street design of new developments shall be complementary to the character of the existing neighborhood and proposed development. In many areas of Hillview, an asphalt curb or berm and graveled walkway are in keeping with the area's character, rather than P.C.C. curb, gutter and sidewalk.
7. All new approved developments which include off-site street improvements shall include an improvement schedule at the Final Map. This schedule shall tie street improvements to a specific completion date such as prior to first occupancy or a specific phase of the development.

Private Streets

1. Private street design in new townhouse-condominium developments shall conform to adopted Planned Development District design standards.
2. Private streets may serve conventional single-family residential development and shall conform to County design standards. County standards shall include different standards for different sized projects and a requirement for a public street if the project is large enough or the road will serve other property.
3. The private street design shall be complementary and consistent with the character of the existing neighborhood and proposed development. In most areas of Fairview, an asphalt curb or berm and graveled walkway are in keeping with the area's character.
4. A maintenance agreement shall be executed or a homeowners association formed to maintain private street improvements. The County may study the possibility of establishing an areawide County Service Area (CSA) for the purpose of maintaining existing and future

- private streets. New subdivisions with private streets would be required through the conditions of approval to join the CSA Existing private streets would have the option of being added to the CSA with the consent of property owners.
5. Existing private streets in the Fairview Area which are through roads or provide access to other streets should be considered for acceptance into the County road system.
 6. Future development along existing private streets (such as Fairlands Road and Speed Lane) shall be permitted only upon demonstration to the County that:
 - 1) Street improvements are or will be upgraded to County private street standards.
 - 2) Existing satisfactory street maintenance arrangements will not be disrupted.
 - 3) Existing unsatisfactory street maintenance and maintenance arrangements will be improved.

It is recognized that this policy might preclude future development along some private streets.

County Bicycle Plan

The *Alameda County Bicycle Master Plan for Unincorporated Areas* (2006 Update) reports that between 0.1 and 0.5 percent of residents in most of the County's unincorporated communities commute regularly by bicycle, with the Fairview area at the low end of 0.1 percent.² On a Bay Area wide basis, 1.3 percent of home-based shopping trips are by bicycle, as are 3.8 percent of school-related trips. Because of the hilly terrain in the Fairview area and the lack of bicycle lanes and wide shoulders on Fairview Avenue and most other area roads, bicycle use in the Fairview area is on the low end of the range for commute trips, and perhaps half or less of the Bay Area rate for shopping, school trips and recreational bicycling.

Fairview Avenue, along with D Street, Maud Avenue, Kelly Street, Hansen Road and East Avenue in the unincorporated Fairview area are all designated as proposed Class IIIA "Rideways," one of four subclasses of Class III bike routes. Class III routes typically provide "Bike Route" signage but no designated roadway lane or path separate from the street. Rideways on arterial roads, with slower traffic, are recommended in the *Bicycle Master Plan* to have wide curb lanes, traffic calming and signage indicating that it is a bike route. The Alameda County Neighborhood Traffic Calming Program is identified as having a key role in introducing traffic calming to specific bicycle routes.

Despite the challenging local topography, it is reasonable to anticipate some increase in bicycle activity in the area over the next 20 years, consistent with regional and national trends.

County Pedestrian Plan

In October 2012 the County adopted the *Alameda County Pedestrian Plan*, an update to the County's 2006 Pedestrian Plan.³ Because the policy context surrounding non-motorized transportation has changed substantially since 2006, the updated Plan gives special attention to relevant policy areas that have emerged or advanced in importance in the past six years. These areas include complete streets, climate action, smart growth and active transportation. Thus, the primary intent of the 2012 Pedestrian

² Bicycle Master Plan: <http://www.acgov.org/pwa/BMP%20Draft%20Report%2011-27-06.pdf>

³ Pedestrian Plan: http://www.alamedactc.org/files/managed/Document/10093/ACTC_Ped_Plan_Final_10-25-12_011013.pdf

Plan is to identify and prioritize pedestrian projects, programs and planning efforts of countywide significance. The plan provides the background, direction and tools needed to increase the number of pedestrians and walking trips in Alameda County while improving pedestrian safety.

Impacts and Mitigation Measures

The following section describes potentially significant Project impacts related to transportation. Mitigation recommendations are made to avoid, minimize, or mitigate such impacts where necessary and feasible.

Significance Criteria

The Project would have a significant environmental impact if it were to:

1. 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.
2. 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.
3. 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.
4. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
5. Result in inadequate emergency access.
6. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Specific Significance Thresholds Used for this Analysis⁴

Specific significance thresholds from applicable plans and policies relevant to the Project are discussed below.

⁴ Senate Bill 743 was passed by the State Legislature in 2013. Among other matters, SB 743 requires the Office of Planning and Research (OPR) to update the Guidelines Implementing CEQA to replace existing requirements for studying transportation impacts. Existing rules treat auto delay and congestion, commonly measured using “level of service” (or LOS), as an environmental impact. Instead, SB 743 requires the CEQA Guidelines to proscribe an analysis that better accounts for transit and reducing greenhouse gas emissions. In their proposal, the OPR selected vehicle miles traveled (VMT) as a replacement method for evaluating the traffic impacts of projects. Governor Brown signed SB 743 in September 2013. OPR published a preliminary evaluation of possible metrics to replace “level of service” in transportation analyses in December 2013. In August 2014, OPR released a Preliminary Discussion Draft of Updates to the CEQA Guidelines Implementing SB 743. On January 20, 2016, the OPR released for public review a revised proposal for changes to the CEQA Guidelines. Once the CEQA Guidelines are officially amended to include those alternative criteria, auto delay will no longer be considered a significant impact under CEQA. As of the publication date of this Draft EIR, the CEQA Guidelines have not been

Alameda Countywide Transportation Plan (CWTP)

The Alameda Countywide Transportation Plan identifies what constitutes a significant impact due to the Project. The standards used for this report are presented below.

Signalized Intersections: Impacts at signalized intersections would be significant if the Project is expected to:

- Degrade the A.M. or P.M. peak hour from an acceptable LOS D or better under No Project Conditions to an unacceptable LOS E or worse under Project Conditions.
- Degrade the A.M. or P.M. peak hour at identified intersections near freeways from an acceptable LOS E (80 seconds/vehicle) or better under No Project Conditions to an unacceptable LOS F under Project Conditions.
- Degrade the A.M. or P.M. peak hour operating at substandard LOS under No Project Conditions by increasing the average intersection delay by more than 5 seconds per vehicle under Project Conditions.

If significant impacts are identified at a specific intersection, the impact may be mitigated to a *less-than-significant* level if an infrastructure improvement or traffic volume reduction results in the intersection operating at its minimum threshold or better. If an intersection is currently operating at substandard LOS, the improvement must, at a minimum, ensure the intersection LOS is restored to its No Project LOS operating conditions in order for the impact to be avoided or reduced to a *less-than-significant* impact.

Unsignalized Intersections: For the purposes of this analysis, unsignalized intersection impact criteria were developed to be similar to those at signalized intersections. Impacts at unsignalized intersections would be significant if the Project is expected to:

- Degrade the A.M. or P.M. peak hour at a study intersection from an acceptable LOS E (≤ 50 seconds/vehicle) or better under No Project Conditions to an unacceptable LOS F (> 50 seconds/vehicle) under Project Conditions.
- Degrade the A.M. or P.M. peak hour at an all-way stop-controlled study intersection that is operating at a substandard LOS under No Project Conditions by increasing the average intersection delay by more than 5 seconds per vehicle.
- Degrade the A.M. or P.M. peak hour at a side-street stop-controlled study intersection operating at substandard LOS under No Project Conditions by increasing the vehicle delay of the leg with the worst LOS by more than 5 seconds per vehicle.

The same mitigation criteria explained above for signalized intersections applies to unsignalized intersections.

Transit, Pedestrian, and Bicycle Operations

CEQA states that an impact to bicycle, pedestrian, and transit circulation would be significant if it conflicts with adopted policies, plans, or programs supporting these forms of transportation. Impacts specific to bicycle, pedestrian, and transit circulation would be significant if the Project causes one or more of the following:

officially amended, and Alameda County has not yet adopted new local VMT thresholds by which projects can be evaluated. As a result, the LOS-type analyses used in this EIR remain as an allowed method to evaluate the Project's impacts on traffic and transportation operations.

Bicycle

- Conflicts with existing or planned bikeways and trails.
- Creates a safety issue for bicyclists.
- Exacerbates a current substandard bicycle condition in the Project area.

Pedestrian

- Results in substantial conflicts for pedestrians or would adversely affect nearby pedestrian facilities.
- Creates a safety issue for pedestrians.
- Exacerbates a current unsafe pedestrian condition in the Project area.

Transit

- Conflicts with existing or future transit routes.
- Causes a transit demand above the levels able to be adequately provided by local transit operators or agencies, or has other adverse impacts on transit operations.

Fairview Area Specific Plan

In addition to Alameda CWTP LOS significance criteria, the Fairview Specific Plan contains LOS significance criteria specific to the Fairview area. County policy is to:

- maintain LOS C for the Fairview internal street system, with the following one exception;
- at the Kelly/B/Center intersection, maintain LOS D.

Freeway and Ramp Operations

As stated in the Caltrans *Guide for the Preparation of Traffic Impact Studies* (Caltrans 2001), "Caltrans endeavors to maintain a target LOS at the transition between LOS C and LOS D on State highway facilities. However, Caltrans acknowledges that this may not always be feasible. If an existing State highway facility is operating at less than the appropriate target LOS, the existing [measure of effectiveness] should be maintained."

However, the Alameda County *Congestion Management Plan* identifies LOS no worse than E (volume over capacity or "v/c" < 1.00) on freeways and ramps during peak hours. For the purposes of this study, significant traffic impacts on I-580 in the study area are identified if the proposed Project causes:

- the operations of a freeway segment or ramp to deteriorate from LOS E or better to LOS F; or
- an increased v/c ratio on a freeway segment already operating at LOS F by more than 3%.

Site Access and Circulation

Impacts to site access and on-site circulation would be significant if the following criteria were met:

- The Project's on-site circulation system would be inadequate for the volumes and types of traffic expected.
- Vehicular access points would not be designed to appropriate design standards.

Additional Considerations

The Project would result in a significant impact if it met one or more of the following criteria:

- Resulted 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;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Resulted in inadequate emergency access;
- Resulted in construction-related impacts; or
- Diverted traffic onto a local, residential street such that its total daily volumes resulted in more than 5,000 vehicles.

Project Assumptions

Project Description

The proposed Project would consist of 31 single-family homes on two parcels or sites (Tract #8296 and Tract #8297) to be accessed by two new local streets connecting to D Street near the intersection with Carlson Court.

Trip Generation – Proposed Project

Trip generation for the proposed Project was determined using trip rates contained in the standard reference book *Trip Generation*, 9th Edition, published by the ITE. The proposed development is expected to generate approximately 23 trips during the A.M. peak hour, 31 trips during the P.M. peak hour, and 295 average weekday daily trips. Trip generation for the proposed development during the peak hours and the average weekday is summarized in **Table 11.7** and **Table 11.8**, respectively.

Table 11.7: Peak Hour Trip Generation for Proposed Development

Project	Land Use (ITE Code)	Size	A.M. Peak Hour					P.M. Peak Hour				
			Rate	In:	Out	In	Out	Total	Rate	In:	Out	In
Tracts #8296 and #8297	Single-Family Detached Housing (210)	31 Units	0.75	25:75	7	16	23	1.00	63:37	20	11	31

Table 11.8: Weekday Daily Trip Generation for Proposed Development

Project	Land Use (ITE Code)	Size	Weekday Daily				
			Rate	In: Out	In	Out	Total
Tract #8296 and #8297	Single-Family Detached Housing (210)	31 Units	9.52	50:50	148	147	295

Trip Distribution and Trip Assignment

Trip distribution determines the proportions of the total vehicles generated by a project that are expected to travel between the project site and various destinations outside the project area. Trip assignment determines the various routes that vehicles are expected to take while travelling between the project site and each destination.

For the proposed Project, the trip distribution and assignments were determined based on the actual counted turning movement volumes at the study intersections near the site. Since existing land uses in the area are primarily residential, the existing turning movements provide a reliable method of predicting the distribution of Project-generated trips. The distribution of Project-generated trips to the Kelly/Maud intersection (41% AM / 52% PM) reflects the existing turning movement data at D Street/Maud and at D Street/Fairview.⁵ The trip distribution and assignment for the proposed development is shown in **Figure 11.4**.

The assigned Project trips were added to Existing Conditions traffic volumes to generate Existing plus Project Conditions traffic volumes. The resulting Existing plus Project traffic volumes, as well as lane geometry and traffic controls, are shown in **Figure 11.5**. As shown, the intersection of Carlson Court/D Street is slightly offset from the two Project street intersections. Access to the Project's eastern parcel would enter/exit D Street slightly further to the east of this intersection, and so Project trips from the eastern parcel are shown as part of (or added to) the east/west through movements on D Street, and not turning movements at the Carlson Court intersection.

⁵ In the opinion of the traffic engineer, it is likely that congestion on I-580 and existing delays at the on and off-ramps may discourage trips directly north to I-580 that would otherwise use Kelly/Maud. Similarly, existing turning data at Kelly/Maud may reflect local motorists avoiding school-related traffic that occurs on Maud during the a.m. peak hour. Vehicle trips to/from downtown Hayward and the BART Station generally occur directly via D Street, thus by-passing Kelly/Maud, and vehicle trips to/from the South Bay or Peninsula are also more direct via D Street, bypassing both Kelly/Maud and I-580.

Intersection #1 D St./ Carlson Ct.	Intersection #2 D St./ Fairview Ave.	Intersection #3 D St./ Maud Ave.	Intersection #4 Fairview Ave./ Hansen Rd./Vista Ln.	Intersection #5 D St./ Foothill Blvd.
			Intersection #6 Kelly St./ Maud Ave.	Intersection #7 Kelly St./B St./ Center St.

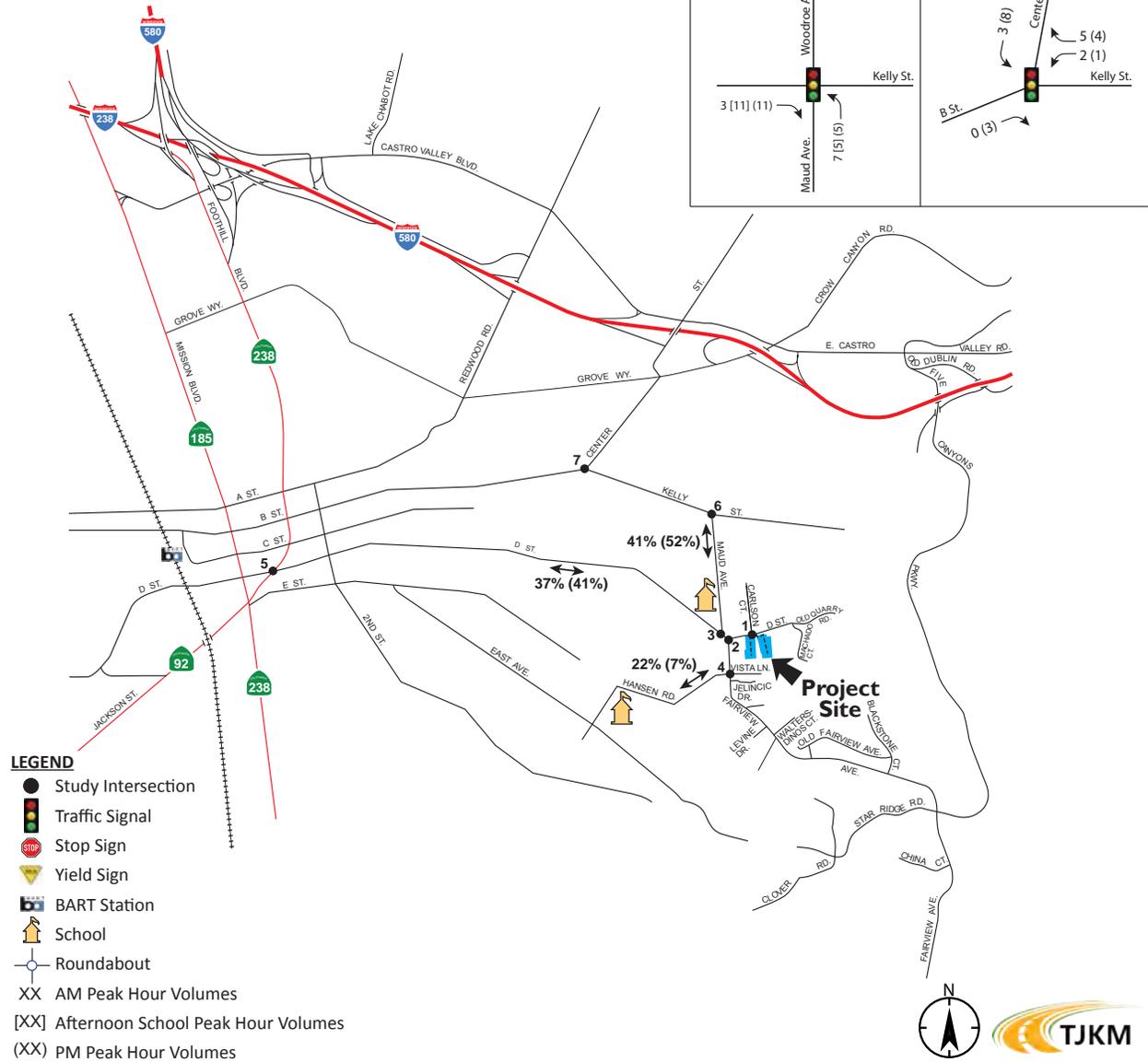


Figure 11-4
Project Trip Distribution and Assignment



Source: TJKM

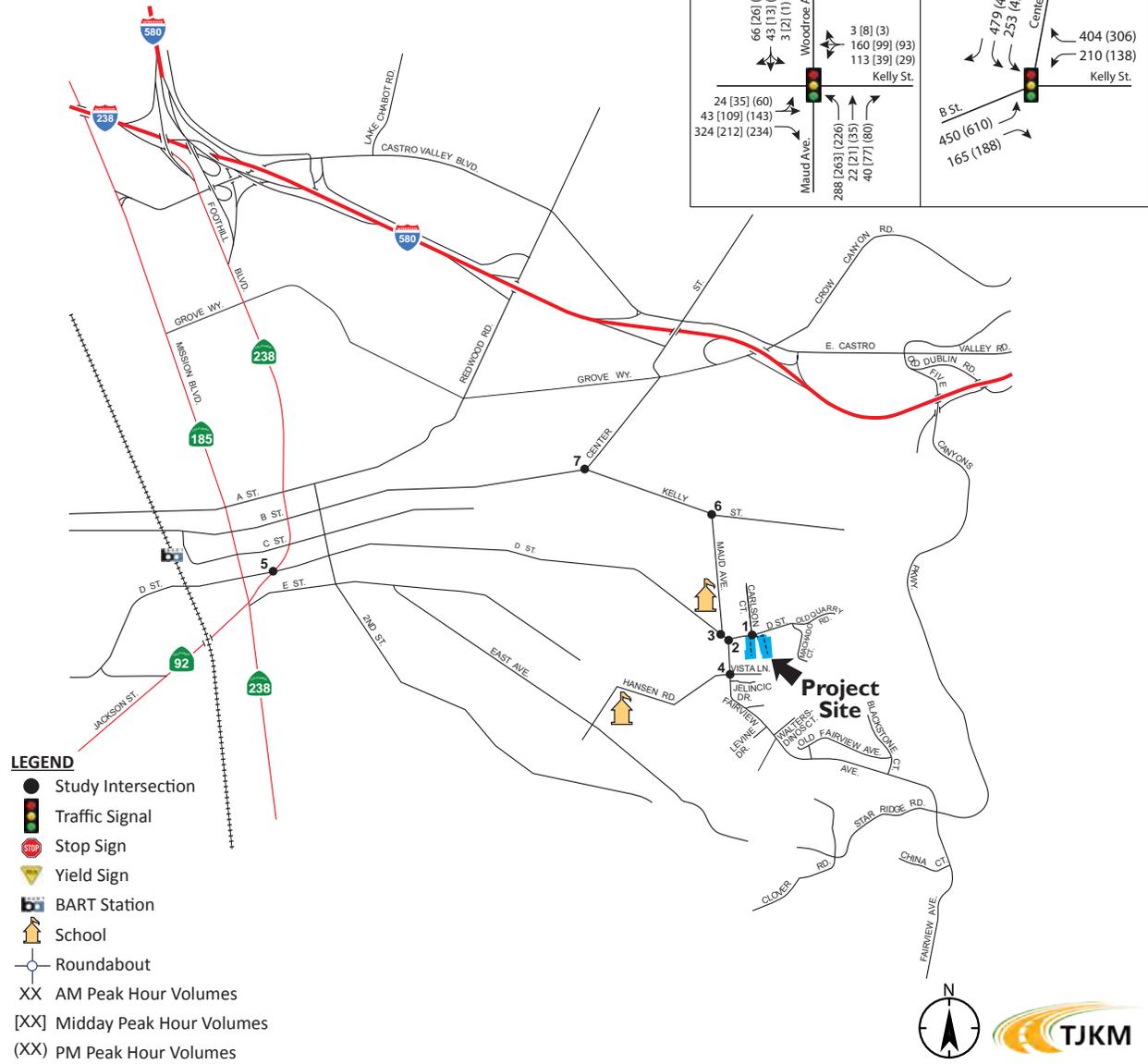
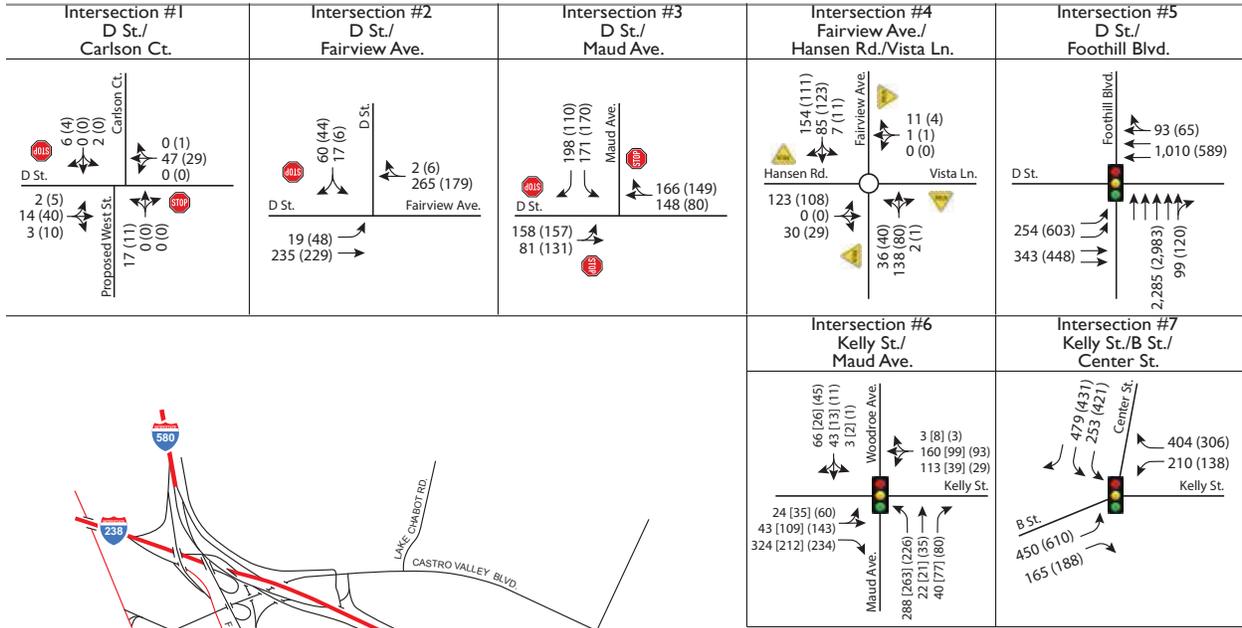


Figure 11-5
Existing plus Project Traffic Volumes, Lane Geometry,
and Traffic Controls

Intersection Level of Service – Existing plus Project Conditions

Transp-1: Intersection Impacts. Traffic generated by the Project would increase traffic levels at the study intersections, but would not change the existing level of service at any studied intersections. (LTS)

Project traffic was added to existing traffic volumes at seven study intersections to form the basis for Project analysis. It is assumed that existing roadway configurations will remain in place, except where the Project's proposed two new access streets would intersect with D Street, both of which are adjacent to, but offset from the D Street/Carlton Court intersection.

As indicated in **Table 11.9**, the addition of Project trips would not degrade any study area intersection LOS, and the LOS at all study intersections except D Street/Foothill Boulevard would remain at LOS C or better.

- Near the Project site, the stop-controlled intersections along D Street at Carlson Court, Fairview Avenue and Maud Avenue (Intersections 1, 2 and 3) would remain at LOS A, B and B respectively. The LOS at the minor street approach to a stop-controlled intersection is based on the effect on the worst approach. As indicated in Table 11.9, the effect of the Project on the "worst approach" is less than 1 second at both such locations.
- The roundabout intersection at Fairview and Hansen Road (Intersection 4) would remain at LOS A conditions.
- Further from the Project site, the LOS at the intersection of D Street and Foothill Boulevard (Intersection 5) currently operates at LOS D during the A.M. peak hour, and at over threshold levels (at LOS E) during the P.M. peak hour. The addition of Project traffic would not change the operating LOS during either the A.M. or P.M. peak hour, and the net change in average delay during the P.M. peak hour with the addition of Project trips would be less than one second (i.e., less than the threshold of adding 5 or more seconds of delay to any intersection).
- At the signalized intersection at Kelly Street and Maud Avenue (Intersection 6), the Project's traffic would add approximately 5 seconds of delay during the P.M. peak hour and approximately 2.9 seconds of delay during the afternoon school peak hour, but the overall acceptable intersection LOS C and B conditions would remain unchanged. The addition of 5 seconds of average delay is not considered a significant impact under thresholds established by either Caltrans or the Fairview Area Specific Plan, because the intersection is operating at acceptable LOS B and it would not result in a lower LOS. Since the intersection will continue to operate at acceptable LOS B and C conditions during these two peak periods, the additional delay is not considered significant.
- Similarly, at the signalized intersection at Kelly Street and Center Street/B Street (Intersection 7), the addition of Project generated traffic would add nearly 5 seconds (4.7 seconds) of delay during the A.M. peak hour, but the overall intersection LOS C condition would remain unchanged. The addition of nearly 5 seconds of delay is not considered a significant traffic impact unless the intersection is operating unacceptably. Since the intersection will continue to operate at acceptable LOS C conditions, the additional delay is not considered significant.

Table 11.9: Peak Hour Intersection Level of Service – Existing plus Project Conditions

ID	Intersection	Control	Existing Conditions						Existing plus Project Conditions					
			A.M. Peak Hour		Afternoon School Peak Hour		P.M. Peak Hour		A.M. Peak Hour		Afternoon School Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	D Street / Carlson Court	Minor Street Approach Stop	8.7	A	-	-	8.6	A	9.4	A	-	-	9.3	A
2	Fairview Avenue / D Street	Minor Street Approach Stop	11.3	B	-	-	10.3	B	11.7	B	-	-	10.5	B
3	D Street / Maud Avenue	All-Way Stop	13.9	B	-	-	12.6	B	14.4	B	-	-	13.1	B
4	Fairview Avenue / Hansen Road	Roundabout	6.0	A	-	-	5.8	A	6.0	A	-	-	5.8	A
5	D Street / Foothill Boulevard	Signalized	49.1	D	-	-	60.5	E	49.1	D	-	-	60.5	E
6	Kelly Street/ Maud Avenue	Signalized	22.4	C	11.6	B	10.5	B	23.3	C	14.5	B	15.5	B
7	Kelly Street / Center Street – B Street	Signalized	28.5	C	-	-	23.0	C	33.2	C	-	-	23.3	C

Notes: Delay = Average Delay in seconds per vehicle

LOS = Level of Service

The delay and LOS at the all-way stop controlled intersection are for the overall intersection performance.

The delay and LOS at intersections with stop or yield control on the minor approaches are for the worst-case minor approach.

The delay and LOS at the signalized intersection and roundabout represent overall intersection performance.

Overall, during peak hours the Project would add, on average, approximately 1 trip every 2 minutes to the local roadway network, and those trips are dispersed via multiple routes. The effect on average delay for all intersection movements is therefore minimal, and the Project's impact related to intersection delay would be less than significant.

Mitigation Measures

None needed.

Cumulative Intersection Level of Service – Future Baseline plus Project Conditions

Transp-2: Cumulative Traffic Impacts. Traffic generated by the Project, when added to other cumulative traffic levels at Project study intersections, would not change level of service under Cumulative Baseline conditions at any studied intersections. **(LTS)**

This scenario is based on the Future Baseline or cumulative conditions (with buildout of all anticipated development in the Project vicinity as listed in **Table 11.4**), with the addition of expected vehicle trips from the Project. The same trip distribution and assignment for the Project is assumed under Cumulative plus Project conditions as under Existing plus Project conditions. The assigned Project trips were added to traffic volumes under the Cumulative Baseline conditions to generate Cumulative plus Project conditions. The resulting traffic volumes at the study intersections under Cumulative plus Project Conditions are shown in **Figure 11.6**.

- Near the Project site, the stop-controlled intersections along D Street at Carlson Court, Fairview Avenue and Maud Avenue (Intersections 1, 2 and 3) would remain at LOS A, B and B respectively, under both Cumulative Baseline and Cumulative plus Project conditions. As indicated in Table 11.9, the effect of the Project on the “worst approach” is less than 3 seconds at all such locations.
- The roundabout intersection at Fairview and Hansen Road (Intersection 4) would remain at acceptable LOS A conditions under all scenarios.
- The LOS at the intersection of D Street and Foothill Boulevard (Intersection 5) is expected to remain at LOS D during the A.M. peak hour at over-threshold levels (LOS E) during the P.M. peak hour under Cumulative baseline conditions. The addition of Project traffic to this cumulative condition would not change the operating LOS during either the A.M. or P.M. peak hour, and the net change in average delay during the P.M. peak hour (during which the intersection operates at over-threshold levels at LOS E) with the addition of Project trips would be less than one second (i.e., less than the threshold of adding 5 or more seconds of delay to any intersection).
- At the signalized intersection at Kelly Street and Maud Avenue (Intersection 6), the Project’s traffic would add less than 2 seconds of delay to the Cumulative condition during the A.M. and P.M. peak hour and less than 1 second of delay during the afternoon school peak hour, but the overall intersection LOS C and B under Cumulative Baseline conditions would remain unchanged.
- Similarly, at the signalized intersection at Kelly Street and Center Street/B Street (Intersection 7), the addition of Project generated traffic would add less than 4 seconds of delay during the peak hours, and the overall intersection LOS C condition under Cumulative baseline conditions would remain unchanged.

Table 11.10 presents a summary of the peak hour level of service analysis for all study intersections under Cumulative plus Project conditions, i.e., with the Project fully constructed and occupied.

Intersection #1 D St./ Carlson Ct.	Intersection #2 D St./ Fairview Ave.	Intersection #3 D St./ Maud Ave.	Intersection #4 Fairview Ave./ Hansen Rd./Vista Ln.	Intersection #5 D St./ Foothill Blvd.
<p>Carlson Ct. (Northbound): 6 (4) AM, 0 (0) Midday, 2 (0) PM D St. (Eastbound): 2 (5) AM, 29 (91) Midday, 3 (10) PM Proposed West St. (Southbound): 17 (11) AM, 0 (0) Midday, 0 (0) PM D St. (Westbound): 0 (1) AM, 103 (59) Midday, 0 (0) PM</p>	<p>D St. (Northbound): 88 (69) AM, 31 (15) PM D St. (Southbound): 7 (22) AM, 315 (212) Midday Fairview Ave. (Eastbound): 30 (84) AM, 251 (285) PM</p>	<p>D St. (Northbound): 198 (110) AM, 188 (226) PM D St. (Southbound): 158 (157) AM, 92 (148) PM Maud Ave. (Eastbound): 215 (182) AM, 182 (101) PM</p>	<p>Hansen Rd. (Northbound): 158 (114) AM, 112 (186) Midday, 10 (11) PM Fairview Ave. (Southbound): 11 (4) AM, 1 (1) Midday, 0 (0) PM Vista Ln. (Eastbound): 124 (111) AM, 0 (0) Midday, 31 (29) PM Fairview Ave. (Westbound): 39 (42) AM, 192 (125) Midday, 2 (1) PM</p>	<p>D St. (Northbound): 117 (80) AM, 1,020 (595) Midday D St. (Southbound): 295 (716) AM, 350 (453) PM Foothill Blvd. (Eastbound): 2,694 (3,520) AM, 101 (125) PM</p>
			Intersection #6 Kelly St./ Maud Ave.	Intersection #7 Kelly St./B St./ Center St.
			<p>Woodroe Ave. (Northbound): 66 (26) (45) AM, 45 (131) (111) Midday, 3 (2) (1) PM Maud Ave. (Southbound): 24 (35) (60) AM, 43 (109) (143) Midday, 341 (268) (290) PM Kelly St. (Eastbound): 3 [8] (3) AM, 160 (99) (93) Midday, 113 (39) (29) PM Kelly St. (Westbound): 337 (296) (259) AM, 22 (21) (35) Midday, 40 (77) (80) PM</p>	<p>Center St. (Northbound): 479 (431) AM, 368 (458) PM Center St. (Southbound): 437 (329) AM, 226 (148) PM B St. (Eastbound): 450 (610) AM, 167 (197) PM</p>

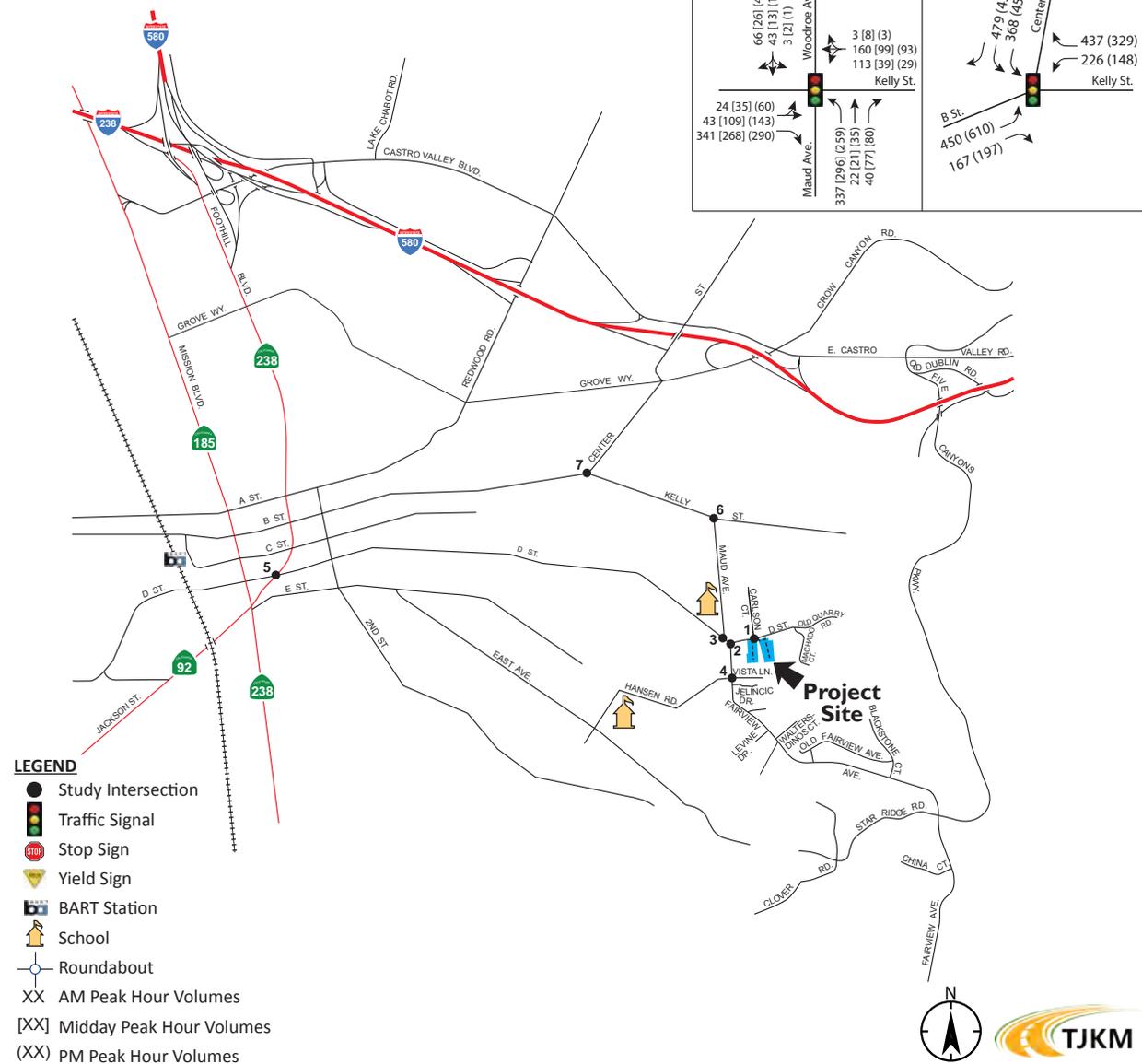


Figure 11-6
Cumulative plus Project Traffic Volumes, Lane Ge-
ometry, and Traffic Controls

Source: TJKM

Table 11.10: Peak Hour Intersection Level of Service –Cumulative Baseline plus Project Conditions

ID	Intersection	Control	Future Baseline Conditions						Future plus Project Conditions					
			A.M. Peak Hour		Afternoon School Peak Hour		P.M. Peak Hour		A.M. Peak Hour		Afternoon School Peak Hour		P.M. Peak Hour	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	D Street / Carlson Court	Minor Street Approach Stop	9.4	A	-	-	8.8	A	10.3	A	-	-	10.2	A
2	Fairview Avenue / D Street	Minor Street Approach Stop	13.2	B	-	-	12.1	B	13.8	B	-	-	12.4	B
3	D Street / Maud Avenue	All-Way Stop	21.1	B	-	-	15.2	B	22.6	B	-	-	18.0	B
4	Fairview Avenue / Hansen Road	Roundabout	6.6	A	-	-	6.5	A	6.5	A	-	-	6.5	A
5	D Street / Foothill Boulevard	Signalized	49.9	D	-	-	62.8	E	49.9	D	-	-	63.6	E
6	Kelly Street/ Maud Avenue	Signalized	29.9	C	11.0	B	11.3	B	31.2	C	11.5	B	11.4	B
7	Kelly Street / Center Street – B Street	Signalized	38.7	D	-	-	24.7	C	40.0	D	-	-	28.3	C

Notes: Delay = Average Delay in seconds per vehicle

LOS = Level of Service

The delay and LOS at the all-way stop controlled intersection are for the overall intersection performance.

The delay and LOS at intersections with stop or yield control on the minor approaches are for the worst-case minor approach.

The delay and LOS at the signalized intersection and roundabout are for the overall intersection performance.

Mitigation Measures

None needed.

Freeways and Arterials

Transp-3: Freeways and Arterials. The Project would not conflict with an applicable congestion management program, a level of service standards, travel demand measures or other standards established by the County Congestion Management Agency for designated roads or highways. **(LTS)**

Analysis under Alameda County's Congestion Management Program (CMP) is required for projects that generate 100 or more P.M. peak hour trips. The Project is calculated to generate no more than 31 P.M. peak hour trips, and therefore does not require a CMP traffic analysis.

The Project's trip distribution assumptions are based on existing turning movement counts from similar residential development in the surrounding area, and indicate that only about 41% to 52% of residential

trips in the area travel directly to/from I-580 via Maud and Kelly Avenues. This may be explained by various factors including: 1) large job centers are located to the south and southwest, away from I-580; 2) travelers to/from job centers in the north such as Oakland or San Francisco are more likely to take BART and thus avoid I-580; 3) congestion on I-580 may be diverting some trips to other routes (perhaps via Foothill or Mission); 4) many commuters access the north-south I-880 via D Street, Jackson, and even East Avenue, and 5) many non-work trips occur during the peak hours (as many as 50% non-work trips occur during the PM peak) and non-work trips are more likely to avoid regional congestion on I-580. Nonetheless, even if all 31 peak-hour trips generated by the Project were to travel on I-580 during the peak hours, the Project's contribution to freeway congestion would be virtually unnoticeable given that I-580 carries over 15,000 peak hour trips.

Hazards Due to Design Features or Incompatible Uses

Transp-4: Site Hazards. The Project's proposed site access and roadway configuration is adequate to accommodate the anticipated volume of traffic to and from the Project sites without resulting in a significant traffic hazard (**LTS**).

Access

Access to the Project site will be from D Street via two proposed local streets, one local street for Tract #8296 and one for Tract #8297. **Figure 11.7** shows the proposed site access configuration for both Tracts. As proposed, the two local access streets that will serve Tracts #8296 and #8297 will intersect D Street at locations approximately 130 feet apart, and near the current intersection of D Street/Carlson Court. The proposed Tract #8296 local street (described on Figure 11.7 as "Proposed West Street") will intersect D Street immediately west of the intersection of D Street/Carlson Court. The easternmost corner of the Tract #8296 local street would roughly align with the westernmost corner of Carlson Court at D Street. The northbound/southbound motor vehicle lanes on the Tract #8296 local access will be offset by approximately 50 feet west from the northbound/southbound travel lanes on Carlson Court. The proposed Tract #8297 local street (described below as "Proposed East Street") will intersect D Street approximately 70 feet east of the easternmost corner at the intersection of D Street/Carlson Court, where an existing driveway currently provides access to Tract #8297 and the adjacent care facility that occupies the wedge shaped parcel between Tracts #8296 and #8297.

The Project will result in a total of three intersections with local side streets intersecting D Street within approximately 130 feet of each other, including the existing D Street/Carlson Court intersection and the two proposed local access streets to serve the Project. Such a configuration, where northbound and southbound lanes to/from D Street will be offset, would be undesirable if a high volume of conflicting turning movements was anticipated. However, traffic volumes on this segment of D Street (east of Fairview Avenue and Maud Avenue) are relatively low, with less than 170 peak hour vehicles in total, in both directions on D Street (including under Cumulative plus Project conditions).



Figure 11-7
Site Access



The left turn volumes from D Street to each of the three side streets will also be very low, summarized as follows:

- Just two peak hour left turns currently occur on average from D Street to Carlson Court during the A.M. peak hour, and just five peak hour left turns from D Street to Carlson Court during the P.M. peak hour.
- Carlson Court carries very low traffic volumes (less than 10 peak hour trips total, in both directions) and traffic volumes on Carlson Court are not anticipated to increase measurably under future Cumulative conditions since Carlson Court is already developed and provides no outlet to other streets.
- Each of the local access streets into the Project will also have very low volumes, as the Project is anticipated to generate no more than 23 A.M. and 31 P.M. peak hour vehicle trips, which would be divided about equally into each of the two new access streets.

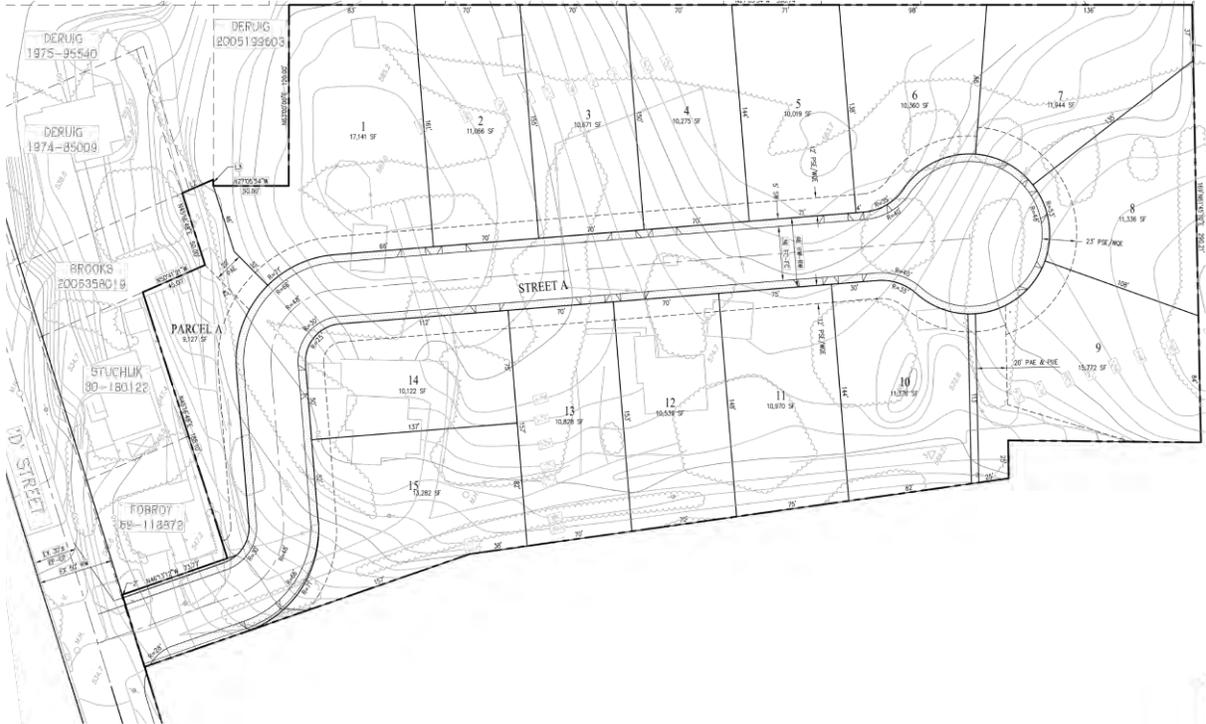
However, EIR scoping comments have expressed concern that the hill on D Street at the Project's access streets, compounded by the narrow paved width of D Street (about 30 feet or less of pavement out of the total 50-foot right-of-way), that may represent a transportation hazard due to inadequate sight distance and safe maneuverability. The site access issue is compounded by the potential effects of off-street parking, especially by potentially large vehicles, along the D Street frontage.

Under existing conditions, on-street parking on D Street primarily occurs on those segments of D Street where individual residences have direct frontage and access onto D Street. The Project would remove two existing residences that front D Street, thereby also eliminating the demand or need for on-street parking along that segment. The Project's new residences will front onto the Project's new internal streets, which will have adequate on-street parking available for the new residents. Under future Project conditions, sight distances approaching both Project entrances will be similar to the sight distance approaching the existing intersection of D Street/Carlson Court, with the primary limitation to sight distance from the Project's streets being in the downhill westbound direction, immediately east of Carlson Court approaching D Street.

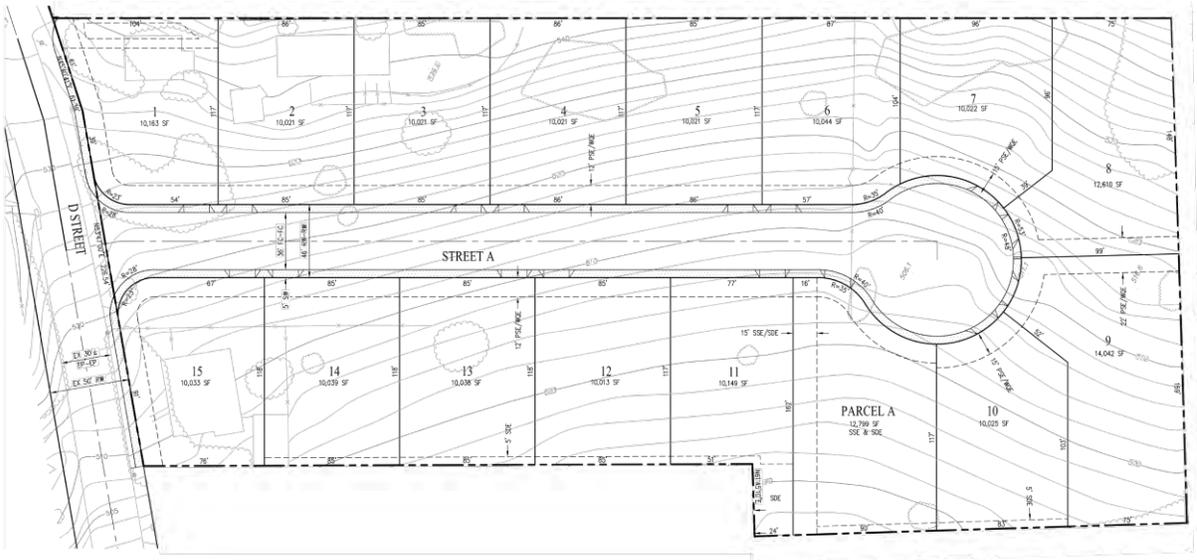
Given the low volume of potentially conflicting traffic movements, the Project's proposed site access configuration is not anticipated to result in a significant volume of conflicting movements and the proposed site access configuration, including sight distance, is adequate to safely accommodate the anticipated volume of trips to and from the Project site, as well as existing and cumulative traffic on the nearby roadways. The proposed offset intersection configurations would not substantially increase hazards or result in significant impacts related to site access. However, on-street parking between the two Project streets could obscure safe turning movements, and the transportation technical consultant therefore recommends that in order to improve sight distance safety from the Project sites, on-street parking on the south side of D Street should be prohibited for a distance of a little over 300 feet, from approximately 30 feet east of the Tract 8297 intersection to 30 feet west of the Tract 8296 intersection.

Site Circulation

The EIR transportation consultants also reviewed the Project's site plan to also assess the adequacy of proposed internal site circulation. **Figure 11.8** shows the proposed on-site street configuration for Tract #8297 and Tract #8296. Both streets have a 46 foot right-of-way width to include a 36 foot wide roadway with 5 foot sidewalks on both sides and no landscape strip between the sidewalks and roadway. The proposed internal roadway widths would allow for on-street motor vehicle parking on both sides. Both streets end in cul-de-sacs with standard turning radii.



Proposed Street Design (Tract #8297)



Proposed Street Design (Tract #8296)

Figure 11-8
Street Designs



Source: Carlson, Barbie and Gibson

The proposed streets are adequate to accommodate general on-site motor vehicles, bicycle and pedestrian circulation, and will adequately accommodate on-site circulation and turnarounds for emergency vehicles. Therefore, the proposed on-site circulation would not substantially increase hazards or result in significant impacts related to site circulation.

Emergency Vehicle Access

Emergency vehicles will be able to adequately access the Project site from D Street. Emergency vehicle access to this segment of D Street is primarily from the west, via the D Street/Fairview Avenue intersection. Secondary emergency access to this segment of D Street can be provided via Thurston Court, which intersects D Street east of the Project site and connects with those local streets to the northeast that allow for emergency only vehicle access to/from Kelly Street.

Mitigation Measures

None needed. The Project's proposed design, including its proposed access roads, is not a significant hazard constituting a CEQA impact, particularly given the low volume of cross traffic on this essentially dead-end segment of D Street.

However, the following recommendation of the technical transportation consultant suggests consideration of a design measure to enhance the sight distance for vehicles exiting the Project sites:

Recommendation: Parking Restrictions. To enhance sight distance on D Street near the Project entrances, on-street parking on the south side of D Street should be prohibited for a distance of more than 300 feet, from approximately 30 feet east of the Tract 8297 intersection to 30 feet west of the Tract 8296 intersection.

Other Considerations

As described above, the Project's two proposed local streets will intersect D Street at locations that are only approximately 130 feet apart, and offset by approximately 50 feet to the west and 70 feet to the east of the existing intersection of D Street/Carlson Court. This off-set is a less than optimal "best practices" street design, but is not considered a hazard because of the low volume of cross traffic. Under a more ideal design, the westerly street in Tract 8296 would be re-aligned approximately 60 feet to the east to allow for a standard four-leg intersection with D Street/Carlson Court, with an internal roadway that would split to connect between the two Project sites.

However, because the two Project sites are separated by another private property (the separate Hilltop Care facility parcel) not under control by the Project applicant, there is no feasible opportunity for the Project to independently design and build a road crossing the privately owned Hilltop Care parcel. Even if an internal roadway connection between the two Project sites could be achieved, that connection would need to be placed far into the Hilltop Care parcel to allow for an internal, best engineering practice designed "T" intersection capable of accommodating all on-site turning movements and provide adequate stacking and turning distance for access/egress off of D Street. Such an alternative roadway design would need to use most, if not all of the Hilltop Care facility's existing parking area. An alternative "best practices" street design is therefore not considered feasible given the Project sites' limited frontage along D Street, and the presence of an existing use on the intervening private property between the two Project sites.

Conflicts with Pedestrian or Bicycle Policies or Programs

Transp-5: Pedestrian Impacts. The Project will increase levels of pedestrian and bicycle use in the vicinity. However, the Project would not conflict with adopted policies, plans, or programs regarding pedestrian or bicycle facilities, or otherwise decrease the performance or safety of such facilities within the study area **(LTS)**.

Bicycles

There are no existing Class I off-street or Class II on-street bicycle facilities within the immediate study area. Under existing and future conditions, bicyclists would continue to share the road with other vehicles. Current bicycle use (as counted at the study intersections) amounts to approximately five bicycles per A.M. and P.M. peak hour. There is limited potential for increased bicycle use, given the low density development pattern in the study area, the hilly terrain and other factors. The Project is expected to generate minimal additional bicycle trips.

The Project does not conflict with adopted policies, plans, or programs regarding bicycle facilities, or otherwise decrease the performance or safety of such facilities within the study area. Therefore, the Project's impact on such facilities would be less than significant.

Pedestrian Facilities

The Project provides internal five foot wide sidewalks on each of the proposed internal local streets connecting to D Street. There are no existing sidewalks on the segment of D Street east of Fairview Avenue that borders the Project site. Sidewalks do exist in various levels of improvement on the frontage of most properties along D Street west of the site (towards Fairview Avenue), primarily on the same (south side) as the Project and in the public right-of-way. Current pedestrian activity (as counted at the study intersections) amounts to no more than approximately seven pedestrians per peak hour except on Kelly Street, where volumes reach 30 pedestrians per hour at the Kelly Street/Maud Avenue intersection (likely reflecting school-related pedestrian trips), and up 12 pedestrians per hour at the Kelly Street/B Street-Center Street intersection. There is limited potential for increased pedestrian activity given the low density development pattern in the study area. The Project is expected to generate minimal additional pedestrian trips.

The Project does not include pedestrian connections to nearby local streets that could improve pedestrian connectivity and allow for more direct walking routes to/from local schools, or to transit stops (the nearest of which is on Maud Avenue approximately 300 feet northwest of the D Street intersection with Fairview Avenue). Although the Project would not provide direct pedestrian connections between local streets, the Project does not conflict with adopted policies, plans or programs regarding pedestrian facilities, or otherwise decrease the performance or safety of such facilities within the study area. Therefore, the Project's impact related to conflict with plans and policies for pedestrian facilities would be less than significant.

Mitigation Measures

None needed. This impact is less than significant and no mitigation is required under CEQA. However, the following recommendations from the transportation technical consultant could be incorporated into the site plan or Project conditions of approval to improve pedestrian circulation and safety:

Recommendation: Sidewalk Bulbouts. Consider providing "bulbouts" to reduce the curb-to-curb roadway width to 24 feet at the intersections of the Project's proposed internal access streets with D Street. Such a reduction in width on the northernmost 10 to 20 feet of both

local access streets would allow for a reduction in pedestrian crossing distances for pedestrians traveling east or west on D Street.

Transit Impacts

Transp-6: Transit Impacts. The Project may increase levels of transit usage in the vicinity. However, the Project has adequate access to existing transit services and would not impede or interfere with existing services. **(LTS)**

The Project's proposed residential uses are within approximately 1/8 mile of existing bus stops at Maud and D Streets, served by AC Transit Route 95 with service to the Hayward BART Station. In addition, the proposed residences are about three miles from the Castro Valley BART station.

"Load factors" are used to describe passenger congestion, with a load factor of 1.0 equating to every seat being full. Current weekday commute load factors on AC Transit Route 95 average less than 1.0, meaning seats would be available on buses for potential Project transit riders (typical for Bay Area suburban bus routes). Weekday commute loads on BART, particularly San Francisco bound trains, often exceed load factors of 1.0 (meaning standing passenger loads). Conservatively assuming that 5% of trips from the Project use transit, this would translate to roughly two transit trips during both the weekday morning and afternoon peak periods. These small numbers of potential transit riders represent a very small fraction of available bus and rail capacity, and the Project impacts would not be significant.

The Project would not impede or interfere with existing transit services and would not generate a substantial increase in local transit demand. Its impact on alternative modes of travel would be less-than-significant.

Mitigation Measures

None needed.

Construction-Period Traffic Disruption

Transp-7: Construction-Period Traffic Disruption. Construction-related activity at the Project sites could result in temporary and periodic traffic disruption and interruption, depending on construction phasing and truck activity. **(LTS with Mitigation)**

Construction-related impacts resulting from daily trips generally would not be considered significant due to their temporary and limited duration. However, depending on the construction phasing and truck activity, these activities could result in significant traffic interruption. During construction of the Project, temporary and intermittent transportation impacts may result from truck movements as well as construction worker vehicles travelling to and from the construction site. Construction-related traffic would include construction workers, delivery of supplies and materials, and the movement of construction equipment to and from the site. This construction-related traffic may temporarily disrupt traffic in the vicinity because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles. It is expected that construction worker parking and construction staging would be accommodated within the Project site, and is not expected to spill over into the adjacent neighborhoods.

Mitigation Measures

Mitigation Measure Transportation-7: County Review of Construction Plan. The Project applicant shall prepare a Construction Operations Plan detailing the anticipated schedule of trips involving

construction workers and equipment, and delivery of materials and supplies to and from the Project site during the various stages of construction activity. The Plan will be reviewed by the County of Alameda for compliance with applicable regulations.

Resulting Level of Significance

Implementation of Mitigation Measure Transportation-7 would reduce the Project's potential impact related to construction period traffic disruption to a less than significant level.

Alter Air Traffic Patterns

The Project does not represent a level of population or housing growth that would require any change to existing air transportation services, and would have no impact on air traffic patterns, including the location of airports or flight paths as they relate to air traffic safety. **(No Impact)**

Parking Conditions (Non-CEQA Considerations)

Parking is not a CEQA-related impact and no CEQA thresholds for parking are established. The following discussion regarding parking is included for public and County decision makers' information, only.

Each single family residence in the Project will have at least two off-street motor vehicle parking spaces, as required by Chapter 17 of the Alameda County General Ordinance Code. In addition, the Project's proposed local access streets have a curb-to-curb width of 36 feet, wide enough to accommodate on-street parking on both sides of each local access street segment. Based on the site plan, the on-street parking will equate to an additional one to two parking spaces per dwelling unit, and the total parking supply (including both on-street and off-street parking) will exceed an average of three parking spaces per unit. Visiting guests may also use garage aprons if needed, further increasing the supply of parking.

Although the new street for Tract 8296 would eliminate between two and four on-street parking spaces on D Street, the Project would remove the two existing residences that front onto D Street, thereby also eliminating the demand or need for these on-street parking spaces on D Street. The new homes would front onto the new public streets and would have adequate on-street parking available on the new street. However, as noted above, because on-street parking between the two Project streets could obscure safe turning movements, the transportation technical consultant has recommended that on-street parking on the south side of D Street be prohibited for a distance of more than 300 feet in order to improve sight distance safety from the Project sites, from a point approximately 30 feet east of the Tract 8297 intersection to about 30 feet west of the Tract 8296 intersection.

Utilities

This Chapter describes existing public utilities and evaluates the impact of the Project on the provision of public utilities with possible adverse physical impacts to the environment. Specific topics addressed in this chapter include water supply and wastewater disposal structures (e.g., water supply pipes, sewer lines and treatment plants), storm water management facilities (publicly- and privately-held, including natural and improved flood-control channels, reservoirs, pipes and treatment components) and solid waste services and disposal or management facilities. This chapter also briefly addresses a range of additional public and quasi-public services providing important utility functions including electrical power lines and energy supply and management systems, gas lines, and telecommunication services (e.g., telephone, cable television, internet and other media services).¹

Environmental Setting

Domestic Water Supply

Water Supply

Water service to the Fairview Area of Alameda County and to the City of Hayward is provided by the East Bay Municipal Utility District (EBMUD). EBMUD is responsible for service connections and water delivery to most of Alameda County and much of Contra Costa County.

The County and EBMUD have undertaken programs to conserve water and reduce the need for developing new water supplies. These programs include public education and information, economic and financial incentives and a variety of best management practices (BMPs) such as water saving plumbing fixtures and drought tolerant landscaping. Using reclaimed water in lieu of potable water for irrigation, particularly at local golf courses, is an important part of the conservation program.

EBMUD provides comprehensive water services, including production, conveyance, treatment and retail services, as well as water recycling. EBMUD's primary water source is Mokelumne River runoff, which is collected in Calaveras and Amador counties and conveyed through an aqueduct into Alameda County. EBMUD treats water from the Mokelumne River watershed and distributes it directly to customers throughout its service area. The primary EBMUD treatment facility serving Alameda County is the Orinda water treatment plant. The plant is the largest in the area with a capacity of 175 million gallons per day (mgd), and was most recently rebuilt in 1998.

EBMUD provides potable water to approximately 1,300,000 people throughout portions of Alameda and Contra Costa counties. In 2009, EBMUD adopted a long-term Water Supply Management Program (WSMP) that serves as a water supply planning guide through year 2040. The WSMP is a complex planning document that EBMUD uses to assess supplies and analyze demands over a thirty-year planning horizon.

¹ These later topics are not specifically identified in the Environmental Checklist included in the CEQA Guidelines as Appendix G.

Water Distribution System

EBMUD distributes its water through a system of pipelines, storage reservoirs and pumping plants separated into pressure zones. EBMUD operates and maintains all water distribution lines within its service area and is responsible for all facilities up to the location of the water meter. EBMUD reports no known deficiencies in the system within the vicinity of the Project site.

Wastewater Collection, Treatment and Disposal

Collection

The Oro Loma Sanitary District (OLSD) provides wastewater collection and treatment services, whereas the ultimate disposal of treated wastewater is provided by the East Bay Dischargers Authority (EBDA). EBDA is a consortium of public wastewater agencies who participate jointly in a common discharge system that conveys treated wastewater to the outfall in San Francisco Bay under appropriate discharge permits issued by the Regional Water Quality Control Board.

OLSD was formed in 1911 and today provides wastewater collection and treatment services for 44,000 customers within its 13–square-mile service area. The OLSD system includes 280 miles of sewer pipeline and 15 lift stations. The OLSD wastewater service area includes parts of San Leandro, Hayward and the unincorporated areas of San Lorenzo, Cherryland, Ashland, and Fairview. OLSD serves a population of approximately 112,000 and owns and maintains approximately 300 miles of sewer lines; average daily wastewater flows are 14.3 million gallons per day (mgd). OLSD projects that population growth in the area will increase average flows to 15.4 mgd by year 2020).²

Wastewater Treatment and Disposal

OLSD owns and operates a wastewater treatment plant with an average dry weather design capacity of 20 mgd; the plant currently treats about 15mgd, including flow from the Castro Valley Sanitary District. Treated effluent is disposed to the deep waters of San Francisco Bay through the collectively owned East Bay Dischargers Authority pipeline. The treatment plant also produces about 14 tons of bio-solids per day. OLSD has a Renewal and Replacement Program that covers ongoing repair and replacement of system components. Revenues for this program are generated through sewer connection fees and user fees.

Storm Drainage

Storm water collection and conveyance services are provided by the Alameda County Flood Control and Water Conservation District (ACFCD). ACFCD's flood control system is an integrated part of local storm-water systems, which are built and managed by the cities and the County, and function in tandem with the overall ACFCD system. Storm water systems drain in various fashions, in some cases directly into improved ACFCD channels (lined or covered, such as concrete box culverts) and in other cases through local creeks. Stormwater facilities near the Project site drain into either Sulphur Creek or San Leandro Creek (as described in detail in Chapter 8, Hydrology and Water Quality). These two creeks merge farther to the west as San Leandro Creek, which continues westerly until eventually reaching San Francisco Bay. ACFCD provides flood control service in the County, including the Fairview area.

² Burr Consulting, with CDM, Braitman & Associates and P&D Consultants, *Final Municipal Service Review, Volume II – Utility Services*, Report to the Alameda Local Agency Formation Commission, November 10, 2005.

Solid Waste

OLSD provides solid waste collection services to the unincorporated area of Fairview. OLSD carries out its responsibilities through a franchise agreement with Waste Management, Inc. of Alameda County, whose personnel provide the solid waste collection services. Solid waste is disposed of at the Altamont Landfill.

Regulatory Setting

Federal

Clean Water Act and Safe Drinking Water Act

The Safe Drinking Water Act (42 United States Code [USC] §§ 300f *et seq.*) is the primary federal law regulating drinking water quality; it establishes standards intended to protect public health, safety and welfare. The U.S. EPA implements the Safe Drinking Water Act, which delegates its authority under the Act to the states.

The Clean Water Act (33 USC §§ 1251 *et seq.*) is intended to restore and maintain the integrity of the nation's waters, including requirements for states to establish water quality standards to protect designated uses for all waters of the nation. Many aspects of the Clean Water Act have been delegated to the states, including the regulation of discharges from private industry and public facilities such as wastewater treatment plants.

State

Water Supply

The California Urban Water Management Planning Act³ requires that an understanding of urban water demands and efficient use of water be actively pursued by water suppliers, including the requirement for every urban water supplier to prepare and adopt an urban water management plan. Each urban water management plan must describe the suppliers' services area; identify and quantify existing and planned water sources; describe the reliability of water supplies; describe opportunities for exchanges or transfers of water; quantify past, current and projected water use; and describe and evaluate the supplier's water demand management measures. These plans are updated every five years.

CEQA also requires that projects of a certain magnitude provide an assessment of water supply. For a residential project, the size at which a Water Supply Assessment is required is 500 units.⁴ The Project is well below this size, therefore a Water Supply Assessment has not been requested for this Project.

The Recycled Water in Landscaping Act requires municipalities to adopt ordinances requiring use of recycled water for landscaping uses where recycled water of appropriate quality is made available. The County of Alameda has adopted the State's model Water Efficient Landscape Ordinance (WELO), including changes enacted in 2015, which requires development with more than 500 square feet of new or replacement landscaping to meet specific landscaping standards. The landscaping package for the Project must demonstrate that its water demand does not exceed a set maximum water allowance, based on its total area and climate setting.

³ Division 6, Part 2.6 of the California Water Code.

⁴ Section 10912, of the California Water Code.

The Department of Health Services regulates drinking water, implements the Safe Drinking Water Act and oversees public water systems in California. The state requires that public water systems meet two groups of water quality standards: primary and secondary drinking water standards. Primary drinking water standards, known as Maximum Contaminant Levels, are legally enforceable standards that regulate contaminants that could threaten public health. Secondary drinking water standards are used to regulate contaminants that affect the taste, odor and appearance of water, and are enforceable for new potable water sources.

The State Water Resources Control Board (SWRCB) has established water quality objectives to define the level of water quality to be maintained for designated beneficial uses. Water designated for uses as domestic or municipal supply shall not contain concentrations of constituents in excess of the limits specified in Title 22 of the California Code of Regulations (CCR).

Storm Water Drainage

Municipal Regional Stormwater NPDES Permit/C.3 Requirement

The regional office of the SWRCB, the San Francisco Bay Regional Water Quality Control Board (RWQCB) also has issued a Municipal Regional Stormwater NPDES Permit (MRP, Permit Number CAS612008). 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. Under provisions of the NPDES Municipal Permit, projects that disturb more than 10,000 square feet 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 treatment controls, such as bio-treatment facilities.

Telecommunications and Power

The California Public Utilities Commission regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies.

Energy

The CPUC's energy regulatory responsibilities include, but are not limited to, ensuring electric, natural gas, and propane gas system safety and energy reliability; and setting electricity and natural gas retail rates and overseeing low income consumer programs;

Transportation

The CPUC's transportation responsibilities include, but are not limited to, safety jurisdiction over the rail system and all rail crossings, including freight railroads, inter-city passenger railroads, commuter railroads, and rail transit systems;

Communications

The CPUC's telecommunications responsibilities include, but are not limited to, administering Universal Telephone Service programs; issuing video franchises; regulating rates for basic phone service and rural carriers; and licensing wireline, wireless, two-way paging, cable telephony, and mobile radio providers serving residential and business customers; and,

Water

The CPUC's responsibilities in water include, but are not limited to, investigating water and sewer system service quality issues; analyzing and processing rate change requests; and tracking and certifying compliance with CPUC requirements.

Impacts and Mitigation Measures

The following section describes potentially significant Project impacts to Utilities. Mitigation recommendations are made to avoid, minimize or mitigate such impacts where necessary and feasible.

Significance Criteria

The Project would have a significant environmental impact if it would:

1. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
2. 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.
3. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
4. Have insufficient water supplies available to serve the Project from existing entitlements and resources, or if new or expanded entitlements are needed.
5. Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.
6. Be served by a landfill with insufficient permitted capacity to accommodate the Project's solid waste disposal needs.
7. Fail to comply with federal, state, and local statutes and regulations related to solid waste.

Water Supply

Utilities-1: Water Supply. There are sufficient water supplies available to serve the Project from existing entitlements and resources, and no new or expanded entitlements are needed to serve the Project. **(LTS)**

The Project will result in an increased water demand within the existing service area of EBMUD. The Project would utilize existing water facilities and resources of EBMUD, and would not result in the need for new off-site facilities. EBMUD has determined that the anticipated additional demand of cumulative development within its service area (as estimated based on all local General Plan buildout calculations, including that of unincorporated Alameda County) can be met, assuming implementation of EBMUD's water conservation measures. Water conservation measures are required of any new development and would be part of the overall Project requirements. EBMUD has indicated that with conservation and water reclamation programs and requirements currently in place (e.g., WELO as described above, and state building code, described below), it can meet its obligation to serve its current and future customers in normal rainfall years. The Project's contribution toward overall water demand is an insignificant component of this total.

The Project will be required to demonstrate compliance with the State of California Green Building Code (CalGreen), which will substantially reduce projected water demands associated with the Project as compared to pre-CalGreen water demand estimates. Additionally, the Project will be required to pay appropriate development impact and utility connection fees toward ongoing improvement and maintenance of water systems, and will be conditioned to comply with all other applicable regulations, restrictions and conservation measures applicable within the EBMUD service area.

The Project proposes a connection to the EBMUD water supply system via construction of new 8-inch water lines within each Tract connecting the Project site to the existing water distribution system located under the D Street right-of-way.

Mitigation Measures

None needed. A “will serve” letter from EBMUD confirming sufficient water supplies is a standard project requirement prior to construction permit approvals.

Wastewater Collection, Treatment and Disposal

Utilities-2: Wastewater Treatment Requirements. The Project’s wastewater treatment and disposal demands would not require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, and would not exceed the wastewater treatment requirements set by the SF Regional Water Quality Control Board. **(LTS)**

The Project area is within the boundaries of the Ora Loma Sanitary District, and would be provided with sanitary sewer service by this District. The Project’s new residential development would result in an increase in wastewater generation within the District’s service area. The District has indicated that there is adequate capacity in their collection system and treatment plant to serve the demands of cumulative development in the area, which would include the Project. The District has recently upgraded the trunk sewer line in D Street where the Project’s wastewater flows would enter the District’s system,⁵ and this upgraded line has adequate capacity to accommodate the Project.

All wastewater generated by the Project would be directed into the Ora Loma Sanitary District’s sanitary sewer system and routed to their treatment plant, which has adequate capacity to serve the Project.

Mitigation Measures

None needed. A “will serve” letter confirming ability to serve the Project is a standard project requirement prior to construction permit approvals.

Storm Drainage Facilities

Utilities-3: Storm Drainage Facilities. The Project will not require or result in the construction of new off-site storm water drainage facilities or the expansion of existing facilities. **(LTS)**

The Project’s new development (i.e., new homes and roads) will increase the amount of impervious surface area on the site and result in an increase in surface runoff from the site. Without addressing this increased runoff, the Project’s increased impervious surfaces would increase the rate and volume of storm water that would flow into the off-site storm water drainage system during peak periods.

Pursuant to NPDES Municipal Permit requirements for projects that disturb more than 10,000 square feet, the Project includes designs for construction of storm water treatment controls to treat post-

⁵County of Alameda, Initial Study & Mitigated Negative Declaration, Tract 8057 Residential Subdivision Project, February 2012, p. 111. Available at <http://www.acgov.org/cda/planning/landuseprojects/currentprojects.htm>

construction storm water runoff. The Project includes storm water treatment as well as flow control measures as part of its design, including on-site storm water bio-swales and storm water retention facilities designed as large-capacity pipes installed below the streets. These facilities will detain the increased flows attributable to new impervious surfaces of the Project, and ultimately will release the storm water into the existing storm drain system at flow rates equal to or less than existing flows. With these facilities, the Project's storm drain system would result in no net increase in the rate or amount of runoff entering the off-site storm drain system, as compared to existing conditions.

To connect with the off-site storm water collection and conveyance services provided by the Alameda County Flood Control and Water Conservation District, the Project will construct water quality facilities and flow control features that ultimately drain off-site, as follows:

- Runoff from Tract 8296 will exit the site in two directions, one direction via a connection to the existing storm drain system downslope under the right-of-way in D Street, and portions will exist the site to the west via a new storm drain line connected to the existing storm drain system in the Machado Court neighborhood.
- Runoff from Tract 8297 will exit the site through a new storm drain pipe that connects to an existing storm drain to the west.

Mitigation Measures

None needed.

Solid Waste

Utilities-4: Solid Waste. The Project will be served by landfills that have sufficient permitted capacity to accommodate the Project's solid waste disposal needs, and the Project will comply with all federal, state and local statutes and regulations related to solid waste. **(LTS)**

The Project's proposed new residential development will result in an increase in solid waste generation and landfill demand within the existing service area. When the 31 proposed single-family homes are built and occupied, the Project is estimated to add approximately 82 new residents to the Fairview area. The California Integrated Waste Management Board (CIWMB) estimates that the average annual per capita residential solid waste disposal rate in Alameda County is 0.42 tons. Given a typical waste density of 80 pounds per cubic yard, the per capita waste generation rate is approximately 34.4 cubic yards per year, or approximately 2,752 cubic yards per year for the Project as a whole.

Alameda County is served by three active permitted landfills; the Altamont Sanitary Landfill, the Vasco Road Sanitary Landfill and the Tri-Cities Recycling and Disposal Facility in Fremont. Data obtained from the CIWMB website indicates that the total remaining permitted capacity for all three landfills is over 56.4 million cubic yards. The Project's estimated generation of 2,752 cubic yards of solid waste per year is a minor, less than significant increase in relation to the total remaining permitted capacity of Alameda County landfills.

The Project would be required to comply with all federal, State and local statutes and regulations related to solid waste, including recycling and green waste disposal to reduce landfill disposal, resulting in a less than significant impact on solid waste disposal requirements.

Mitigation Measures

None needed.

Energy Demands

Utilities-5: Energy. The Project would not require more energy than the local energy provider (PG&E) has the capacity to serve, nor would it require construction of new energy facilities or expansion of existing facilities which could cause significant environmental effects. The Project would be subject to the requirements of currently applicable federal, state and local statutes and regulations relating to energy standards. **(LTS)**

The Project would be subject to Title 24, California's Energy Efficiency Standards for Residential and Nonresidential Buildings, and would not violate applicable regulations related to energy standards. The Project is located in an area that currently receives electrical and natural gas services from PG&E. Connecting new buildings to existing lines would involve relatively minor improvements to the existing energy infrastructure. Energy consumption would be associated with the new residences at the site. The Project would not require or result in the construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects. As such, the proposed project would have a less than significant impact on the provision of electricity and natural gas, and on energy consumption.

Mitigation Measures

None needed.

Rail Safety

There would be **no impacts** related to rail safety, as there are no rail crossings within or near the Project area.

Telecommunications

Electrical, cable television and other telecommunication lines would be underground within the Project but connect to existing overhead lines along D Street. Within the Project site, the main lines would be placed under the interior street and lateral lines would be extended to each individual home. Impacts related to the provision of telecommunication services would be less than significant. **(LTS)**

Other Less than Significant Effects of the Project

Section 15128 of the CEQA Guidelines requires that the EIR briefly indicate the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR. The Notice of Preparation for this EIR did not include an Initial Study Checklist and therefore did not identify specific environmental topics as being screened out or unnecessary for further analysis of potential adverse environmental effects. This chapter of the Draft EIR provides a discussion and analysis of those environmental topics not anticipated to result in significant impacts, and not evaluated elsewhere in the EIR. The following partial Environmental Checklist and impact analysis indicates that the Project will have a less than significant impact or no impact with respect to the following environmental topics, and for which no mitigation is required beyond compliance with existing regulations (e.g., Geology and Soils):

- Agriculture
- Geology and Soils
- Hazards and Hazardous Materials
- Mineral Resources
- Population and Housing
- Public Services
- Recreation

Agriculture and Forest Resources

Would the Project:	Potentially Significant	LTS with Mitigation	LTS	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Farmland Conversion

The Project site is located in an urbanized portion of Alameda County and is not used as farmland. The horse-pasturing use of the eastern site does not serve a substantial agricultural purpose, but is only used privately. The Project site is not shown on the Farmland Mapping and Monitoring Program of the California Resources Agency as containing any prime, unique or important farmland.¹ The Project would not convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use. **(No Impact)**

Agricultural Zoning or Williamson Act Conflicts

The Project site is zoned for residential purposes, and is not zoned for agricultural use. There are a very few parcels that are zoned for agriculture under the Fairview Area Specific Plan, and three of these parcels extend northward from a point about 800 feet northeast of the Machado Court subdivision, including a roughly 4.6-acre parcel at the terminus of Old Quarry Road (a private road extension of D Street), bordering the Five Canyons Open Space area. However, neither the Project site nor any other lands in the surrounding areas are under Williamson Act contracts. The Project would not conflict with existing zoning for agricultural use, or with a Williamson Act contract. **(No Impact)**

¹ California Department of Conservation, California Important Farmland Finder, accessed September 23, 2014. Available at: <http://maps.conservation.ca.gov/ciff>

Forest Resources

The Project site is predominantly covered by non-native grassland. Scattered planted and naturalized non-native tree species are also scattered throughout the Project site. These trees do not constitute a forest or forest land. Most of the surrounding areas are developed or otherwise urbanized and do not contain farmland or forest land. Although the privately-owned land that is designated as agriculture between the Machado Court subdivision and the Five Canyons Open Space is largely comprised of eucalyptus woodland forest, its value is very low as fuel and for construction. The Project would not conflict with existing zoning for, or cause rezoning of, forest land, and would not result in the loss of forest land or conversion of forest land to non-forest use. **(No Impact)**

Other Changes Affecting Farmland or Forest Resources

The Project site is located in a generally urbanized portion of Alameda County. There are no farmlands in the immediate vicinity that would be converted to non-agricultural use as a result of the Project. The Project site and adjacent surrounding properties are developed or otherwise urbanized and do not contain farmland or forest land. The Project would not result in the conversion from forest land to non-forest use of any undeveloped open space areas within the Hayward Hills.

The Project would not involve any direct changes in the existing environment which could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. The Project could increase indirect pressure to convert the adjacent agriculturally-designated eucalyptus forest to suburban development. However, as indicated, the eucalyptus forest has extremely low agricultural value as a forest resource, and the planning obstacles required for such development (rezoning and a major general plan amendment) would be considerable and difficult. **(LTS)**

Geology and Soils

Would the Project:	Potentially Significant	LTS with Mitigation	LTS	No Impact
a) 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, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-I-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Regulatory Setting

State

Alquist-Priolo Earthquake Fault Zoning Act

The California Legislature passed the Alquist-Priolo Earthquake Fault Zoning Act in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. The Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The Act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. Local agencies must regulate most development in fault zones established by the State Geologist. Before a project can be permitted in a designated Alquist-Priolo Earthquake Fault Zone, the city or county with

jurisdiction must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active or potentially active faults.

California Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act of 1990 (California Public Resources Code Sections 2690-2699.6) addresses seismic hazards other than surface rupture, such as liquefaction and seismically induced landslides. The Seismic Hazards Mapping Act specifies that the lead agency for a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

California Building Code

Title 24 of the California Code of Regulations, also known as the California Building Standards Code, sets minimum requirements for building design and construction. In the context of earthquake hazards, the California Building Standards Code's design standards have a primary objective of assuring public safety and a secondary goal of minimizing property damage and maintaining function during and following seismic events.

Local (Alameda County)

County Grading Permit Requirements

The Alameda County Code of Ordinances, Title 15 - Buildings and Construction, Chapter 15.36 – Grading, Erosion and Sediment Control provides the County's regulations on grading work on private property within the unincorporated area of the County. As indicated in Section 15.36.040, except under specific exceptions, no person shall do or permit to be done any grading on any site in the unincorporated area of the County without a valid Grading Permit obtained from the Director of Public Works. Pursuant to Section 15.36.170 (A), no Grading Permit shall be granted until the Director of Public Works verifies compliance with all of the provisions of this Chapter, and the Director of Public Works may impose any condition deemed necessary to protect the health, safety and welfare of the public, to prevent the creation of a nuisance or hazard to public or private property, and to assure proper completion of the grading.

Preliminary grading plans must be provide for review and determination of grading permit requirements prior to approval of final plans and issuance of a Grading Permit. Precise design at this stage is not required. The Preliminary grading plans shall contain a statement of the purpose of the proposed grading, and shall include a Geotechnical (soil) or Geologic Investigation Report in any of the following circumstances:

A. When the proposed grading includes a cut or fill exceeding five feet in depth at any point and the slope of the natural ground within thirty (30) feet of the cut or fill exceeds ten (10) percent; however, for vehicular ways, a geotechnical/geologic investigation shall not be required unless the grading includes a proposed cut or fill that exceeds ten (10) feet in depth;

B. When the shrink-swell rating of the soil in the area of the proposed grading work is greater than .5, as shown in the "building site development" ratings in the "web soil survey soil data explorer" interactive maps published by the United States Department of Agriculture Natural Resources Conservation Service as of April 2010 at <http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx>, or when there are other reasons to suspect that highly expansive soils are present;

C. When the property is located within an earthquake fault zone or a seismic hazard zone, as delineated on the official maps published for that purpose by the California Geologic Survey, or when such hazards are otherwise known or suspected on the site.

The Director may require additional or supplemental geotechnical/geologic investigations and reports in conjunction with the design and construction of other structures and facilities subject to separate permits, such as foundations, on-site wastewater treatment systems, stormwater infiltration devices, etc. The investigations shall be based on observation and tests of the material exposed by exploratory borings or excavations, and other inspections made at appropriate locations. Additional studies may be necessary to evaluate soil and rock strength, the effect of moisture variation on soil, bearing capacity, compressibility, expansiveness, stability, percolation rates, groundwater levels, and other factors. Any geotechnical/geologic investigation report shall be subject to the approval of, and supplemental reports and data may be required by, the Director of Public Works. Recommendations included in the reports and approved by the Director of Public Works shall be incorporated in the final plans and specifications.

According to Section 15.36.350, the Geotechnical/Geologic Investigation report shall contain all of the following as they may be applicable to the subject site:

- A. An index map showing the regional setting of the site;*
- B. A site map showing the topographic features of the site and locations of all soil borings and test excavations;*
- C. A classification of the soil types (unified soil classification); pertinent laboratory test data; and consequent evaluation regarding the nature, distribution and strength of existing soils;*
- D. A description of the geology of the site and the geology of the adjacent areas when pertinent to the site;*
- E. A suitably scaled map and cross sections showing all identified areas of land slippage;*
- F. A description of any encountered groundwater or excessive moisture conditions;*
- G. A description of the soil and geological investigative techniques employed;*
- H. A log for each soil boring and test excavation showing elevation at ground level and depth of each soil or rock strata;*
- I. An evaluation of the stability of pertinent natural slopes and any proposed cut and fill slopes;*
- J. An evaluation of settlement associated with the placement of any fill;*
- K. Recommendations for grading procedures and specifications, including methods for excavation and subsequent placement of fill;*
- L. Recommendations regarding drainage and erosion control;*
- M. Recommendations for mitigation of geologic hazards;*
- N. Recommendations for the design of any associated stormwater treatment/detention systems, particularly those systems that are intended to provide treatment by means of infiltration.*

County Subdivision Requirements

The Alameda County Code of Ordinances, Title 16 - Subdivisions, Chapter 16.08.050 requires that any Tentative Map for a subdivision of five or more lots shall include:

- A. A preliminary grading plan prepared by a civil engineer registered by the state;*

B. A conceptual plan for soil erosion and sediment control for both construction and post-construction periods prepared by the civil engineer, or, with respect to the soil erosion control provisions, by a landscape architect registered by the state;

C. A soils-geologic investigation report prepared by a licensed geologist, certified engineering geologist, or a registered civil engineer or soil engineer as provided by Section 6736.1 of the Profession Engineers' Act.

All data and material shall be consistent with requirements and specification of the county Grading Ordinance.

Geotechnical Investigation Report

The information and analysis regarding geologic conditions and soils at the Project site is based on a report prepared by the Project applicant's soils engineer and engineering geologist:

- Henry Justiniano & Associates, Geotechnical Investigation Report and Updates, Proposed 31 Single Family Residences at 3231 & 324 7 D Street (Tract 8296) and 3289 & 3291 D Street (Tract 8297), August 10, 2015 (**Appendix G**)

This Geotechnical Report presents methods and results of the geotechnical consultant's studies and provides recommendations to avoid or minimize potential impacts related to the underlying geology of the Project's sites.

The Geotechnical Report indicates that the Project site is within a geologic unit of Late Cretaceous sedimentary rocks described as the Oakland Conglomerate. This geologic unit is thrust-faulted with unnamed sandstone, conglomerate and shale of the Castro Valley area. To the southeast, the Oakland Conglomerate is in depositional contact with the Joaquin Miller Formation. Soil borings and test pits for geological and seismic conditions were done in 2006 and 2007 on the western, uphill site (Tract 8297) by GEI, Inc., and in 2015 on the eastern, downhill site (Tract 8296) by Justiniano & Associates. During subsurface explorations of the Project site, the bedrock unit that was frequently encountered consisted of a yellow/brown, weak to moderately strong sandstone.²

Surface Fault Rupture

Surface fault ruptures are classified as a primary geological hazard. The Geotechnical Investigation Report (pg. 6) indicates that "the site is not within a current Earthquake Hazard Zone (formerly Alquist-Priolo Special Studies Zone) and, during [their] reconnaissance, [they] did not observe geomorphic evidence suggestive of active faulting within the site; and (pg. 13), that "based on the available geologic maps, it is [their] opinion that the subject site is not located astride an active fault. (**No Impact**)

Ground Shaking

The Geotechnical Investigation Report (pg. 6) indicates that the Project site is assigned a high seismic rating, due to its proximity to several faults, in particular the Hayward Fault. The Project site is located approximately 1.4 miles northeast of the Hayward Fault, 6.3 miles southwest of the Calaveras Fault, 14.6 miles from the Concord-Green Valley Fault, and 19.9 miles northeast of the San Andreas Fault, all of which are historically active. Damage from a seismic event could result from the secondary impact of strong seismic ground shaking originating on these nearby faults.

² Justiniano, p. 6.

The Geotechnical Investigation Report indicates that the Project site is susceptible to a peak ground acceleration (PGA) estimate of 0.685 as the Design Basis Earthquake (10% probability of exceedance in 50 years), as presented in the California Geological Survey's web site for a Probabilistic Seismic Hazards Assessment. As a point of reference, sites with PGA values greater than 0.15 must undergo additional seismic analysis before they can be underwritten by the Federal National Mortgage Association.

Regulatory Requirements

All future homes constructed at the Project site will be required to be designed in accordance with all seismic provisions of the most recent version of the California Building Code (CBC, 2016, in effect in January 1, 2017), and with County of Alameda and State of California Standards for seismic construction.

- Policy P10 of the Safety Element of the Alameda County General Plan states that “Buildings shall be designed and constructed to withstand ground shaking forces of a minor earthquake (1-4 magnitude) without damage, of a moderate (5 magnitude) earthquake without structural damage, and of a major earthquake (6-8 magnitude) without collapse of the structure.”
- In addition, Action A6 of the Safety Element states, “Require sites to be developed in accordance with recommendations contained in the soil and geologic investigations reports.”

The geotechnical investigations and recommendations as required pursuant to the County’s Grading Ordinance and Subdivision Ordinance have already been prepared by licensed professional engineers. Following Project approvals and prior to obtaining building permits, it is standard practice to update geotechnical and structural design plans with more detailed design-level specifications that will ensure construction consistent with safety codes given the characteristics of the site. With implementation of detailed design-level specifications California Building Code, and with County of Alameda and State of California Standards for seismic construction, significant adverse effects related to ground shaking will not result. (LTS)

Liquefaction

The Geotechnical Investigation Report (pg. 8) indicates that, “based on the hillside building envelope locations and bedrock lithology, the risks of liquefaction and densification are considered to be insignificant. (LTS)

Landslides

A landslide is a mass of rock, soil and debris displaced down slope by sliding, flowing or falling. The Association of Bay Area Governments indicates that the landslide susceptibility history for the Project Area as “few landslides.”³ The Project site is not located in an area mapped by the California Geological Society where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements.⁴

According to the Geotechnical Investigation Report (pg. 8), “there are no steep, unsupported banks that potentially could be influenced by lurching or lateral spreading. Seismically-induced slope failure may occur in hillside areas, especially when sites are in close proximity to earthquake epicenters. Based on the relatively gentle nature of the site topography and shallow depth to relatively strong rock, we consider that this risk would be insignificant and far below the range of acceptability that would commonly

³ Association of Bay Area Governments, <http://gis.abag.ca.gov/website/Landslides/viewer.html>

⁴ Justiniano, Figure 8.

be associated with hillside construction in the Hayward Hills area.” However, the Geotechnical Investigation report (pg. 6) also indicates, “a large swale within the northeastern portion of the site where previous subsurface explorations were performed, that does contains deep soil deposits (of 13 to 14 feet), and the topography appears irregular and possibly may contain old slide deposits. Additionally, areas where clayey sands were encountered were moist and may be subject to creep (a gradual, downslope soil movement).

Geotechnical Recommendations

The Geotechnical Investigation Report recommends the following for development of the Project:

- (1) In Tract 8297, grading procedures should commence with an over-excavation of fill, soft soils deposits and residual soils from the area of Lots 4 thru 6.
 - The excavation is anticipated to be approximately 12-feet deep and should penetrate into and expose a uniform surface of firm non-yielding materials, as interpreted in the field by the Engineer.
 - Subsequently, a sub-drain pipe should be provided at the heel-base of the excavation or in a trench that is excavated through approved compacted fill and into the bedrock. The sub-drain should consist of a 4-inch minimum diameter (rigid wall SDR 35 or equivalent), perforated pipe that is covered by Class II permeable rock that adheres to Caltrans specifications. A clean-out riser should be provided at a minimum, at one of the terminus of each sub-drain that traverses a fill. The sub-drain outlets should be provided at the low point, and may be day-lighted on slope surfaces, since only minor volume of water effluent is anticipated.
 - As the fill materials are placed commencing the fill prism upslope, a continuous benching should be established into the hillside. The fill and cut slopes should not exceed a 2 horizontal: 1vertical gradient.
 - The engineered fill materials should be placed in thin, moisture conditioned lifts not exceeding 8-inches in un-compacted thickness, prior to receiving compaction efforts to accomplish a minimum 90 percent relative compaction, based on ASTM Test Procedure D1557. If the fill material contains rocks or rubble, no rocks larger than 6-inches in their greatest dimension should be allowed. On-site materials are suitable for fill provided that they are free from organic matter or other deleterious substances.
 - All disturbed slope areas should be track-walked, and seeded, to mitigate erosion.
 - All grading operations must be under the supervision of the Engineer, in addition to the compaction testing procedures conducted by a Field Technician.

This recommendation from the Geotechnical Investigation Report, if approved by the Director of Public Works, shall be incorporated in the final plans and specifications for the Project and would reduce the risk of landslides to a less than significant level. **(LTS)**

Instability as a Result of the Project

Residential Foundation Support

As proposed, a majority of the Project’s residential building pads will be excavated to a significant depth such that they will be exposed the underlying stable sandstone at the pad surface. However, some residential building pads will be established at areas with significant fill thickness. As such, the Geotechnical Report recommends that two different foundation systems support the proposed

residences. The cut pads exposing bedrock at the surface would be adept to conventional footing foundations, while the fill pads should implement cast-in-place concrete piers, integrated with grade beams.

Geotechnical Recommendations

The Geotechnical Investigation Report recommends the following for construction of all proposed residential building foundations and slabs within the Project:

- (2) **Foundations in Cut Pads.** In excavated, level building pads that expose bedrock materials at the surface, geotechnical conditions would be acceptable for implementation of conventional strip footing foundations that are structurally integrated to slab-on-grade floors.
- All footings should be at least 12-inches in width, and should have their bases located no less than 18-inches below the lowest adjacent finished subgrade.
 - Footings constructed to the given criteria, may be designed for an allowable bearing capacity of 2,000 psf for dead load, and 2,500 psf for dead load plus live load condition. These values may be increased by one-third to accommodate short duration seismic or wind loading conditions.
 - The footings should contain steel reinforcement over their entire length, with reinforcement as directed by the project Structural Engineer. In no case, however, should the exterior footing contain less than two No. 5 reinforcing bars, both top and bottom.
 - All slabs should be a minimum thickness as set forth by the Structural Engineer, but should not be less than 5-inches thick, and reinforced by a minimum of No. 4 bars, spaced at 18-inches each way, and centered within the entire slab.
- (3) **Foundations in Fill Pads.** It is recommended that where level building pad grades have been established by the placement of fill, a foundation system that employs drilled, cast-in-place reinforced concrete piers that extend into the underlying bedrock materials, be utilized. Structural loads should determine pier spacing. The piers should contain steel reinforcement over their entire length, with reinforcement as directed by the project Structural Engineer. The following summarizes the recommended criteria for foundation design:
- Pier Diameter Minimum 12-inches.
 - Pier Depth Minimum of 10-feet, or as determined in the field during drilling.
 - Bearing Capacity Maximum friction value of 600 psf, commencing 1-foot below the existing grade. These values may be increased by 1/3 for wind and seismic loads.
 - Grade Beams Minimum reinforcement of two No. 5 bars, both top and bottom.
- (4) **Concrete Slab-On-Grade.** Concrete slabs-on-grade will provide satisfactory floor area for the garage and patio areas. In order to reduce the potential for slab cracking, the following recommendations are presented:
- Scarify the subgrade surface to a minimum of 6-inches, to properly moisture condition the soil to near the optimum moisture content, and compact it to a minimum of 90 percent of maximum dry density.
 - The slabs should consist of a floating type of slab system. Complete isolation of the floor, from bearing walls, columns, nonbearing partitions, stairs, and utilities, should be provided, to allow the slab to move with minimum damage to the structural integrity of the building. A flexible felt

joint should be provided between the grade beam and the slab, to fill the void and prevent moisture infiltration.

- Provide the necessary gradient to prevent the ponding of water.
- Concrete slabs should include crack control joints for normal lineal shrinkage of the concrete materials. Where large areas of concrete slab are placed, with irregular projections or inserts within the slab area, stress concentrations will result, causing uncontrolled crack patterns. Where possible, crack control joints should be placed at stress locations where projections from a main slab or where inserts occur, in order to control the resultant crack pattern.
- All slabs should be a minimum thickness as set forth by the Structural Engineer, but should not be less than 5-inches in total thickness when placed.
- All concrete slabs-on-grade should be underlain by a 4-inch thick capillary break of "pea gravel" or clean crushed rock (no fines). It is recommended that Class 2 base rock not be employed as the capillary break material. If vapor transmission is undesirable, it is recommended that an impermeable membrane of 10-mil minimum thickness be placed upon the capillary break material, and overlain by 2 inches of clean sand, to assist in proper curing of the slab. The specified 4-inch thickness of the capillary break cannot be reduced, because of the use of sand.
- Reinforcement of the concrete slabs shall be as directed by the project Structural Engineer, but in no event should it consist of less than No. 3 bars at 18-inches each way, centered within the slab.

Retaining Walls

The Project proposes to construct four types of new retaining walls; 1) at the base of a deep cut into the hillside (and thus into sandstone bedrock) on Lots 7, 8 and 9 on Tract 8297; 2) along the top of a cut slope and below an existing retaining wall on Lots 1, 2 and 3 on Tract 8296; 3) at the base of a 15 to 20-foot thick sliver fill along Lots 10 through 15 on Tract 8296, and 4) at the split level transition in pads 9 through 16 on Tract 8296. Each of these four distinct conditions and configurations require specific design parameters to ensure stability for each condition.

The Project does not propose fill or any other disturbance to the top of a rather steep area along the western property boundary of Tract 8296 that is common with the neighboring Care Facility, where the Care Facility's buildings are very close to a retaining wall with a height of 5 to 12 feet that is followed by a relatively steep slope.

Geotechnical Recommendations

The Geotechnical Investigation Report recommends the following for construction of all proposed retaining walls within the Project:

- (5) All retaining walls shall have a drain blanket consisting of Class II Permeable material (conforming to Caltrans specifications) of minimum 12-inches in width or a Geo-composite drain, extending for the full height of the wall, except for 18-inches of compacted soil cover at the surface.
 - A 4-inch perforated sub-drain line (SDR 35) should be provided near the base of the drain blanket, with a suitable discharge location away from all structural improvements.
 - Where the retaining wall is used as part of a habitable structure, and in order to reduce the potential for moisture transmission through the retaining wall, it is recommended that the stem

wall be waterproofed, in accordance with manufacturer's specifications. This should include the heel of the footing and down face of the heel.

- A "can't strip" or equivalent should be provided on the exterior of the walls, at the joint between the retaining wall footing and the stem (wall).

(6) **Retaining Walls at the Base of Cut at Rear of Lots 7, 8 and 9 (Tract 8297).** A retaining wall designated to the base of a cut into the hillside that would expose bedrock, may be designed for a drained condition and to resist lateral pressures exerted from soils having an equivalent fluid weight of 40 pcf.

- The active lateral force may be resisted by a conventional footing with shear key, or piers.
- For conventional walls that extend to a minimum depth of 4 feet below current existing grades, a maximum toe bearing pressure of 2,500 psf combined with a passive force equal to the resistance provided by an equivalent fluid weight of 450 pcf, may be implemented.
- Additional lateral resistance may be provided by a friction factor of 0.45 between the bottom of the footing and the soil.

(7) **Retaining Wall at Top of Cut and Below Existing Retaining Wall on Lots 1, 2 And 3 (Tract 8296).**

There are three important issues to consider with this retaining wall; 1) the potential for the excavations to accommodate the proposed wall to undermine the existing wall; 2) the additional (surcharge) pressures being transmitted to the proposed wall from the existing wall above; and 3) the limited support to the wall foundation due to the sloping terrain in front of the wall. As such, it is recommended that a "soldier beam wall" option be selected for this application, as it is able to be constructed in phases. This would avoid the undermining of the wall above, and the drilled pier support can be designed neglecting the upper portion of pier embedment.

- The wall construction can begin with the excavations of slots to accommodate the drilling of the piers and installation of steel beam supports.
- Subsequently, additional excavations can be undertaken to place the perforated pipe, lagging and drain rock, on individual segments, prior to proceeding to the next segment.

(8) **Mechanically Stabilized Earth Retaining Walls at the Base of Fill, Lots 10 through 15 (Tract 8296).**

Detailed recommendation for modular concrete unit walls with geo-grid reinforced backfill (i.e., Keystone, Allan Block, etc.) have not yet been established, as the Project design has not yet reached that level of detail. This type of wall should be designed by the Soils Engineer of Record, for the Project.

(9) **Structural Retaining Walls at the Split Level Transition in Pads 9 through 16 (Tract 8296).** Walls in the interior foundation footprint used to retain a vertical configuration in the step between upper and lower pads on Lots 9 through 16 (Tract 8296) should be designed for a drained condition and to resist lateral pressures exerted from soils having an equivalent fluid weight of 55 pcf.

- The active lateral force may be resisted by a passive force commencing a minimum of one foot below the lowest adjacent grade in front of the wall, equal to the resistance provided by an equivalent fluid weight of 350 pcf.
- For conventional walls, a maximum toe bearing pressure of 2,000 psf may be implemented for dead load plus live load criteria. This value may be increased by one-third for seismic loading.
- Additional lateral resistance may be provided by a friction factor of 0.3 between the bottom of the footing and the soil.

These recommendations from the Geotechnical Investigation Report, if approved by the Director of Public Works, shall be incorporated in the final plans and specifications for the Project and would reduce the risk of instability due to Project construction methods to a less than significant level. **(LTS)**

Erosion or Loss of Topsoil

Grading and construction associated with building the Project's proposed 31 new homes could lead to the erosion of topsoil. Potential impacts related to erosion have been fully addressed in Chapter 8: Hydrology and Water Quality of this Draft EIR. The Project will be required to include a Stormwater Pollution Prevention Plan (SWPPP) under the terms of the County's Construction General Permit (CGP), which includes measures to control the risk of soil erosion related to Project construction activities. This impact is considered less-than-significant. **(LTS)**

Expansive Soils

Laboratory testing was performed pursuant to the Geotechnical Report on selected soil samples to identify their engineering properties, including test indicative of the expansion and creep potential of the soil (ASTM D-4943). Testing results yielded liquid limits of 32 and 42 and plasticity indexes of 19 and 27, which correspond to moderate to highly expansive and creep-susceptible clays. The detailed Geotechnical Recommendations presented above take these soils conditions into consideration, and would reduce potential hazards associated with expansive soils to a level of less than significant. **(LTS)**

Septic Tanks

The Project does not involve construction of septic systems, and would have no impact related to soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems. **(No Impact)**

Hazards and Hazardous Materials

Would the Project:	Potentially Significant	LTS with Mitigation	LTS	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Transport, Use or Disposal of Hazardous Materials

It is likely that equipment used at the site during construction activities could utilize substances considered by regulatory bodies as hazardous, such as diesel fuel and gasoline. However, all construction activities would be required to comply with Title 49 of the Code of Federal Regulations, US Department of Transportation (DOT), State of California, and local laws, ordinances and procedures, potential impacts related to the routine transport, use and disposal of hazardous materials. With required compliance with these regulations, the Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and

would not 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. **(LTS)**

Mitigation Measures

None needed. However, it is recommended that the Project applicant and construction contractor implement feasible Best Management Practices (BMPs) during construction to ensure conformity with applicable regulations and further minimization of the potential negative effects of routine use of hazardous materials, including but not limited to:

- Follow manufacture's recommendations on use, storage, and disposal of chemical products used in construction;
- Avoid overtopping construction equipment fuel gas tanks;
- During routine maintenance of construction equipment, properly contain and remove grease and oils;
- Properly dispose of discarded containers of fuels and other chemicals.

Presence of Hazardous Materials

A search of relevant public agency databases containing records of past occurrences involving hazardous wastes was conducted for the Project site. On the basis of these database records, there would be no impact related to the potential exposure of construction workers or future residents to hazardous materials on the Project site. The Project would not have a significant environmental impact associated with emissions of hazardous emissions or handling of hazardous or acutely hazardous materials, substances or waste within a quarter mile of an existing or proposed school. The Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 ("Cortese List"). **(No impact)**

Safety Hazards Due to Nearby Airport or Airstrip

The closest airport to the Project site is the Hayward Air Terminal, located approximately 3.5 miles to the west. The Project site is not within an airport land use plan, nor is the Project close enough for the airport to pose a unique safety hazard to residents or workers in the Project area. No private airstrips are located in the vicinity of the Project site. Therefore, the Project would have no impact related to nearby airports or private airstrips. The Project site is not located within an airport land use plan or within two miles of a public airport or private airstrip, and would not result in a safety hazard for people residing or working in the Project area. **(No Impact)**

Emergency Response Plan

There are no emergency response or evacuation plans in effect in the Project area. The Project would not impair implementation of, or physically interfere with an adopted emergency response plan or emergency evacuation plan. **(No Impact)**

Exposure of People or Structures to Wildland Fires

The Fairview area is considered a "local responsibility area" (LRA) with respect to fire protection, meaning that fire protection services are provided by a local as opposed to a state agency. The Project site is not identified on the State Fire Hazard Severity Zone map as being within a fire hazard severity

zone,⁵ and consequently building code requirements that apply to developments within a fire hazard severity zone would not be required. Potential impacts resulting from exposure of people or structures to the risk of wildland fires is considered less-than-significant. **(LTS)**

⁵ http://frap.cdf.ca.gov/webdata/maps/alameda/fhszs_map.1.pdf accessed August 16, 2011.

Mineral Resources

Would the Project:	Potentially Significant	LTS with Mitigation	LTS	No Impact
Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Loss of Mineral Resources and a Mineral Resource Recovery Site

The Project site contains no known mineral resources. The Conservation Element of the Alameda County General Plan does not identify any mineral resources in the vicinity. Therefore, the Project would have no impact with regard to mineral resources or result in the loss of availability of any locally important resource recovery site. **(No Impact)**

Population and Housing

Would the Project:	Potentially Significant	LTS with Mitigation	LTS	No Impact
Induce substantial population growth in a manner not contemplated in the General Plan, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extensions of roads or other infrastructure), such that additional infrastructure is required but the impacts of such were not previously considered or analyzed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Growth Inducement

The Project is located within an already established planning area (Fairview Area) virtually surrounded by a developed urban environment within an unincorporated area. The Project would result in the construction of 31 new single family homes. Based on an average of 2.71 persons per household as estimated in the 2010 Census for Alameda County, it is estimated that the Project would result in approximately 84 additional residents. The addition of 84 new residents in an area designated by the Fairview Area Specific Plan for population growth does not qualify as substantial increase in population. The Project would not result in significant increases in population, demand for housing, or expansion of public or private services. Other than direct increase in development on the site analyzed in this document, the Project would not be anticipated to have a growth-inducing effect. **(LTS)**

Housing and/or Population Displacement

The Project would develop 31 new housing units on a previously developed site where the residential units are now vacant. The existing vacant housing units will be demolished and subsequently replaced by new housing units. Therefore, the Project does not involve displacement of any housing units or displace any existing residents. **(No Impact)**

Public Services

Would the Project:	Potentially Significant	LTS with Mitigation	LTS	No Impact
Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or 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 following public services:				
• Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
• Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■
• Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	■

Fire Protection

The Project site is located within the Fairview Fire Protection District, a special district within Alameda County. Fire protection services are provided by the Hayward Fire Department through a contract with the District. The Project would add approximately 84 new residents and 31 new structures to an area already adequately served by fire protection resources. The addition of the relatively small number of new residences would not affect fire department service ratios or response times, nor would any new fire protection facilities need to be provided. **(No Impact)**

Police Protection

The Alameda County Sheriff is responsible for police services on all unincorporated lands within the County, including the Project site. The Project would add approximately 84 new residents that would require police protection from the Sheriff. The addition of such a small number of residences would not affect County Sheriff service ratios or response times, nor would any new facilities be needed. Property taxes to be generated by the Project, when complete, would support the provision of police services by the County Sheriff. **(No impact)**

Public Schools

The Project site is located within the Hayward Unified School District. The proposed Project would not generate enough students to adversely affect the service ratios of the School District, nor would it result in the need for additional schools to be built. The Project would be subject to and would be required to pay the appropriate amount pursuant to the County School Impact Fee applicable to new residential development in Alameda County. Payment of the fee would ensure that the Project would fund its incremental share of school improvements to accommodate the cumulative student demand for schools and school facilities resulting from the increase in population. **(No impact)**

Recreation

Would the Project:	Potentially Significant	LTS with Mitigation	LTS	No Impact
Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Include recreational facilities or require the construction or expansion of recreational facilities which might have a substantial adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Park Usage and Construction or Expansion of Recreational Facilities

The Project would increase the use of neighborhood parks by increasing the population of park users in the area by approximately 84 persons. The corresponding increase in park deterioration as a result of 84 additional park patrons would not result in substantially accelerated deterioration of park facilities, nor would it require the expansion or construction of new park facilities elsewhere. An increase of 84 additional park patrons could potentially contribute to the cumulative demand for more park and recreation facilities. However, the Project would be subject to and would be required to pay the appropriate County Park Dedication Fees applicable to new residential development in Alameda County. Payment of the fee would ensure that the Project would fund its incremental share of improvements to accommodate the cumulative demand for park and recreation facilities resulting from the increase in population. Payment of the County Park Dedication Fee would result in a less-than-significant impact on recreational facilities.

The Project would not increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. The Project does not include recreational facilities nor does it require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. **(LTS)**

Alternatives

CEQA Guidelines Section 15126.6 requires an EIR to include a discussion of a reasonable range of alternatives to the proposed Project's design, configuration or location, which would attain most of the basic objectives of the Project, but would avoid or substantially lessen any significant effects of the Project. The CEQA Guidelines, while not requiring consideration of every conceivable alternative, does require that the EIR explain why specific project alternatives considered at one time were rejected in favor of the proposed Project. The selection of alternatives is to be guided by feasibility, the provision of reasonable choices and the promotion of informed decision-making and public participation. An EIR need not evaluate alternatives that would have effects that cannot be determined, or for which implementation would be remote and speculative.

The Guidelines also require that the EIR specifically evaluate a "no project" alternative for the purpose of comparing or contrasting the effects of approving the Project with the effects of not approving the Project. Analysis of the "no project" alternative must consider conditions as they were at the time of the notice of preparation, as well as conditions that would reasonably be expected to occur in the future without Project approval, based on existing plans and available infrastructure. An "environmentally superior" alternative must be identified in the EIR (pursuant to Section 15126.6 [e]), which may be the "no project" alternative. However, if the "no project" alternative is identified as the environmentally superior alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

The alternatives addressed in this EIR were selected based on the following factors:

- The extent to which the alternative would accomplish most of the basic Project objectives.
- The extent to which the alternative would avoid or lessen any of the identified significant environmental effects of the Project (discussed in Chapters 4 through 12).
- The potential feasibility of the alternative.
- The extent to which the alternative contributes to a "reasonable range" of alternatives necessary to permit a reasoned choice.

The proposed Project is fully described in Chapter 3 of this EIR (Project Description). The environmental consequences of the Project are addressed in Chapters 4 through 13 of this EIR.

Project Objectives

CEQA requires the analysis of alternatives that would feasibly attain "most of the basic objectives of the Project but would avoid or substantially lessen any of the significant effects of the Project." CEQA Guidelines (Section 15126.6 (a)) requires the discussion to focus on alternatives that are capable of avoiding or substantially lessening significant effects of the Project, even if these alternatives would impede to some degree the attainment of Project objectives, or would be more costly.

The following are the objectives of the proposed Project. Alternatives will be evaluated in part based on their ability to meet these objectives. The Project applicant’s main objective in undertaking this Project is to:

1. Develop high quality market-rate single-family homes on a desirable site compatible with surrounding residential development.

The secondary objectives of the Project are:

2. Create an on-site stormwater control and detention system that meets legal requirements.
3. Limit disturbance to surrounding neighbors by avoiding off-haul of grading material.
4. Grade and develop the site so as to direct all impervious surface drainage through bio-filtration facilities and then to a detention basin located under the proposed street.

Alternatives Analysis

The Project would result in potentially significant impacts associated with the following topics. Each of these impacts could be significant without implementation of mitigation measures, but would be reduced to a less than significant level if the mitigation measures recommended in this document are implemented.

- *Air Quality*: temporary increase in dust and hazardous air emissions during construction.
- *Biological Resources*: potential loss of habitat of special status species; adverse impacts to on-site or nearby nesting birds.
- *Cultural Resources*: potential discovery of as-yet unknown archaeological resources, paleontological resources and/or human remains during construction.
- *Hydrology and Water Quality*: potential inconsistency with currently effective water quality regulatory requirements.
- *Land Use*: conflict with policies of the Fairview Area Specific Plan adopted to protect the topography of the Fairview district.
- *Noise*: temporary construction-related noise and vibration impacts.
- *Transportation and Circulation*: temporary construction-related traffic impacts.

The alternatives analysis is presented as a comparative analysis to these potentially significant impacts associated with the Project. The following alternatives analysis compares the potentially significant environmental impacts of the Project as analyzed in detail in Chapters 4 through 13 of this EIR, with the potential effects of each alternative, and discusses feasibility of implementation and ability to meet Project objectives.

CEQA Guidelines (Section 15126.6(f)(1)) states that: *“the range of alternatives required in an EIR is governed by a “rule of reason” that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability,*

availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent). No one of these factors establishes a fixed limit on the scope of reasonable alternatives.”

Selection of Alternatives

Every possible alternative to the Project cannot be fully evaluated. The selected alternatives satisfy the requirement to consider and discuss “a range of reasonable alternatives to the project” pursuant to CEQA Guidelines section 15126.6. As discussed above, these alternatives were chosen as reasonable alternatives at this site and no additional alternatives were identified that would substantially contribute to a meaningful evaluation, analysis and comparison of the Project.

There are three alternatives presented below. Aside from the required “no project” alternative, a reduced density alternative is presented, and an alternative that would be more consistent with certain design-related policies, principles and guidelines of the Fairview Area Specific Plan that were adopted to preserve the area’s natural topography and land form characteristics. Each of these alternatives is a ‘stand-alone’ alternative, and each is compared to the Project in terms of how it would avoid or lessen impacts of the Project. The intent is to allow the reader and decision-makers to compare whether the alternatives would result in potential environmental benefits (i.e., would reduce or avoid potential environmental effects) as compared to the Project, and to identify the environmentally superior alternative.

Alternative A - No Project, No Development

Alternative A, the No Project – No Development Alternative assumes the proposed Project is not approved and the site would remain in an undeveloped state, with no development of new roadways or new residences. Although the site is designated for residential use at the same density as currently proposed, the No Project Alternative assumes that development would not occur on this site for the foreseeable future.

Alternative B - Reduced Density (25% Reduction)

Alternative B assumes the site would be developed generally as proposed, but with a 25% reduction in density (i.e., from 31 to 23 residential units) which would result in a reduction in magnitude of certain environmental effects.

Alternative C - Greater Consistency with Fairview Specific Plan

Alternative C represents a conceptual development program for the Project sites that would be in greater conformance with the design principles and guidelines of the Fairview Area Specific Plan, particularly those guidelines that seek to retain existing natural topography and blend development into existing land forms.

Alternatives Rejected as Infeasible

Section 15126.6(c) of the CEQA Guidelines requires an EIR to identify any alternatives that were considered by the lead agency but were rejected as infeasible, and to briefly explain the reasons underlying the lead agency’s determination.

Off-Site Alternative

The Project site is one of several undeveloped and residentially designated properties in the Fairview area of unincorporated Alameda County. The Project site is adjacent to already developed areas and is identified in the *Fairview Area Specific Plan* as a site on which residential development is anticipated. Furthermore, the Project site is within the control of the Project applicant and the applicant does not own or control any of these other undeveloped properties. Therefore, any off-site alternative would be a different Project, with a different applicant, and is not considered a feasible alternative for purposes of this environmental review.

Scrub Habitat Preservation Alternative

An alternative was considered by Alameda County that would have involved creation of an open space parcel of approximately 1 acre in size within tract 8297 for the preservation of existing baccharis scrub vegetation. The intention of this alternative was to consider retention of a relatively small scrub habitat on this portion of the Project that currently has a relatively barrier-free connection to the open wooded canyons associated with the Five Canyons development to the east, which provide suitable (though not critical) habitat for Alameda whipsnake (AWS).

This alternative was rejected for a number of reasons. First, the scrub habitat on the Project site is characterized as relatively poor, is not designated as critical habitat for AWS, and individual AWS are not known to be present within the site. Secondly, the scrub habitat on the site is relatively small and located immediately adjacent to existing residential areas on the east, west and north, and planned future residential development to the south. The chance of a dispersing individual AWS entering the Project area via the barrier-free property line to the south is minimal. Finally, it is very unlikely that the Project area provides a source habitat for AWS. Rather, the scrub habitat on the Project site could more accurately be characterized as a sink habitat that would have difficulty sustaining a population of AWS. Creating a permanent sink habitat on the site may increase the chance of individuals entering the Project area, but would not increase the viability of the area for maintaining a local population, and therefore would not ultimately benefit the species and may do more harm than benefit.

Alternative A: No Project, No Development

Description

Under a “no development” alternative, the Project site would remain in an undeveloped state and no new development would occur for the foreseeable future. It is assumed the existing grazing of horses would remain on site. This alternative represents the possibility that no project is approved on this site.

Impact Analysis

Under this alternative, there would be no environmental impacts because no new development would occur and the site would remain in its current natural state.

Ability to Accomplish Project Objectives and Feasibility

A No Project/No Development alternative would not meet any of the Project objectives, as it would not create new housing opportunities in the Fairview area of unincorporated Alameda County.

This alternative represents the possibility that no project is approved on this site. However, there is no current proposal for the County or other agency to purchase this site or otherwise preserve it in an undeveloped state. This site is zoned to allow for residential development. Therefore, while this alternative analyzes a no development scenario, it is not necessarily reasonable or feasible to assume the site would remain undeveloped in the long term.

Alternative B: Reduced Density (25% Reduction)

Description

Alternative B presents a scenario in which the overall density of development at each of the Project sites would be reduced, thereby reducing certain construction-related disturbances and reducing certain environmental effects resulting from new housing in the area (i.e., air quality emissions, traffic, utility and public service demands). This alternative (see **Figure 14-1**) assumes the following:

- The footprint of proposed development within both Tract 8296 and Tract 8297 would remain the same, with the same roadway alignments and utility service extensions. All existing structures within both tracts would be removed.
- The area within each footprint of development on both Tracts would still be constructed with new homes, but each new lot would be slightly larger. For example, Tract 8296 has approximately 3.9 acres allocated to proposed development of 16 new lots, at an average of approximately 10,600 square feet per lot. Under Alternative B, this same 3.9 acres would be allocated among 12 new lots (a 25% reduction in lots) with a larger average lot size of approximately 14,000 square feet. Similarly, Tract 8297 has approximately 4.24 acres allocated for the development of 15 new lots, at an average of about 11,700 square feet per lot. Under Alternative B, this same 4.24 acres would be allocated among 11 new lots (an approximate 25% reduction in lots) with average lot sizes of approximately 16,000 square feet per lot.

Rather than a total development of 31 new residential lots, this alternative would result in development of 23 new lots, with each lot being larger than the lot sizes as proposed under the Project. Rather than eliminating lots for open space, this alternative reduces the development potential by creating larger lots within the same development envelop of the Project.

Impact Analysis

Air Quality and Greenhouse Gas Emissions

Operational air quality impacts and greenhouse gas emissions would be approximately 25% less than those identified under the proposed Project. However, the Project's air quality and GHG emissions are already below threshold levels, and Alternative B would only further reduce the already less than significant impacts of the Project. While Alternative B would reduce construction activities and associated construction-period emissions, standard mitigation for construction-period emissions would still be required to reduce construction emissions to less than significant levels, as required under the proposed Project.

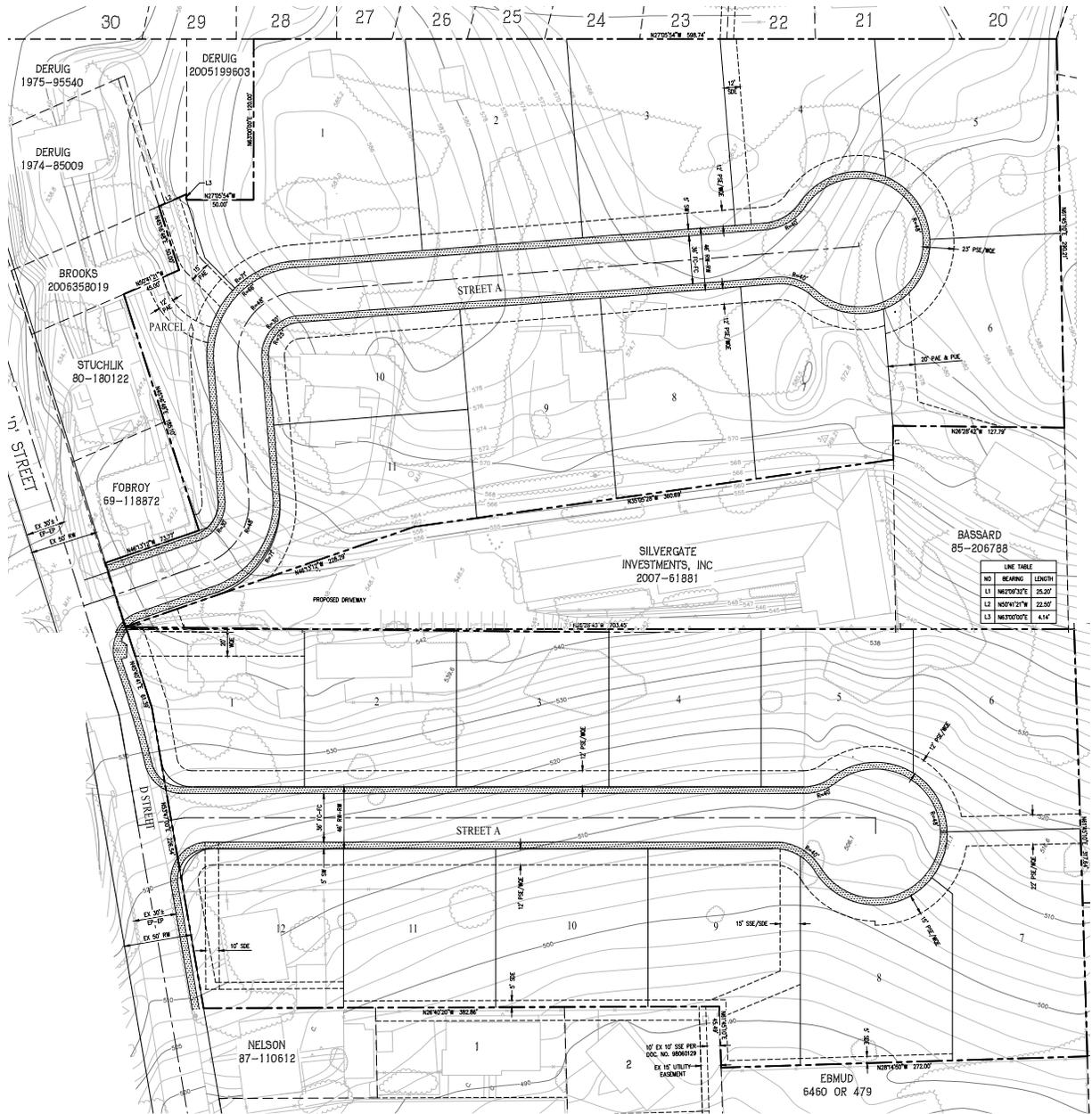


Figure 14-1
Alternative B - Reduced Density
(25% Reduction)



Source: Carlson, Barbie and Gibson

Biological Resources

Because the same extent of the Project site would be disturbed under Alternative B, impacts related to biological resources would be the same as those of the Project, including potential removal of special-status plants, potential unintended take of AWS, and potential disturbance of nesting birds. Therefore, mitigation measures as required of the Project would be required under Alternative B, and this alternative would not effectively avoid or reduce these potential effects.

Cultural Resources

The same portions of the Project site would be disturbed under Alternative B, and the possibility of uncovering as-yet undiscovered or unknown cultural resources during construction would still be a possibility. Therefore, mitigation measures as identified for the Project would also be required under this alternative, and this alternative would not effectively avoid or reduce these potential effects.

Hydrology/Water Quality

The reduced density of development under Alternative B could reduce the total amount of impervious surface and the resulting volume of future stormwater runoff. However, the larger lots could also simply enable larger homes to be constructed, resulting in a similar extent of impervious surfaces and the same stormwater runoff volume and pollutant characteristics as the Project. In any case, compliance with existing regulatory requirements and recommended mitigation measures would still be required to address stormwater quality during and post-construction, as well as flow control requirements to limit post-construction runoff to pre-development conditions. Therefore, mitigation measures as required of the Project would be required under Alternative B, and this alternative would not effectively avoid or reduce potential hydrology and water quality effects.

Land Use/Planning

This alternative is assumed to utilize the same street configuration, grading and lot preparation as the Project, and would therefore have the same adverse conflict with policies adopted to preserve the existing site topography, result in deep excavations and mass grading on 20 percent slope or greater.

Noise

The reduced density under Alternative B would reduce the total amount of new construction, with a potential reduction in the overall duration of construction-period noise. However, impacts related to construction noise would still be anticipated, and compliance with existing regulatory requirements and recommended mitigation measures would still be required, and this alternative would not effectively avoid or reduce potential construction-period noise effects.

Transportation and Circulation

Alternative B would reduce the number of lots and therefore would commensurately reduce the estimated daily and peak hour vehicle trips as compared to the Project. However, the Project's impacts related to traffic are below significant impact thresholds, and Alternative B would only further reduce the already less-than-significant traffic impacts of the Project.

Aesthetics

As indicated in Chapter 4: Aesthetics, the Project's new homes are not objectively considered to be negative-appearing, would not substantially block a vista across the Project site, and would not result in a development character that would be substantially different than other surrounding properties in the area.

Ability to Accomplish Project Objectives and Feasibility

The reduced density of development under Alternative B would meet all of the Project objectives, although to a lesser degree than would the proposed Project. It should also be noted that the financial feasibility of this Alternative has not been determined, as the less dense residential development would still need to fund construction of roadway and utility connections, as well as provide fees for County services.

Alternative C - Greater Consistency with Fairview Specific Plan

As indicated in Chapter 9: Land Use, the Project is not consistent with several selected principles and guidelines of the Fairview Area Specific Plan that are applicable to the Project site, particularly those adopted to preserve the existing topography and blend development into existing land forms. These inconsistencies with principles and guidelines of the Fairview Area Specific Plan would result in:

- Substantial regrading of the Project sites, with cuts and fills of up to 20 feet in certain locations, that would not retain natural topographic features;
- Mass site grading is proposed across areas where existing slope exceeds 20%, instead of individual lot grading;
- Flat padded lots that do not retain natural grade throughout most of the Project, instead of custom foundations;
- Grading that would result in new slopes with heights of greater than 10 feet between certain home sites, and 2:1 slopes that exceed 20 feet in horizontal distance;
- Rows of residences with similar setbacks and elevations.

While some of the conflicts listed above are design considerations that do not represent substantial adverse physical changes to the environment, the effects of excavations of more than 20 feet in depth on a prominent hill top, mass grading of 20% slopes, and long expanses of new 2:1 slopes, would adversely affect the contour of the land. The Fairview Area Specific Plan was adopted, in part, to prevent or avoid such substantial changes to the natural topography. Plan policies allow such substantial grading only where necessary for reasonable development of a property. Although major physical change to existing topography is not specifically identified in the CEQA Guidelines as an adverse effect on a natural resource or a CEQA threshold issue, the County recognizes such topographic changes as an environmental impact under the authority given to the County as lead agency to define significant impacts and thresholds.

Description

Under Alternative C (see **Figure 14-2**), the extent of grading of the two Project sites would be substantially limited, and mass grading would occur only to the extent necessary to create acceptable road grades that meet County standards for local streets. Site improvements would avoid deep excavations and grading on 20 percent slopes or greater, and would minimize creation of new 2:1 slopes with heights greater than 10 feet, or distances greater than 20 feet. Rather than re-grading each site to accommodate new homes on relatively flat building pads, this alternative would employ custom foundation designs on both sites, or use stepped pier and grade beam foundations or split pad foundations that step down with the slope, to retain a more natural appearance of the topography.

14-2

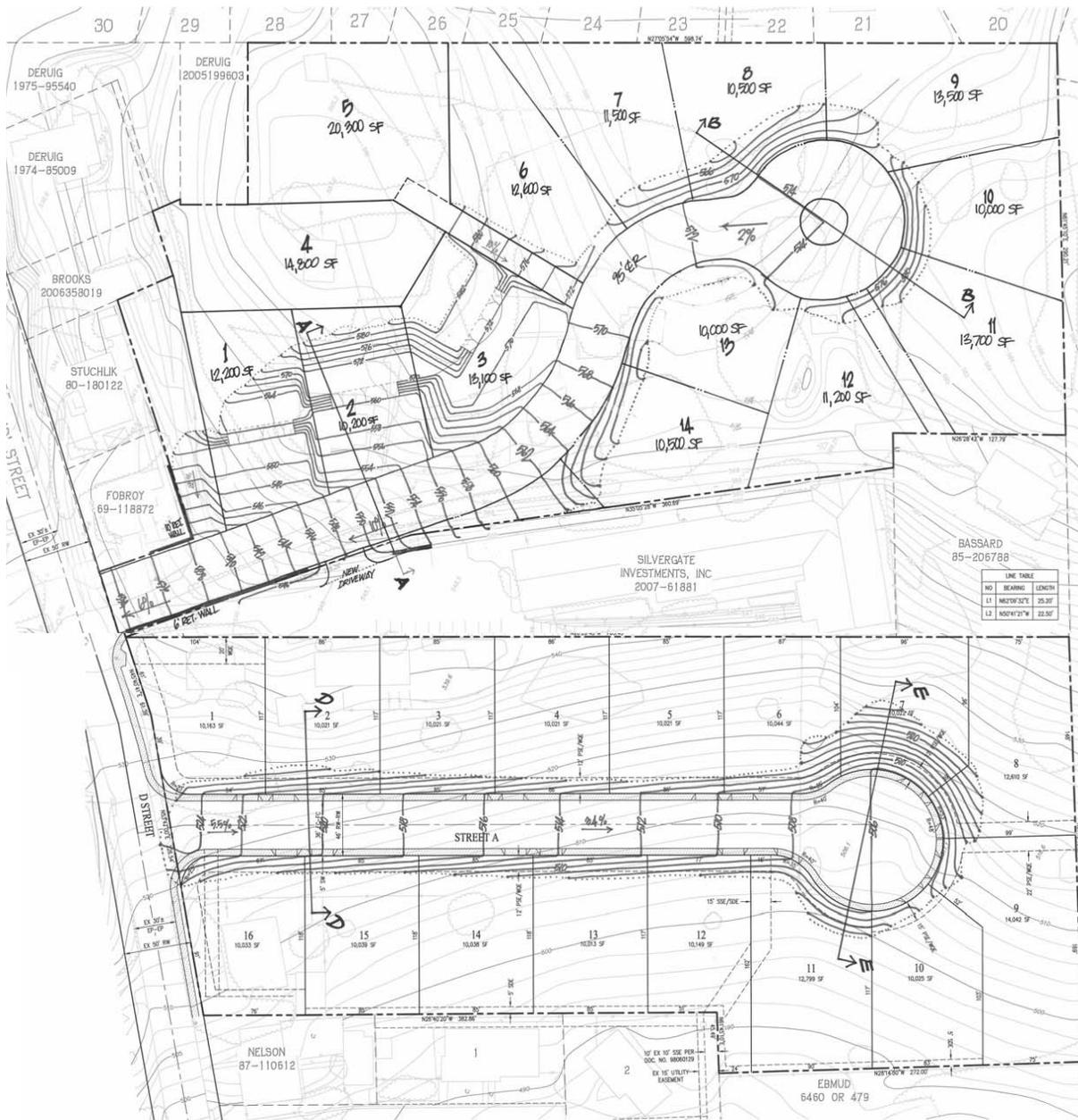


Figure 14-2
Alternative C - Greater Consistency with
Fairview Area Specific Plan



Source: Alameda County Planning staff, and Carlson, Barbie and Gibson

On Tract 8297, Alternative C would reconfigure the new street to more closely follow existing contours and avoid the degree of mass grading required. Such street realignment on Tract 8297 may require that one or two new home sites within the Tract would be served by private easements for access. On Tract 8296, there could be more split pad lots on the uphill side of the new street (Lots 2 to 5 particularly, and possibly Lots 6 to 8). To the extent allowed by these relatively narrow sites, this alternative would seek to group or shape new home sites in clusters of varying patterns, and strive to complement natural landforms, rather than being designed in a linear pattern fronting a relatively straight internal roadway.

Impact Analysis

Without a detailed design of such an alternative, a comparative environmental assessment of this alternative can only be conceptual. However, the following general conclusion can be drawn.

Air Quality and Greenhouse Gas Emissions

Operational air quality impacts and greenhouse gas emissions would generally be the same as those identified for the proposed Project, which have been found to be below threshold levels for significant impacts. While this alternative may modestly reduce construction-period emissions associated with the Project's proposed mass grading, the necessary roadway grading and individual lot grading would likely generate a similar amount of air quality and GHG emissions, and standard mitigation would still be required to reduce construction emissions to less than significant levels, as required under the proposed Project.

Biological Resources

This alternative would not reduce or avoid potential impacts related to biological resources, as new development (whether mass graded under the Project or with custom grading) could still potentially remove special-status plants, result in potential unintended take of AWS, and disturb nesting birds. Therefore, mitigation measures as required of the Project would be required under this alternative, and this alternative would not effectively avoid or reduce these potential effects.

Cultural Resources

The possibility of uncovering as-yet undiscovered or unknown cultural resources during construction would still be a possibility, although the depth of excavations would be generally less. Therefore, mitigation measures as identified for the Project would also be required under this alternative, and this alternative would not effectively avoid or reduce these potential effects.

Hydrology/Water Quality

This alternative would likely result in relatively similar total amounts of new impervious surface, with a similar resulting increase in the volume of future stormwater runoff. Compliance with existing regulatory requirements and recommended mitigation measures would still be required to address stormwater quality during and post-construction, as well as flow control requirements to limit post-construction runoff to pre-development conditions. It is likely that the stormwater control plan prepared for the Project would need to be modified to adequately address the post-construction water quality treatment requirements of this alternative. Alternative C would be required to comply with all regulatory requirements as also required of the Project, and this alternative would not serve to avoid or reduce potential hydrology and water quality effects more than the Project as proposed.

Land Use/Planning

This alternative would (by definition) be more consistent with the design-related principles and guidelines of the Fairview Area Specific Plan, and therefore would provide for greater protection and

preservation of important natural features and natural topography, and would result in new development that is more sensitive to variations in topography. By retaining the natural topography to the extent feasible after construction of required road grades, this alternative would reduce the extent of cut and fill throughout both Tracts, would keep grading and site preparation activity to a minimum; would minimize the creation of new slopes along the property boundaries at 2:1 slope, and would not (to the extent feasible) result in new homes developed in a similar linear pattern fronting the Project's relatively straight internal roadways. It would avoid the need for Mitigation Measure Land Use-1 (Topography Preservation) for split pad lots or custom grading on four specified lots (Lots 1, 2, 8 and 15). However, this alternative would not result in development of a substantially more rural residential character, as the density of Alternative C would be the same or similar to that of the Project.

Noise

Construction-period noise associated with the mass grading operation of the Project would be reduced in extent, but individual lot grading activities could still occur, likely for individually less duration but possibly stretched out over a longer time period as new homes are developed with custom grading or pier and grade beam construction. Impacts related to construction noise would still be anticipated, and compliance with existing regulatory requirements and recommended mitigation measures would still be required. However, with less mass grading, which would be the primary generator of the most intensive noise and vibration effects, this alternative could potentially reduce, but not avoid construction-period noise effects.

Transportation and Circulation

This alternative would have the same or a similar number of lots and therefore would have the same or similar estimated daily and peak hour vehicle trips as compared to the Project. Since the Project's impacts related to traffic are below threshold levels, this alternative would have similarly less than significant effect on traffic congestion and intersection level of service.

Aesthetics

As indicated in Chapter 4: Aesthetics, the Project's new homes are not objectively considered to be negative-appearing, would not substantially block a vista across the Project site, and would not result in a development character that would be substantially different than other surrounding properties in the area.

This alternative would provide for greater consistency with principles and guidelines of the Fairview Area Specific Plan, and as a matter of policy, would result in new development that is more sensitive to variations in topography than does the Project.

Environmentally Superior Alternative

Section 15126.6 of the CEQA Guidelines requires that an "environmentally superior" alternative be selected, and the reasons for such a selection disclosed. In general, the environmentally superior alternative is the alternative that would generate the least significant impacts. Identification of the environmentally superior alternative is an informational procedure, and the environmentally superior alternative may or may not be the alternative that best meets the goals or needs of the applicant or the County.

Alternative A, the No Project/No Development alternative, has no impacts as it does not propose any change to the site. The No Project Alternative would be environmentally superior to the Project because the potentially significant adverse impacts associated with the Project would be avoided. However, the

No Project alternative would fail to satisfy the most basic of the primary Project objectives. CEQA Guidelines Section 16126.6 (e)(2) provides that, if the environmentally superior alternative is the “no project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives.

As indicated in the other chapters of the Draft EIR, the proposed Project would not result in any significant and unavoidable impacts. All potential impacts of the Project are either less than significant or can be reduced to less than significant levels through compliance with mandatory regulatory requirements and/or with implementation of the mitigation measures contained in this Draft EIR. The Project, as well as Alternative B and Alternative C would each result in mostly similar potentially significant environmental effects that can be mitigated to less than significant levels through implementation of similar design features, compliance with the same regulatory requirements and implementation of similar mitigation measures identified for the Project.

- Alternative B would have almost identical development impacts as the Project, and only reduce post-development effects on traffic, air quality and noise in modest and relative terms, with limited potential for reduced effects on stormwater and runoff quality, and would not eliminate any specific impact or need for a particular mitigation measure. Therefore, the Project, Alternative B and Alternative C are relatively equal in their comparative environmental effects (i.e., less than significant), with only marginal differences.
- Alternative C would not reduce any post-construction impacts, but would reduce and/or avoid potentially significant conflicts with those Specific Plan policies and guidelines adopted to preserve the existing land contour, topography and natural landform of the sites. It could also potentially lessen the severity of construction noise and vibration impacts related to mass grading of the sites.

With respect to most environmental considerations, there is generally very limited environmental benefit that would result from reducing the density of development at the Project sites to below densities as allowed under the Fairview Area Specific Plan. Therefore, the Project and Alternative B are environmentally equal, and without substantially different consequences.

Given that the intent of the Fairview Area Specific Plan includes protecting and preserving important environmental resources and significant natural features, and promoting development that is sensitive to variations in topography and the rural residential character of the area, Alternative C – Greater Consistency with the Fairview Area Specific Plan is more fully consistent with the principles and guidelines of that Plan, and is environmentally superior to the Project.

Other CEQA Considerations

This chapter of the Draft EIR contains discussion of the following additional CEQA considerations:

- Mandatory Findings of Significance
- Significant Irreversible Modifications in the Environment
- Significant Unavoidable Impacts

Mandatory Findings of Significance

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of mandatory findings of significance that must be considered:

1. 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 California history or prehistory?
2. Does the Project have impacts that are individually limited, but cumulatively considerable?
3. Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Quality of the Environment

Project implementation would lead to development that could adversely affect the environment in specific ways discussed in this EIR, such as on air quality, special-status plants and animals and undetected cultural resources. However, these impacts of the Project are expected to be avoided or reduced to levels of less than significant with implementation of identified mitigation measures. Provided that all identified regulations are adhered to, and the mitigation measures contained within this document are implemented, the Project would not substantially degrade the quality of the environment.

Cumulative Impacts

The cumulative context for analysis in this EIR is fully described in Chapter 9: Land Use of this Draft EIR. That cumulative context includes anticipated new development in the vicinity of the Project pursuant to buildout of the Fairview Area Specific Plan.

The analysis in each subject area of this EIR has considered the cumulative impact of recent past, current and reasonably anticipated future development, with notable attention to the topics of aesthetics, air quality, hydrology and traffic. Other future development in the immediate vicinity would be required to

appropriate levels of environmental review to determine any project-specific impacts, when and if such development were proposed.

Cumulative impacts of the Project are considered to be less than significant with mitigation. As discussed in the preceding chapters of this EIR, implementation of the Project would not cumulatively impact the environment provided all regulations of all applicable governing bodies are adhered to, and the mitigation measures contained within this document are implemented.

Adverse Effects on Human Beings

The Project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly. Impacts related to human beings could occur if the Project were located in area subject to adverse impacts from an existing or reasonably foreseeable natural hazard or adverse physical environmental condition. As discussed in the individual topic analyses in Chapters 4-12, no such natural hazards or environmental conditions exist in the Project area, nor would the Project expose people to significant new hazards. There would be no other adverse effects on human beings.

Significant Irreversible Environmental Changes

Section 15126.2(c) of the CEQA Guidelines requires that an EIR identify any significant irreversible environmental changes that could be caused by a project. Significant irreversible environmental changes may include (1) changes in land use that commit future generations to similar uses (such as highway improvements that provide access to previously inaccessible area); (2) irreversible changes from environmental accidents; (3) an irretrievable commitment of resources; and (4) consumption of non-renewable resources. However, Section 15127 exempts this analysis from all projects except those in which the EIR is prepared in connection with any of the following activities:

- (a) The adoption, amendment, or enactment of a plan, policy, or ordinance of a public agency;
- (b) The adoption by a Local Agency Formation Commission of a resolution making determinations;
or
- (c) A project which will be subject to the requirement for preparing an environmental impact statement pursuant to the requirements of the National Environmental Policy Act of 1969, 42 U.S.C. 4321-4347.

Although the Project does not meet the criteria given in Section 15127, the information is presented here for informational purposes.

Commitment to Changed Future Land Uses

The Project is generally consistent with the pattern of existing residential land use in the vicinity. The Project would not constitute a change in land use which would commit future generations to a pattern of development in the immediate Project vicinity that would substantially alter the character of the area.

Irreversible Changes from Environmental Accidents

No significant environmental damage, such as what could occur as a result of an accidental spill or explosion of hazardous materials, is anticipated due to implementation of the proposed project. Furthermore, compliance with federal, State and County regulations would reduce to a less-than-significant level the possibility that hazardous substances within the Project site would cause significant environmental damage.

Irretrievable Commitment of Resources and Use of Nonrenewable Resources

An irretrievable commitment of resources could result if the Project caused the loss of agricultural or forested lands or the loss of access to mining reserves. However, this Project does not consume or limit access to agricultural, forested, or mineral resources.

Development of the Project area as proposed could result in the commitment of non-renewable resources (e.g., gravel and petroleum products) and slowly renewable resources (e.g., wood products) used in construction. Operation of the proposed Project would require a commitment of water and energy resources (e.g., petroleum products for vehicle operation, natural gas and electricity for lighting, heating, and cooling). However, the relative amount of resource use is low and would comply with applicable regulations.

Consumption of nonrenewable resources can include increased consumption of nonrenewable energy and consumption of resources used in construction. Construction of the Project would require the use of energy, including energy produced from nonrenewable sources. Energy consumption would also occur during the operational period of the Project due to the use of automobiles and appliances. However, the Project would incorporate energy-conserving features, as required by the Uniform Building Code and the California Energy Code Title 24.

Significant and Unavoidable Impacts

No significant and unavoidable impacts have been identified. All impacts are either less than significant or can be reduced to that level through mitigation.

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