LOS VALLES PROJECT

Draft Environmental Impact Report

Volume I – Section 1.0 through 5.9

SCH No. 2013121056
Project No. 98-034
Revised Vesting Tentative Tract No. 52584
Variance No. 201300003
Conditional Use Permit No. 201300081
Oak Tree Permit No. 201300023
Environmental Assessment No. 201300138

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1.0 INTRODUCTION

INTRODUCTION

This section provides the reader with important information regarding (1) the purpose of an Environmental Impact Report (EIR), (2) the environmental review process, (3) the organization of this EIR, and (4) other EIRs and documents incorporated by reference in this document.

1.1 PURPOSE OF THIS ENVIRONMENTAL IMPACT REPORT

The purpose of an EIR "is to identify the significant effects on the environment of a project, to identify alternatives to the project, and to indicate the manner in which those significant impacts can be mitigated or avoided" (California Public Resources Code [PRC] Section 21002.1). A detailed description of the proposed Los Valles residential development (Project)[1] is provided in **Section 4.0, Project Description**, of this Draft EIR.

The Project requires approval of certain discretionary actions by the County of Los Angeles (County) and other governmental agencies. Therefore, in accordance with PRC Section 21080(a), the Project is subject to environmental review requirements under the California Environmental Quality Act (CEQA). For purposes of complying with CEQA, the County is identified as the Lead Agency for the Project.

The Project as described in **Section 4.0, Project Description,** of this Draft EIR is being proposed by the following applicant (herein referred to as the Applicant):

SFI Los Valles LLC
10960 Wilshire Blvd., 1260
Los Angeles, CA 90024
Contact: Steve Wylder
Vice President, Investments
swylder@istar.com
(310) 315-5566

[1] The Project proposes: (1) 497 detached single-family homes; (2) approximately 189.29 acres of open space; (3) a 7.45-acre public park site (which may be dedicated to the County); (4) approximately 28.28 acres of recreational areas including a community recreation center; six secondary park sites, a vineyard and an orchard; (5) a multi-use trail that will be dedicated to the County for public use; (6); water infrastructure inclusive of an on-site water tank; and (7) on-site service and utilities infrastructure. In addition, certain off-site improvements are necessary and described as part of the Project.

In accordance with Section 15121(a) of the *State CEQA Guidelines,* this EIR is an "informational document which will inform public agency decisionmakers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project." While the information in an EIR does not control the public agency's ultimate discretion on the project, the public agency must respond to each significant effect identified in the EIR by making findings consistent with Section 15091 of the *State CEQA Guidelines* and, if necessary, by making a statement of overriding considerations pursuant to Section 15093 of the *State CEQA Guidelines.*[2]

This Draft EIR has been prepared in conformance with CEQA (PRC Section 21000, et seq.) and the *State CEQA Guidelines* (Title 14, California Code of Regulations [CCR] Section 15000, et seq.).

Section 15151 of the *State CEQA Guidelines* defines the standards for EIR adequacy as follows:

> *An EIR should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.*

This Draft EIR is intended to serve as a project EIR under CEQA. Section 15161 of the *State CEQA Guidelines* states that a project EIR should "focus primarily on the changes in the environment that would result from the development project." In addition, a project EIR must examine all phases of a project including planning, construction and operation. This project EIR is intended to provide the environmental information necessary for the County to make a final decision on the requested entitlements for this Project. This Draft EIR is also intended to support necessary approvals by other agencies.

1.2 ENVIRONMENTAL REVIEW PROCESS

In accordance with the requirements of CEQA, the County prepared an Initial Study dated November 6, 2013, that identified the environmental topics to be analyzed in the EIR. The Initial Study is contained in **Appendix 1.0-1** of this Draft EIR.

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2 *State CEQA Guidelines,* Section 15121(b).

Based on the review of environmental issues by the County, the following environmental topics are evaluated in this Draft EIR:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
  - Hydrology
  - Water Quality
- Land Use and Planning
- Noise
- Public Services
  - Library Services
  - Education
  - Sheriff Services
  - Fire Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems
  - Water Supply
  - Solid Waste
  - Wastewater
  - Electricity and Natural Gas

The County determined through the Initial Study that the Project would not have the potential to cause significant impacts related to Agricultural/Forest Resources and Mineral Resources. Therefore, these issues are not analyzed in this Draft EIR. The Initial Study, demonstrating no significant impacts would occur for these issue areas, is included in **Appendix 1.0-1** and is summarized in **Section 7.0, Other Environmental Considerations**, of this Draft EIR.

In compliance with the *State CEQA Guidelin*es Section 15082, which requires that a Notice of Preparation (NOP) be circulated for a 30-day review period, the NOP for the Project was circulated for a 44-day review and comment period, from December 19, 2013 to January 31, 2014, to the State Clearinghouse, various public agencies, and other interested parties. Additionally, a Scoping Meeting was held on January 16, 2014, at the Live Oak Elementary School, 27715 Saddleridge Way, Castaic, California, to facilitate public review and comment on the Project. The NOP (including the Initial Study) and NOP comments received by the County (including Scoping Meeting comments) are contained in **Appendix 1.0-1 and Appendix 1.0-2**, respectively, of this Draft EIR.

This Draft EIR was prepared under the direction and supervision of the Los Angeles County Department of Regional Planning (LACDRP), Impact Analysis Section. This Draft EIR has been subjected to a County internal department review, prior to the required 45-day public review and comment period as mandated by CEQA (*State CEQA Guidelines* Section 15105). Publication of the Draft EIR marks the beginning of the 45-day public review period during which written comments concerning the adequacy of the Draft EIR may be submitted by interested public agencies and members of the public to:

County of Los Angeles
Department of Regional Planning
320 West Temple Street, Room 1348
Los Angeles, CA 90012
Attention: Steven Jones
Email: sdjones@planning.lacounty.gov

Public hearings will be held before the Los Angeles County Hearing Examiner and Regional Planning Commission. The Hearing Examiner will conduct a public hearing at 6:00 PM on Thursday April 14, 2016 at Live Oak Elementary School, 27715 Saddleridge Way, Castaic, California, to take testimony on the Draft EIR during the 45-day public review and comment period which extends from March 15, 2016 to April 29, 2016. After the public review and comment period, written responses to all written comments and oral testimony pertaining to environmental issues will be prepared as part of the Final EIR. As required by CEQA, responses to comments submitted by responsible public agencies will be distributed to those agencies for review 10 days prior to consideration of the Final EIR by the Regional Planning Commission. Upon completion of the Final EIR and other required documentation, the Regional Planning

Commission may certify the EIR, adopt findings relative to the Project's environmental effects after implementation of mitigation measures, and approve or deny the requested entitlements for this Project.

1.3 ORGANIZATION OF THE DRAFT EIR

This Draft EIR is comprised of the following sections:

Section 1.0, Introduction. This section briefly discusses the purpose of the EIR, identifies the environmental topics evaluated in the EIR, and describes the environmental review process and organization of the EIR.

Section 2.0, Executive Summary. This section provides a summary of the Project description, Project alternatives, environmental impacts and mitigation measures.

Section 3.0, Environmental and Regulatory Setting and Cumulative Impact Analysis Methodology. This section provides an overview of the Project Site[3] and surrounding area, including a description of the existing physical and built environment at the time of the NOP publication; a description of the methodology used to evaluate the cumulative impacts of the Project; and a list of related projects considered in the cumulative impact analysis.

Section 4.0, Project Description. This section contains a detailed description of the Project, including Project location, Project characteristics, Project objectives, and required discretionary actions.

Section 5.0, Environmental Impact Analysis. This section presents the existing conditions, Project and cumulative impact analyses, mitigation measures, and conclusions regarding the level of significance prior to and after mitigation for each environmental impact issue.

Section 6.0, Project Alternatives. This section describes and analyzes a range of reasonable alternatives to the Project.

Section 7.0, Other Environmental Considerations. This section analyzes the Project's potential growth-inducing impacts, which could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. An analysis of the significant irreversible changes in the environment associated with the Project is also presented. In addition, this section provides a discussion of significant unavoidable impacts that would result from the Project and the reasons why the Project is being proposed notwithstanding the significant unavoidable impacts.

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3 The Project Site is a 430.4 acre site in the northwesterly portion of the Santa Clarita Valley; the Project also includes off-site improvements relating to potable water pipelines, the addition of a left turn pocket along Hasley Canyon Road, and sewer and natural gas pipeline connections.

Furthermore, potential secondary effects caused by the implementation of the Project's mitigation measures are also addressed. Finally, a discussion of possible effects of the Project that were determined not to be significant within the Initial Study is provided.

Section 8.0, List of Preparers. This section provides a list of persons who contributed to the preparation of this Draft EIR, and a list of the organizations and persons consulted in preparing this Draft EIR.

Section 9.0, References. This section contains a list of all the references and documents cited in this Draft EIR.

Section 10.0, Acronyms and Abbreviations. This section provides a list of acronyms and abbreviations used in the Draft EIR.

This Draft EIR is presented in three volumes as follows: Volume I – Sections 1.0 through 5.9; Volume II – Section 5.10 through 10.0, Volume III – Appendix 1.0 through Appendix 6.0-1 (included on CD).

1.4 INCORPORATION BY REFERENCE

As permitted in Section 15150 of the *State CEQA Guidelines,* the Draft EIR references technical studies, analyses and reports. The *State CEQA Guidelines* set forth three methods that may be used to incorporate data from other sources into an EIR: (1) use of an EIR appendix;[4] (2) citation to technical information;[5] and (3) incorporation by reference.[6] All referenced documents are available for public inspection and review by appointment at:

Impact Sciences, Inc.
28 Marengo Ave.
Pasadena, CA 91101
Jessica Kirchner Flores, Associate Principal
(805) 437-1900
jflores@impactsciences.com

County of Los Angeles
320 West Temple Street
Los Angeles, California 90012
Steven Jones, Department of Regional Planning
(213) 974-6461
sdjones@planning.lacounty.gov

Information in an EIR appendix may include summarized technical data, maps, plot plans, diagrams, and similar information in sufficient detail to permit the public and reviewing agencies to fully assess a project's significant environmental effects. To achieve a balance between the highly technical analysis referenced in an EIR and an EIR's public information function, the *State CEQA Guidelines* allow technical

4 *State CEQA Guidelines,* Section 15147.

5 *State CEQA Guidelines,* Section 15148.

6 *State CEQA Guidelines,* Section 15150.

analyses as appendices to the main body of the EIR. Appendices are included in volumes separate from the body of the Draft EIR, but are readily available for public examination because they are part of the Draft EIR.

Source documents that are not project-specific have been cited in the Draft EIR. To keep the Draft EIR to a manageable length, such documents are not included in the Draft EIR or EIR appendices.

2.0 EXECUTIVE SUMMARY

INTRODUCTION

This purpose of this section is to provide a clear and simple description of the Project and its potential environmental impacts. Section 15123 of the *California Environmental Quality Act (CEQA) Guidelines* requires the executive summary to identify each significant effect with proposed mitigation measure(s) and alternatives that would reduce or avoid that effect. The summary is also required to identify areas of controversy known to the Lead Agency, including issues raised by agencies and the public, and issues to be resolved, including the choice among alternatives and whether or how to mitigate the significant effects.

2.1 PROJECT LOCATION AND BOUNDARIES

The Project Site is situated on a currently undeveloped, partially graded 430.4-acre site in the northwesterly portion of the Santa Clarita Valley. The location and boundaries of the Project Site are shown on **Figure ES-1, Regional Location Map**. As shown, the Project Site is situated approximately 1.9 miles west of I-5 and immediately north of Hasley Canyon Road between Gibraltar Lane and Sloan Canyon Road, to the northeast of the intersection of Hasley Canyon Road and Del Valle Road. At the location of the proposed entry to the Project Site and to the east, Hasley Canyon contains two through travel lanes in each direction. West of the entry to the Project Site, Hasley Canyon Road narrows to one through travel lane in each direction.

2.2 PROJECT SUMMARY

The Applicant (SFI Los Valles LLC) proposes to subdivide the Project Site into approximately 539 lots as shown on **Figure ES-2, Revised Vesting Tentative Tract Map No. 52584**. Land uses proposed on these lots include the following:

(1) 497 detached single-family homes;

(2) Approximately 189.29 acres of privately owned open space including approximately 123.25 acres of non-irrigated open space and/or open space landscaped with native vegetation (hereafter referred to as natural open space), approximately 59.6 acres of slopes and a 6.44 acre mitigation area;

(3) A 7.45-acre public park site;

(4) Approximately 28.28 acres for recreational use including a 4.5 acre vineyard and a 3.9 acre orchard; [1]

(5) A multi-use trail at the southwest portion of the Project Site that will be dedicated to the County for public use;

(6) Water infrastructure including a 850,000 gallon water tank on a 1.55 acre lot and approximately 6.19 acres of storm drain basins; and

(7) Streets and on-site utilities and infrastructure.

In addition, the following offsite improvements are necessary and described as part of the Project:

- Installation of approximately 5,500 linear feet of 16-inch-diameter pipeline from the CLWA supply turnout to the existing 16-inch pipeline along Hasley Canyon Road. In addition to the pipeline, a booster pump station (proposed on the Project Site) is necessary to move water to the water tanks on the Project Site.
- Upsize of sewer pipe downstream from the Project Site.
- Construction of a left turn pocket (for vehicles heading southeast) on Hasley Canyon Road at the project frontage and restriping as required the Department of Public Works;
- Additional grading within the right-of-way on Hasley Canyon Road (at the project entrance) and on Hayward Drive (at its current terminus) to construct sewer connections.
- Natural gas connections at the Project frontage on Hasley Canyon Road.

Figure ES-3, Conceptual Site Plan, illustrates the location of these land uses within the proposed subdivision. **Table ES-1**, **Project Development Summary,** defines each land use and provides the land area (in acres) dedicated to each of the proposed land uses.

A design objective of the Project is to provide a transition between the suburban, smaller-lot subdivisions situated to the north and east and the low-density equestrian estate homes[2] and privately owned undeveloped land to the west and south. To accomplish this objective, the Project plan emphasizes the protection of open space and undisturbed connections to these adjoining areas by retaining in a natural condition and/or landscaped with native vegetation, approximately 123.25 acres of land primarily located adjacent to existing offsite open space areas located to the north and northeast, contiguous to existing undeveloped ridgelines, and along the westerly ridgeline and areas further to the west on the Project Site in areas contiguous with undeveloped land to the west.

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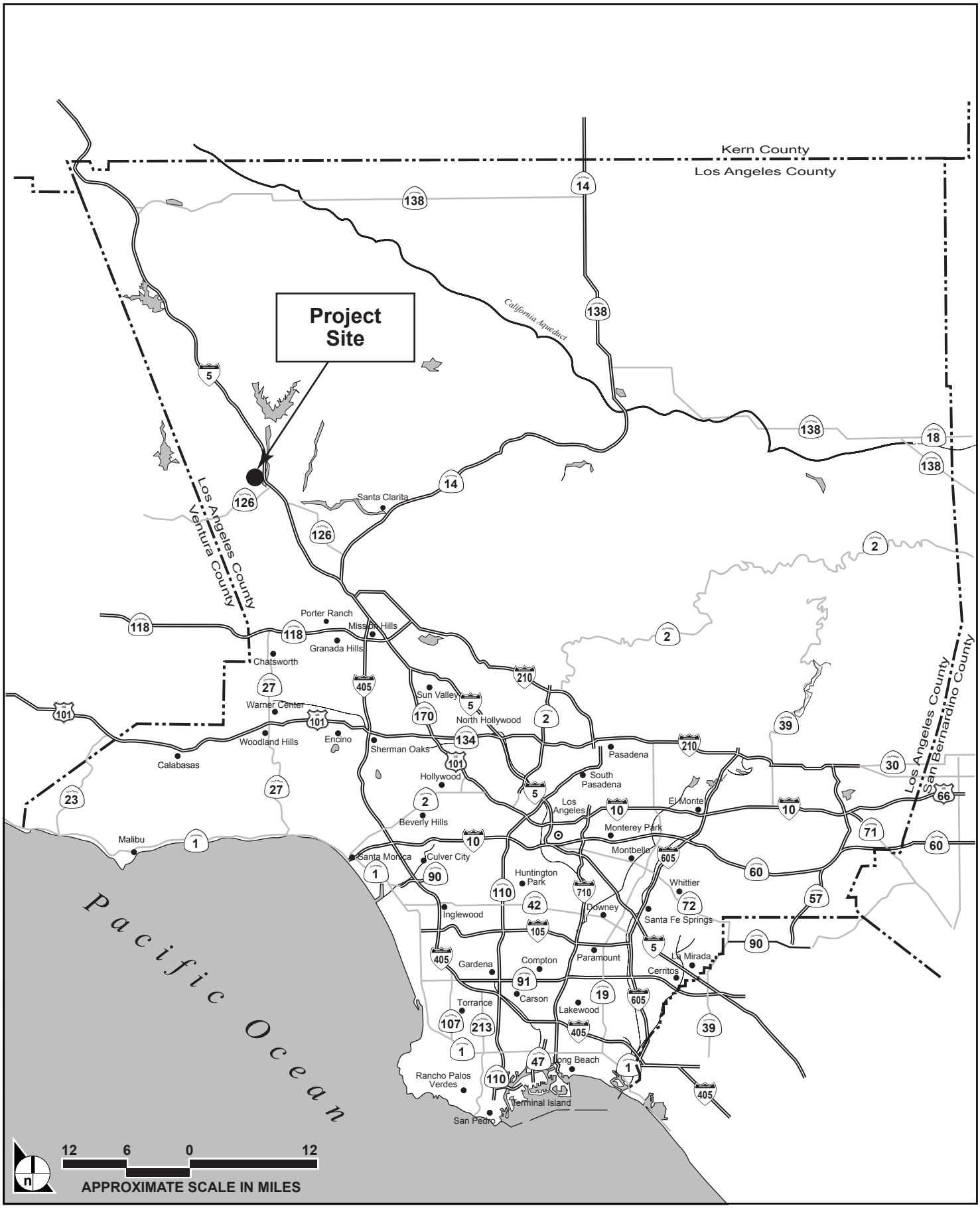
1 Approximately 7 acres within the "agricultural recreation area" consists of private parking, and the community recreation center.

2 See SCVAP 2012 Chapter 2, Land Use, Page 25 (description of Hasley Canyon subarea).

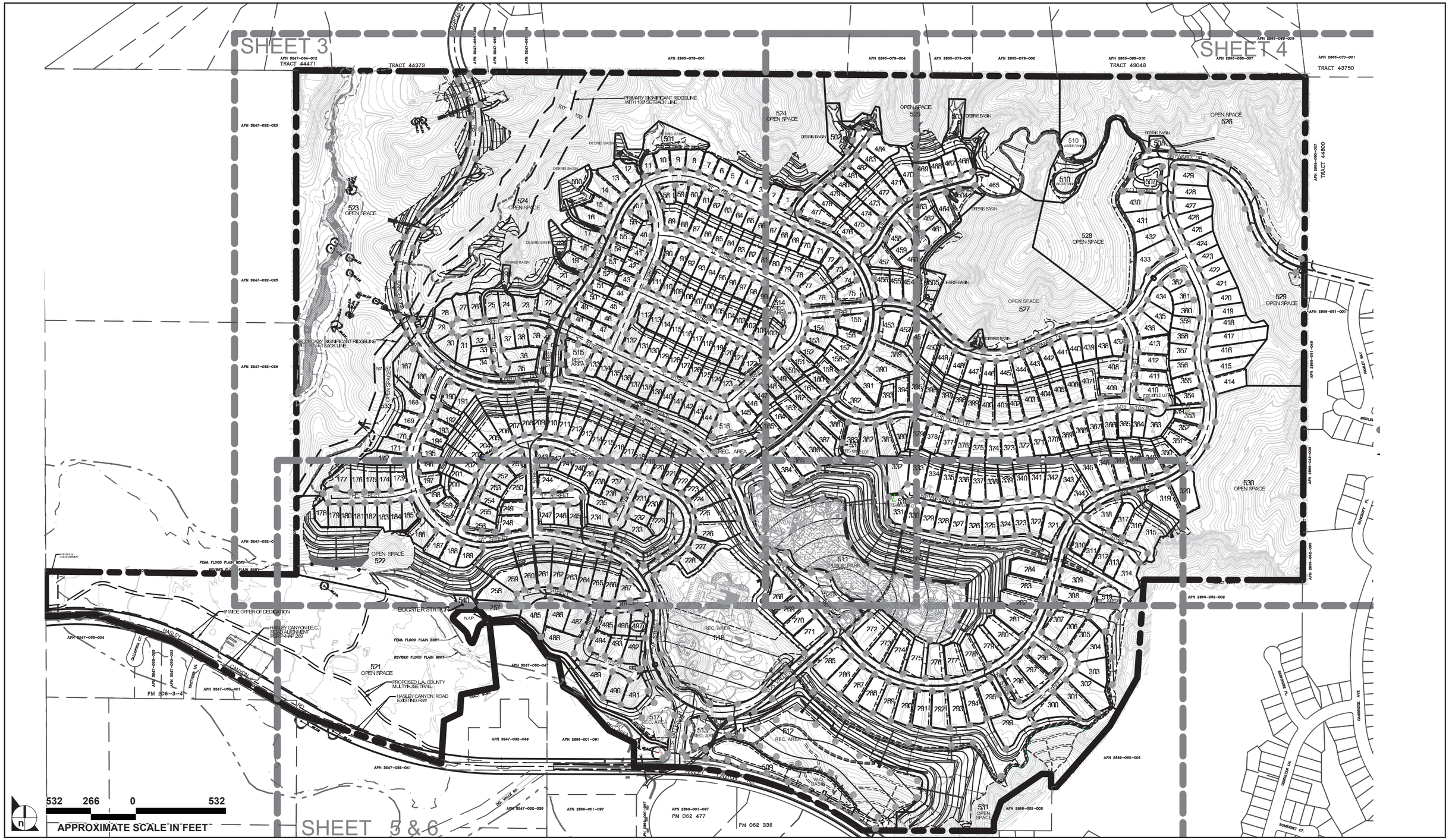


SOURCE: Impact Sciences, Inc., February 2015

FIGURE **ES-1**

Regional Location Map

1154.001•03/15



SOURCE: Land Design Consultants, Inc., March, 2015

FIGURE **ES-2**

Revised Vesting Tentative Tract Map No. 52584

1154.001•10/15

SOURCE: Valleycrest Landscape, October 2015

FIGURE **ES-3**

Conceptual Site Plan

1154.001•10/15

Table ES-1
Project Development Summary

Land Use	Number of Lots	Acreage	Percentage
OPEN SPACE			
Public Park	1	7.45	1.73
Recreation Area /a/	7	28.28	6.57
Open Space/b/	18	189.29	43.98
TOTAL OPEN SPACE	**26**	**225.02**	**52.28**
DEVELOPED AREA			
Single family	497	144.38	33.55
Storm Drain Maintenance	11	6.19	1.44
Water Tank	1	1.55	0.36
Streets	-	52.96	12.34
Booster Station	1	0.16	0.03
Fee Title Pedestrian Access Lots	3	0.14	0.03
TOTAL DEVELOPED AREA	**513**	**205.38**	**47.72**
TOTAL	**539**	**430.4**	**100.00**

/a/ recreation area includes 4.5 acres of vineyard and a 3.9 acre orchard and an approximately 7 acre community center
/b/ open space includes 123.25 acres of natural open space, 59.6 acres of transitional slopes and 6.44 acres of mitigation area.
Note: acreages provided in the table are approximate and may vary slightly from the exact tract map.
Source: Land Design Consultants and Impact Sciences, October 2015

The Project includes 497 residential lots on approximately 144.38 acres of land. Project density would be approximately 1.16 dwelling units per gross acre (i.e., 497 residential lots divided by 430.4 acres) which would be consistent with the 2012 update to the Santa Clarita Valley Area Plan (SCVAP 2012) designation of "H2 – Residential 2 (UR1 – Urban Residential 1)" that establishes the area as a residential neighborhood requiring urban services with a maximum density of 2-dwelling units per gross acre. Allowable uses in this designation include single-family homes.[3]

The proposed density is also permitted within Zone A-2-2 with a density-controlled development conditional use permit (CUP).[4]

3 SCVAP 2012, Chapter 2, Land Use Element, p. 52.

4 Under the SCVAP 2012 "Density-controlled development (clustering), in accordance with the provisions of the Zoning Ordinance, is encouraged on lands with significant environmental and/or topographical features or resources, in order to preserve open space for protection of these natural features or resources, to provide recreational amenities, or to act as a buffer to surrounding rural communities, provided that all residential lots

Residential lot sizes would range from 8,300 square feet to 16,700 square feet, which is consistent with the minimum lot size requirement of 7,000 square feet as set forth in the Castaic Area Community Standards District (CSD).[5] As designed, proposed residential development would be compatible with existing residential communities situated north, east, and southeast of the Project Site.

Construction of the Project is estimated to require approximately 3,785,267 cubic yards of cut and approximately 3,784,250 cubic yards of fill with approximately 300,000 cubic yards of removal and recompaction, resulting in a total of approximately 7,569,517 cubic yards of combined cut and fill. No import or export will be necessary as all earthwork will be balanced on site.

2.3 SURROUNDING USES

The Project Site is situated within a suburban area of the Santa Clarita Valley and is surrounded by development on three sides. Hasley Canyon borders the northern portion of the Project Site. A large residential neighborhood known locally as Hillcrest Park is located to the north and on either side of Hillcrest Parkway as well as three sides of Castaic Middle School (28900 Hillcrest Parkway) and four sides of Castaic Elementary School (30455 Park Vista Drive).

Low-density single-family residences and equestrian estate homes are located west and southwest of the Project Site and are interspersed among open space. The Val Verde community is located approximately 2.5 miles southwest of the Project Site. Further to the west, along Hasley Canyon Road, there is a mix of vacant, privately owned land and oil wells.

Directly east of the Project Site and west of the I-5 freeway, planned residential communities have been constructed at densities slightly greater than those proposed for the Project.[6] To the east, along Hasley Canyon Road (which is an east-west Limited Secondary Highway and provides the primary access from the Project Site to the I-5) are commercial retail malls including community serving businesses and financial institutions, restaurants, a daycare center and the chartered Santa Clarita Valley International School.

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meet the minimum lot size requirements of a Community Standards District, where applicable." SCVAP 2012, Chapter 2, Land Use Element, p. 52

5 Section 22.44.137 (E)(1) of the CSD requires that not more than 43 percent of the lots be a minimum of 7,000 square feet with an the average of all lots not less than 10,000 square feet.

6 The area to the north is zoned R-1-5,000 (Single Family Residential-5,000 square foot (sf) Minimum Lot Area), parcels to the east are zoned RPD-6,000-3U (Residential Planned Development 6,000 sf Minimum Lot Area, Three Dwelling Units per Acre), parcels to the southeast are zoned M-1.5-DP (Restricted Heavy Manufacturing) and parcels to the southwest and west are zoned A-2-2 (Heavy Agriculture, One Acre Minimum Lot Area).

A water well and a related structure constructed by the Applicant and dedicated to the Los Angeles County Waterworks District No. 36 (LACWWD 36) is located immediately adjacent to the Project Site on the south. In addition, several active oil wells and derricks are located on an adjacent parcel not owned or operated by the Applicant, south of the Project Site and west of the project entry on Hasley Canyon Road. The Valencia Commerce Center, a large commercial and industrial development containing numerous one- and two- story commercial buildings used primarily for light manufacturing and light industrial purposes is also located to the south.

2.4 PROJECT BACKGROUND

Historic uses on the Project Site include oil-drilling operations at 10 wells installed in the 1970s and 1980s, all of which were closed and properly abandoned in 2003. (Refer to **Section 5.8, Hazards and Hazardous Materials,** for additional discussion of the previous oil infrastructure on the Project Site.) In addition to the oil drilling operations, approximately 145 acres of the western portion of the Project Site was used as a golf course from 1963 until approximately the early 1980s. The former golf course pro shop building was later used as an office and maintenance shop by the oil company, Alabama Essential Oil (AEO). In addition, two or three mobile homes used by the golf course were on-site in the early 1980s. These structures are no longer present on the Project Site.

In 2002, the County approved Vesting Tentative Tract Map (VTTM) No. 52584 and Conditional Use Permit (CUP)/Oak Tree Permit (OTP) Nos. 98-034-(5) (herein referred to as the Prior Entitlements), which allowed the development of 209 single-family lots and a private 243-acre golf course on the Project Site. As a result of these approvals, from 2006 through 2008, a prior owner carried out substantial construction activity to develop the Prior Entitlements. Before grading commenced pursuant to the Prior Entitlements, the Project Site included two ridgelines: an easterly ridgeline, located within the boundaries of VTTM No. 52584 Phase 1 (recorded) and Phase 2 (unrecorded) and a westerly ridgeline traversing the Project Site from a location east of the connection with Barcelona Road on the north to a location east of Hasley Canyon Creek on the south. Subsequent to approval of the vested Prior Entitlements and commencement of grading activities on the Project Site, portions of these ridgelines were mapped by the County as significant primary and secondary ridgelines, as shown on **Figure 3.0-5 Overview of the Project Site**.

This construction activity, which was never completed, included significant landform grading (in excess of 12 million combined cubic yards)[7] over approximately 66 percent of the Project Site (approximately 285 acres) and infrastructure installation; including partial installation of electrical, storm drains, sewers,

[7] Construction of the Project would require the movement of combined 7.6 million cubic yards of cut and fill. Grading on-site would be balanced and would not require the import or export of material.

graded roadways, golf course fairways, and home pads. The electrical, sewer, and storm drains were trenched and installed within the confines of the graded portions of the Project Site. As part of this construction, a 750,000-gallon water tank water tank was built in the northeast portion of the Project Site, but it is not in use. A drain outlet is located east of the water tank along Hayward Drive. The majority of the grading and site preparation focused on the 243 acres associated with the proposed golf course. Home pads, roadways, and fairways were rough graded, but no fine grading or home construction was commenced. Only minor grading occurred on the western portion of the Project Site. No other vertical structures were constructed in connection with the Prior Entitlements.[8] All of the roads on the Project Site remain unpaved. No electrical or natural gas infrastructure exists on the Project Site; however above ground electrical poles are located along Hasley Canyon Road.[9]

In sum, as a result of past use on the Project Site, including the 1960s golf course, past oil drilling and grading and partial infrastructure installation associated with the Prior Entitlements, the majority of the Project Site has been disturbed. While the exact acreage is difficult to estimate, as access roadways, and uses overlapped resulting in some areas being graded more than once, it is estimated that approximately 300 acres were graded or disturbed (i.e., through roadway access, etc.) as a direct result of past use on the Project Site. In general, only the western most portion of the Project Site (west of the ridgeline) has not been disturbed due to past use. Therefore, a majority of the Project Site has been graded and remains in a disturbed state. However, some vegetation remains on the Project Site, including a confluence of Seasonal Riparian and Oak grassland plant communities including 22 native oak trees.

2.5 ALTERNATIVES TO THE PROJECT

CEQA requires that an EIR describe a range of reasonable alternatives to a proposed project that could feasibly avoid or lessen any significant environmental impacts, while attaining the basic objectives of the project. Analysis of the comparative merits of these alternatives is required. This Draft EIR includes an evaluation of the following alternatives to the Project:

Alternative 1 – No Project/No Development Alternative

The No Project/No Development Alternative assumes no new development would occur on the Project Site. Thus, the physical conditions of the Project Site would remain in its present state as partially graded

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8 As a continuation of the work undertaken as part of the Prior Entitlements, the Applicant for the Project completed construction of a water well and a related structure that were dedicated to Los Angeles County Waterworks District No. 36 (LACWWD 36) in 2011.

9 Written communication with Joshua Yanez, Southern California Edison Project Manager, August 20, 2013.

and disturbed (e.g., building pads, street profiles, and/or oil/natural gas well infrastructure), or as undeveloped open space. Under the No Project/No Development Alternative, the potential Project-related impacts associated with development of the Project Site would not occur.

Alternative 2 – Prior Entitlements/Reduced Density Alternative

This alternative assumes development in accordance with the Prior Entitlements, which continue to remain effective, and retains the layout provided by the existing Tract Map adopted with the Prior Entitlements. This alternative is evaluated to identify alternate development that could take place on the Project Site as a practical result of the Project's non-approval. The project described by Alternative 2 was analyzed in the Final Environmental Impact Report for Hasley Canyon Project (State Clearinghouse No. 98071037) dated November 28, 2001 that was certified by the County in 2002 (the Prior Final EIR). As part of the 2002 approval process, development of such project was made subject to the mitigation measures described in the Prior Final EIR.

Alternative 3 – Reduced Grading Alternative

This alternative analyzes 328 single-family residences, to be located on minimum 7,000 square foot lots. Approximately 170 acres of land would be a developed under this alternative. The estimated population would be approximately 1,161 residents (calculated as 3.54 persons per single-family dwelling). This alternative seeks to combine a reduction in the intensity of development on the Project Site with a reduction in overall grading, reducing the overall footprint of development and retaining the westerly ridgeline in its existing configuration. This alternative would constrain development within the 170 acres of the Project Site that were within the limits of grading carried out as part of the Prior Entitlements. It would leave as undeveloped certain areas of the Project Site that were previously disturbed for golf course uses in the 1960s and for oil well development, and would create an artificial boundary (i.e., one not developed to achieve any environmental purpose other than grading reduction) at the physical stopping point for grading in 2008 when the work on the prior project ceased. This alternative would require the grading of an additional 2.2 million cubic yards of combined cut and fill (balanced on-site) to finish the mass grading and fine grading of roadways and home pads consistent with the proposed layout of this alternative. Implementation of this alternative would result in the grading and removal of the remaining portions of the easterly ridgeline.

Alternative 4 – No Barcelona Road Extension

Under this alternative, the Project would be developed as described with the exception that the Barcelona Road extension would not be completed. The extension of Barcelona Road would require the

improvement of approximately 1,500 feet of roadway to connect the existing Barcelona Road to the Project Site. Construction of the roadway would require approximately 49,500 cy of cut and 82,500 cy of fill. Grading for the Project would continue to be balanced on site. All other elements of the Project would remain as described in **Section 4.0, Project Description**.

2.6 AREAS OF KNOWN CONTROVERSY

Section 15123(b)(2) of the *State CEQA Guidelines* requires an EIR summary to identify areas of controversy known to the lead agency, including issues raised by other agencies and the public. Comments received from public agencies and interested parties in response to the circulated NOP and during the scoping meeting held on January 16, 2014 are provided in **Appendix 1.0-2**. Based on the scoping process, potential areas of controversy known to the County include the following:

- Aesthetics
- Air Quality
- Biology
- Cultural Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Land Use/Planning
- Noise
- Public Services
- Transportation and Circulation
- Utilities/Services

2.7 ISSUES TO BE RESOLVED

Section 15123(b)(3) of the *State CEQA Guidelines* requires an EIR to present issues to be resolved by the lead agency. These issues include the choice among alternatives and whether or how to mitigate potentially significant impacts. The key issues to be resolved by the County, as the Lead Agency for the project, include:

- whether the Project would have significant impacts, and, if so, how to mitigate potentially significant environmental impacts from the project; and
- whether the Project or an alternative should be approved.

2.8 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table ES-2, Summary of Environmental Impacts, Mitigation Measures, and Level of Significance After Mitigation, summarizes the potential environmental effects of the Project, the recommended mitigation measures (MMs), and the level of significance after mitigation. Implementation of the MMs, as detailed in

Section 5.0 of this Draft EIR, would reduce most of the potentially significant impacts to a less than significant level. However, even with implementation of MMs, the Project would result in the following significant and unavoidable impacts:

Air Quality: As evaluated in **Section 5.2, Air Quality**, the Project would exceed South Coast Air Quality Management District (SCAQMD) regional emissions thresholds for NOx during the first three years of construction. The Project would also result in localized construction impacts related to PM10, PM2.5, and NOx that would exceed thresholds. In addition to these Project level impacts, the Project would result in a cumulatively considerable increase in regional air quality construction emissions related to NOx.

Noise: As evaluated in **Section 5.11, Noise,** the Project would temporarily exceed County noise standards and temporarily expose certain sensitive receptors to noise levels in excess of County standards during construction.

Solid Waste: As evaluated in **Section 5.15.2, Solid Waste**, the Project would result in Project level and cumulative operational-solid waste impacts.

Table ES-2
Summary of Environmental Impacts, Mitigation Measures, and Level of Significance After Mitigation

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
AESTHETICS		
Aesthetics Project Design Features		
PDF: The Applicant, or designee, shall have temporary green screen construction fencing of between six and eight feet tall placed along the Project frontage on Hasley Canyon Road. Green screen fencing shall also be placed around any active construction areas on the Project Site, to provide security and to screen construction activity from view. The Applicant, or designee, shall ensure that construction equipment staging and stockpile areas shall be located a minimum of 500 feet from existing residential uses. The Applicant, or designee, shall require that if necessary, the use of nighttime lighting during Project construction be limited to only those areas on the construction site requiring illumination; and further shall require that all work and any security lighting be properly shielded and projected downwards, such that light is directed only onto the work site and minimizes light spillover on adjacent uses. Lighting shall consist of the minimum wattage necessary to provide safety at the construction site. The Applicant, or designee, shall require that all operational outdoor lighting along the Project Site boundary consist of high-efficacy solid state LED (Light Emitting Diode) bi-level adaptive lighting, equipped with full cut off optics that allow no light at or above 90 degrees, so as to illuminate the intended surface and minimize light spillover. The Applicant, or designee, shall require that materials used for home exteriors include a mix of textured, non-reflective exterior surfaces such as stucco, wood siding, or other similar materials. Low reflective glass would be used for all windows.		
Aesthetics Mitigation Measures		
Impacts associated with scenic resources (in this case the ridgelines) from a variety of public viewpoints would be less than significant. None of the new development would break the dominant profile of views toward the Angeles National Forest and the existing skyline. The Project would not block views of the surrounding hillsides. The primary portion of the westerly ridgeline would remain intact and remain as the prominent view from long distances and panoramic views would not substantially change. **(Threshold 5.1-1)**	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Aesthetics Mitigation Measures (continued)		
Views from the Hasley Canyon Multi-Use Trail would include the vineyard and citrus grove. The homes nearest to the trail (located in the southwestern portion of the Project Site) would be set back and shielded from view by the vineyard and other landscaping. This new view would not be inconsistent with surrounding views that include suburban development and the Valencia Commerce Center. **(Threshold 5.1-2)**	No mitigation measures are required.	Less than significant
Construction of the Project would result in the loss of one County-protected oak (not a heritage oak) that would be removed in accordance with County requirements. **(Threshold 5.1-3)**	**Mitigation Measure MM 5.3-6.**	With implementation of **Mitigation Measure MM 5.3-6,** impacts would be less than significant.
Construction impacts from the Project could be obtrusive or out of character with the surrounding undeveloped landscape. However, as construction activities would be temporary, largely screen from public view, and would occur in previously disturbed areas, visual quality impacts associated with construction would be less than significant. The finished condition would include 497 homes, landscaping and amenities. While this would represent a visual change, it would not be out of character with the surrounding area. **(Threshold 5.1-4)**	No mitigation measures are required.	Less than significant
The introduction of new light sources, including decorative lighting, lighting of high activity areas, street and trail lighting, and the lighting of public/community spaces on the Project Site could result in glared and/or light intrusion into adjacent areas. **(Threshold 5.1-5)**	**MM 5.1-1:** Prior to issuance of the first building permit for the Project, the Applicant shall submit the Project's final design drawings, including a lighting plan to the County of Los Angeles Department of Regional Planning for review and approval, consistent with the County's established codes and procedures.	With implementation of **Mitigation Measure MM 5.1-1** impacts would be less than significant.

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Aesthetics Mitigation Measures (continued)		
Six of the Related Projects are located sufficiently close to influence the visual character of the Project vicinity. Due to the small number of units associated with each of the six Related Projects, it is unlikely views would change substantially due to a combination of the Project and the Related Projects. Only long-range views from elevated vantage points would have opportunities for viewsheds that include all six sites. Development of the Project in combination with Related Projects would introduce new sources of artificial light and thus could contribute to increased nighttime light levels as experienced by off-site sensitive uses. While the six Related Projects listed in **Section 5.1.3, Cumulative Impacts,** are located sufficiently close to existing residential uses to the west as to potentially pose impacts to them, only the adjacent roadway (Hasley Canyon Road) has the potential to be affected by both the Related Projects and the Project. With regard to glare, only related development immediately adjacent to Project structures would have the potential to create glare that could collectively pose impacts affecting a given off-site use, property, or activity. As the closest Related Projects are located west of the westerly ridgeline, it is unlikely that glare could have a combined effect from a particular vantage point. Cumulative impacts relative to views, light, and glare would be less than significant. **(Cumulative Impact)**	No mitigation measures are required.	Less than significant
AIR QUALITY		
Air Quality Project Design Features		
PDF: Buildings will be oriented to optimize solar access and cross breezes through the buildings. Solar Photovoltaics (PV) systems are to be installed in the common areas and Clubhouse structure to help offset Project energy use. Bicycle Parking would be provided for five percent of visitor parking spaces, including permanently anchored bicycle racks that would be provided within 200 feet of the visitors' entrance of the Clubhouse. Electric Vehicle (EV) Charging: Clubhouse. The Project will install at least one electric vehicle charging station at the Clubhouse, and comply with CALGreen Sections 4.106.4.1, 4.106.4.2.2 through and 4.106.4.2.5, to facilitate future installation and use of EV chargers. Electrical vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.		

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Air Quality Project Design Features (continued)		
Residential Dwelling Units. For each dwelling unit, the Project will install a listed raceway to accommodate a dedicated 208/240-volt branch circuit and comply with CALGreen Section 4.106.4.1 and Section 4.106.4.2.2. The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box, or other EV charger. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. Compliance will include the Prerequisite electric vehicle (EV) charging requirements in Section A4.106.8. All residential dwellings shall be designed and constructed to be a minimum of 15 percent better than the 2013 Energy Code. The Clubhouse will be designed and constructed to meet zero net electric by incorporating passive solar techniques, high efficiency technologies, ENERGY STAR appliances, solid state LED adaptive lighting; coupled with solar PV to offset electrical loads. The Project Applicant will develop Solar Energy CC&Rs to protect solar access throughout the community in perpetuity. Each builder shall be required to build and demonstrate at least one model at each model complex, a Zero Net Energy (ZNE-TDV) option to potential homebuyers. This is to be consistent with 2013 Title 24, Part 6, Tier 2; 30 percent better than the 2013 energy code and install enough solar photovoltaic (PV) panels to offset 100 percent of the energy load over 12 months. [Note: This ZNE-TDV Tier is expected to be part of the 2016 CALGreen Residential Voluntary Measures; Division A4.2 Energy Efficiency.]		
Air Quality Project Mitigation Measures		
The Project is generally consistent with SCVAP 2012 as demonstrated by the consistency analysis. **(Threshold 5.2-1)**	No mitigation measures are required.	Less than significant
Emissions would exceed the applicable SCAQMD thresholds for NOx during the first three years of construction. In addition, localized emissions would exceed the applicable SCAQMD LST thresholds for PM10, PM2.5, and NO_2 during construction. Therefore, the regional air quality impact from emissions generated by Project construction would be potentially significant. (**Threshold 5.2-2**)	**MM 5.2-1:** The Applicant shall require by contract specifications that the following practices be implemented by the construction contractor to reduce construction emissions: • All outdoor construction activities shall be suspended during first-stage smog alerts. • All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications and recommendations. Verification documentation shall be provided to the County of Los Angeles Department of Regional Planning upon request within five business days. • During construction, trucks and vehicles in loading and unloading queues shall have their engines turned off after 5 minutes when not in use, to avoid vehicle emissions. **MM 5.2-2:** The construction contractor shall use a mix of equipment that includes Tier 3 or Tier 4 equipment for off-road construction equipment, as defined by the United States Environmental Protection Agency, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. Verification documentation shall be provided to the County of Los Angeles Department of Regional Planning upon request within five business days.	Even with implementation of **Mitigation Measures MM 5.2-1** and **MM 5.2-2,** impacts during the first three years of construction would remain significant and unavoidable for NOx emissions and LST impacts for NO_2, PM10 and PM2.5.

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Air Quality Project Mitigation Measures (continued)		
By emitting NOx emissions in excess of the significance thresholds, the Project would result in a cumulatively considerable net increase of criteria pollutants (during construction) for which the Project region is in state non-attainment. **(Threshold 5.2-3)**	**Mitigation Measures 5.2-1** and **5.2.2**	Even with implementation of **Mitigation Measures MM 5.2-1** and **MM 5.2-2,** construction impacts would remain significant and unavoidable.
No significant CO hotspot impacts would occur to sensitive receptors in the vicinity of Project intersections. The Project would not construct land uses or install stationary sources which would produce substantial amounts of TACs. **(Threshold 5.2-4)**	No mitigation measures are required.	Less than significant
The Project would not include the development and operation of any of land uses associated with odor complaints. **(Threshold 5.2-5)**	No mitigation measures are required.	Less than significant
Construction of the Project would result in daily construction emissions that would exceed the regional thresholds of significance recommended by the SCAQMD. Mitigation would not be sufficient to reduce the impact to a less than significant level, as shown in **Table 5.2-5**. Applying the SCAQMD criteria, the Project would result in a cumulatively considerable contribution to air pollutant emissions during project construction. **(Cumulative Impact)**	**Mitigation Measures MM 5.2-1** and **MM 5.2-2.**	Even with implementation of **Mitigation Measures MM 5.2-1** and **MM 5.2-2,** cumulative construction impacts would remain significant and unavoidable.
BIOLOGICAL RESOURCES		
Biological Resources Mitigation Measures		
No special status plants occur on the Project Site. The Project has the potential to impact the following special status animals as described in **Section 5.3, Biological Resources**: western spadefoot, silvery legless lizards, coast horned lizards, coastal whiptail, Coopers hawk white-tailed kite, Southern California rufous-crowned sparrow and Bell's sage sparrow, San Diego black tailed jackrabbit and San Diego desert woodrat. (**Threshold 5.3-1)**	**MM 5.3-1:** Prior to issuance of a grading permit, the Applicant shall provide a detailed western spadefoot habitat enhancement plan. The plan shall include breeding habitat as well as suitable upland refugia. The location for the enhanced habitat shall be selected in consultation with CDFW and a qualified biologist familiar with western spadefoot habitat requirements. In addition to being as far from existing and proposed development as feasible, the enhanced habitat shall be located in an area where open scrub and/or native woodland can survive naturally (i.e., without long-term irrigation).	With **Mitigation Measures MM 5.3-1** through **MM 5.3-4,** impacts would be less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Biological Resources Mitigation Measures (continued)		
	MM 5.3-1 (continued) Plans are currently being designed that would place the breeding pool and associated upland habitat near the southeastern portion of the proposed riparian habitat restoration of un-named Tributary #1. At a minimum, the plan shall include the following elements and be prepared in consultation with, and ultimately approved by CDFW: • One or more seasonal breeding pools that are specifically designed to hold water long enough for a complete breeding cycle of western spadefoot, but not long enough to allow infiltration of predators (e.g., bullfrogs, African clawed frogs, fish, etc.). Based on designed approved for other EIRs within the Santa Clarita Valley, the pool would be between 50 and 60 feet in length and 30 to 40 feet in width, and a depth of between 3 and 4 feet. • Analysis of surrounding soils. If necessary, clean sand may be introduced to increase the suitability of upland burrowing habitat for adult toads. • Upland portions of the habitat enhancement area shall include a detailed plant palette and planting plan conducive to western spadefoot requirements. • A five-year monitoring plan that includes monitoring methods, annual success criteria, contingency actions should success criteria not be met, and reporting requirements. **MM 5.3-2:** During the appropriate season prior to any construction or site preparation activities that would disturb vegetation and/or soils, focused surveys shall be conducted for all potentially occurring special-status reptiles. The surveys shall be timed to coincide with each species' peak activity period, which is typically warm late spring through early fall for most species. Legless lizards are usually more easily detectable after rain events, when they move closer to the surface. As such, surveys for legless lizard should be conducted during late winter through spring after rain events. If this timing is not feasible and with consultation with and approval by CDFW, the best quality habitat areas within the development footprint should be thoroughly saturated (e.g. water truck) then raked by qualified biologists the following early morning or late afternoon. If any of these animals are detected, they shall be captured and relocated to suitable nearby habitat areas approved by CDFW. **MM 5.3-3:** To avoid impacts to nesting birds during construction, a qualified biologist (approved by CDFW and LACDRP) shall be retained to conduct nesting bird surveys within suitable nesting habitat prior to initiation of construction activities.	

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Biological Resources Mitigation Measures (continued)		
	MM 5.3-3 (continued) Specifically, if activities associated with construction or grading are planned during the bird nesting/breeding season, generally January through March for early nesting birds (e.g., raptors or hummingbirds) and from mid-March through September for most bird species, the Applicant shall have a qualified biologist conduct surveys for active nests. Pre-construction nesting bird surveys shall be conducted within 30 days prior to initiation of ground-disturbing activities to determine the presence/absence of active nests. The surveys shall continue on a weekly basis until construction commences, with the last survey being conducted no more than three days before the start of clearance/construction work. Surveys shall include examination of trees, shrubs, and the ground, for nesting birds, as several bird species known to the area are shrub or ground nesters. If ground-disturbing activities are delayed, additional pre-construction surveys shall be conducted so that no more than three days will have elapsed between the survey and ground-disturbing activities. If active nests are located during pre-construction surveys, clearing and construction activities within 300 feet of the nest (500 feet for raptors) shall be postponed or halted until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. Exceptions to these limits may be made, but only if authorized by CDFW. Limits to avoid an active nest shall be established in the field with high visibility flagging, fencing, or other appropriate barriers and construction personnel shall be instructed on the sensitivity of nest areas. The biologist shall serve as a construction monitor during those periods when construction activities will occur near active nest areas to ensure that no inadvertent impacts on these nests will occur. The results of the survey, and any avoidance measures taken, shall be submitted to LACDRP within 30 days of completion of the pre-construction surveys and/or construction monitoring to document compliance with applicable state and federal laws pertaining to the protection of native birds. **MM 5.3-4:** Within 30 days prior to ground disturbance activities for construction, a qualified biologist shall conduct a survey within the proposed construction disturbance zone and within a 100-foot buffer of the disturbance zone to determine the areas of best habitat for San Diego desert woodrat and San Diego black-tailed jackrabbit. If any stick nests or other signs of rats are detected, a qualified biologist, approved by CDFW, shall conduct five-consecutive nights of live-trapping for desert woodrats within suitable habitat remaining on-site. Should any be captured, they will be relocated to suitable habitat outside of the proposed development envelope in an area approved by CDFW.	

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Biological Resources Mitigation Measures (continued)		
	MM 5.3-4 (continued) If during the trapping effort for San Diego desert woodrats nests with young are discovered within the disturbance zone or within 100 feet of the disturbance zone, a fence shall be erected around the nest site adequate to provide the woodrat sufficient foraging habitat at the discretion of the qualified biologist. The fence shall be erected to provide a minimum 100-foot buffer around the active nest. At the discretion of the monitoring biologist and with concurrence of CDFW, clearing and construction within the fenced area shall be postponed or halted if appropriate until young have left the nest. The biologist shall serve as a construction monitor during those periods when disturbance activities will occur near active nest areas to ensure that no inadvertent impacts on these nests will occur. If San Diego desert woodrats are observed within the grading footprint outside of the breeding period, individuals shall be relocated, if feasible, to a suitable location on the Project Site (outside of the disturbance boundary) by a qualified biologist in possession of a scientific collecting permit and following prior consultation with CDFW. In the event black-tailed jackrabbits are observed on-site, the monitoring biologist shall be on-site during all initial site disturbance activities until all grading operations have been completed. The biologist will ensure any existing jackrabbits are able to escape the Project Site and any moving equipment.	
The delineation of jurisdictional resources identified three drainages that meet regulatory jurisdiction requirements. The current Project would alter 0.29 acre of federal non-wetland waters and 1.95 acres of state non-wetland waters. These impacts would require federal and state permits. (**Threshold 5.3-2)**	**MM 5.3-5:** To minimize impacts to "Waters of the State," a Streambed Alteration Agreement shall be executed with the CDFW pursuant to Section 1603 of the California Fish and Game Code prior to jurisdictional feature disturbance. In addition, to minimize impacts to "Waters of the US" the USACE shall be contacted to determine the need for a Section 404 permit, pursuant to the federal Clean Water Act. Mitigation measures identified through these two permitting processes as a result of coordination with each agency will reduce impacts to jurisdictional drainage features to a less than significant level. Pursuant to Section 401 of the federal Clean Water Act, the Regional Water Quality Control Board will also be notified and a permit will be obtained if applicable.	With implementation of **Mitigation Measure MM 5.3-5,** impacts would be less than significant.

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Biological Resources Mitigation Measures (continued)		
	MM 5.3-5 (continued): Mitigation in the form of restoring and expanding un-named Tributary #1 is being prepared to be included in the Streambed Alteration Agreement and/or 404 permit applications. Since the affected un-named Tributary #2 currently does not support any riparian vegetation and is little more than an erosional ditch, a similar condition is not necessarily desired as natural conversion to a riparian habitat could take many years. Likewise, the previously impacted jurisdictional features were not described as supporting high quality habitats. As such, the proposed option for mitigation is restoring and expanding the western drainage (un-named Tributary #1) to a condition that would reduce the degree of erosion that occurs now. This includes terracing and re-contouring the near vertical existing banks and restoring vegetation including mainland holly-leaf cherry and California live oaks. The restoration plan includes engineered hydrological design to reduce erosion from offside drainage from the north. **Figure 5.3-4** illustrates the current proposed design for the western drainage. The overall mitigation also includes a planting plan/palette for the terraced/re-contoured banks. Additionally, the plan will include a five-year monitoring plan including monitoring methods, success criteria, and contingency actions should any of the success criteria not be met. It is the intention of the restoration project to convert the approximately 1.72 acres of disturbed and poorly functioning jurisdictional habitat that currently exists within this drainage to at least 4.30 total acres of high quality jurisdictional riparian habitat as well as additional transitional upland habitat. The transitional habitat would serve as a buffer between the riparian habitat and any development. This restoration plan is intended to mitigate for the total 2.15 acres of impacts resulting from both the currently proposed project, and the previously approved project impacts that were not mitigated as part of the incomplete construction of the prior project.	
The Project would not have any impacts on federally protected wetlands. **(Threshold 5.3-3)**	No mitigation measures are required.	Less than significant
The Hasley Canyon Wash along the southern boundary of the Project Site provides east-west movement opportunities for wildlife, but proposed development would not block this corridor. **(Threshold 5.3-4)**	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Biological Resources Mitigation Measures (continued)		
The oaks on the Project Site meeting the definition of Oak Woodland all occur in the northwestern portion of the Project Site, beyond the grading and fuel modification limits of the Project. **(Threshold 5.3-5)**	**MM 5.3-6: Replacement trees:** Any oak tree that dies or is removed as a result of project implementation shall be replaced by a tree of the same species at a ratio determined by the County of Los Angeles, but a minimum ratio of 2:1. This includes the removals of 24 trees permitted by the Prior Entitlements. With one removal required for the Project, a total of 25 oak trees will be mitigated for, requiring a total of at least 50 replacement trees. All replacement trees shall be at least a 15-gallon specimen in size and be 2 inches or more in diameter, as measured from approximately 4 feet above the base. Free-form trees with multiple stems are permissible; the combined diameter of the two largest stems of such trees shall measure a minimum of 2 inches in diameter, as measured approximately 2 feet above the base. Replacement trees shall consist exclusively of indigenous California live oak trees and be grown from a seed source collected in Los Angeles or Ventura Counties. All replacement trees shall be planted on site. It is anticipated that most of these trees will be able to be placed along un-named Tributary #1 as part of the restoration outlined in **MM 5.3-5**. If additional areas are needed, remaining replacement trees will be planted in the natural open space areas and/or within common landscaped areas within the development. **MM 5.3-7: Protective fencing:** A plan shall be developed for protecting the remaining trees included in the Los Angeles County Oak Tree Ordinance on the subject property during development. This plan shall be approved by the County of Los Angeles and Los Angeles County Fire Department. Equipment damage to limbs, trunks, and roots of all remaining trees shall be avoided during project construction and development. Even slight trunk injuries can result in susceptibility to long-term pathogenic maladies Protective fencing not less than 4 feet in height shall be placed at the limits of the protected zone of any individual protected tree or oak woodland within 100 feet of the grading limits, and shall be inspected by the Fire Department or County-approved arborist prior to commencement of any activity on the subject property, and shall remain in place until construction is completed. **MM 5.3-8: Equipment storage:** No storage of equipment, supplies, vehicles, or debris shall be permitted within the protected zone of an oak tree. No dumping of construction wastewater, paint, stucco, concrete, or any other cleanup waste shall occur within the protected zone of an oak tree. No temporary structures shall be placed within the protected zone of any remaining oak tree.	With implementation of **Mitigation Measures MM 5.3-6** through **MM 5.3-8,** impacts would be less than significant.

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Biological Resources Mitigation Measures (continued)		
Construction of the Project would result in the loss of one County-protected oak, which is not a heritage oak tree. **(Threshold 5.3-6)**	**Mitigation Measures MM 5.3-6** through **MM 5.3-8.**	With implementation of **Mitigation Measures MM 5.3-6** through **MM 5.3-8,** impacts would be less than significant.
Construction of the Project would result in obstruction of local or regional wildlife movement patters to be substantially disrupted and/or the loss of any sensitive habitat types. **(Cumulative Impact)**	**Mitigation Measure MM 5.3-5**	With implementation of **Mitigation Measure MM 5.3-5** impacts would be less than significant.
CULTURAL RESOURCES		
Cultural Resources Mitigation Measures		
With the exception of the 750,000 gallon water tank constructed as part of the Prior Entitlements, no structures are presently located on the Project Site. As such, no historical resources are located on the Project Site. (**Threshold 5.4-1**)	No mitigation measures are required.	Less than significant
The Phase I Survey conducted on the Project Site did not find any artifacts or identify any archaeological sites and records searches conducted for previous archeological surveys found that no such sites have been identified on the Project Site or within a 0.125-mile radius of the Project Site. It is unlikely trenching to minimal depths would uncover any previously buried resources; however grading at depths of up to 12 feet could result in the discovery of previously buried resources. (**Threshold 5.4-2)**	**MM 5.4-1:** In the event archaeological resources are encountered during Project construction, all ground-disturbing activities within 25 feet of the find shall cease and the Applicant shall retain a qualified archaeologist to evaluate the significance of the find. If the find is determined to be an archaeological resource, the archaeologist shall record all recovered archaeological resources on the appropriate California Department of Parks and Recreation Site Forms to be filed with the California Historical Resources Information System-South Central Coastal Information Center (SCCIC), evaluate the significance of the find, and if significant, determine and implement the appropriate mitigation in accordance with the US Secretary of the Interior and California Office of Historic Preservation guidelines, including but not limited to a Phase III data recovery and associated documentation.	With implementation of **Mitigation Measures MM 5.4-1** through **MM 5.4-3,** impacts would be less than significant.

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Cultural Resources Mitigation Measures (continued)		
	MM 5.4-1 (continued): If the find is determined to be an archaeological resource, the archaeologist shall record all recovered archaeological resources on the appropriate California Department of Parks and Recreation Site Forms to be filed with the California Historical Resources Information System-South Central Coastal Information Center (SCCIC), evaluate the significance of the find, and if significant, determine and implement the appropriate mitigation in accordance with the US Secretary of the Interior and California Office of Historic Preservation guidelines, including but not limited to a Phase III data recovery and associated documentation. The archaeologist shall prepare a final report about the find to be filed with the Applicant, the County of Los Angeles Department of Regional Planning, and the California Historical Resources Information System-SCCIC, as required by the California Office of Historic Preservation. The report shall include documentation of the resources recovered, a full evaluation of the eligibility with respect to the California Register of Historic Resources, and treatment of the resources recovered. In the event of a find, archaeological and Native American monitoring shall be provided thereafter for any ground-disturbing activities in the area of the find. **MM 5.4-2:** In the event paleontological resources are encountered during Project construction, all ground-disturbing activities within 25 feet of the find shall cease and the Applicant shall retain a qualified paleontologist to evaluate the significance of the find and determine the appropriate treatment in accordance with the Society of Vertebrate Paleontology guidelines for identification, evaluation, disclosure, avoidance or recovery, and curation, as appropriate. All significant fossils shall be stabilized and prepared to a point of identification and permanent preservation. The paleontologist shall prepare a final report on the monitoring. If fossils are identified the report shall contain an appropriate description of the fossils, treatment, and curation. A copy of the report shall be filed with the Applicant, County of Los Angeles Department of Regional Planning, and the Natural History Museum of Los Angeles, and shall accompany any curated fossils. In the event of a find, paleontological monitoring shall be provided thereafter for any ground-disturbing activities in the area of the find. **MM 5.4-3:** In the event human remains are encountered during construction activities, all ground-disturbing activities within 25 feet of the human remains shall cease and the County coroner shall be notified. In the event the remains are determined to be of Native American descent, the County coroner shall notify the California Native American Heritage Commission within 24 hours.	

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Cultural Resources Mitigation Measures (continued)		
	MM 5.4-3 (continued) The Native American Heritage Commission shall identify the person(s) thought to be the Most Likely Descendant of the deceased Native American, who shall have 48 hours from notification by the Native American Heritage Commission to inspect the site of the discovery of Native American remains and to recommend to the Applicant or landowner a means for the treatment and disposition of the human remains and any associated grave goods. The Applicant or landowner shall reinter the remains and associated grave goods with appropriate dignity on the property in a location not subject to further disturbance. In the event Native American remains are found, Native American monitoring shall be provided thereafter for any ground-disturbing activities in the area of the remains.	
Although the Project Site has undergone extensive disturbance, there is no record of any past discovery of fossils on the Project Site. Nonetheless, the potential for unearthing paleontological resources does exist during grading activities. **(Threshold 5.4-3)**	**Mitigation Measure MM 5.4-2.**	With implementation of **Mitigation Measure MM 5.4-2,** impacts would be less than significant.
The Phase I Survey and records search conducted for the Project Site did not identify any locations potentially containing human remains or Native American burial sites within the Project Site. Nonetheless, as the Project would include grading to depths of up to 15 feet in areas of the Project Site, the potential does exist to unearth previously unknown buried human remains. **(Threshold 5.4-4)**	**Mitigation Measures MM 5.4-3**.	With implementation of **Mitigation Measure MM 5.4-3,** impacts would be less than significant.
As discussed in **Section 5.4, Cultural Resources,** the Project Site and surrounding area may contain actual or potential cultural or paleontological resources, although the likelihood is low. Where these resources may exist, implementation of the Project would represent an incremental adverse cumulative impact to cultural or paleontological resources. However, the Project's potential impact to cultural and paleontological resources would be less than significant with the implementation of the recommended mitigation measures. In addition, related projects would also be required to implement appropriate mitigation measures. (**Cumulative Impact**)	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
ENERGY		
Energy Project Design Features		
PDF:	The Project will maintain approximately 123.25 acres as natural open space. 4.5 miles of trails will be constructed throughout the Project with approximately 3,000 linear feet of public multi-purpose trails to provide a complete system and access to the local and regional trail system. Enhanced trailheads provide gathering points and connectivity to the local regional trail system. Trail standards will be in accordance with CDS and other applicable requirements. Contour grading, curvilinear street design, terraced drains, terraced slopes, and related project design features have been incorporated as project best management practices. To minimize Project site grading, existing pads will be used to the extent feasible. The Project Site plan emphasizes the protection of open space and undisturbed connections to these adjoining areas by retaining in a natural condition approximately 123.25 acres of land primarily located adjacent to existing offsite open space areas located to the north and northeast, contiguous to existing undeveloped ridgelines, and along the westerly ridgeline and areas further to the west on the Project Site in areas contiguous with undeveloped land to the west. The Barcelona Road extension would cross the secondary portion of the westerly ridgeline, but would not cross the primary portion of the ridgeline. A variance is being requested to authorize construction in portions of the easterly ridgeline that have already been substantially graded and in the remaining, disconnected portions of the secondary ridgeline. The entry to the Project Site is within a quarter mile of a bus stop, and extension of pedestrian, biking and multi-purpose trails provide additional alternatives to auto travel, and reduce VMTs (vehicle miles traveled) and VT's (vehicle trips). Project streets are designed to be safe and integrate a network of roadways and connector trails for a walkable community. Sidewalks, on-street parking, tree canopies, curbs, and gutters, narrower intersections with smaller radii are some of the Project's healthy walkable street features. A public park and seven secondary parks provide opportunities for outdoor activity. Vineyards and orchards can be accessed by foot. Approximately 8.4 acres of vineyards and other productive agricultural uses will be provided onsite. Incorporation of innovative agricultural practices that conserve resources and promote sustainability, such as drip irrigation, hydroponics, and composting will be explored. Project construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples include swales, water collection and disposal systems, french drains, water retention gardens, and other water measures to keep surface water away from building and aid in groundwater recharge. (Refer also to **Section 5.9.1, Hydrology** and **Section 5.9.2, Water Quality**.) Buildings will be oriented to optimize solar access, passive and active design techniques and cross breezes through the buildings. Passive Solar techniques and other passive techniques are to be incorporated into the Clubhouse and Residential Units to help reduce the energy loads. Care will be given in the landscape design to avoid shading roofs with a 110 – 270 degree roof orientation. Solar Photovoltaics (PV) systems are to be installed in the common areas and Clubhouse structure to help offset Project energy use.	

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Energy Project Design Features (continued)		
	Bicycle Parking. For five percent of visitor parking spaces, permanently anchored bicycle racks will be provided within 200 feet of the visitors' entrance of the Clubhouse. Electrical Vehicle Charging: Clubhouse. The Project will install at least one electric vehicle charging station at the Clubhouse, and comply with CALGreen Sections 4.106.4.1, 4.106.4.2.2 through and 4.106.4.2.5, to facilitate future installation and use of EV chargers. Electrical vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625. Residential Dwelling Units. For each dwelling unit, the Project will install a listed raceway to accommodate a dedicated 208/240-volt branch circuit and comply with CALGreen Section 4.106.4.1 and Section 4.106.4.2.2. The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box, or other EV charger. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. Compliance will include the Prerequisite electric vehicle (EV) charging requirements in Section A4.106.8. Tree canopy cover, light colored paving, and roofing materials will be used to reduce heat island effect. Solar Ready Roofs. A minimum of 250 square feet of non-shaded roof will be reserved on each home for a solar zone within a 110 – 270 degree orientation. The Clubhouse will be designed and constructed to meet zero net electric by incorporating passive solar techniques, high efficiency technologies, ENERGY STAR appliances, solid state LED adaptive lighting; coupled with solar PV to offset electrical loads. CALGreen Energy Efficiency Tier 2. Comply with CALGreen Tier 2 for the Clubhouse which equates to 70 percent of the energy budget of 2013 Title 24 Part 6 (a.k.a. 30% better than 2013 Energy Code). Solar Ready Roofs. A sufficient solar zone area will be designed as part of the Clubhouse building and shade structures to maximize solar generation, while at the same time, maintaining aesthetic appeal with orientation between 110 – 270 degrees. The Applicant, in conjunction with the formation of a Homeowners Association (HOA), will develop Solar Energy CC&Rs to protect solar access throughout the community in perpetuity. Each builder shall be required to build and demonstrate at least one model at each model complex, a Zero Net Energy (ZNE-TDV) option to potential homebuyers. This is to be consistent with 2013 Title 24, Part 6, Tier 2; 30 percent better than the 2013 energy code and install enough solar photovoltaic (PV) panels to offset 100 percent of the energy load over 12 months. [Note: This ZNE-TDV Tier is expected to be part of the 2016 CALGreen Residential Voluntary Measures; Division A4.2 Energy Efficiency.] Each builder shall be required to demonstrate recycling stations in every model. Each builder will be required to have Electric Vehicle Chargers installed and functional in at least one of the models within each of the model complexes, and offer this as an option for every potential homebuyer. LED Street Lighting. The Project will utilize solid-state LED high efficacy street lighting throughout the Project's private streets, as approved by the County, for significant energy savings, maintenance and operations enhancements.	

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Energy Project Design Features (continued)		
Los Valles Community Recycling Program. The Applicant, in conjunction with the HOA, will develop a community-wide recycling program and design readily available recycling area(s) within the community clubhouse identified for the depositing, storage and collection of non-hazardous materials for recycling to include a minimum of paper, corrugated cardboard, glass, plastics, and metals or meet a lawfully enacted local recycling ordinance if more restrictive. Onsite landscaping clippings will be utilized as mulch within the community common area landscaping and agricultural vineyards and orchards as appropriate and to design recycling stations within into all residential units to include a minimum of paper, corrugated cardboard, glass, plastics, and metals or meet a lawfully enacted County recycling ordinance if more restrictive. Community Outdoor Kitchen. A simple outdoor kitchen will be provided for the Los Valles community with places designed for community gatherings. Some possible uses for the outdoor kitchen could be cooking demonstrations, jam making, canning preserves, and winemaking. Homeowner Sustainability Stewardship Program. The Applicant, in conjunction with the HOA, will develop a Homeowner Sustainability Stewardship Educational Program (Educational Program) which will be made available to all new homebuyers to help educate and build Los Valles Land Stewards for the long-term. This Educational Program can be in the form of electric media rather than printed materials to minimize resource waste. Outdoor potable water use in landscape areas. The Project will go beyond the conservation and efficient use of water by utilizing a watershed approach and recognizing the underlying groundwater aquifers in the Project design.		
Energy Mitigation Measures		
Overall, as construction activities associated with the Project would not draw power from the local electrical grid, it would not have an adverse impact on available electricity supplies. Although the Project would create additional demands on electricity and natural gas supplies and distribution infrastructure, these demands are well within the service capabilities of SCE and SCGC. The Project would exceed Title 24 requirements and meet all of the requirements of the County's Green Building Standards Code. Therefore, development of the Project would not cause wasteful, inefficient, and unnecessary consumption of energy and would be consistent with the intent of Appendix F of the State CEQA Guidelines. **(Threshold 5.5-1** and **Threshold 5.5-2)**	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Energy Mitigation Measures (continued)		
Given the Project's consistency with state and County energy reduction goals and objectives, the contribution to a cumulative inefficient, wasteful and unnecessary use of energy resources would be less than significant and would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing energy use. Similarly, related projects would also be anticipated to incorporate energy conservation features and comply with these same energy reduction goals and objectives as required by the various local governing codes and regulations (e.g., the 2010 CALGreen Code, Title 24 and the County's Green Building Standards Code). (**Cumulative Impact**)	No mitigation measures are required.	Less than significant
GEOLOGY AND SOILS		
Geology and Soils Mitigation Measures		
It is likely that strong seismic ground shaking will occur over the course of the Project's lifetime and impacts could be potentially significant. The Project will be required to comply with the LACBC which has adopted by reference the CBC, as well as recommended stabilization measures set forth in the preliminary geotechnical report provided by a licensed geologist and geotechnical engineer. (**Threshold 5.6-1(i)** and **Threshold 5.6-1(ii))**	No mitigation measures are required.	Less than significant
The results of the liquefaction assessment indicate that significant liquefaction is not expected at the Project Site and the estimated earthquake-induced maximum differential settlement within the upper 23 feet in a distance of 30 feet is no greater than 0.5 inches. **(Threshold 5.6-1(iii))**	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Geology and Soils Mitigation Measures (continued)		
Prior geotechnical studies identified eight landslides on the Project Site. As part of the grading performed as part of the Prior Entitlements six of the eight landslides (Qls-1, Qls-2, Qls-3, Qls-4, Qls-7, and Qls-8) were removed in accordance with procedures specified in the previous geotechnical report for the Prior Entitlements. Two landslides (Qls-5 and Qls-6) remain on the Project Site. Project grading activities will remove one the landslides (QLS-5), while a previous slope stability analysis conducted on the second landslide (Qls-6) determined that the landslide satisfies the County's safety requirement for gross slope stability. (**Threshold 5.6-1(iv)**)	No mitigation measures are required	Less than significant.
The Project would be subject to compliance with a National Pollutant Discharge Elimination System (NPDES) permit, including the implementation of Best Management Practices (BMPs), some of which are specifically implemented to reduce soil erosion or loss of topsoil, including the preparation of a Stormwater Pollution Prevention Plan (SWPPP). **(Threshold 5.6-2)**	No mitigation measures are required.	Less than significant
Of the 36 cut slopes, 14 were determined to be unstable. Compliance with the Final Grading Report would ensure that the resulting slopes are stable. The remaining 22 slopes were determined to be stable and would not present a geologic hazard to residential development within the Project Site. **(Threshold 5.6-3)**	No mitigation measures are required.	Less than significant.
Depending on the location within the Project Site and the depth from foundations to expansive soils, residential construction within the Project Site could pose risk to residents within the Project Site. Recommendations for foundations placed on these materials, unless replaced by non to- low-expansive soils to at least 4 feet below footing/slab bottoms, are included in the geotechnical report and will be adhered to during construction. **(Threshold 5.6-4)**	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Geology and Soils Mitigation Measures (continued)		
The Project would not include the use of septic tanks or alternative wastewater disposal systems. (**Threshold 5.6-5**)	No mitigation measures are required.	Less than significant
The Project has been designed to fully conform to all applicable regulations and requirements of the Los Angeles County Code. The Project will be required to comply with recommended stabilization measures set forth in the soils report provided by a licensed geologist and geotechnical engineer. **(Threshold 5.6-6)**	No mitigation measures are required.	Less than significant
Due to the site-specific nature of geological conditions, geotechnical impacts are typically assessed on a project-by project basis. The Project and Related Projects in the area would be subject to regulations pertaining to geology and soils, including CBC and Los Angeles County Building Code requirements, that would require structures of all related projects be constructed to meet minimum seismic safety standards. In addition, related projects impacts would be addressed through imposition of mitigation measures specific to each project. (**Cumulative Impact**)	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
GREENHOUSE GAS EMISSIONS		
Greenhouse Gas Emissions Project Design Features		
PDF:	To minimize grading on the Project Site, existing pads will be used to the extent feasible. The site plan for the Project emphasizes the protection of open space and undisturbed connections to these adjoining areas by retaining in a natural condition approximately 123.25 acres of land primarily located adjacent to existing offsite open space areas located to the north and northeast, contiguous to existing undeveloped ridgelines, and along the westerly ridgeline and areas further to the west on the Project Site in areas contiguous with undeveloped land to the west Pollutant Control Duct Openings. Duct openings and other related air distribution component openings shall be covered during construction.[10] Adhesives Sealants & Caulks. Adhesives, sealants and caulks shall be compliant with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits.[11] Paints & Coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure. Aerosol Paints & Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Section 94522(c)(2) and (d)(2) of California Code of Regulations, Title 17, commencing with Section 94520.[12] Verification. Documentation shall be provided to verify that compliant VOC limit finish materials have been used.[13] Resilient Flooring. 80 percent of floor area receiving resilient flooring shall comply with specified VOC criteria.[14] Composite Wood Products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used in the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et. Seq.). Resilient Flooring. Comply with the 90-percent resilient flooring systems requirements in Section A4.504.2 Thermal Insulation. Comply with the thermal insulation requirements for Tier 1 in Section A4.504.3. Buildings will be oriented to optimize solar access, passive and active design techniques and cross breezes through the buildings. Solar Photovoltaics (PV) systems are to be installed in the common areas and Clubhouse structure to help offset Project energy use. Bicycle Parking would be provided for five percent of visitor parking spaces, including permanently anchored bicycle racks that would be provided within 200 feet of the visitors' entrance of the Clubhouse. Electric Vehicle (EV) Charging Clubhouse. The Project will install at least one electric vehicle charging station at the Clubhouse, and comply with CALGreen Sections 4.106.4.1, 4.106.4.2.2 through and 4.106.4.2.5, to facilitate future installation and use of EV chargers. Electrical vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.	

10 *2013 CALGreen Residential Mandatory Requirement 4.504.1*

11 *2013 CALGreen Residential Mandatory Requirement 4.504.2.1*

12 *2013 CALGreen Residential Mandatory Requirement 4.504.2.3*

13 *2013 CALGreen Residential Mandatory Requirement 4.504.2.4*

14 *2013 CALGreen Residential Mandatory Requirement 4.504.4.*

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Greenhouse Gas Emissions Project Design Features (continued)		
Residential Dwelling Units. For each dwelling unit, the Project will install a listed raceway to accommodate a dedicated 208/240-volt branch circuit and comply with CALGreen Section 4.106.4.1 and Section 4.106.4.2.2. The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box, or other EV charger. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. Compliance will include the Prerequisite electric vehicle (EV) charging requirements in Section A4.106.8. Tree canopy cover, light colored paving, and roofing materials will be used to reduce heat island effect. All residential dwellings shall be designed and constructed to be a minimum of 15 percent better than the 2013 Energy Code. The Clubhouse will be designed and constructed to meet zero net electric by incorporating passive solar techniques, high efficiency technologies, ENERGY STAR appliances, solid state LED adaptive lighting; coupled with solar PV to offset electrical loads. The Project will go beyond the conservation and efficient use of water by utilizing a watershed approach and recognizing the underlying groundwater aquifers in the Project design. The Project Applicant will develop Solar Energy CC&Rs to protect solar access throughout the community in perpetuity. Each builder shall be required to build and demonstrate at least one model at each model complex, a Zero Net Energy (ZNE-TDV) option to potential homebuyers. This is to be consistent with 2013 Title 24, Part 6, Tier 2; 30 percent better than the 2013 energy code and install enough solar photovoltaic (PV) panels to offset 100 percent of the energy load over 12 months. [Note: This ZNE-TDV Tier is expected to be part of the 2016 CALGreen Residential Voluntary Measures; Division A4.2 Energy Efficiency.]		
Greenhouse Gas Emissions Mitigation Measures		
The Project would generate an incremental contribution to and cumulative increase in sources of GHGs. However, the project would not result in GHG emissions that are not consistent with the County of Los Angeles Community Climate Action Plan. **(Threshold 5.7-1)**	No mitigation measures are required.	Less than significant
The Project would minimize energy and water use in compliance with the County of Los Angeles Green Building Standards Code (Title 31) and meet AB 32 goals. (**Threshold 5.7-2)**	No mitigation measures are required.	Less than significant
Given the Project's consistency with State and County GHG emission reduction goals and objectives, the contribution to the cumulative impact of global climate change would be less than significant and would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of GHGs. (**Cumulative Impact**)	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
HAZARDS AND HAZARDOUS MATERIALS		
Hazards and Hazardous Materials Product Design Features		
PDF: All hazardous materials within the Project Site would be acquired, handled, used, stored, transported, and disposed of in accordance with all applicable federal, state, and local requirements In accordance with Section 110.4 of the County of Los Angeles Building Code, the Project development plans shall comply with the required setbacks from oil and gas wells, as determined by the California Department of Conservation Division of Oil, Gas and Geothermal Resources, the County of Los Angeles Department of Public Works, and the Los Angeles County Fire Department. As part of these requirements, buildings or enclosed structures shall not be located in close proximity to an existing well. To be considered not in close proximity to a well, two adjacent sides should be free of structures or property lines for no less than ten feet, with the third side free at a distance to be determined by County of Los Angeles Fire Department according to recommendations by a licensed Civil Engineer and approved by the County Building Official and Fire Department. Ultimately, the distance shall be sufficient to allow room for equipment required for re-abandonment operations if necessary. Any necessary clearance/approvals shall be sought from the County of Los Angeles Department of Public Works Environmental Programs Division, as required. Following construction and prior to the issuance of the first certificate of occupancy, the Applicant would submit an emergency response plan for approval by the County of Los Angeles Fire Department. The emergency response plan would include, but not be limited to, the following: mapping of site access and emergency exits, evacuation routes for vehicles and pedestrians, and locations of the nearest hospitals and fire stations The Project would also comply with applicable fire flow requirements set forth in the Fire Code.		
Hazards and Hazardous Materials Mitigation Measures		
The Project Site has undergone soil testing and excavation to remove contaminated soils resulting from prior uses. None of the construction activities would pose a potentially dangerous safety hazard beyond that associated with the typical use of fuels and oils, and the construction activities would not be expected to emit hazardous emissions (e.g., substantial amounts of sulfur from diesel engines, particulate matter, or carbon monoxide) or utilize acutely hazardous materials due to compliance with regulatory requirements, including proper operation and maintenance of construction equipment. During Project operation, hazardous materials would be used for cleaning purposes, landscaping, and routine maintenance. (**Threshold 5.8-1, Threshold 5.8-2,** and **Threshold 5.8-3)**	**MM 5.8-1:** Prior to issuance of a building permit, the Applicant shall submit to the Los Angeles County Fire Department, the Division of Oil Gas and Geothermal Resources, and any applicable local or state agencies documentation verifying that all inactive oil have been fitted with vent caps unless determined to be unnecessary by the Los Angeles County Fire Department. **MM 5.8-2:** Prior to issuance of a building permit, the Applicant shall submit to the Los Angeles County Fire Department documentation verifying that vapor barriers are installed on all homes within 300 feet of any abandoned oil wells. **MM 5.8-3:** If during grading and excavation previously unidentified soil contamination is observed, by sight or smell, or indicated by testing (by a qualified professional using a portable volatile organic compound analyzer) grading and excavation within the area shall be temporarily halted and redirected around the area at a minimum of 25 feet, until the appropriate evaluation and follow-up measures (as contained in the South Coast Air Quality Management District's Rule 1166) are implemented to make the area suitable for grading activities to resume. The contaminated soil shall be evaluated and excavated/disposed of, treated in-situ (in place), or otherwise managed and disposed of in accordance with all applicable federal, state, and local laws and regulations.	With implementation of **Mitigation Measures MM 5.8-1** through **MM 5.8-3,** impacts would be less than significant.

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Hazards and Hazardous Materials Mitigation Measures (continued)		
Given the low potential for further soil and groundwater contamination from past oil drilling activities at the Project Site and the lack of sites identified as environmental risk sites near the Project Site, the Project would not create a significant hazard to the public or environment, and impacts would be less than significant. **(Threshold 5.8-4)**	No mitigation measures are required.	Less than significant
The Project Site is not located within an airport land use plan or within two miles of a public or private airport. In addition, the proposed residential structures and associated amenities would be approximately 30 feet in height and therefore would not affect air traffic patterns. (**Thresholds 5.8-5** and **5.8-6**).	No mitigation measures are required.	Less than significant
The Project would not interfere with or physically impair an adopted emergency response plan or emergency evacuation plan. Roadway linkages included as a component of the Project would improve access to the Project Site for both residences and emergency personnel. (**Threshold 5.8-7**)	No mitigation measures are required.	Less than significant
Given the Project Site's location within a VHFHS Zone, the Project would be required to comply with all applicable Fire Code and County ordinance requirements regarding construction, access, water mains, fire hydrants, fire flows, and brush clearance for this zone. In addition, a final fuel modification plan would be submitted for review and approval to the Forestry Division of the County Fire Department before the issuance of building permits. **(Threshold 5.8-8 (i))**	**MM 5.12.4-1** through **MM 5.12.4-8**.	With implementation of **Mitigation Measures MM 5.12.4-1** through **MM 5.12.4-8** impacts would be less than significant
Although the Project Site is located in VHFHSZ 4, roadway access to the Project Site exists via Hasley Canyon Road. Further, construction of the Project would improve the overall access to the Project Site. A 750,000-gallon water tank is located on the Project Site and an 850,000-gallon water tank is proposed to meet the requirements for water access and pressure. While oil wells and industrial uses are located in close proximity to the Project Site, all hazardous uses are regulated and permitted by LACFD and must abide by all permit restrictions and applicable measures. **Threshold 5.8-8 (ii)** through **(iv)**)	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Hazards and Hazardous Materials Mitigation Measures (continued)		
Development of the Project in combination with the Related Projects has the potential to increase the risks associated with the accidental release of hazardous materials into the environment. The Project and related projects would comply with all applicable local, state, and federal rules and regulations. Increased vehicle traffic generated at buildout of the Project and the Related Projects could adversely affect the operating condition of the local roadway network. Increased cumulative traffic could slow fire response times in a VHFHS Zone. Implementation of the PDF included in **Section 5.14, Transportation/Traffic** which requires maintenance of emergency access during construction would ensure adequate traffic flow in the event of an emergency. **(Cumulative Impact)**	No mitigation measures are required.	Less than significant
HYDROLOGY		
Hydrology Mitigation Measures		
Energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters are proposed to be installed along Hasley Canyon Creek to reduce velocities of runoff into the channel. During the construction phase, prior to construction of proposed energy dissipaters, impacts that could occur without construction mitigation would be expected to include localized erosion and increased localized sedimentation as a result of changes to creek velocity and water surface elevation. After grading and development, the resulting drainage areas would convey storm runoff through a series of desilting basins, catch basins, inlets and storm drains and continue to flow southerly towards Hasley Canyon Creek or southeasterly towards Castaic Creek. **(Threshold 5.9.1-1)**	No mitigation measures are required.	Less than significant
The Proposed Project would alter the drainage pattern of the Project Site as impervious surfaces on the Project Site would decrease the amount of clear flow runoff from and through the subject site. The PDFs described in **Section 5.9.1-1** would reduce erosion and siltation during construction and operation. **(Threshold 5.9.1-2)**	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Hydrology Mitigation Measures (continued)		
For proposed drainage systems, runoff from the Project will be conveyed through underground stormwater conveyance infrastructure. The design of the underground stormwater conveyance infrastructure will comply with LACDPW requirements for "Storm Drains and Urban Flood Protection" to minimize flood hazards. **(Threshold 5.9.1-3)**	No mitigation measures are required.	Less than significant
The 497 single-family dwelling units would not be constructed near the floodway. Operation of the Project would not expose residents to significant risks including injury or death as a result of flooding or the failure of a levee or dam. **(Threshold 5.9.1-4, Threshold 5.9.1-5,** and **Threshold 5.9.1-6)**	No mitigation measures are required.	Less than significant
No structures on the Project Site would be constructed in an area susceptible to inundation by, seiche, tsunami, or mudflow. (**Threshold 5.9.1-7)**	No mitigation measures are required.	Less than significant
The boundary of the approximate 128,000-acre tributary watershed to Hasley Canyon Creek and Castaic Creek in which the Project Site is located is the appropriate geographic area for such an analysis at the cumulative project level. Therefore, attention is focused in this cumulative impact analysis on the potential flood impacts of the buildout of the tributary watershed in which the Project Site is situated. As discussed in **Section 5.9.1,** the analyses demonstrate that development of the Project, which must comply with all County requirements, would not create any significant impacts. Project design would be in compliance with all applicable site design requirements to ensure that the Project conditions will cause no incremental contribution to the cumulative impact of watershed-wide development. **(Cumulative Impact)**	No mitigation measures are required.	Less than significant
WATER QUALITY		
Water Quality Project Design Features:		
PDF: The homeowners association (HOA) shall implement covenants, conditions and restrictions (CC&Rs) providing for a regular street sweeping program, a public education program regarding the proper application, storage, and disposal of pesticides, fines for littering, and the provision of storm drain stenciling stating "No Dumping-Drains to Waterways." Common area litter control shall include a litter patrol, covered trash receptacles, emptying of trash receptacles in a timely fashion, and noting trash violations by tenants/homeowners and reporting the violations to the owner/HOA for investigation.		

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Water Quality Mitigation Measures		
During project construction, BMPs would be implemented in compliance with the Construction General Permit and the general waste discharge requirements. The Project would reduce or prevent erosion and sediment transport and transport of other potential pollutants from the Project Site during the construction phase through implementation of BMPs meeting BAT/BCT in order to prevent or minimize environmental impacts and to ensure that discharges during the project construction phase would not cause or contribute to any exceedance of water quality standards in the receiving waters. Through implementation of the PDFs, including BMPs and source controls, the Project would comply with federal and state legally required water quality standards and waste discharge requirements with respect to operation-related runoff. **(Threshold 5.9.2-1)**	No mitigation measures are required.	Less than significant
Construction impacts due to project development would be minimized through compliance with the General Permit. A Construction Site Monitoring Program that identifies monitoring and sampling requirements during construction is a required component of the SWPPP. The Project will include stormwater management requirements and quality control measures, as well as hydromodification controls. **(Threshold 5.9.2-2)**	No mitigation measures are required.	Less than significant
The stormwater quality control measures and hydromodification treatment requirements specified in the LA County LID manual will be satisfied by the final engineering design for the Project which will provide for multiple basins distributed throughout the Project Site. **(Threshold 5.9.2-3)**	No mitigation measures are required.	Less than significant
The Project Site is not within an Area of Special Biological Significance and the Project does not propose any on-site wastewater treatment systems. As such, the Project would not result in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance, or result in the use of onsite wastewater treatment systems in areas with known geological limitations. **(Threshold 5.9.2-4** and **Threshold 5.9.2-5)**	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Water Quality Mitigation Measures (continued)		
Basins designed on the Project Site are designed specifically to be drained or infiltrated within a time limit, (i.e.; 72 hours) that precludes proliferation of mosquitos), thus standing water would not accumulate. **(Threshold 5.9.2-6)**	No mitigation measures are required.	Less than significant
The Project's surface runoff water quality, after PDFs, both during construction and post development, will comply with adopted regulatory requirements that are designed by the Los Angeles RWQCB to assure that regional development does not adversely affect water quality, including SUSMP requirements; General Permit and General Dewatering Permit requirements; and benchmark Basin Plan water quality objectives, California Toxic Rules criteria, and TMDLs. **(Threshold 5.9.2-7)**	No mitigation measures are required.	Less than significant
Runoff generated from construction and operation activities from the majority of the Related Projects would not drain into Hasley Canyon Creek, and therefore would no combine with the Project to create a cumulative impact related to water quality. Related projects would be required to comply with the County's LID Ordinance and ensure all water features would not result in conditions conducive to mosquito habitats, as well as include mitigation measures to minimize the effects of stormwater runoff which could impact the quality of surface water and groundwater and/or violate water quality standards including NPDES permits. (**Cumulative Impact**)	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
LAND USE		
Land Use Project Design Features		
PDF: Reduce Heat Island Effect. Tree canopy cover, light colored paving, and roofing materials will be used to reduce heat island effect. Residential Dwellings Energy Efficiency. All residential dwellings shall be designed and constructed to be a minimum of 15 percent better than the 2013 Energy Code. Clubhouse Building Energy Efficiency. The clubhouse will be designed and constructed to meet zero net electric by incorporating passive solar techniques, high efficiency technologies, ENERGY STAR appliances, solid state LED adaptive lighting; coupled with solar PV to offset electrical loads. Solar Energy CC&Rs. Applicant will develop Solar Energy CC&Rs to protect solar access throughout the community in perpetuity. Model Demonstration - ZNE-TDV. Each builder shall be required to build and demonstrate at least one model at each model complex, a Zero Net Energy (ZNE-TDV) option to potential homebuyers. This is to be consistent with 2013 Title 24, Part 6, Tier 2; 30 percent better than the 2013 energy code and install enough solar photovoltaic (PV) panels to offset 100 percent of the energy load over 12 months. [Note: This ZNE-TDV Tier is expected to be part of the 2016 CALGreen Residential Voluntary Measures; Division A4.2 Energy Efficiency.] Model Demonstration – Recycling Stations. Recycling stations shall be included in every model home. Recycling stations will be a standard feature in all residences to include a minimum of paper, corrugated cardboard, glass, plastics, and metals. Model Demonstration – EV Charging. Electric Vehicle chargers will be installed and functional in at least one model home within each of the model complexes. EV charging will be offered as an option for every potential homebuyer. Los Valles Community Recycling Program. The Project Applicant will develop a community-wide recycling program and design readily available recycling area(s) within the community clubhouse identified for the depositing, storage and collection of non-hazardous materials for recycling to include a minimum of paper, corrugated cardboard, glass, plastics, and metals or meet a lawfully enacted local recycling ordinance if more restrictive. Onsite landscaping clippings will be utilized as mulch within the community common area landscaping and agricultural vineyards and orchards as appropriate. Local Agriculture. Approximately 8.4 acres of vineyards or other productive agricultural uses will be provided on the Project Site. Incorporation of innovative agricultural practices that conserve resources and promote sustainability, such as drip irrigation, hydroponics, and composting will be explored. Community Outdoor Kitchen. A simple outdoor kitchen will be provided for the Los Valles community with places designed for community gatherings. Some possible uses for the outdoor kitchen could be cooking demonstrations, jam making, canning preserves, and winemaking. Homeowner Sustainability Stewardship Program. The Project Applicant will develop Homeowner Sustainability Stewardship Educational Program (Educational Program) which will be made available to all new homebuyers to help educate and build Los Valles Land Stewards for the long-term. This Educational Program can be in the form of electric media rather than printed materials to minimize resource waste.		
Land Use Mitigation Measures		
The Project would redevelop the Project Site to be consistent with the surrounding area by adding housing and open space areas. The Project would increase connectivity by providing new connections to existing roadways and trails. (**Threshold 5.10-1**)	No mitigation measures are required.	Less than significant
As shown in **Tables 5.10-1** and **5.10-2,** the Project would be consistent with the goals and policies of the adopted General Plan and the Santa Clarita Valley Area Plan 2012. **(Threshold 5.10-2)**	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Land Use Mitigation Measures (continued)		
The Project would be consistent with the requirements of Section 22.44.137 (d)(ii) (A-F) of the Castaic CSD and the Los Angeles County Zoning Code with respect to ridgeline grading. The Project would be consistent with Castaic CSD's Community-wide Development Standards. **(Threshold 5.10-3)**	No mitigation measures are required.	Less than significant
The Project would not adversely affect the safety of current or future community residents and it would not create significant threats to life and/or property due to the presence of geologic, seismic, slope instability, fire, flood, mud flow, or erosion hazards. In addition, the Project will be required to obtain a conditional use permit as required by the Hillside Management Ordinance. With implementation of the applicable regulatory requirements, the Project will be consistent with the County's hillside development requirements. Local plans, policies, and ordinances germane to the Project also include the Los Angeles County Oak Tree Ordinance. Construction of the Project would result in the loss of one protected oak. An oak tree permit for impacts to the single California live oak resulting from implementation of the Project is part of the Project application. No other impacts are anticipated to occur to the remaining protected oak trees as they occur beyond the grading and fuel modification limits. In combination with the required conditions of the oak tree permit, **Mitigation Measures MM 5.3-5** through **MM 5.3-8** would further protect oak trees. Therefore, conflicts with the Oak Tree Ordinance will not result from the implementation of the Project. Refer to Section **5.3, Biological Resources,** for further information and analysis related to oak tree impacts. **(Threshold 5.10-4)**	**Mitigation Measures MM 5.3-6** through **MM 5.3-8.**	With implementation of **Mitigation Measures MM 5.3-6** through **MM 5.3-8**, impacts would be less than significant.

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Land Use Mitigation Measures (continued)		
Like the Project, development of the Related Projects is expected to occur in accordance with adopted plans and regulations. Therefore, such future projects are not expected to fundamentally alter the existing land use relationships in the community. If plan amendments or zone changes are needed to accommodate particular projects, they would be carried out in accordance with established local procedures, including CEQA review and an evaluation of consistency with policies/regulations adopted for the purpose of avoiding or mitigating a physical impact on the environment. **(Cumulative Impact)**	No mitigation measures are required.	Less than significant
NOISE		
Noise Project Design Features		
PDF: Construction of the Project will require the use of various types of equipment that will generate noise and vibration; however, the Project will not utilize pile drivers or rock splitters, which generally cause the most significant construction noise and vibration. The Project also includes limited agricultural development that is expected to consist of tree crops (e.g., citrus fruit) and vineyards. These types of agriculture are typically harvested by hand and do not require the operation of heavy agricultural equipment for maintenance. Some light-duty trucks may be used on the Project Site to assist in the planting, care, harvesting, and transport of goods from the Project Site.		
Noise Mitigation Measures		
During construction activities related to the paving of Hayward Drive would result in noise levels above the County's 65 dB(A) threshold for activities that last longer than ten days. Ambient noise levels at the nearest residences on Hayward Drive are likely to average 65.0 to 68.7 dB(A) during the key phases of roadway construction. Construction activities for the remaining phases would be reduced to below the County's threshold with mitigation. During operation, noise levels would not exceed County standards. (**Threshold 5.11-1, Threshold 5.11-2, Threshold 5.11-3,** and **Threshold 5.11-4)**	**MM 5.11-1**: The Applicant shall require by contract specifications that the following construction best management practices (BMPs) be implemented by the construction contractor to reduce construction noise and vibration levels: Where construction would occur within 200 feet of existing residential development: • Construction shall be restricted to between the hours of 8:00 AM and 4:00 PM in order to minimize disturbance of nearby residences. • Restricted to between the hours of 8:00 AM and 4:00 PM in order to minimize disturbance of nearby residences. • The construction schedule, including the various types of activities that would be occurring throughout the duration of the construction period, anticipated truck routes, and the potential for noise impacts along local roadways from construction-related vehicles shall be prominently posted on-site during construction stages. When construction is anticipated to occur within 200 feet of residences, notice of the construction schedule shall be mailed to such residences two weeks prior to commencement of activity.	With implementation of **Mitigation Measure MM 5.11-1,** potential noise impacts from extending Hayward Drive during Phase 1 would be substantially reduced at nearby single-family homes. However, these best practices noise mitigations are not likely to reduce ambient noise levels below the County's 65 dB(A) threshold for activities that last longer than ten days.

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Noise Mitigation Measures (continued)		
During construction activities related to the paving of Hayward Drive would result in noise levels above the County's 65 dB(A) threshold for activities that last longer than ten days. Ambient noise levels at the nearest residences on Hayward Drive are likely to average 65.0 to 68.7 dB(A) during the key phases of roadway construction. Construction activities for the remaining phases would be reduced to below the County's threshold with mitigation. During operation, noise levels would not exceed County standards. (**Threshold 5.11-1, Threshold 5.11-2, Threshold 5.11-3,** and **Threshold 5.11-4)**	**MM 5.1-1 (continued)** • Ensure that all internal combustion engine construction equipment is properly muffled or equipped with other noise attenuating devices according to industry standards and in good working condition. • Use specially quieted equipment, such as quieted and enclosed air compressors. • Place noise- and vibration- generating construction equipment and locate construction staging areas 500 feet from sensitive uses, (particularly away from the residential uses located north and east of the Project Site). • Use electric air compressors and similar power tools rather than diesel equipment. • Construction-related equipment, including heavy-duty equipment, motor vehicles, and portable equipment, shall be turned off when not in use for more than 5 minutes. • In areas where natural barriers such as ridgelines are not located between construction activities and existing residences, the construction contractor shall erect temporary construction noise barriers to at least 10 dB(A) of noise from construction activities at 50 feet of distance. The barriers shall be of sufficient height to interrupt the line-of-sight between equipment being used and neighboring residences and/or be rated at a sound transmission class (STC) that is capable of producing the desired reduction in ambient noise levels.[15] These barriers shall be utilized during grading, site clearing, road construction, and paving activities when work will take place within 800 feet from residences. • Construction hours, allowable workdays, and the phone number of the job superintendent shall be clearly posted at all construction entrances to allow for surrounding owners and residents to contact the job superintendent. If the job superintendent receives a complaint, the superintendent shall investigate, take appropriate corrective action, and report the action taken to the reporting party. Contract specifications shall be included in the Project's construction documents. Contractor must keep log of all complaints and resolution which must be provided to the Los Angeles County Department of Regional Planning (LACDRP) within 5 days of request. • Construction equipment and materials shall be delivered to the Project Site at the Hasley Canyon Road entrance to the site.	Ambient noise levels at the nearest residences on Hayward Drive are likely to average 65.0 to 68.7 dB(A) during the key phases of roadway construction. As a result, noise impacts from the extension of Hayward Drive would be considered significant and unavoidable. All other construction noise impacts would be reduced to less than significant with implementation of **Mitigation Measure MM 5.11-1.**

15 *Noise barriers can achieve approximately 1.5 dB of additional noise level reduction for each meter of barrier height above the height that breaks the line of sight.*

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Noise Mitigation Measures (continued)		
	MM 5.11-1 (continued) PDFs in **Section 5.14, Transportation/Traffic** would also reduce potential noise impacts.	
Roadway extensions of Hayward Drive would not result in any significant vibration impacts on existing homes. **(Threshold 5.11-5)**	No mitigation measures are required.	Less than significant
The Project Site is not located within an airport land use plan or within two miles of a public or private airport. Therefore, the Project would not expose people residing or working in the Project area to excessive noise levels associated with a public or private airport or from a private airstrip. As such, no further analysis of **(Threshold 5.11-6** and **Threshold 5.11-7)**	No mitigation measures are required.	Less than significant
Based on the attenuation of noise over distance, there is no potential for stationary noise within the Project Site to contribute to a cumulative noise increase at a distance of 4,000 feet. As shown in **Table 5.11-20,** cumulative with project noise increases would be less than 3 dB(A) along the roadway segments analyzed. Based on the modeled results, cumulative plus project mobile source noise levels would result in a less than significant impact to on- and off-site noise-sensitive land uses. **(Cumulative Impact)**	No mitigation measures are required.	Less than significant
LIBRARY SERVICES		
Library Services Mitigation Measures		
The project would result in increased demand for education facilities. **(Threshold 5.12.1-1)**	**MM 5.12.1-1:** Prior to issuance of each residential building permit, the Applicant shall pay the applicable library facilities fee in effect at the time of issuance of such permit.	With implementation of **Mitigation Measure MM 5.12.1-1,** impacts would be less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Library Services Mitigation Measures (continued)		
The existing County library facilities closest to the Project Site do not meet the existing level of service set by the County. The County has implemented a fee system as a means of mitigation. The fee has been established at a level determined by the library department to meet its facility equipment needs in conjunction with other County funds available. As with the Project, each Related Project would be required to contribute to the County's Library mitigation fee which would mitigate potential impacts. (**Cumulative Impact**)	No mitigation measures are required.	Less than significant
EDUCATION		
Education Mitigation Measures		
The Project would result in increased demand for education facilities. (**Threshold 5.12.2-1)**	**MM 5.12.2-1:** The Applicant shall pay all required education facilities fees in accordance with the requirements of the Castaic Union School District and the William S. Hart Union School District at the time of issuance of each building permit for residential or commercial (clubhouse) construction within the Project Site.	With implementation of **Mitigation Measure MM 5.12.2-1** impacts would be less than significant.
The addition of students as a result of the Project and related projects would exceed the capacity at existing schools and could result in a cumulative impact on the current school districts. However, as with the Project, each related project would be required to pay the appropriate education facilities fees which would mitigate impacts on schools. (**Cumulative Impact**)	No mitigation measures are required.	Less than significant
SHERIFF SERVICES		
Sheriff Services Project Design Features		
PDF: The Applicant, or designee, shall require that if necessary, the use of nighttime lighting during Project construction be limited to only those areas on the construction site requiring illumination; and further shall require that all work and any security lighting be properly shielded and projected downwards, such that light is directed only onto the work site and minimizes light spillover on adjacent uses. Lighting shall consist of the minimum wattage necessary to provide safety at the construction site. The Applicant, or designee, shall have temporary green screen construction fencing of between six and eight feet tall placed along the Project frontage on Hasley Canyon Road. Green screen fencing shall also be placed around any active construction areas on the Project Site, to provide security and to screen construction activity from view. The Applicant, or designee, shall require that all operational outdoor lighting along the Project Site boundary consist of high-efficacy solid state LED (Light Emitting Diode) bi-level adaptive lighting, equipped with full cut off optics that allow no light at or above 90 degrees, so as to illuminate the intended surface and minimize light spillover. During construction, the Applicant shall retain the services of a private security firm to monitor the Project Site.		

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Sheriff Services Mitigation Measures		
The Project would result in increased demand for sheriff services. (**Threshold 5.12.3-1)**	**MM 5.12.3-1:** Prior to approval of the final Project design, lighting, and landscape plans, the Applicant shall provide to the Sheriff's Department final design plans incorporating the Sheriff's Department design requirements that could reduce demands for service and ensure adequate public safety shall be incorporated into the building, lighting, and landscape designs. The design requirements for this project shall include: • Security lighting in open areas and parking lots; • Street lighting for the Project's streets; • Good visibility of doors and windows from the streets and between buildings on the Project Site, and • Building address numbers on both residential and commercial/retail uses that are lighted and readily apparent from the streets for emergency response agencies. • Use of low-growing groundcover and shade trees, where feasible, rather than a predominance of shrubs that could conceal potential criminal activity around buildings and parking areas. **MM 5.12.3-2:** The Applicant shall pay the County's required law enforcement facilities impact fee prior to or concurrent with the issuance of building permits.	With implementation of **Mitigation Measures MM 5.12.3-1** and **MM 5.12.3-2** impacts would be less than significant.
Increased revenues from property tax and special tax revenue from the related projects can be used to fund increases in staffing and equipment. In addition the Sheriff's Department has established a law enforcement fee at a level determined by the Sheriff's Department to meet its facility and equipment needs in conjunction with other County funds available to it. Furthermore, all proposed projects are required to submit to the Sheriff's Department project site designs during the planning and building plan-check process. In conformance with normal County procedures, these plans shall be reviewed by the Sheriff's Department with respect to lighting, landscaping, building access, and visibility, street circulation, building design and defensible space. Incorporation of such reviews would avoid any significant cumulative impacts to Sheriff facilities. (**Cumulative Impact**)	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
FIRE SERVICES		
Fire Services Mitigation Measures		
Compliance with County Code requirements and the implementation of a Construction Management Plan would assist in mitigating potential fire-related impacts. Prior to grading activities, confirmation of adequate access to water supply as well as clear vegetated would be required. The Project would result in increased demand for fire protection services. (**Threshold 5.12.4-1)**	**MM 5.12.4-1:** Clearance of vegetated areas fuel modification in each area of the Project Site shall be conducted prior to issuance of building permits within that area, in accordance with Los Angeles County Fire Department requirements. **MM 5.12.4-2:** Prior to issuance of a grading permit, the Applicant shall demonstrate to the County adequate water supply (including fire flow) is available to service any fire suppression activities that arise during the grading stage of the Project. Prior to issuance of the first building permit for the Project, the Applicant shall demonstrate to the County adequate water supply (including fire flow) is available to service any fire suppression activities that arise during the building construction stages of the Project. **MM 5.12.4-3:** In accordance with the County of Los Angeles Fire Department requirements, all required fire hydrants shall be installed, tested and accepted or bonded prior to construction. These hydrants shall be located in conformance with Los Angeles County Fire and Building Codes. Vehicular access shall be provided and maintained throughout construction to all required fire hydrants. All hydrants shall conform to current American Water Works Association standard C503 or approved equal and the requirements of the Los Angeles County Fire and Building Codes. **MM 5.12.4-4:** Fire Department access shall be extended to within 150 feet distance of any exterior portion of all structures. **MM 5.12.4-5:** Prior to issuance of the first building permit for a residential structure, the Applicant shall submit a Final Fuel Modification Plan, and a Landscape and Irrigation Plan to the Los Angeles County Fire Department for review and approval. **MM 5.12.4-6:** Prior the issuance of the first building permit for a residential structure, the Applicant shall submit a fire exhibit that depicts detailed design requirements to the County of Los Angeles Fire Department. The fire exhibit shall include the following elements: • Location of water mains and fire hydrants, and acknowledgement of fire flow requirements, as required by the Los Angeles County Fire Department, for all land shown on the recorded vesting final tract map. • All fire lanes must not be less than 26 feet paved width (clear to sky and unobstructed) and posted and red curbed "NO PARKING – FIRE LANE." • Private driveways shall be indicated on the final vesting tract map as "Private Driveway and Fire Lane," with the widths clearly depicted, and shall be maintained in accordance with the Fire Code.	With implementation of **Mitigation Measures MM 5.12.4-1** through **MM 5.12.4-8** impacts would be less than significant.

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Fire Services Mitigation Measures (continued)		
	MM 5.12.4-7: The Applicant shall provide the Los Angeles County Fire Department with street signs and building access numbers for review and approval prior to issuance of the first certificate of occupancy. **MM 5.12.4-8:** Concurrent with the issuance of building permits, the Applicant shall pay the required fire protection facilities fees to the County of Los Angeles.	
As with the Project, related projects and future development would be required to comply with code regulations related to fire safety, access, and fire flow, as well as implement mitigation measures to mitigate any potentially significant impacts to fire services. This includes the payment of any required fees in accordance with the Developer Fee program. **(Cumulative Impact)**	No mitigation measures are required.	Less than significant
RECREATION		
Recreation Project Design Features		
PDF: As a condition to recording of the last phase of the final tract map, the Applicant will dedicate approximately 3,000 linear feet of multi-use trail to the County. The Applicant will be responsible for all costs associated with construction of the trail. The trail will be designed in accordance with the County's standard trail design in terms of width and materials. The Applicant will construct a 7.45 acre park that will be offered by dedication to the County, or if the County does not seek dedication will be maintained as a publicly accessible trail by the HOA.		
Recreation Mitigation Measures		
The Project will include 7.45 acres of improved neighborhood parkland. 28.28 acres of secondary parks, and approximately 4.5 miles of pedestrian trails throughout the Project Site. The Project would provide parkland in excess of the local standard of 4 acres per 1,000 persons. (**Threshold 5.13-1,** and **Threshold 5.13-5)**	No mitigation measures are required.	Less than significant
Construction of the Project's proposed park and recreation facilities on the Project Site are evaluated as part of the overall evaluation of impacts under this Draft EIR and would not have impacts on the environment in addition to those otherwise described in this document with respect to Project grading and construction. **(Threshold 5.13-2)**	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Recreation Mitigation Measures (continued)		
The Project would be consistent with the County General Plan Conservation and Open Space Element. Also, as demonstrated under **Threshold 5.13-1**, the Project would provide adequate neighborhood parkland to meet the County's numerical standard of 7.04 acres. **(Threshold 5.13-3)**	No mitigation measures are required.	Less than significant
Approximately 3,000 linear feet of multi-use trail will be developed and dedicated to the County of Los Angeles Department of Parks and Recreation. Therefore, the Project would provide a benefit by increasing regional open space connectivity (by adding a missing trail linkage) and would provide expanded opportunities for regional open space connectivity. (**Threshold 5.13-4)**	No mitigation measures are required.	Less than significant
The Project includes 225.02 acres of open space, parks, and trails and meets the Quimby Act and County's local requirements. Further, future development projects would be subject to the Quimby Act and County requirements, which would mitigate the demand associated with each future project through dedication of parkland or payment of fees. **(Cumulative Impact)**	No mitigation measures are required.	Less than significant
TRANSPORTATION/TRAFFIC		
Transportation/Traffic Project Design Features		
Prior to issuance of an encroachment permit within the public right-of-way, the Permittee, in coordination with LACDPW, shall submit a Traffic Control Plan to be implemented during construction of the Project. The Traffic Control Plan shall identify all traffic control measures, signs, and delineator to be implemented by the construction contractor through the duration of the construction activities associated with Project improvements within public right-of-way. The Traffic Control plan shall be subject to final approval by LACDPW. If any additional agencies require approval, it will be the responsibility of the Applicant to obtain such approvals.		
Transportation/Traffic Mitigation Measures		
Construction workers are not all likely to arrive at the construction site within the same hour nor would they all leave the site at the same time. However, it has been conservatively assumed as a "worst case" that all the workers (i.e., 88 vehicles) will arrive during the morning peak commuter hour and that all the workers (i.e., 88 vehicles) will depart in a single hour during the afternoon peak commuter hour.	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Transportation/Traffic Mitigation Measures (continued)		
The Project's 497 dwelling units would generate 4,756 daily trip ends (approximately 2,378 inbound trips and 2,378 outbound trips) during a typical weekday. Based on the Traffic Impact Study's trip generation forecast, which was approved by LACDPW, the Project would add up to 373 trips (93 inbound trips and 280 outbound trips) during the AM peak hour and 502 trips (316 inbound trips and 186 outbound trips) during the PM peak hour. No project level intersection impacts would occur.		
Based on the results of Peak Hour Volume Warrant for Future Cumulative with Project conditions, a traffic signal is not recommended for installation at the Project Site/Hasley Canyon Road intersection at this time. However, the Applicant would be required to monitor peak hour traffic volumes at the Project Site access intersection with Hasley Canyon Road to determine if future traffic volumes (and other factors determined by the Department of Public Works) will trigger the need for the installation of a traffic signal at the intersection. **(Threshold 5.14-1)**	**MM 5.14-1:** As a condition to recording of the last phase of the final tract map, the Applicant shall provide a performance bond for 100 percent of the estimated costs of installation of a traffic signal at the intersection of Hasley Canyon Road and the Project Site main entrance. Commencing upon issuance of the certificate of occupancy for the 450th unit and for up to four successive years thereafter, a peak hour warrant analysis shall be conducted annually per LACDPW standards to determine if a traffic signal is warranted. The Applicant shall be responsible for the costs associated with the warrant analysis and the installation of the traffic signal if determined to be necessary following the completion of the peak hour warrant analysis. The bond shall be released by the County upon the completion of the warrant studies with no traffic signal required or completion of construction of the traffic signal by the Applicant.	With implementation of **Mitigation Measure MM 5.14-1** impacts would be less than significant.
The Project would not conflict with the CMP. **(Threshold 5.14-2)**	No mitigation measures are required.	Less than significant
At full buildout, the Project includes the construction of 497 single-family dwelling units and associated amenities. Housing structures are proposed at no more than two stories and would not result in a change to air traffic patterns. Development of the Project would not result in the construction of roadways that include sharp curves or dangerous intersections. Farm equipment may be used for vineyard or orchard activities but given the small scale of the agricultural areas, and the relative small usage of specialized farming equipment, no adverse impacts would be expected. **(Threshold 5.14-3** and **Threshold 5.14-4)**	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Transportation/Traffic Mitigation Measures (continued)		
A Construction Management Plan would be implemented during off-site construction to provide for temporary traffic controls to ensure adequate emergency access to all residences and businesses adjacent to the roadways impacted by utility construction activities. The proposed street alignments would be reviewed by the Los Angeles County Department of Public Works for consistency with County standards for residential streets prior to construction, ensuring that adequate rights-of-way and turning radiuses for emergency vehicles are provided **(Threshold 5.14-5)**.	No mitigation measures are required.	Less than significant
The Project would be consistent with existing County policies regarding alternative transportation (See **Section 5.10, Land Use**). **(Threshold 5.14-6)**	No mitigation measures are required.	Less than significant
The Project is estimated to generate demand for 18 transit trips during AM peak hour and 25 transit trips during the PM peak hour and 233 daily trips. This would result in approximately 3 to 4 additional transit riders per bus on average during the AM and PM peak hour. **(Threshold 5.14-7)**	No mitigation measures are required.	Less than significant
The majority of construction workers on all related projects are anticipated to arrive and depart the individual construction sites during off-peak hours, consistent with the permitted construction hours of the local jurisdictions and typical construction work hours, thereby minimizing trips during the AM and PM peak traffic periods The County's Bridge and Major Thoroughfare Construction Fee District Report (February 2011) states that Henry Mayo Drive (SR-126) would be widened from two to four through lanes in each direction in the vicinity of the Commerce Center Drive intersection. Additionally, a full-movement, grade separated interchange at this intersection is proposed under the County's report. According to Los Angeles County Department of Public Works, construction of the project began in summer 2013 and is scheduled to conclude in 2016. **(Cumulative Impact)**	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
WATER SUPPLY		
Water Supply Mitigation Measures		
Temporary disruptions to water service in the vicinity during the construction of the new pipeline could occur. Such temporary disruptions in water service are generally planned in advance to avoid peak demand times and advance notification would be given. The Project is projected to have a demand for 574 afy of potable water from the LACWWD 36. Prior to water deliveries to the Project Site, the Applicant would be required to upgrade and install approximately 5,500 linear feet of a 16-inch-diameter pipeline from the CLWA supply turnout at the junction of Hasley Canyon Road/Commerce Center Drive and The Old Road, to the existing 16-inch pipeline along Hasley Canyon Road. Water demand associated with the Project would be served by existing LACWWD 36 supplies under normal, single dry and multiple dry years, for 20 years, and the development of the Project would not result in the need for new or expanded water supply entitlements. **(Threshold 5.15.1-1** and **Threshold 5.15.1-2)**	**MM 5.15-1.1**: Prior to issuance of a grading permit, the Applicant will obtain a will serve letter from LACWWD 36 that indicates the water district's commitment to serve the Project. The will serve letter shall be provided to the County Department of Public Health.	With implementation of **Mitigation Measure MM 5.15.1-1**, impacts would be less than significant
The Project Site is situated on a currently undeveloped, partially graded 430.4-acre site in the northwesterly portion of the Santa Clarita Valley. As a result, in the existing condition some recharge from precipitation occurs within the Project Site. Rainfall over the Project Site generates runoff flows that percolate through permeable soils into the Saugus Formation aquifer both on-site and in adjacent drainages. The Project is not expected to result in a significant change in groundwater recharge in the vicinity of the Project Site. **(Threshold 5.15.1-3)**	No mitigation measures are required.	Less than significant

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Water Supply Mitigation Measures (continued)		
Reliable access to imported water and groundwater supplies, as well as recycled water supplies, have allowed water producers within CLWA's service area to historically meet water demands, including during single and multiple dry years. Based on the reliability of water resources available to LACWWD 36, including LACWWD 36's access to Saugus Formation water supplies and imported water supplies and taking into account existing and planned future water uses (including relevant agricultural and manufacturing uses), the WSA concluded that LACWWD36 has sufficient, reliable, and sustainable water supplies to meet existing water demands and future growth, including the Project, during normal, single dry and multiple dry years, for twenty years. **(Cumulative Impact)**	No mitigation measures are required.	Less than significant
SOLID WASTE		
Solid Waste Project Design Features		
PDF:	The following project design features (PDFs) would be implemented to reduce the Project's solid waste generation rate during the construction and operation periods: Provide information to residents about curbside recycling and where to obtain additional information regarding the full range of the Los Angeles County's recycling programs, including those for hazardous materials and E-waste. Provide residents with color-coded bins (typically blue, black, and green) for the separation of recyclable material for solid waste collection. The Project shall comply with Title 20, Chapter 20.87, of the Los Angeles County Code, Construction, and Demolition Debris Recycling. The Applicant shall also provide a Construction and Demolition Debris Recycling and Reuse Plan to recycle, at a minimum, 65percent of the construction and demolition debris. The Construction and Demolition Debris Recycling and Reuse Plan shall be provided to the LACDPW for review and approval, prior to the issuance of the grading permit. To reduce the volume of solid waste generated by the operation of the Project, a solid waste management plan shall be developed by the Applicant. This plan shall be reviewed and approved by the County of Los Angeles Health Department. The plan shall identify methods to promote recycling and re-use of materials, as well as safe disposal consistent with the policies and programs contained within the SRRE. Methods shall include providing recycling bins for each single-family residence and shall set a goal of solid waste diversion program of 75 percent for Project operations (as mandated under the County's waste management ordinance beginning in 2020). The Applicant will develop a community-wide recycling program and design readily available recycling area(s) within the community clubhouse identified for the depositing, storage and collection of non-hazardous materials for recycling to include a minimum of paper, corrugated cardboard, glass, plastics, and metals or meet a lawfully enacted local recycling ordinance if more restrictive. Onsite landscaping clippings will be utilized as mulch within the community common area landscaping and agricultural vineyards and orchards as appropriate. All builders within Los Valles will be required to design recycling stations within all residential units to include a minimum of paper, corrugated cardboard, glass, plastics, and metals or meet a lawfully enacted local recycling ordinance if more restrictive. The Project shall comply with at least two voluntary measures included in Appendix A4 of the CALGreen Building Code. At the time of final inspection, an Operations & Maintenance Manual shall be kept on the Project Site. The manual shall include operation and maintenance instructions for equipment and appliances, landscape equipment, and roof and yard drainage, located on the Project Site.	

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Solid Waste Mitigation Measures		
The Project would generate 38,595.57 tons of construction waste. The total yearly amount of solid waste (not including the 75 percent diversion rate) generated by the Project would represent 0.0003 percent of the remaining capacity (319,950,970 tons) at the surrounding Class III landfills **(Threshold: 5.15.2-1)**	No mitigation measures are available to mitigate this impact.	Because Los Angeles County has not definitively identified an adequate supply of landfill space beyond 2027, for purposes of this analysis, the Project's solid waste generation is conservatively assumed to result in a significant and unavoidable impact.
Project construction and operation would comply with all applicable federal, state, and local statutes and regulations related to solid waste disposal. **(Threshold 5.15.2-2**)	No mitigation measures are required.	Less than significant
The Project and related projects' construction and operation would generate solid waste; cumulatively increasing the amount of solid waste generated and disposed of in surrounding landfills and waste facilities. **(Cumulative Impact)**	The Project would result in cumulative solid waste impacts that are considered significant and unavoidable. No mitigation measures are available to mitigate this impact.	Until additional landfill space or other disposal alternatives (within and outside of the County) that can adequately serve the Project and related projects are identified, cumulative solid waste impacts are considered significant and unavoidable.
WASTEWATER		
Wastewater Project Design Features		
PDF: As discussed in **Section 5.15.1, Water Supply**, the Project would include project design features (PDFs) with regard to water conservation to reduce water demand, which would also serve to reduce associated wastewater generation. These include high efficiency fixtures in the residences, park restroom facilities, and community center. The Project uses would not generate wastewater that would require additional treatment beyond that provided to domestic wastewater and sewage lines from bathrooms, restrooms, and kitchens.		

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Wastewater Mitigation Measures		
Construction contractors working on-site would provide portable, on-site sanitation facilities that would be serviced at approved disposal facilities and/or treatment plants. With respect to operation, the Project would construct an onsite wastewater distribution system that would connect to existing sewer pipelines located in Hasley Canyon Road which would be delivered into the SCVJSS system. **(Threshold: 5.15.3-1)**	No mitigation measures are required.	Less than significant
Upon full buildout of the Project, it is anticipated to generate an average of approximately 0.193 mgd of wastewater that would be treated by the SCVJSS. This would not exceed the capacity of the SCVJSS. However, the Project has the potential to impact local sewers maintained by LACDPW. **(Threshold: 5.15.3-2)**	**MM 5.15.3-1** Prior to issuance of a grading permit, the Applicant shall submit to LACDPW for review and approval an addendum to the sewer area study that provides flow data and flow calculations for the LACDPW selected manholes downstream from the Project Site. The Applicant shall be responsible for upsizing any sewer reach determined, based on the LACPDW criteria, to be of insufficient capacity as a result of the addition of Project flow. Replacement of the affected pipe shall occur prior to operation of the Project.	With implementation of **Mitigation Measure MM 5.15.3-1** impacts would be less than significant
Construction-related wastewater disposal impacts would be less than significant, as portable, on-site sanitation facilities would be utilized during construction activities. Developer fees would pay for necessary upgrades to the existing sewage collection and conveyance system to accommodate sewage created by the development of the Project and future related projects. **(Cumulative Impact)**	No mitigation measures are required.	Less than significant
ELECTRICITY AND NATURAL GAS		
Electricity and Natural Gas Project Design Features		
PDF: Site and Building Orientation to Optimize Solar and Wind. Orient the site plan and buildings to optimize solar access, passive and active design techniques and cross breezes through the buildings. Passive Solar techniques, such as daylighting, and other passive techniques, are to be incorporated into the Clubhouse and residential units to help reduce the energy loads. Care will be given in the landscape design to avoid shading roofs with a 110 - 270 degree roof orientation. Solar Photovoltaics (PV) systems are to be installed in the common areas and clubhouse structure to help reduce energy loads. Reduce Heat Island Effect. Provide tree canopy cover, and utilize light colored paving and roofing materials to reduce heat island effect. Comply with cool roof requirements in CALGreen Section A4.106.5.1. Residential Dwellings Energy Efficiency. All residential dwellings shall be designed and constructed to be a minimum of 15 percent better than the 2013 Energy Code. 2013 CALGreen Tier 1. All new residential dwelling units shall comply with the energy efficiency requirements in Section A4.203.1.1 and Section A4.203.1.2.2 and with at least two elective measures from Division A4.1 of the CalGreen Building Code.		

Environmental Impact Summary	Project Design Feature/Mitigation Measures	Level of Significance After Mitigation
Electricity and Natural Gas Project Design Features (continued)		
Solar Ready Roofs. A minimum of 250 square feet of non-shaded roof will be reserved on each home for a solar zone within a 110* - 270* orientation. Clubhouse Building Energy Efficiency. The clubhouse will be designed and constructed to meet zero net electric by incorporating passive solar techniques, high efficiency technologies, ENERGY STAR appliances, solid state LED adaptive lighting; coupled with solar PV to offset electrical loads. CALGreen Energy Efficiency Tier 2. Comply with CALGreen Tier 2 for the clubhouse which equates to 70 percent of the energy budget of 2013 Title 24 Part 6 (a.k.a. 30% better than 2013 Energy Code). Solar Ready Roofs. A sufficient solar zone area will be designed as part of the clubhouse building and shade structures to maximize solar generation, while at the same time, maintaining aesthetic appeal with orientation between 110* - 270*. 2013 CALGreen Tier 1. All residential constructed low-rise buildings will comply with the energy efficiency requirements in Section A4.203.1.1 and A4.203.1.2.1. Solar Energy CC&Rs. Applicant shall develop Solar Energy CC&Rs to protect solar access throughout the community in perpetuity. Model Demonstration - ZNE-TDV. Each builder shall be required to build and demonstrate at least one model at each model complex, a Zero Net Energy (ZNE-TDV) option to potential homebuyers. This is to be consistent with 2013 Title 24, Part 6, Tier 2; 30 percent better than the 2013 energy code and install enough solar photovoltaic (PV) panels to offset 100 percent of the energy load over 12 months. [Note: This ZNE-TDV Tier is expected to be part of the 2016 CALGreen Residential Voluntary Measures; Division A4.2 Energy Efficiency.] Model Demonstration – EV Charging. Each builder will be required to have Electric Vehicle Chargers installed and functional in at least one of the models within each of the model complexes, and offer this as an option for every potential homebuyer. LED Street Lighting. The Project will utilize solid-state LED high efficacy street lighting throughout the Project's private streets, as approved by the local jurisdiction, for significant energy savings, maintenance and operations enhancements.		
Electricity and Natural Gas Mitigation Measures		
The Project will create additional demand for electricity and natural gas, these demands will be within the service capabilities of the service providers. **(Threshold: 5.15.4-1)**	No mitigation measures are required.	Less than significant
New development, including the Project and the Related Projects, would be subject to Title 24, part 6 of the California Administrative code, the Energy Efficiency Standards for Residential and Nonresidential Buildings, which requires use energy efficient appliances, weatherization techniques and efficient cooling and heating systems to reduce energy demand stemming from new development. Greater energy efficiency in building and site design of projects would be met through County policies which require use of shade trees, promote the use of solar panels, encourage development of energy-efficient buildings, and support the establishment of energy-efficient industries. Related projects would be expected to implement similar measures to reduce energy use. **(Cumulative Impact)**	No mitigation measures are required.	Less than significant

3.0 ENVIRONMENTAL SETTING

INTRODUCTION

The purpose of this section is to provide a summary of the existing physical and regulatory conditions for the Project Site and the surrounding area as required by Section 15125 of the *State CEQA Guidelines.* A comprehensive discussion of the existing local environmental conditions is included in each of the environmental topic analyses provided in **Section 5.0, Environmental Impact Analysis**, of this Draft EIR.

3.1 PROJECT LOCATION

Regional Setting

The Project Site consists of approximately 430.4 acres located in the northwesterly portion of the Santa Clarita Valley within the community of Castaic in unincorporated Los Angeles County.[1] The Project Site is located in the Transverse Ranges geologic province of Southern California in the easternmost portion of the Ventura Basin.

Within a regional context, the Project Site is located approximately 50 miles northwest of downtown Los Angeles, immediately west of I-5, north of Hasley Canyon Road, northeast of where Hasley Canyon Road and Del Valle Road intersect, between Gibraltar Lane and Sloan Canyon Road. Primary access to the Project Site is provided from Hasley Canyon Road, located to the south of the Project Site. In addition, Newhall Ranch Road (State Route [SR] 126) is located further south of the Project Site. The location of the Project Site from both a regional and local context is depicted in **Figure 3.0-1, Regional Location Map**, and **Figure 3.0-2, Project Boundary and Environmental Setting**, respectively.

The Project Site lies within the Santa Clara River watershed. The entire watershed of the Santa Clara River basin at the Pacific Ocean is 1,634 square miles in area. The watershed drains portions of the Los Padres National Forest from the north, the Angeles National Forest from the northeast and east, and the Santa Susana Mountains from the south and southeast.

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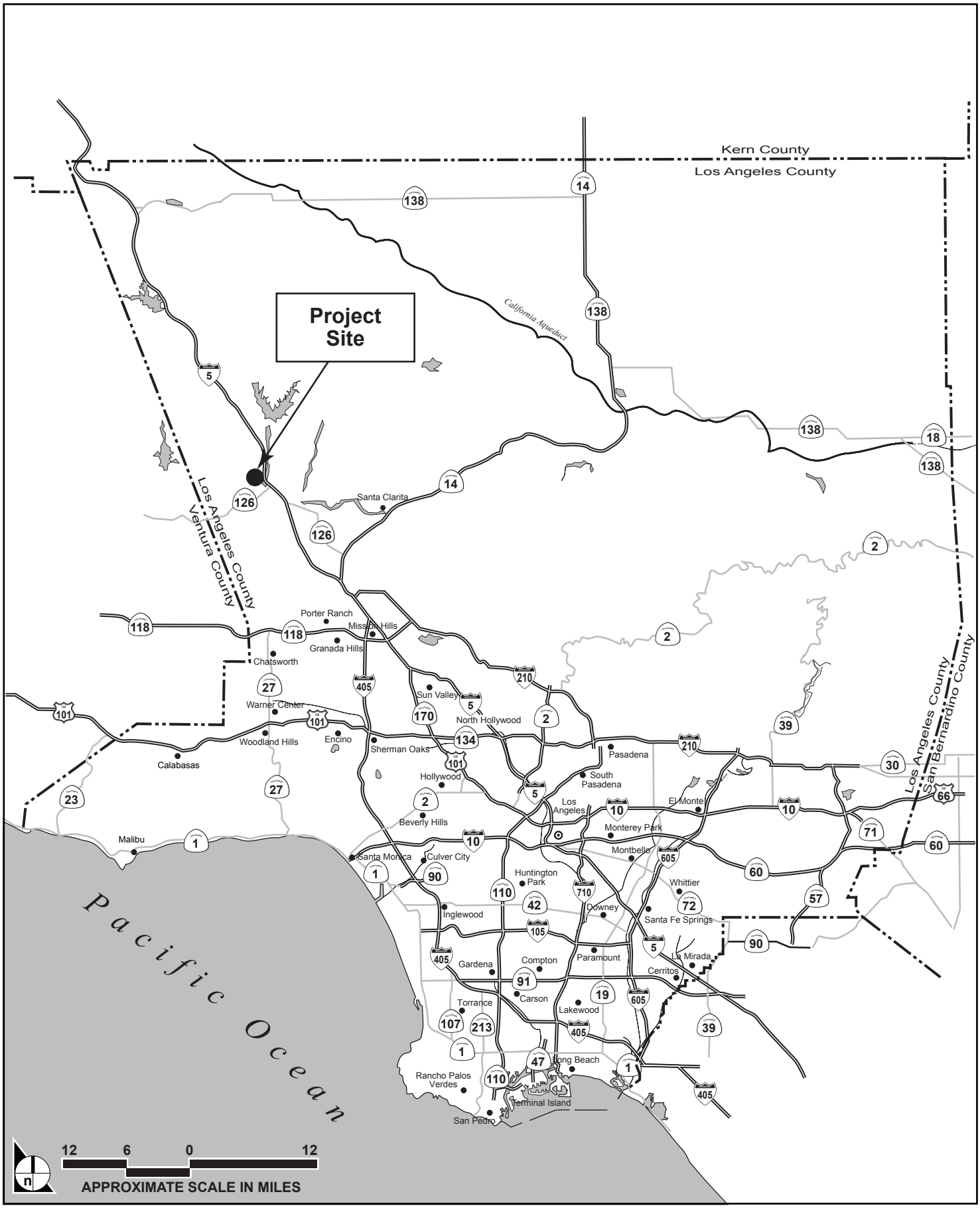
1 The Project Site is comprised of the following APNs: 2866-062-032, 2866-062-033, 3247-032-052 totaling 430.4 acres. As discussed in **Section 4.0 Project Description,** off-site improvement areas for water infrastructure are included as a component of the Project. The primary Project Site address is 28801 Hasley Canyon Road, Castaic, California 91384.



SOURCE: Impact Sciences, Inc., February 2015

FIGURE **3.0-1**

Regional Location Map

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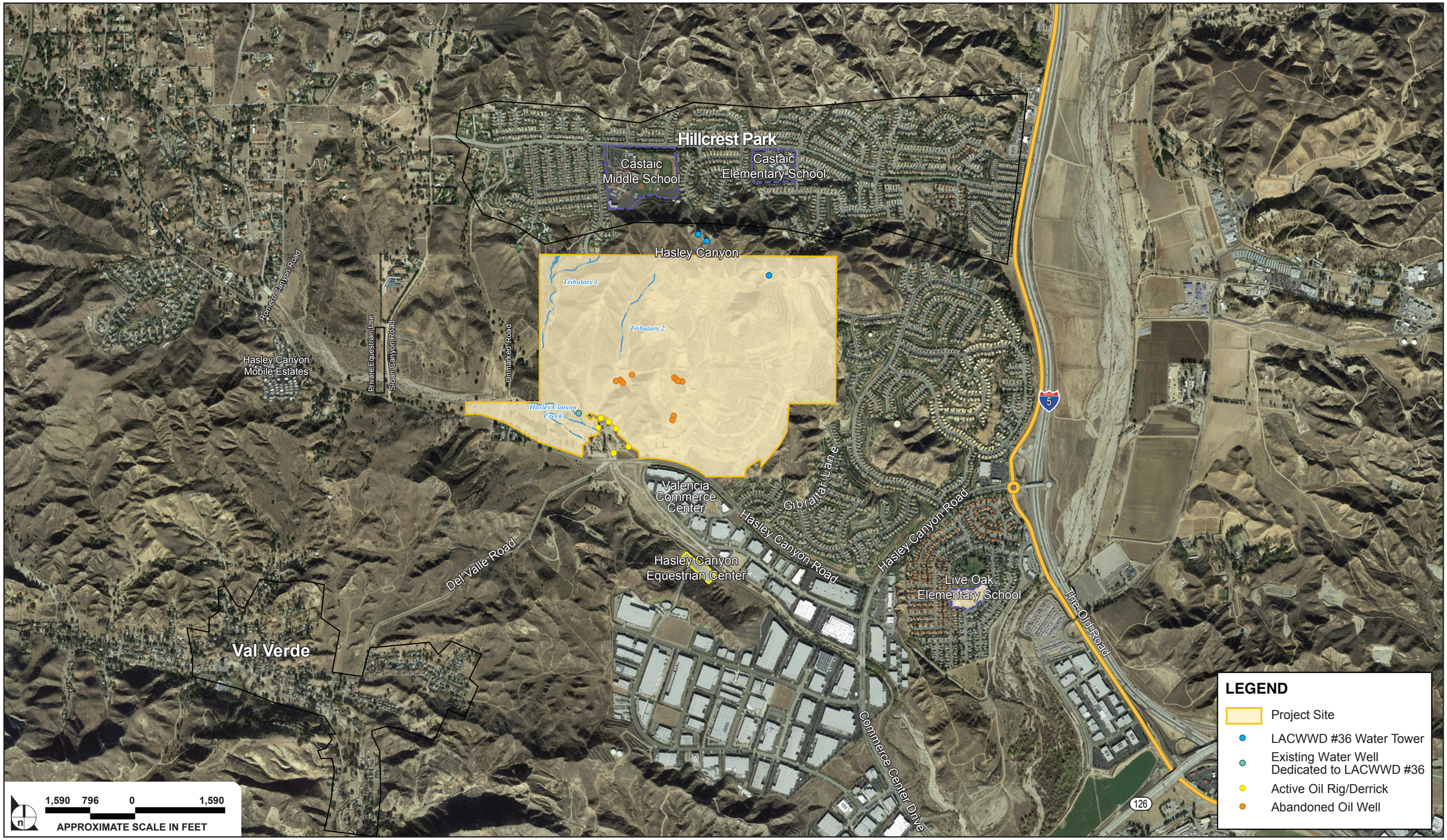

SOURCE: Google Inc., December 2013

FIGURE **3.0-2**

Project Boundary and Environmental Setting

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The majority of the Project Site is located north of Hasley Canyon Creek, with a portion of the Creek flowing west to east across the southern panhandle of the Project Site. The majority of the Project Site drains either directly to Hasley Canyon Creek or to an unnamed tributary of Hasley Canyon Creek. Hasley Canyon Creek, in turn, flows into Castaic Creek which ultimately drains to the Santa Clara River.

Local Setting

The Project Site is generally rectangular in shape, with a panhandle extending to the west along the southerly portion of the Project Site. The Site topography generally consists of north-south to northeast-southwest trending moderate to steep ridgelines, while the eastern and central portions of the Project Site have been previously graded for home pads and as a result are generally level. Elevations on the Project Site range from approximately 1,400 feet above mean sea level in the southern portion of the Project Site to approximately 1,700 feet above mean sea level in the north-central portion of the Project Site. Refer to **Figures 4.0-4a** and **4.0-4b, Existing and Proposed Topography.** As further described below, two ridgelines (referred to herein as an "easterly" and "westerly" ridgeline) previously traversed the Project Site in the locations shown on **Figure 3.0-5, Overview of the Project Site**.

In addition to Hasley Canyon Creek, two unnamed tributaries traverse the Project Site. Tributary One runs in a north to south direction and is located on the western portion of the Project Site, while Tributary Two also runs in a north to south direction and is located towards the central portion of the Project Site. From the Project Site, Hasley Canyon Creek turns southeast and crosses Hasley Canyon Road where it becomes a concrete-sided channel through a light industrial area, then daylights again east of Commerce Center Drive. (Refer to **Figure 3.0-2**).

The Project Site was in use as a golf course from 1963 until the early 1980s. During the 1970s and 1980s the Project Site was in use for oil drilling. The Project Site has been extensively graded as a result of these past activities. In the 1960s approximately 145 acres in the western portion of the Project Site was developed and used as a golf course that included a golf pro shop and related structures. During the 1970s and 1980s, 10 oil wells were installed in the central west portion of the Project Site. These oil wells were closed and properly abandoned in 2003.[2] As part of the previous oil drilling operations, the former golf course pro shop building was used as an office and maintenance shop by the oil company. In addition, two or three mobile homes used by the golf course were on-site in the early 1980s. These structures are no longer present.

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2 As further discussed in **Section 5.8, Hazards and Hazardous Materials,** of this Draft EIR and **Appendix 5.8-31** the 10 oil wells were closed and properly abandoned in April 2003.

In 2002, the County approved Vesting Tentative Tract Map (VTTM) No. 52584 and Conditional Use Permit (CUP)/Oak Tree Permit (OTP) Nos. 98-034-(5) (herein referred to as the Prior Entitlements) which allowed the development of 209 single-family lots and a private 243-acre golf course on the Project Site. As a result of these approvals, from 2006 through 2008, a prior owner of the Project Site carried out substantial construction activity to develop the Prior Entitlements. This construction activity, which was never completed, included significant landform grading (in excess of 12 million combined cubic yards) over approximately 66 percent of the Project Site (approximately 285 acres) and infrastructure installation, including partial installation of electrical, storm drains, sewers, graded roadways, golf course fairways, and home pads. The electrical, sewer, and storm drains were trenched and installed within the confines of the graded portions of the Project Site. As part of this construction, a 750,000-gallon water tank water tank was built in the northeast portion of the Project Site, but it is not currently in use. A drain outlet is located east of the water tank along Hayward Drive. The majority of the grading and site preparation focused on the 243 acres associated with the proposed golf course. Home pads, roadways, and fairways were rough graded, but no fine grading or home construction commenced. Tunnels were constructed on the Project Site for use by golf carts. Only minor grading occurred on the western portion of the Project Site. No other vertical structures were constructed in connection with the Prior Entitlements.[3] All of the roads on the Project Site remain unpaved. No electrical or natural gas infrastructure exists on the Project Site; however above ground electrical poles are located along Hasley Canyon Road.[4]

Small groups of Mainland holly leaf cherry alliance are located in the northwest corner of the Project Site along an un-named ephemeral streambed that is a tributary to Hasley Canyon Creek. Presently the mainland cherry vegetation is in poor health, a condition most likely due to a combination of low rainfall and deep incision of the channel beyond the reach of many roots (see photographs in **Appendix 5.3-5**). Based on site evaluation it is apparent that erosion from runoff from the adjacent development to the north has resulted in the majority of holly-leaf cherry trees dying and/or falling into the drainage course, thus reducing over 1.3 acre of this alliance to 0.36 acre.

As shown in **Figure 3.0-3, SWPPP Basins on the Project Site,** approximately 26 man-made storm water pollution prevention (SWPP) basins are located on the Project Site and are maintained as required by the Regional Water Quality Control Board. The basins are located throughout the site and require routine maintenance to reduce potential ponding on site resulting in flooding of nearby offsite areas including

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3 As a continuation of the work undertaken as part of the Prior Entitlements, the Applicant for the Project completed construction of a water well and a related structure that were dedicated to Los Angeles County Waterworks District No. 36 (LACWWD 36) in 2011.

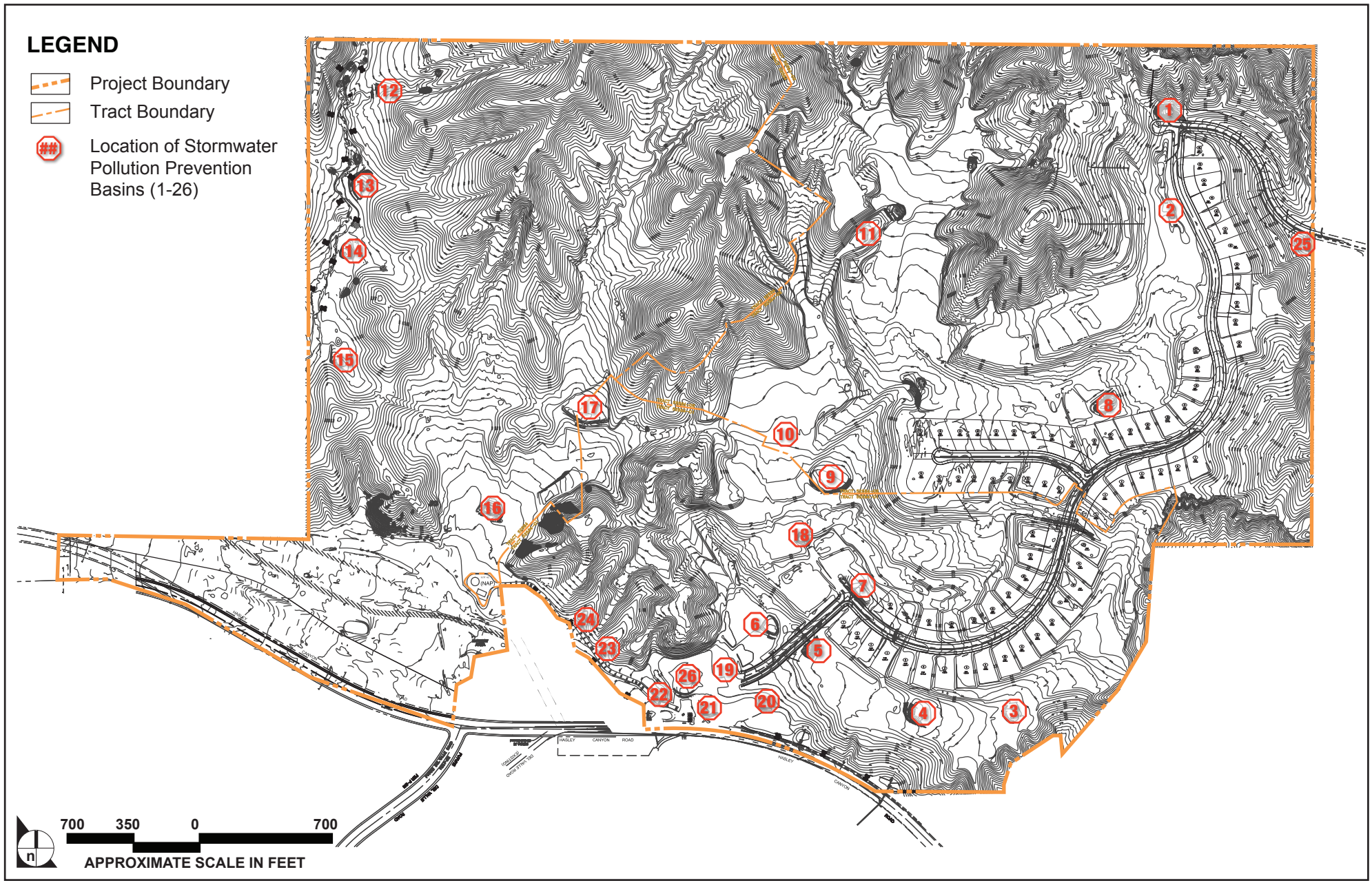
4 Written communication with Joshua Yanez, Southern California Edison Project Manager, August 20, 2013.

Hasley Canyon Road. As required by the Regional Water Quality Control Board, all basins must be cleared (i.e., drained and/or scraped) within 96 hours of rain.

In sum, as a result of past use on the Project Site, including the 1960s golf course, past oil drilling and grading and partial infrastructure installation associated with the Prior Entitlements, the majority of the Project Site has been disturbed. While the exact acreage is difficult to estimate, as access roadways and uses overlapped resulting in some areas being graded more than once, it is estimated that approximately 300 acres were graded or disturbed (i.e., through roadway access, etc.) as a direct result of past use on the Project Site. In general, only the westernmost portion of the Project Site (west of the westerly ridgeline) has not been directly disturbed due to past use, but is nonetheless degraded due to substantial erosion from the residential neighborhood to the north and the SWPPP maintenance. Therefore, a majority of the Project Site has been graded and remains in a disturbed state. However, some vegetation remains on the Project Site, including scrub and riparian plant alliances, including 22 oak trees.

As described above, the portions of the Project Site comprised of graded home pads and roadways, (primarily in the eastern and central portions of the Site) are level, while undisturbed areas of the western ridgeline are surrounded by vegetative sloped hillsides. Graded portions of the Project Site are visible from Hasley Canyon Road; however, due to the elevations of the Project Site and the surrounding topography (including the westerly ridgeline that extends across and beyond the boundary of the Project Site), the Project Site is only slightly visible from the adjacent uses, including the residential communities east, west, and north of the Project Site.

Figure 3.0-4, Areas of Previous Disturbance on the Project Site, shows the limits of the grading associated with the Prior Entitlements, the location of previous sand mining activities, as well as the location of the 1960s golf course and the oil wells used for oil drilling during the 1970s and 1980s.



SOURCE: Land Design Consultants, Inc., No Date Provided.

FIGURE **3.0-3**

Stormwater Pollution Prevention Plan (SWPPP) Basins on the Project Site

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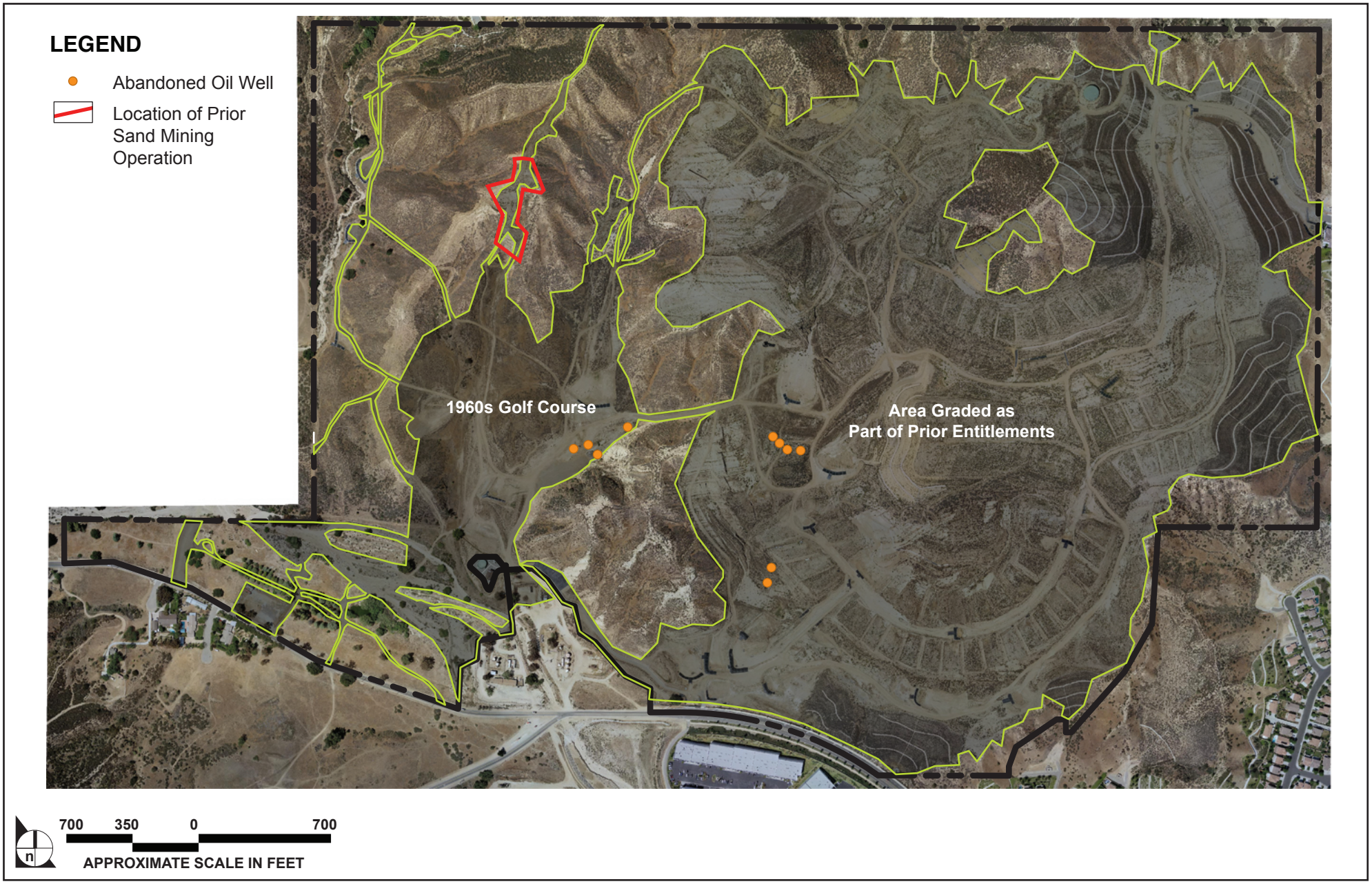

SOURCE: Land Design Consultants, Inc., February 2015

FIGURE **3.0-4**

Areas of Previous Disturbance on the Project Site

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Surrounding Uses

Surrounding land uses are depicted in **Figure 3.0-2, Project Boundary and Environmental Setting.** The Project Site is situated within a suburban area of the Santa Clarita Valley and is surrounded by development on three sides. As shown in **Figure 3.0-2**, a large residential neighborhood known locally as Hillcrest Park is located north of the Project Site on either side of Hillcrest Parkway. Two schools, Castaic Middle School and Castaic Elementary School are also immediately north of the Project Site.

Low-density equestrian estate homes and a mix of single-family residences are located west and southwest of the Project Site and are interspersed among open space. The Val Verde community is located approximately 2.5 miles southwest of the Project Site. Further to the west, along Hasley Canyon Road, there is a mix of vacant, privately owned land and oil wells.

Directly east of the Project Site and west of the I-5 freeway, planned residential communities have been constructed at densities slightly greater than those proposed for the Project.[5] To the east, along Hasley Canyon Road (which is an east-west Limited Secondary Highway and provides the primary access from the Project Site to I-5) are commercial retail malls including community serving businesses and financial institutions, restaurants, a daycare center and a charter school, Santa Clarita Valley International School.

A water well and a related structure constructed by the Applicant and dedicated to the Los Angeles County Waterworks District No. 36 (LACWWD 36) is located immediately adjacent to the Project Site on the south. In addition, several active oil wells and derricks are located on an adjacent parcel not owned or operated by the Applicant, south of the Project Site. The Valencia Commerce Center, a large commercial and industrial development containing numerous one- and two- story commercial buildings used primarily for light manufacturing and light industrial purposes is also located to the south.

As previously discussed, the Project Site is not visible from the surrounding residential and light industrial uses as a result of the existing topography. The elevation of the residential community east of the Project Site is lower (compared to the elevation of the Project Site), preventing views of the Project Site, while the western ridgeline prevents views of the Project Site from the residential community to the west. Further, views of the Project Site are not visible from the Castaic Middle and Elementary Schools or the adjacent single-family residences due to existing hillsides.

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5 The area to the north is zoned R-1-5,000 (Single Family Residential-5,000 square foot (sf) Minimum Lot Area), parcels to the east are zoned RPD-6,000-3U (Residential Planned Development 6,000 sf Minimum Lot Area, Three Dwelling Units per Acre), parcels to the southeast are zoned M-1.5-DP (Restricted Heavy Manufacturing) and parcels to the southwest and west are zoned A-2-2 (Heavy Agriculture, One Acre Minimum Lot Area), and what is the rest of this text?

Effect of Prior Grading

Before grading commenced pursuant to the Prior Entitlements, the Project Site included two ridgelines: an easterly ridgeline, located within the boundaries of VTTM No. 52584 Phase 1 (recorded) and Phase 2 (unrecorded) and a westerly ridgeline traversing the Project Site from a location east of the connection with Barcelona Road on the north to a location east of Hasley Canyon Creek on the south. Subsequent to approval of the vested Prior Entitlements and commencement of grading activities on the Project Site, portions of these ridgelines were mapped by the County as significant primary and secondary ridgelines, as shown on **Figure 3.0-5, Overview of the Project Site**.

As a result of the extensive on-site grading activity authorized by the Prior Entitlements, areas of the easterly ridgeline that had been designated by the County as significant primary and secondary were almost entirely removed. While a small portion of the primary ridgeline remains outside of the grading limits (at the northern edge of the Project Site), the primary portion of the easterly ridgeline has been entirely removed within the grading limits of the Prior Entitlements. Only two small non-contiguous portions of the secondary ridgeline remain on the Project Site within the grading limits. The portion of the easterly secondary ridgeline that remains is visible from Hasley Canyon Road and is shown in **Figure 3.0-5, Overview of the Project Site**.

The westerly ridgeline, under the grading permit granted under Prior Entitlements, was subject to early-stage grading operations within its setback limits, including but not limited to: clearing and grubbing, the grading of a construction road along its crest and over the crest in at least two places, and mining operations of natural sand deposits for use as utility beddings elsewhere on the Project Site. (The location of the previous mining operations is shown in **Figure 3.0-4**). However, the westerly ridgeline remains substantially intact and is visible from the Project Site and areas to the west. Grading operations under the Prior Entitlements ceased in 2008 prior to the complete removal of the ridgelines for reasons unrelated to any designation of the ridgelines as being significant.

As part of development of the Project Site under the Prior Entitlements, the prior owner undertook and successfully completed remediation work in the vicinity of the abandoned oil wells as directed and received "no further action letters" (included in **Appendix 5.8-1** and **5.8-2)** that were issued by the County of Los Angeles Fire Department, Site Mitigation Unit.

SOURCE: Google, Inc., April 2013

FIGURE **3.0-5**

Overview of the Project Site

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Off Site Improvement Areas

As further described in **Section 4.0, Project Description**, to connect to existing water infrastructure controlled by LACWWD 36, the Project will include installation of (1) approximately 20 feet of underground pipe in Sedona Way, approximately 50 feet west of the Old Road, to connect existing underground piping, and (2) approximately 25 feet of above ground pipe, a water flow meter, and an electrical panel inside an existing fenced CLWA facility located behind the sidewalk on the south side of Sedona Way, approximately 70 feet west of the Old Road. These improvements would be located adjacent to the residential areas to the west and east described above.

In addition to the water infrastructure improvements, additional off-site improvements are anticipated. These include grading and restriping at the Project entrance on Hasley Canyon Road and a natural gas connection that would occur at the Project frontage on Hasley Canyon Road.

3.2 ENVIRONMENTAL SETTING

Summary of Existing Conditions

Aesthetics

The Project Site is located within a suburban area of the Santa Clarita Valley. The Project Site has been substantially disturbed and portions of the site have been leveled (including the areas previously graded for home pads). With the exception of a water tank (which is not currently in use), no functioning infrastructure or paved roads exist on the Project Site.

Light and Glare

The Project Site does not currently contain any structures that produce light and/or glare.

Daytime glare is typically caused by the reflection of sunlight from highly reflective surfaces at or above eye level. Glare is generally associated with buildings clad with broad expanses of highly polished surfaces, such as glass or metals, or with broad, light colored exterior walls or large areas of paving. Daytime glare is generally most pronounced during early morning and late afternoon hours when the sun is at a low angle and the potential exists for intense reflected light to interfere with vision, especially when driving. Nighttime glare refers to direct, intense, focused light, as well as reflected light, and hampers visibility. No structures or uses currently exist on the Project Site that would cause glare.

Night lighting in the immediate vicinity of the Project Site is prevalent and is generated from the existing homes to the north and east, light fixtures along existing roadways (including Hasley Canyon Road to the

south and the adjacent neighborhood streets north and east of the Project Site) and vehicular headlights along I-5. To the south and west, night lighting is more limited as these areas are less developed. Light from the industrial park located south of the Project Site is minimal and masked by the streetlights located along Hasley Canyon Road. The equestrian uses in these areas do not generate substantial night lighting.

Viewsheds

Due to elevation of the Project Site and intervening hillsides, views of the Project Site from the immediately adjacent properties are not visible and long distance views are limited to interrupted views. Six viewpoints were selected for this analysis in order to identity both the most easily accessible views and the greatest number of potential viewers. These include viewpoints from the existing terminus of Barcelona Road looking south to the Project Site, and from the existing terminus of Hayward Drive looking west toward the Project Site, from the intersection of Del Valle Road and Hasley Canyon Road and from Del Valle Road looking north and east to the Project Site, from the Commerce Center at Avenue Penn looking north to the Project Site and, for a regional perspective, from the northbound on-ramp to I-5 and SR-126 looking northwest. Each of the viewpoints selected for this analysis is described in greater detail in **Section 5.1, Aesthetics**.

Air Quality

The Project is located in the South Coast Air Basin (Basin). The Basin includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties, and the San Gorgonio Pass area in Riverside County. Meteorological conditions such as wind speed, wind direction, solar radiation, atmospheric stability, along with local topography heavily influence air quality by affecting the movement and dispersal of pollutants. Predominant meteorological conditions in the Basin are light winds and shallow vertical mixing due to low-altitude temperature inversions. These conditions, when coupled with the surrounding mountain ranges, hinder the regional dispersion of air pollutants. These meteorological conditions, in combination with regional topography, are conducive to the formation and retention of ozone (O_3) and urban smog.

The determination of whether a region's air quality is healthful or unhealthful is made by comparing contaminant levels in ambient air samples to national and state standards. California and the United States Environmental Protection Agency (US EPA) have established health-based air quality standards for the following criteria air pollutants: O_3, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), PM10, PM2.5, and lead. Los Angeles County is in nonattainment for the following pollutants:

Ozone (O_3), 8-Hour Average, Nitrogen Dioxide (NO_2), Respirable Particulates (PM10), Fine Particulates (PM2.5), and Lead (Pb).

Biological Resources

Based on a query of California Natural Diversity Database (CNDDB) and the California Native Plant Society (CNPS) Inventory and general knowledge of the Project region, 24 special-status plant and 38 special-status animal species are reported within the Project region, as defined by the US Geological Survey (USGS) quadrangle containing the Project Site and the surrounding five quadrangles.

Special-Status Plant Species

No Threatened, Endangered, or other special-status plant species were observed in 2013 or in surveys conducted in 1997–1998.

Some special-status plant species have been identified as having a "moderate" potential for occurrence primarily because there have been records of occurrence in the region and at least one primary habitat element may be present on-site. However, other important habitat requirements (e.g., soil type) are lacking. Additionally, following multiple focused rare plant surveys in 1997–1998 and 2013, occurrence of these species on the Project Site is thought to be unlikely, but cannot be fully ruled out. Although considered absent after conducting valid protocol-level surveys, if suitable habitat elements are present in a given area where a particular species is known and there are documented occurrences in the near region, it is assumed there is still some limited potential for them to germinate on-site in the future. Therefore, some rare species are still considered to have a "moderate" potential for occurrence. These particular plant species are described in more detail in **Section 5.3, Biological Resources.**

Special-Status Animal Species

Highly motile special-status wildlife species including birds and larger mammals can periodically forage over the Project Site or use trees to roost or nest in. However, the disturbed nature of the Project Site likely precludes these animals from residing on-site or being dependent upon the remaining resources on-site.

None of the state or federally listed wildlife species recorded from the region are considered to have a high potential for occurrence. Thus, the lack of observation of special-status animal species known to occur in the region cannot be regarded as definitive evidence that they do not utilize the Project Site. Following a storm event in March 2014, the Project Site was surveyed for the purpose of determining the presence or absence of western spadefoot toad and fairy shrimp. No indication of fairy shrimp was

observed. However, numerous western spadefoot egg clusters and tadpoles were observed. Western spadefoot and fairy shrimp are discussed in more detail in **Section 5.3, Biological Resources**.

Protected Trees

In April 2013, biologists surveyed the entire Project Site (**Appendix 5.3-4**). These surveys recorded all oak trees in terms of size and maturity, including all trees with trunk diameters of 5 inches or more, measured at breast height, as required under Public Resources Code (PRC) Section 21083.4(a). The survey identified 22 oaks potentially regulated by the PRC and County of Los Angeles Oak Tree Ordinance (CLAOTO) within the total survey area; three of which are heritage oaks. All of the trees recorded are California (coast) live oak (*Quercus agrifolia*). The majority of the trees occur in the northwest portion of the property, outside of the proposed development envelope. These surveys also indicated that no oak woodlands occur within the proposed grading envelope. It should also be noted that no small oak trees were present on-site, indicating a lack of recruitment and reproduction of oaks within the past several years.

Jurisdictional Resources

There are three federal and state jurisdictional features on the Project Site: Hasley Canyon wash and two un-named tributaries to Hasley Canyon wash. The jurisdictional delineation determined that federal and state jurisdictional features on-site consist of non-wetland, relatively permanent waters with seasonal flow. No wetlands were observed, and the National Wetlands Inventory for California does not indicate any presence of wetlands on the Project Site. A concrete-lined pond in the southwest corner of the property in Hasley Canyon is isolated and used to irrigate a small nursery of boxed conifers. This artificial pond, which appears to have originated as part of the abandoned 1960s golf course, is not jurisdictional.

Habitat Connectivity

The nearest identified wildlife linkages to the Project Site are the San Gabriel – Castaic Connection to the east and the Santa Monica-Sierra Madre Connection to the west. The Project Site and adjacent off-site parcels do not lie within the linkage designs for these connections.

The Project Site is surrounded on three sides by existing development. Additionally, as described above, approximately two thirds of the Project Site has been previously graded and supports only sparse vegetation. Therefore, those portions of the Project Site are unsuitable for local or regional wildlife movement as there is no cover or refuge. The resulting condition is that local wildlife can move on to or off of the Project Site to utilize on-site resources that remain, but only from the west side. The location of

the Project Site among existing development combined with the disturbed nature of most of the Project Site indicates the Project Site is not an important part of local or regional wildlife movement linkages.

Cultural Resources

Cultural Resources Records Search

An archival records search was completed by the California State University, Fullerton, Anthropology South Central Coast Information Center (SCCIC) staff to determine whether any prehistoric or historical sites were known on the Project Site and/or whether all or portions of it had been previously systematically surveyed by archaeologists. Three studies conducted within 1/8 mile radius of the Project Site did not identify any archaeological resources on the Project Site or within a 0.125-mile radius of the study area (See **Appendix 5.4**).

Pedestrian Survey

An intensive Phase I survey of the Los Valles study area was conducted in July 2013. During the pedestrian survey, special attention was paid to geomorphological conditions that affect the preservation of archaeological remains. Road or bank-cuts that expose subsurface stratigraphy, for example, along with stable geomorphic and depositional environments were carefully examined for evidence of cultural remains. Furthermore, rodent backdirt piles were carefully examined in as much as they can reveal the presence of buried archaeological deposits.

Although the Project Site had been graded extensively, there is no record of past discovery of artifacts on the Project Site. No archaeological sites of any kind were found within the study area during the pedestrian survey.

Paleontological Resources

Paleontological resources include fossil remains, fossil localities, and formations that have produced fossil material. Paleontological resources are limited, nonrenewable, sensitive scientific resources, including fossils preserved either as impressions of soft (fleshy) or hard (skeletal) parts, mineralized remains of skeletons, tracks, or burrows, or other trace fossils, coprolites (fossilized excrement), seeds or pollen, and other microfossils from terrestrial, aquatic, or aerial organisms. Although the Project Site had been graded extensively, there is no record of past discovery of fossils on the Project Site. No paleontological sites of any kind were found within the study area during the pedestrian survey.

Historic Resources

As noted above, there are no existing structures on the Project Site and no potentially historic artifacts were discovered during the pedestrian survey. An examination of the 1903 and 1941 USGS Santa Susana 15-foot topographic quadrangles also showed no evidence of structures or early development on the Project Site.

Energy

The Project Site is within the Southern California Edison (SCE) service area; natural gas would be provided to the site by the Southern California Gas Company (SCGC). The Project Site is currently vacant with no current vehicle usage, existing electrical or natural gas use or infrastructure. Local utility resources are further discussed below under the Natural Gas and Electrical subheadings.

Geotechnical Hazards

The Project Site is within the Transverse Ranges Geomorphic Province of Southern California. The Transverse Ranges consist of a series of west-trending mountains and intervening valleys, which is contrary to the northwest geomorphic trend that is typical of most of California and reflects the underlying structural (geologic) trend. These ranges are largely the result of north-south compression which has resulted in east-west-trending folds and thrust faults. Associated faults in the vicinity of the Project Site include the Santa Susana, San Fernando, Del Valle, and Holser reverse/thrust faults.

Review of the published geologic maps referenced in the appendix and the Los Angeles County General Plan Safety Element indicates that no active or potentially active faults have previously been recognized on the Project Site. It was determined that the bedrock of the Saugus Formation has been deformed on the Project Site. The San Gabriel Fault is located 1.9 miles north of the Project Site, and the Holser Fault is located 0.6 mile south of the Project Site. No active faults are known to traverse the Project Site.

In photo-interpretations of aerial photographs, project geotechnical consultants identified four fairly strong lineaments on the Project Site, two of which trend northwest and two of which trend east-west. Lineaments are straight alignments of tonal difference on the aerial photographs, which can be the result of faulting. No distinct lineament was observed along the mapped fold axis of the syncline. A syncline refers to the structure of the bedrock and is used to describe a downward fold in the bedding that forms a trough. The center of the trough on the surface is the fold axis. In addition, no distinct topographic features associated with faulting such as offset drainage, steep scarps along the toe of slopes, or displaced parts of a ridge shutting into the adjacent ravine or canyon were observed along any of the photo lineaments. These features were also not observed elsewhere on the Project Site.

A possible fault is shown on a published geologic map covering the Project Site.[6] However, the geotechnical consultants concluded that the faults trace on the Project Site have not produced surface ground rupture during the Holocene (approximately the last 11,000 years). California Geological Survey (CGS) Special Publication 42 defines an active fault as one which has had surface displacement within Holocene time. Accordingly, the faults observed on the Project Site are not considered active as defined by California regulations.

The Project Site is located in Southern California, which is in a geologically and seismically active region where large magnitude, potentially destructive earthquakes are common. Therefore, it is reasonable to assume that moderate or large magnitude earthquakes will affect the Project Site during the life of a given structure.

The Project Site is located in an area subject to identified geotechnical hazards related to ground failure. The Project Site is located in the Val Verde Quadrangle. In addition, remaining observed landslides have been identified on the Project Site. Originally eight landslides were mapped on the Project Site. Six of the landslides have been completely removed during the previous site grading. Two landslides located near proposed Los Valles Drive (as shown on **Figure 4.0-3, Conceptual Site Plan**) remain on the Project Site. The landslides involve bedrock of the Saugus Formation and terrace deposits, and most failed along clay-rich bedding that is inclined at a shallower angle than the angle of the existing slope.

Greenhouse Gas Emissions

The natural process through which heat is retained in the troposphere[7] is called the greenhouse effect. The greenhouse effect traps heat in the troposphere through a three-fold process as follows: (1) short-wave radiation in the form of visible light emitted by the Sun is absorbed by the Earth as heat; (2) long-wave radiation re-emitted by the Earth; and (3) greenhouse gases (GHGs) in the atmosphere absorbing or trapping the long-wave radiation and re-emitting it back towards the Earth and into space. This third process is the focus of current climate change actions.

The primary GHGs of concern relative to the Project are carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). These three GHGs are generally emitted from fossil fuel combustion activities. Hydrofluorocarbons (HFCs) are associated with refrigeration and air conditioning and are accounted for in this analysis with respect to motor vehicle air conditioning system leakage. The other GHGs listed in

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6 Weber, 1982

7 The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

Section 5.7, Greenhouse Gas Emissions, are related to specific industrial uses and not anticipated to be emitted in measurable or substantial quantities by the Project.

The California Air Resources Board (CARB) compiles GHG inventories for the State of California. Based on the 2012 GHG inventory data (the latest year for which data are available), California emitted 459 $MMTCO_2e$ (million $MTCO_2e$[8]) including emissions resulting from imported electrical power.[9] In 2010 California's total statewide GHG emissions rank second in the United States (Texas is number one) with emissions of 453 $MMTCO_2e$; however based on per capita, California maintains the 45th lowest emissions with 12.1 $MMTCO_2e$/person in 2010.[10]

The primary contributors to GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources, industry, agriculture and forestry, and other sources, which include commercial and residential activities.

Between 2000 and 2012, the population of California grew by approximately 4 million (from approximately 34 to 38 million).[11] This represents an increase of approximately 12 percent from 2000 population levels. In addition, the California economy, measured as gross domestic product, grew from $1.47 trillion in 2000 to $1.75 trillion in 2012 representing an increase of approximately 19 percent.[12] Despite the population and economic growth, the California Energy Commission (CEC) attributes the slow rate of growth in GHG emissions (which increased by 12 percent) to the success of California's renewable energy programs and its commitment to clean air and clean energy.[13]

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8 Metric tons of carbon dioxide equivalent ($MTCO_2e$) is a metric measure used to compare the emissions from different greenhouse gases based upon their global warming potential (GWP). The carbon dioxide equivalent for a gas is derived by multiplying the tons of the gas by its associated GWP.

9 California Air Resources Board, "California Greenhouse Gas Emission Inventory 2000-2012", http://www.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_00-12_report.pdf, accessed January 21, 2015.

10 California Air Resources Board, "California Greenhouse Gas Emission Inventory 2000-2012", http://www.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_00-12_report.pdf, accessed January 21, 2015.

11 California DOF, E-7 California Population Estimates, with Components of Change and Crude Rates, July 1 1900-2014, http://www.dof.ca.gov/research/demographic/reports/estimates/e-7/view.php, accessed January 21, 2015.

12 California Air Resources Board, 2014 California GHG Emission Inventory, http://www.arb.ca.gov/cc/inventory/data/misc/ghg_inventory_trends_00-12_2014-05-13.pdf, accessed January 21, 2015.

13 California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*, 2006.

Hazards and Hazardous Materials

The Project Site is within the Hasley Canyon Oil Field.[14] Ten abandoned oil wells are present within the Project Site, concentrated in three pads: (1) the Alabama Essential Oil (AEO) Lease Burns Crist pad; (2) the SADD Lease: North Pad; and (3) the SADD Lease: South Pad. The Project Site has undergone substantial soil testing, venting, and excavation to remove contaminated soils resulting from these prior uses. The Los Angeles County Fire Department (LACFD) issued a "No Further Action" letter for the AEO Lease - Burns/Crist Lease Area on March 29, 2010; and on April 21, 2010 issued a No Further Action letter confirming the completion of site remediation for both the SADD Lease - North Pad and at the SADD Lease - South Pad Areas and which also confirmed the findings of the Health Risk Assessment by Environmental Resources Management, Inc., dated May 31, 2006 (HRA). Further, oil well records on file with the DOGGR were obtained for each well. Each of these wells were abandoned in accordance with state law requirements in 2003 and sealed under the direction of the DOGGR and each was subsequently certified as "No Further Action" by the LACFD.

Underground storage tanks (USTs) are commonly associated with the former uses on the Project Site, i.e., with golf courses, but no field indications of any USTs were identified on the Project Site. Further, a search of County records found no files or records indicating the presence of USTs at the following property addresses 28577, 28801, 28801-1/2, 28803, 28831, 28943, 29001, 29030, and 29007-1/2, Hasley Canyon Road, which correspond with the Project Site.[15]

Methane (CH_4) is a naturally occurring, odorless, colorless, and extremely flammable gas with a wide distribution in nature. It is the major constituent of natural gas that is used as a fuel, and is an important source of hydrogen and a wide variety of other organic compounds. It is often found in conjunction with petroleum deposits. No long-term health effects are known to occur from exposure to methane. However, at very high concentration, methane can act as an asphyxiate by reducing the relative concentration of oxygen in the air that is inhaled (similar to carbon monoxide). The primary danger posed by methane build-up is the risk of fire or explosion. Soil sampling indicated raised concentrations of methane in the areas proximate to the abandoned oil wells on the Project Site.

The LACFD designates land in the County in regard to its potential for wildland fire hazards. These designations are made by the County Forester, and are based on multiple criteria, including the

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14 California Department of Conservation, Division of Oil, Gas & Geothermal Resources Well Finder, website: http://maps.conservation.ca.gov/doggr/index.html. Accessed February 27, 2014.

15 As per the *Environmental Site Assessment - Phase I and Subsurface Assessment for Undeveloped Land Approximately 420 Acres in the Vicinity of Hasley Canyon Road Los Angeles County, California* performed by California Environmental Geologists and Engineers, Job No. EV797-1474, July 2003.

following primary characteristics: (1) an area's accessibility, (2) water availability/lack of adequate water supplies, (3) amount and type of vegetative cover, and (4) topography. The two designations used by the Fire Department are Moderate Fire Hazard Zone (formerly Fire Zone 3) and Very High Fire Hazard Severity Zone (formerly Fire Zone 4).

The LACFD (in collaboration with the California Department of Forestry and Fire Protect [CalFire]) has designated the Project Site as a Very High Fire Hazard Severity Zone, based on the four primary designation criteria.[16] Specifically, the Very High Fire Hazard Severity Zone typically has the following vegetative types or is adjacent to such communities: chaparral, coastal sage, annual grasslands, riparian, and oak woodlands. Wildland fires are relatively common occurrences in these plant communities, which are found in the Santa Clarita Valley and surrounding area. These plant communities pose a threat to expanding urban development due to their high combustibility and their dense biomass.

Hydrology

The Project Site primarily drains to Hasley Canyon Creek, except for the easternmost portion of the Project Site. Castaic Creek is located east of the Project Site and flows from north to south to its confluence point with the Santa Clara River.

The Santa Clara River flows from east to west, and is located south of the Project Site. The Tributary Area for the Project Site is approximately 580 acres and lies completely within unincorporated Los Angeles County. The Tributary Area is comprised of eight drainage areas that independently drain toward Hasley Canyon Creek or Castaic Creek (Tributary Area). Tributaries to Hasley Canyon Creek and Castaic Creek that are located primarily or entirely on the Project Site are described in **Section 5.9.1, Hydrology.** Runoff flows to and through the Project Site via sheet flows and natural concentrated flows. All runoff from the Tributary Area eventually discharges to either Hasley Canyon Creek or Castaic Creek either directly or to existing storm drain systems. There are currently five existing debris basins and two storm drain systems located adjacent to the Project Site.

Annual rainfall in this area is typically low and occurs generally in the winter months. Runoff sources occur both on and off-site, with the headwaters of the streams in the steep upper canyons near the ridgelines in off-site areas. The combination of soil characteristics and high magnitude low frequency storms, which are typical of the region, produce conditions conducive to rapid accumulation of surface water and high storm peak runoffs. Hydrologic conditions on the Project Site are further described in **Section 5.9.1 Hydrology**.

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16 California Department of Forestry and Fire Protection, Los Angeles County FHSZ Map, ftp://frap.cdf.ca.gov/fhszlocalmaps/los_angeles/santa_clarita.pdf, (2013).

Flooding

A portion of the Project Site lies within the County's capital floodplain for the river and within the 100-year floodplain identified by Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 065037-0800 (October 28, 2008) for the unincorporated areas of Los Angeles County. The 100-year floodplain boundaries are based on historical runoff records as measured with stream gauges and based upon the theoretical 1 percent probability rainfall event and the resulting 100-year flood rate and floodplain. Mapping the 100-year floodplain is important because FEMA uses the data to establish standards for flood insurance coverage under the Natural Flood Insurance Program (NFIP). Under NFIP criteria, the 100-year flood elevation is the "base flood" and any land that is outside of this 100-year, or base flood, elevation is considered reasonably safe and free from flood hazards.

In the case of Hasley Canyon Creek, there are two sets of agency mapped and adopted floodplain limit lines. The FEMA FIRM for the 100-year event (5,544 cfs based on FEMA's 2008 Flood Insurance Study) were updated and adopted by FEMA (2008), but FEMA has not mapped a 100-year floodway in this reach of the canyon. In addition, LACDWP has a mapped floodplain and floodway for Hasley Canyon Creek for the capital flood event (±5,100 cfs), which is the LACDPW design storm event. The Project would be required to meet both FEMA and LACSWP capital flood events.

Water Quality

The southern portion of the Project Site includes the main channel and flood plain of the Hasley Canyon Creek drainage area. Four small canyons drain southward, via sheet flows and natural concentrated flows, across the Project Site into Hasley Canyon Creek, then into Castaic Creek to the east, and finally into the Santa Clara River. All of the streams on the property, including Hasley Canyon Creek, are seasonally intermittent.

The Project Site is located within Los Angeles subregion, within the boundaries of the Santa Clara River Valley Basin, and Santa Clara River Valley East Subbasin. The Project Site is located within the Santa Clara River Valley East Basin, which is approximately 1,634 square miles in area. The Project would discharge stormwater runoff into the storm drains and water quality control facilities directly into Santa

Clara River Reach 5[17], which extends from the Blue Cut gaging station to the West Pier Highway 99 Bridge.

Under Section 303(d) of the 1972 Clean Water Act, areas are required to declare a list of water quality-limited segments. Watercourses on this list do not meet water quality standards, even after installing the minimum level of pollutant control technology on point sources, and must develop action plans, known as Total Maximum Daily Loads[18] (TMDL), to improve water quality.

Stormwater runoff is a significant concern in California. The Project's major downstream watercourse, Reach 4 (A and B) of the Santa Clara River, is a "Dry Gap" and therefore not listed on the 303(d) list of the Los Angeles Regional Water Quality Control Board (RWQCB), however, the reach adjacent to the Project Site, Reach 5, into which the Project's stormwater runoff discharge would flow, and reaches further downstream, including Reach 1 and 3, are identified as contaminated on the 303(d) list.[19] This 303(d) listing raises a significant concern for certain pollutant runoff from the Project Site, specifically those found in Reach 1, 3, and 5, including ammonia, chloride, coliform bacteria, iron, total dissolved solids (TDSs), and other toxic pollutants[20] which are further described below.

The Project Site is located at the eastern end of the upper Santa Clara River hydrologic area, as defined by the California Department of Water Resources (DWR). The Santa Clara River Valley East Groundwater Subbasin lies within this hydrologic area and is the source of the local groundwater used for water supply in the Santa Clarita Valley. The local groundwater supplies are obtained from surficial alluvial deposits. The alluvium is underlain by bedrock units consisting of the Saugus Formation in the vicinity of the Project Site and other geologic units in the eastern and northern portions of the Santa Clarita Valley.

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17 The Santa Clara River is divided into reaches for purposes of establishing beneficial uses and water quality objectives. However, there are two reach classifications: one established by the Los Angeles (LARWQCB and one established by the US EPA. Both of these reach classifications are used by the Los Angeles RWQCB and the US EPA in various documents, which at times is a source of confusion. This report will use the Los Angeles RWQCB reach numbers as shown on Figure 5.9.2-1.

18 A TMDL is a number that represents the assimilative capacity of receiving water to absorb a pollutant. The TMDL is the sum of the individual wasteload allocations for point sources, load allocations for nonpoint sources plus an allotment for natural background loading, and a margin of safety.

19 California Environmental Protection Agency State Water Resources Control Board, 2010 California 303(d) list. http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml Note: This is the most recent document available, hearings regarding the 2012 update are ongoing as of this writing (July 2014).

20 Toxic pollutants are defined as those pollutants or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism can, on the basis of information available, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions or physical deformation in such organism or their offspring. The quantities and exposures necessary to cause these effects can vary widely.
State Water Resources Control Board – 'Water Words – Glossary and Definitions', website: http://www.waterboards.ca.gov/publications_forms/available_documents/water_words.shtml, August 2014.

The Los Angeles RWQCB has set numerical objectives for water quality to protect local beneficial uses of groundwater. Maximum groundwater elevation on-site occurs along Hasley Canyon Creek at 40 to 50 feet below ground surface. The Saugus Formation aquifer depth under the Project Site ranges from a shallow zone of 500 feet to 1,000 feet below ground surface to a deep zone of 2,000 feet to 2,500 feet below ground surface. The Saugus Formation aquifer water resource is used for area agriculture and industrial needs as well as a recharge zone for area runoff and discrete surface discharges of treated wastewaters. Rainfall over the Project Site generates runoff flows that percolate through permeable soils into the Saugus Formation aquifer both on-site and in adjacent drainages.

No on-site sewage septic tanks are known to be in use in the Project Site. Pursuant to agreements between the County, LACWWD 36 and the Applicant, the Applicant has constructed and dedicated a water well and water system improvements to LACWWD 36, all of which have been accepted by LACWWD 36 and are operational.

Land Use and Planning

As previously described, the Project Site comprises 430.4 acres of land in the Castaic area of unincorporated Los Angeles County. The Project Site contains no structures. The Project Site is located in a suburban area surrounded by planned residential communities, privately owned open space, equestrian uses, low-density equestrian estate homes, commercial and light industrial uses. Consistent with State law, the County has established a regulatory framework for properties within unincorporated areas of the County that governs permitted land uses of property. The regulatory documents governing use of the Project Site include the following:

General Plan

State planning law mandates that every city and county prepare a General Plan. A General Plan is a comprehensive policy document outlining the future development in a city or county. The County of Los Angeles General Plan serves as the overall policy document for the unincorporated portions of the County, including the Project Site. The land use designations are broad in nature, as are the types of uses permitted within each designation. The Land Use Element has the broadest scope of all the General Plan Elements. The Land Use Element establishes the pattern of land use and sets standards and guidelines to regulate development.

Analysis of the Project's consistency with the General Plan policies is provided in **Table 5.10-1, Project Consistency with Adopted Los Angeles County General Plan**, included at the end of **Section 5.10, Land Use and Planning**.

Santa Clarita Valley Area Plan 2012

The Santa Clarita Valley Area Plan was first adopted by the Los Angeles County Board of Supervisors on February 16, 1984, and subsequently updated on December 6, 1990. An update to the Santa Clarita Valley Area Plan (SCVAP 2012) was adopted by the Board of Supervisors on November 27, 2012.

The SCVAP 2012 is a component of the Los Angeles County General Plan and is intended to provide focused goals, policies, and maps to guide development within the unincorporated portions of the Santa Clarita Valley. In conjunction with the other chapters and elements of the Los Angeles County General Plan, the SCVAP 2012 provides the Regional Planning Commission and Board of Supervisors with a framework for making critical public decisions relating to the unincorporated portions of Santa Clarita Valley and guides them in efforts to improve the quality of life in those areas.

County of Los Angeles Zoning Ordinance

The County of Los Angeles Planning and Zoning Code, a portion of the Los Angeles Los Angeles County Code, governs the unincorporated portions of Los Angeles County and serves as the primary implementation tool for the County's General Plan Land Use Element, the SCVAP 2012 and the goals, objectives, and policies contained therein. The County Zoning Map is consistent with the General Plan's Land Use Map, and the land use designations contained in the Land Use Element and the areas designated for each category correspond to one or more zoning districts.

Zoning on the Project site is A2-2 (Heavy Agriculture, 2-acre Minimum Lot Area), an agricultural zone permitting development of single-family residences in conformance with development standards established under the County's Single-Family Residence (R-1) Zone.

Castaic Area Community Standard District

The Project Site is also regulated by the Castaic Area Community Standard District (Castaic CSD), a County ordinance established to protect the rural character, unique appearance, and natural resources of the Castaic Area communities. The Castaic CSD is intended to ensure that new development will be compatible with the Castaic area's existing neighborhoods and with the goals of the SCVAP 2012. The Castaic CSD provides standards for streets, trails, neighborhood parks, hillside development, ridgeline protection, clustering, locally indigenous vegetation and oak tree removal, fencing, lighting, creek preservation and maintenance, and other infrastructure standards.

Additional land use planning regulations applicable to the Project Site are described in **Section 5.10, Land Use and Planning**.

Noise

Motor vehicle noise on freeways and other roadways is the primary noise source in the Project area. Other sources of noise in the Project area include typical residential noise such as people talking, car doors slamming, dogs barking, etc. The Castaic Middle School and Castaic Elementary School Campuses, located approximately 1,000 feet north of the Project Site, generate noise during school and after-school activities that would be noticeable on the Project Site. The next nearest school is Live Oak Elementary School, located approximately 0.6 mile southeast of the Project Site. Based on the distance from the Project Site and intervening development acting as a noise buffer, no noise impacts to the Project Site would occur from that school or other schools in the area.

These existing sources of noise in the vicinity of the Project Site also represent noise-sensitive receptors that could be affected directly or indirectly by the Project. In addition, there are off-site residences that would also be sensitive to temporary and long-term noise from the Project. Finally, the Project itself would site future residences that would be sensitive to noise from existing and future off-site sources of noise.[21]

On July 1-2, 2013, 24-hour (long-term) weekday sound level measurements were taken at four locations near the Project Site in order to characterize the ambient noise environment.[22] The dominant source of noise from these monitoring locations is traffic along adjacent streets. The measurements include both mobile (traffic) and point source noise. Point sources of noise in the Project area include people talking, doors slamming, lawn care equipment operation, stereos, domestic animals, etc. Noise levels generated by these sources contribute to the ambient noise levels that are experienced in all similarly developed areas.

Based on the roadway modeling of existing traffic volumes, existing noise levels may currently result in exceedances of the County exterior noise level standards at the following intersections, where existing residential development is located adjacent to the following roadways:

- The Old Road and Hillcrest Parkway
- The Old Road and I-5 Freeway Southbound Ramps – Sedona Way

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21 The Federal Transit Administration identifies three categories of sensitive receptors: (1) Category 1 (High Sensitivity) includes hospitals, university research operations, (2) Category 2 (Residential) includes buildings where people sleep, such as hospitals and hotels, and (3) Category 3 (Institutional) includes schools, churches, and offices that are daytime uses.

22 Ambient noise level is the level of existing noise occurring in the surrounding area, sometimes referred to as background noise.

- The Old Road and I-5 Freeway Southbound Ramps – Hasley Canyon Road

Public Services

Library Services

The County of Los Angeles Public Library system operates facilities and services in both incorporated and unincorporated areas of the County. The Castaic Library, located at 27971 Sloan Canyon Road in Castaic is approximately 4.8 miles north of the Project Site. The Castaic Library is approximately 6,985 square feet in size and contains a total of 39,956 items in its collection. The facility's current hours of operation are Monday and Tuesday from 11:00 AM to 7:00 PM, Wednesday and Thursday from 11:00 AM to 6:00 PM, Friday and Saturday from 11:00 AM to 5:00 PM and closed Sundays.[23]

The County also operates the Stevenson Ranch Express Library, located at 26233 W. Faulkner Drive Stevenson Ranch, approximately 8.6 miles south of the Project Site. The Stevenson Ranch Express Library is housed in a temporary facility of approximately 480 square feet. The facility's current hours of operation are Tuesday from 3:00 PM to 7:00 PM, Wednesday and Thursday from 1:00 PM to 5:00 PM, Friday and Saturday from 10:00 AM to 12:00 PM and again from 1:00 PM to 5:00 PM. The Stevenson Ranch Express Library is closed on Sundays and Mondays.

If an item is not in the County Library collection, the patron can ask the Library to request it from another library system through the Interlibrary Loan program. It is at the discretion of the owning library whether to loan the item. A modest fee (generally $3.00) for this service is charged to the patron's account when they receive the item, which can take up to several weeks to arrive.

Education

The Castaic School District and the Hart School District currently provide public elementary, junior high/middle school, and high school education for the Project Site. The Castaic School District provides elementary school (grades K–5) and middle school (grades 6–8) education service, and the Hart School District provides junior high (grades 7–8), high school (grades 9–12), and adult school education service.

There are a total of three elementary schools, and one middle school within the Castaic School District. The total student enrollment for the 2012-2013 school year was 2,810 students, while the total capacity with the use of both permanent and temporary (i.e., portable) classrooms is 3,200 seats.

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23 Los Angeles County Public Library "Castaic Library," http://www.colapublib.org/libs/castaic/index.php (2013).

There are a total of six junior high and six high schools within the Hart School District. The total student enrollment for the 2012–2013 school year was approximately 14,762 high school students. The total student capacity with the use of both permanent and temporary (i.e., portable) high school classrooms is 15,090 seats.

Sheriff Services

The Santa Clarita Valley Station of the Los Angeles County Sheriff's Department is responsible for providing general law enforcement to the Project Site, while the California Highway Patrol (CHP) provides traffic control. The Sheriff Station located closest to the Project Site is near the intersection of Magic Mountain Parkway and Valencia Boulevard, at 23740 Magic Mountain Parkway in Valencia, approximately seven miles southwest of the Project Site.[24] The service area boundaries of the Santa Clarita Valley Station include the City of Santa Clarita, and unincorporated County land between the City of Los Angeles limits to the south, Kern County line to the north, and all areas between the Ventura County line to the west and township of Agua Dulce to the east.[25] The Santa Clarita Valley Station currently maintains a staff of 202 sworn deputies, and serves an area of 656 square miles.[26] Equipment and services provided through the station include 24-hour designated County cars, helicopters, search and rescue, mounted posse, and emergency operation centers.

The Sheriff's Department staff indicates that a deputy-to-resident ratio of one deputy per 1,000 residents is a desired level of service for the service area.[27] With a current staffing level of 202 sworn deputies assigned to the Santa Clarita Valley Station, the existing ratio at the Station is one deputy per 1,337 residents.[28]

The Project Site is also located within the CHP's jurisdiction. The CHP provides traffic regulation enforcement for the unincorporated portions of the Santa Clarita Valley and surrounding areas from its Newhall Area Station, located at 28648 The Old Road, near the I-5 and SR-126 interchange (CHP Station).The Newhall Area CHP Station patrols a service area of approximately 600 square miles, which includes I-5, SR-126, SR-14, and unincorporated areas and roadways. This service area extends westerly

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24 Paul Becker, Captain, Santa Clarita Valley Sheriff Station, written communication July 30, 2013.

25 Paul Becker, Captain, Santa Clarita Valley Sheriff Station, written communication July 30, 2013.

26 Paul Becker, Captain, Santa Clarita Valley Sheriff Station, written communication July 30, 2013.

27 Paul Becker, Captain, Santa Clarita Valley Sheriff Station, written communication July 30, 2013.

28 Paul Becker, Captain, Santa Clarita Valley Sheriff Station, written communication July 30, 2013.

to the Ventura County line, east to Agua Dulce, north to SR-138 (and along SR-138 to Avenue 220th Street West), and south to SR-118. The station is staffed by 89 sworn officers and 9 civilian employees.[29]

Fire Services

The LACFD provides fire protection service to the Project Site. Eight fire stations and four fire camps service the area. The closest fire station to the Project Site is Fire Station 76, located at 27223 Henry Mayo Drive in Valencia, approximately three miles to the southeast; the closest fire camp is located at 29300 The Old Road in Castaic, approximately 1.3 miles to the Project Site. A new fire station (Fire Station 143) is currently under development at 28580 Hasley Canyon Road, located approximately 0.3 mile from the Project Site and will be the jurisdictional station for the Project when it becomes operational, in approximately two years. Fire Station 156, which could also provide support to the Project, is located at 24525 Copper Hill Drive, approximately 6.5 miles east of the Project Site. These distances translate into response times ranging from approximately 5 to 12 minutes. The closest available district response units would provide fire protection services. Should a significant incident occur, the resources of the entire Fire Department, not just the stations closest to the site, would be used.

Fire suppression camps supply crews on a daily basis to assist in the suppression of wildland fires. They also perform storm-related functions, such as the filling of sandbags, and provide additional workers at search and rescue incidents. The closest fire suppression camp to the Project Site is located at the Sheriff's Wayside Facility, south of Castaic.[30]

Fire station 76 is currently the closest fire station to the Project Site and therefore would be most likely to respond to fire and medical emergencies until the Fire Station 143 is operational. Fire Station 76 maintains one fire engine and is supported by a four-person fire crew.[31] The four-person fire company consists of a captain, a fire fighter specialist, and two fire fighters.[32] It is anticipated that Fire Station 143 would have similar staffing levels based upon standard County fire department staffing of fire stations.[33]

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29 Sergeant Rick Miler, California Highway Patrol, Newhall Station, Written communication September 10, 2013.

30 County of Los Angeles Fire Department, http://www.fire.lacounty.gov/airwildland/FireCampsContacts.asp, 2013.

31 Los Angeles County Fire Department, Frank Vidales, Acting Chief, Forestry Division Prevention Services Bureau, written correspondence July 29, 2013.

32 Los Angeles County Fire Department, Frank Vidales, Acting Chief, Forestry Division Prevention Services Bureau, written correspondence July 29, 2013.

33 Developer Fee Detailed Fire Station Plan for the County of Los Angeles Developer Fee Program for the Benefit of the Consolidated Fire Protection District of Los Angeles County, October 2013. Website: http://apps.santa-clarita.com/ViewFile.aspx?Type=Agenda&ID=13667, accessed March 3, 2014.

Nationally recognized response times for urban areas are 5-minutes for the first arriving unit for fire and emergency medical services and 8-minutes for advanced life support (paramedic) unit services. For suburban areas an 8-minute response time for the first arriving unit and 12-minutes for the advanced life support (paramedic) unit is acceptable. The Proposed Project is located in a suburban area and should expect emergency response times of 7- to 8-minutes.[34]

The availability of sufficient on-site water pressure is a basic requirement of the Fire Department. The Fire Department requires sufficient water capacity for fire flow at public hydrants in residential locations to provide 1,250 gallons per minute (gpm) at 20 pounds per square inch (psi) residual pressure for a 2-hour duration for single-family residential units, and up to 5,000 gpm at 20-psi residual pressure for a 5-hour duration.[35] Final fire flow rates are determined based upon the size of the buildings, the types of construction used, and the approved fire sprinkler system.[36] Due to the increased fire flow requirements associated with the Project, an additional 850,000-gallon water tank is required for which a new Conditional Use Permit (CUP) is being requested pursuant to Los Angeles County Code (LACC) Section 22.24.150. The new water tank would be located in proximity to the existing water tank, on the same lot, and would share a common access and a common water main line.

The Project Site is located within a Very High Fire Hazard Severity Zone. Development within a Very High Fire Hazard Severity Zone is subject to various governmental codes, guidelines, and programs aimed at reducing the potential fire hazard risks of developed properties to an acceptable level. A fuel modification plan identifies specific zones within a property which are subject to fuel modification. A fuel modification zone is a strip of land where combustible native or ornamental vegetation must be modified and/or partially or totally replaced with drought tolerant, fire resistant plants and other low-risk landscape materials.

Parks and Recreation

The Project Site is located within Los Angeles County designated Park Planning Area 35B. Park Planning Area 35B encompasses a large portion of the northern end of the Santa Clarita Valley, from Sand Canyon on the east to the Los Angeles County/Ventura County line on the west, and from the Angeles National Forest on the north and Henry Mayo Drive on the south. The communities within this area include Castaic, Hasley Canyon, Val Verde, Valencia, Newhall, and Saugus. There are no existing public parks or

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34 Los Angeles County Fire Department, Frank Vidales, Acting Chief, Forestry Division Prevention Services Bureau, written correspondence July 29, 2013.

35 Los Angeles County Fire Department, Frank Vidales, Acting Chief, Forestry Division Prevention Services Bureau, written correspondence, July 29, 2013.

36 Los Angeles County Fire Department, Frank Vidales, Acting Chief, Forestry Division Prevention Services Bureau, written correspondence, July 29, 2013.

trails within the Project Site boundaries; however, there are several existing and proposed parks in the vicinity of the Project Site. Such facilities include parks maintained by the County of Los Angeles, City of Santa Clarita, State of California, and the federal government. A description of the County parks within the vicinity of the Project and descriptions of the other jurisdictional parks are provided in **Section 5.13, Parks and Recreation**.

The County owns and maintains 10 developed parks totaling approximately 345.24 acres in the Santa Clarita Valley, along with the 912.9-acre Vasquez Rocks Natural Area and Nature Center, a Special Use Natural Area and the 67.00-acre Hasley Canyon Equestrian Center, a Special Use Equestrian Facility.

The Project Site is within the jurisdiction of Los Angeles County and will rely on the County for public services, including park and recreation services. However, the close proximity of the City of Santa Clarita's Park and Recreation facilities to the Project Site will encourage the use of these facilities by the Project's residents. The City maintains over 25 public parks and recreation facilities, along with several miles of trails.[37] Four state facilities that are located within the vicinity of the Project Site are described in **Section 5.13.**

Transportation/Traffic

Primary regional access to the Project Site is provided by the I-5 Freeway. I-5 is a north-south freeway that spans the entirety of California. Four mainline travel lanes are provided in each direction along the I-5 Freeway near the study area. Northbound and southbound on and off-ramps are provided at Hasley Canyon Road. Immediate access to the Project Site is provided via Hasley Canyon Road.

Additional roadways in the Project area are Del Valle Road, Commerce Center Drive, Franklin Parkway, Henry Mayo Drive (State Route 126), The Old Road, Hillcrest Parkway, Hayward Drive, and Barcelona Road.

The County's Bridge and Major Thoroughfare Construction Fee District Report (February 2011) states that Henry Mayo Drive would be widened from two to four through lanes in each direction in the vicinity of the Commerce Center Drive intersection. Additionally, a full-movement, grade separated interchange at this intersection is proposed under the County's report. This improvement was under construction at the time of the release of the NOP for the Project.

Public bus transit service within the Planning Area is currently provided by City of Santa Clarita Transit, Routes 1 and 2. Routes 1 and 2 generally provide six buses per hour (three eastbound and three

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[37] City of Santa Clarita Parks Division, http://www.santa-clarita.com/index.aspx?page=340, and http://hikesantaclarita.com/ (2013).

westbound) during both the AM and PM peak hours. The closest stops to the Project Site are near the intersections of Del Valle Road/Hasley Canyon Road and Commerce Center Drive/Industry Drive.

Utilities and Service Systems

Solid Waste

The Los Angeles County Department of Public Works (LACDPW) is responsible for developing plans and strategies to manage and coordinate the solid waste generated (including hazardous waste) in the unincorporated County areas, including the Project Site, and addressing the disposal needs of Los Angeles County as a whole. Currently, most solid waste is disposed of in landfills. However, the amount of waste diverted from landfills has increased as jurisdictions throughout the State comply with the provisions of the California Integrated Waste Management Act.

Solid waste collected from the Santa Clarita Valley area is primarily disposed of in the Chiquita Canyon Landfill, located at 29201 Henry Mayo Drive Castaic, California 91384 north of the Project Site, and/or the Sunshine Canyon Landfill located at 14747 San Fernando Road Sylmar, California 91342 located southeast of the Project Site. There are several public and private landfills and transfer stations in Los Angeles County that could potentially receive waste generated by the Project. For instance, the Antelope Valley Landfill in Palmdale, Lancaster Landfill in Lancaster, and Simi Valley Landfill in Simi Valley could all potentially accept waste generated by the Project.

Electrical

The Project Site is located within the Southern California Edison (SCE) service area. The service area for SCE is 50,000 square miles and includes 180 cities across 11 counties, which serve over 14 million people in central, coastal, and Southern California. In 2013, SCE added over 1,800 megawatts (MW) of generation capacity from their new Walnut Creek, CPV Sentinel, and El Segundo generation stations.[38] SCE delivered approximately 87,000 GWh of electricity in 2013.[39] SCE is projected to supply between 109,206 GWh to 120,745 GWh in 2024.[40]

The nearest electrical lines to the Project Site are located on the north side of Hasley Canyon Road, directly south of the Project Site. Approximately four above ground electric poles are located along

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38 *California Energy Commission - Energy Facility Status Power Plant Projects Since 1996, Updated: April 23, 2014, website: http://www.energy.ca.gov/sitingcases/all_projects.html, accessed May 8, 2014.*

39 *Southern California Edison 'Who We Are' website:* https://www.sce.com/wps/portal/home/about-us/who-we-are/ *accessed February 5, 2015.*

40 *California Energy Demand 2014-2024 Final Forecast,* California Energy Commission, January 2014.

Hasley Canyon Road (two poles are located along the southwestern portion of the Project Site and two are located adjacent to the active oil wells (adjacent to the Project Site).

Natural Gas

The Project Site is within the service area of the Southern California Gas Company (SCGC) which encompasses 20,000 square miles and provides natural gas to 20.9 million consumers in more than 500 communities.[41] While overall the state's natural gas demand is expected to decrease, within the SCGC service area, gas demand for all market sectors is expected to increase at an annual rate of 0.12 percent between 2011 and 2030.[42]

The Project Site is currently vacant with no existing natural gas infrastructure. An existing 4-inch service line is located in Hasley Canyon Road to the south, an existing 2-inch service line in Gibraltar Lane to the southeast, and an 8-inch service line in Del Valle Road to the south. Gas service to the Project would be extended to the Project Site from one of these existing sources. As discussed further in Section 4.0 Project Description, the connection of the natural gas line to the Project Site would occur at the Project entrance and therefore would include some trenching and/or grading along Hasley Canyon Road.

Water Supply

The Project Site is located entirely within the Castaic Lake Water Agency (CLWA) service area. CLWA is a regional agency providing wholesale deliveries of imported California State Water Project (SWP) water, wholesale recycled water supplies, and wastewater treatment, including to Los Angeles County Waterworks District (LACWWD). The majority of the Project Site is located within District 36 of the LACWWD service area (LACWWD 36). A small portion of the Project Site, comprised of approximately five acres, is not within the boundary of any retail supplier and another small portion of the Project Site, comprised of approximately 9.15 acres, is within the service area boundaries of the Valencia Water Company (VWC). The portion of the Project Site not within the boundary of any retail supplier is proposed to be annexed into LACWWD 36's service area. The portion of the Project Site within VWC is proposed to be de-annexed from VWC's service area and annexed into LACWWD 36's service area.

LACWWD 36's sources of water supply are imported water purchased from CLWA and groundwater produced from the Saugus Formation. LACWWD 36 can purchase imported water from CLWA. CLWA obtains imported water supplies from the SWP, Flexible Storage Accounts in Castaic Lake, and water

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41 Southern California Gas Company. *Company Profile.* http://www.socalgas.com/about-us/company-info.shtml. 2015.

42 Southern California Gas Company. *Company Profile.* http://www.socalgas.com/about-us/company-info.shtml. 2015.

transfers from Buena Vista Water Storage District (BVWSD) and Rosedale-Rio Bravo Water Storage District (RRBWSD) (based on water rights to the Kern River). CLWA also provides supplemental sources of water supplies, including recycled water and water obtained through groundwater banking programs, which enhance the reliability of CLWA's water supplies in meeting overall water demands.

Luhdorff & Scalmanini's *2012 Santa Clarita Valley Water Report*, June 2013 (L&S 2012 Report), provides total historical imported water supplies purchased by municipal purveyors and agricultural users from CLWA between the years 2002 and 2012. The total historical imported water supplies for the 10-year period from 2002 to 2012 ranged from approximately 30,578 acre feet per year (afy) to 47,205 afy, with an average of approximately 39,427 afy.

According to the DWR's, *California's Groundwater, Bulletin 118* dated January 2006, the groundwater basin that underlies CLWA's service area is the Santa Clara River Valley East Groundwater Subbasin (East Subbasin) of the Santa Clara River Valley Groundwater Basin. The East Subbasin covers approximately 66,200 acres. According to CLWA's 2010 UWMP, the East Subbasin is comprised of two aquifer systems: (1) the Alluvium (or Alluvial Aquifer) and (2) the Saugus Formation. Based on historical operations and groundwater modeling analyses, the estimated long-term sustainable yield of the Alluvial Aquifer ranges from 30,000 to 40,000 afy during normal years. During dry years, the estimated yield ranges from approximately 30,000 to 35,000 afy. The Saugus Formation can supply water on a long-term sustainable basis in amounts ranging from 7,500 afy to 15,000 afy, during normal years, with intermittent increases to 25,000 afy to 35,000 afy during dry years.

Although pumping can vary from year to year, the groundwater operating plan is based on the concept that increases in groundwater use during dry periods and increases in recharge during wet periods assure that the East Subbasin is adequately replenished over the long term. The Ground Water Management Plan (GWMP), adopted in 2003, formalized the groundwater operating yield concept.

LACWWD 36 currently produces groundwater from the Saugus Formation through a well adjacent to the Project Site (which was dedicated to LACWWD 36 by the Applicant) with a capacity of 2,800 gpm (or 1,300 afy based on a 40 percent operating factor). CLWA's 2010 Urban Water Management Plan (UWMP) projected LACWWD 36 would produce up to 1,000 afy from the Saugus Formation by the year 2040 (during a single dry year). LACWWD 36 has sufficient capacity to produce the projected water quantities from the Saugus Formation through its existing groundwater well.

Wastewater

The Santa Clarita Valley Sanitation District (SCVSD) owns, operates, and maintains the wastewater conveyance system for the Santa Clarita Valley which consists of a 34-mile-long, interconnected network

of trunk sewers and two pumping plants. The system conveys wastewater and wastewater solids from the local sewer lines to the Saugus and Valencia WRPs. Local lines are sewers that, typically, convey wastewater from a user's property line to the trunk sewers. Los Angeles County owns the majority of the local sewers located in unincorporated areas. The Consolidated Sewer Maintenance District of the Los Angeles County Department of Public Works (CSMD) operates and maintains these local sewers. For the point of connection at Hayward Drive, the existing 8" sewer pipes have sufficient capacity except for one sewer reach on Saguaro Drive. Flows for this reach currently exceed design capacity, but are below 150 percent of capacity, which is generally the threshold LADWP uses to determine when a pipe needs to be replaced.

Local sewer lines are usually 15 inches in diameter or less and feed into the SCVSD trunk sewers. The availability of local sewer capacity depends upon project size and the timing of the connection to the sewerage system. CSMD requires that new subdivision wastewater systems connect to an existing sanitary wastewater system (in this case the SCVSD), and any developer constructing a new wastewater line must coordinate the construction and dedication of any such wastewater line with CSMD for future operation and maintenance. Expansion of sewer system pipelines within the CSMD service area is funded through connection fees assessed against users by the California Health and Safety Code. This connection fee is a capital facilities fee that is imposed in an amount sufficient to construct an incremental expansion of the sewage system to accommodate a proposed project. Operation and maintenance of the regional trunk sewer lines, in this case the Castaic Trunk Sewer, is the responsibility of the SCVSD. The SCVSD would upgrade the wastewater collection and treatment systems as necessary by expanding sewer trunk lines and wastewater treatment plants.

Most wastewater generated within the Santa Clarita Valley is treated at two existing water reclamation plants (WRPs), which are operated by the SCVSD, which is a district of the Los Angeles County Sanitation District (LACSD). The existing Saugus WRP is located at 26200 Springbrook Avenue in Saugus. The existing Valencia WRP is located at 28185 The Old Road in Valencia. Both WRPs are within the immediate vicinity of the Project Site and provide primary, secondary, and tertiary treatment. The Santa Clarita Valley Joint Sewerage System (SCVJSS) has a permitted treatment capacity of 28.1 mgd[43] and a treated average of 19.6 mgd.[44] The Project Site is presently undeveloped and there is no wastewater collection and conveyance system on the property. An existing gravity sewer main runs adjacent to the

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43 The Valencia WRP provides primary, secondary, and tertiary treatment for 21.6 mgd of wastewater, while the Saugus WRP provides primary, secondary, and tertiary treatment for 6.5 mgd of wastewater. Websites: http://www.lacsd.org/wastewater/wwfacilities/scvwrp/valencia.asp and http://www.lacsd.org/wastewater/wwfacilities/scvwrp/saugus.asp

44 County Sanitation Districts of Los Angeles County, Facilities Planning Department Customer Service Specialist, Adriana Raza, written communication August 13, 2013.

Project Site, in and parallel to Hasley Canyon Road. The closest pumping plant would be the Castaic Pumping Plant, located on the east side of The Old Road south of Henry Mayo Drive, in Valencia. [45]

3.3 CUMULATIVE IMPACT ANALYSIS

Technical and Legal Requirements

The analyses contained in **Section 5.0, Environmental Impact Analysis,** examine both project-specific impacts and the potential environmental effects associated with cumulative development. CEQA requires that EIRs discuss cumulative impacts, in addition to project-specific impacts. In accordance with CEQA, the discussion of cumulative impacts must reflect the severity of the impacts and the likelihood of their occurrence; however, the discussion need not be as detailed as the discussion of environmental impacts attributable to the project alone. According to Section 15355 of the *State CEQA Guidelines*:

> *"Cumulative impacts" refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.*
>
> *(a) The individual effects may be changes resulting from a single project or a number of separate projects.*
>
> *(b) The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonable foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.*

Section 15130(a)(l) of the *State CEQA Guidelines* further states that "a cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts."

Section 15130(a) of the *State CEQA Guidelines* also requires that EIRs discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable."[46] Where a Lead Agency is examining a project with an incremental effect that is not cumulatively considerable, it need not consider the effect significant but must briefly describe the basis for its conclusion. If the combined cumulative impact associated with the project's incremental effect and the effects of other projects is not significant, Section 15130(a)(2) of the *State CEQA Guidelines* requires a brief discussion in the EIR of why the cumulative impact is not significant and why it is not discussed in further detail. Section 15130(a)(3) of the *State CEQA Guidelines* requires supporting analysis in the EIR if a determination is made that a

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45 Consolidated Sewer Maintenance District of the Los Angeles County Department of Public Works, website: http://dpw.lacounty.gov/smd/sewernetwork/, accessed February 27, 2014

46 Under Section 15065(a)(3) of the *State CEQA Guidelines*, "cumulatively considerable" means that "the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

project's contribution to a significant cumulative impact is rendered less than cumulatively considerable and, therefore, is not significant. CEQA recognizes that the analysis of cumulative impacts need not be as detailed as the analysis of project-related impacts, but instead should "be guided by the standards of practicality and reasonableness" (*State CEQA Guidelines* Section 15130(b)). The discussion of cumulative impacts in this draft EIR focuses on whether the impacts of the Project are cumulatively considerable.

The fact that a cumulative impact is significant does not necessarily mean that the project-related contribution to that impact analysis is significant as well.[47] Instead, under CEQA, a project-related contribution to a significant cumulative impact is only significant if the contribution is "cumulatively considerable." To support each significant conclusion, the draft EIR provides a cumulative impact analysis; and where project-specific impacts have been identified that, together with the effects of other Related Projects, could result in cumulatively significant impacts, these potential impacts are documented.

Related Projects

Section 15130(b) of the *State CEQA Guidelines* defines consideration of the following two elements as necessary to provide an adequate discussion of cumulative impacts:

> *(A) a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) a summary of projections contained in an adopted local, regional, or statewidel plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect.*

In this draft EIR, a combination of these two methods is used, depending upon the specific environmental issue area being analyzed.

Related Projects in the vicinity of the Project Site include those projects that are (1) completed but not fully occupied; (2) currently under construction or beginning construction; (3) proposed with applications on file at the County of Los Angeles or City of Santa Clarita; or (4) reasonably foreseeable. These projects (Related Projects) are presented in **Table 3.0-1, List of Related Projects,** and the locations of the Related Projects are shown in **Figure 3.0-6, Location of Related Projects**.

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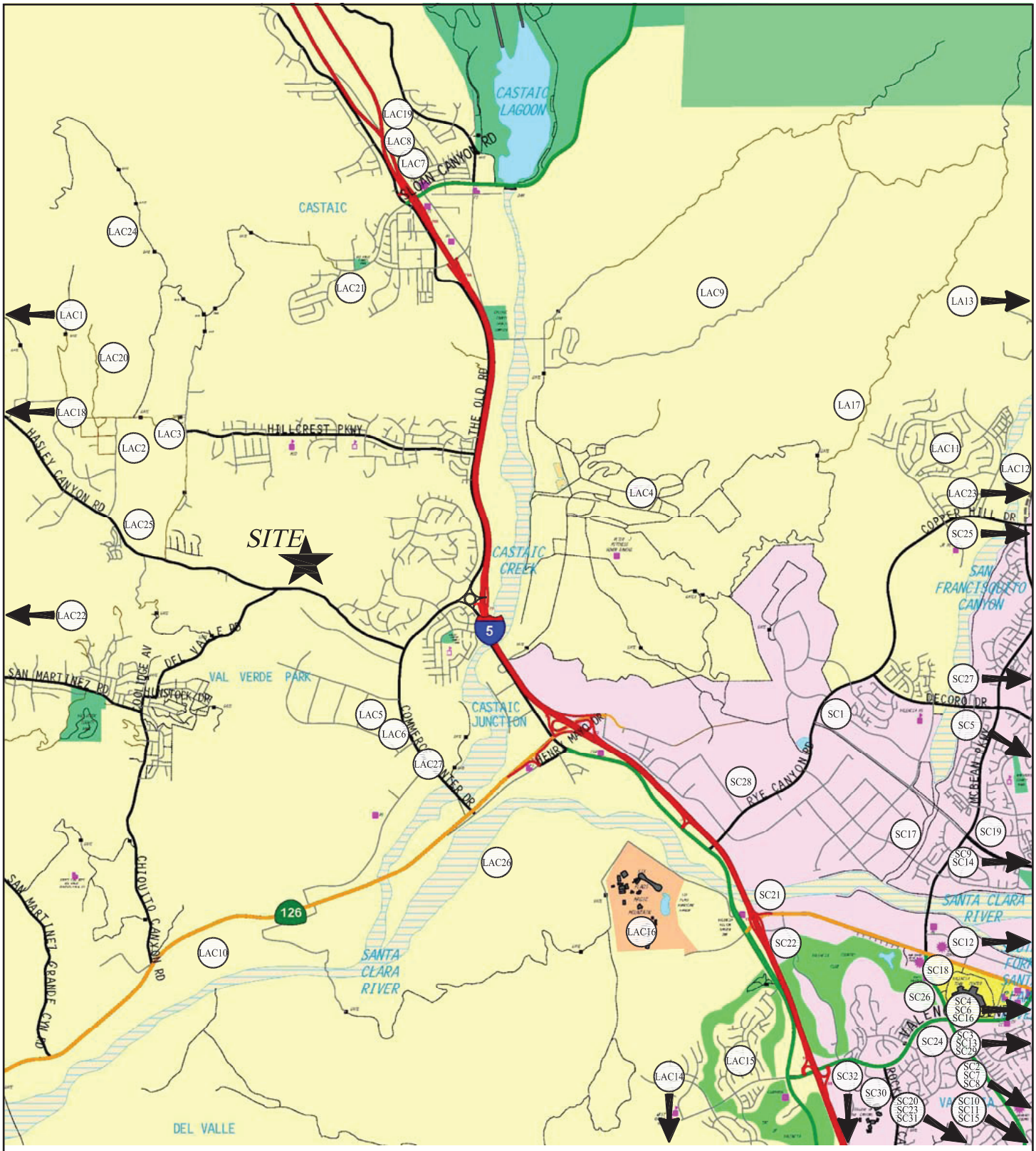
47 Section 15130 of the *State CEQA Guidelines*



LEGEND

★ Project Site

(XX) Related Project

NOT TO SCALE

SOURCE: 2015 Traffic Study Addendum-Los Valles Project, Linscott, Law, & Greenspan: Map Source: Rand McNally & Company.

FIGURE **3.0-6**

Location of Related Projects

1154.001•10/15

Table 3.0-1
List of Related Projects

Map No.	Land Use/Description[1]	Size	Address
LAC 1	Single-Family Detached Housing	4 units	31050 Burlwood Drive
LAC 2	Single-Family Detached Housing	9 units	30406 Romero Canyon Road
LAC 3	Single-Family Detached Housing	4 units	30469 Sloan Canyon Road
LAC 4	Pitchess Detention Center (Prison)	1,156 Beds	29330 The Old Road
LAC 5	General Office	1,998 sf	28908 Avenue Paine, Suite A
	General Office	*724 sf*	
LAC 6	General Office	400 sf	28305 Livingston Avenue
LAC 7	Shopping Center	5,510 sf	31949 North Castaic Road
LAC 8	Shopping Center	4,000 sf	31953 North Castaic Road
LAC 9	Single-Family Detached Housing	405 units	Tapia Ranch
			East of I-5/north of Pitchess Detention Center
LAC 10	Landmark Village (Phases 1, 2, 3)		East of Chiquito Canyon Road/south of SR-126
	Single-Family Detached Housing	270 units	
	Condominiums	1,174	
	Non-Commercial		
	Commercial	n/a	
		1,040,000 sf	
LAC 11	Single-Family Detached Housing	239 units	Tesoro del Valle (Phases B, C, D)
			West of Casa Luna/north of Avenida Rancho Tesoro
LAC 12	Single-Family Detached Housing	4 units	28718 San Francisquito Canyon Road
LAC 13	Single-Family Detached Housing	45 units	Burnam Project
			West of San Francisquito Creek/north of Copper Hill Drive
LAC 14	Single-Family Detached Housing	9 units	West of The Old Road
			South of Valencia Boulevard
LAC 15	Apartments	230 units	Alara Links at Westridge Apartments
			25330 Silver Aspen Way
LAC 16	Amusement Park Improvements	n/a	Six Flags Magic Mountain
			26101 Magic Mountain Parkway
LAC 17	Single-Family Detached Housing	7 units	West Creek Park
LAC 18	Single-Family Detached Housing	2 units	Burlwood Drive at Hasley Canyon Road
LAC 19	Fast-Food Restaurant with Drive-Through	n/a	Panda Express Restaurant
			31970 Castaic Road
LAC 20	Single-Family Detached Housing	4 units	30995 Stone Creek Road
LAC 21	Single-Family Detached Housing	3 units	28456 Sloan Canyon Road
LAC 22	Single-Family Detached Housing	100 units	North of San Martinez Road/south of Hasley Canyon
LAC 23	Single-Family Detached Housing	4 units	East of Hidden Hills Drive/north of Copperhill Drive

Map No.	Land Use/Description[1]	Size	Address
LAC 24	High School	250,000 sf	Castaic Area High School Romero Canyon Road/north of Barringer Road
LAC 25	Single-Family Detached Housing	34 units	Santa Clarita Valley Facilities Foundation Sloan Canyon Road/Hasley Canyon Road
LAC 26	Mission Village[2]		South of SR-126 at Commerce Center Drive
	Single-Family Detached Housing	382 units	
	Multi-Family	4,030 units	
	Non-Residential	1,555,100 sf	
LAC 27	Valencia Commerce Center		Northeast corner of Industry Drive at Commerce Center Drive
	Industrial Park	2,568,033 sf	
	Business Park	754,961 sf	
SC 1	Business Park	4,4000,000 sf	Rye Canyon Business Park Northeast corner of Rye Canyon Road at Newhall Ranch Road
SC 2	Golden Valley Ranch		Development area southeast of SR-14/north of Placerita Canyon Road
	Single-Family Detached Housing	498 units	
	Commercial	618,759 sf	
SC 3	Whittaker Bermite/Porta Bella Project		West of Golden Valley Road/south of Soledad Canyon Road/east of San Fernando Road
	Single-Family Detached Housing	2,911 units	
	Commercial	609,832 sf	
SC 4	Riverpark		Eastern terminus of Newhall ranch Road/east of Bouquet Canyon Road/north of Soledad Canyon Road and the Santa Clara Rive
	Single-Family Detached Housing	1,089 units	
	Commercial	16,000 sf	
SC 5	North Valencia Specific Plan No. II		Eastside of San Francisquito Creek/north of Newhall Ranch Road/south of Decoro Drive/east of Rye Canyon Road/west of McBean Parkway
	Single-Family Detached Housing	1,900 units	
	Commercial	210,000 sf	
SC 6	Keystone/Synergy Project		South of Bouquet Canyon Road/adjacent to the Riverpark
	Single-Family Detached Housing	499 units	
	Commercial	30,476 sf	
SC 7	Downtown Newhall Specific Plan		Downtown Newhall area along San Fernando Road
	Single-Family Detached Housing	1,092 units	
	Commercial	1,107,000 sf	
SC 8	North Newhall Specific Plan		Along San Fernando Road in Newhall
	Single-Family Detached Housing	775 units	
	Commercial	450,000 sf	
SC 9	Single-Family Detached Housing	265 units	Stetson Ranch East of San Canyon Road at the northern terminus of Gary Drive and Marilyn Drive
SC 10	Single-Family Detached Housing	148 units	DR Horton Northeast corner of Sierra Highway and Golden Valley Road
SC 11	Single-Family Detached Housing	52 units	Centex Homes North of Golden Valley Road/west of Sierra highway

Map No.	Land Use/Description[1]	Size	Address
SC 12	Soledad Village Project		North of Soledad Canyon Road/south of Santa Clara River/east of Bouquet Canyon Road
	Single-Family Detached Housing	315 units	
	Commercial	8,000 sf	
SC 13	Single-Family Detached Housing	43 units	Friendly Valley Association
			North of Sierra Highway and east of Via Princessa
SC 14	Single-Family Detached Housing	147 units	Soledad Circle Estates
			South of Soledad Canyon Road at Penlon Court
SC 15	Commercial	4,200,000 sf	Gate King
			Southern Santa Clarita/west of SR-14 and Sierra Highway/south of San Fernando Road
SC 16	Business Park	2,300,000 sf	Centre Pointe Business Park
			South of Soledad Canyon Road/east of Bouquet Canyon Road/west of Golden Valley Road
SC 17	Commercial	803,000 sf	North Valencia Specific Plan No. 1
			South of Newhall Ranch Road/north of Magic Mountain Parkway/east of Rye Canyon Road/west of Bouquet Canyon Road
SC 18	Shopping Center	491,860 sf	Valencia Town Center Expansion
			Northeast corner of Valencia Boulevard and McBean Parkway
SC 19	Shopping Center	160,000 sf	Bridgeport Market Place
			Northeast corner of McBean Parkway and Newhall Ranch Road
SC 20	Commercial	6000,000 sf	Henry Mayo Newhall Memorial Master Plan
			23845 West McBean Parkway
SC 21	Commercial	450,000 sf	Tourney North
			Magic Mountain Parkway west of The Old Road and I-5
SC 22	Commercial	165,000 sf	Tourney South
			Wayne Mills Place east of I-5
SC 23	Office Park	90,900 sf	Cinque Terra Office Park
			On Sierra Highway between Dockweiler Drive and San Fernando Road
SC 24	Medical/Dental Office	79,000 sf	Facey Medical Building
			26357 McBean Parkway
SC 25	Commercial	40,000 sf	HH Seco II LLC/southwest corner of Seco Canyon Road and Copperhill Drive

Map No.	Land Use/Description[1]	Size	Address
SC 26	Commercial	12,350 sf	VCT Square Northwest corner of McBean Parkway and Valencia Boulevard
SC 27	Commercial	34,000 sf	Rodgers Development Master Case Northeast corner of Bouquet Canyon Road and Plum Canyon Road
SC 28	Manufacturing	110,000 sf	ADI 25575 Rye Canyon Road
SC 29	Medical/Dental Office	100,000 sf	Soledad Office Center 17901 Soledad Canyon Road
SC 30	Community College	180,000 sf	College of the Canons Expansion South of Valencia Boulevard and west of Rockwell Canyon Road
SC 31	Single-Family Detached Housing	42 units	Master's College Master Plan 21726 Placerita Canyon Road
SC 32	Warehouse	368,730 sf	UCLA Film Archives North of McBean Parkway and west of Rockwell Canyon Road
SC 33	Bridge	n/a	Wiley Canyon Road/Via Princessa Bridge (South Fork)/Crosses South Fork of Santa Clara River in the City of Santa Clarita
SC 34	Utilities	n/a	Saugus Water Reclamation Plant Near Bouquet Canyon Road/Discharges to Santa Clara River

Source: 2014 Los Valles Traffic Impact Study, prepared by Linscott, Law & Greenspan; 2015 Traffic Study Addendum-Los Valles Project, prepared by Linscott Law & Greenspan.

Notes:

Uses identified in italics are existing uses removed in order to develop proposed project

[1] *Includes all Related Projects located within 1.5 miles of the Project Site and proposed projects beyond the 1.5 mile radius which could create traffic impacts.*

[2] *Residential uses for the Mission Village Project were taken from the Mission Village 2011 DEIR, the number of residential dwelling units has since been reduced. Thus these numbers provides a conservative analysis.*

sf = square feet

Based on the list of Related Projects provided in **Table 3.0-1**, a summary of the projected cumulative development is provided in **Table 3.0-2, Cumulative Development Summary**.

Table 3.0-2
Cumulative Development Summary

Land Use[1]	Size/Units
Single-Family Detached Housing	11,301 du
Multi-Family Housing[2]	5,434 du
Commercial[3]	12,610,887 sf
Office[4]	7,726,535 sf
Educational Facilities[5]	430,000 sf
Industry[6]	3,046,763 sf
Prison	1,156 beds

Sources:
2014 Los Valles Traffic Impact Study, prepared by Linscott, Law, & Greenspan;
2015 Traffic Study Addendum-Los Valles Project, prepared by Linscott, Law, & Greenspan
Notes:
sf-square feet
[1] *Includes all Related Projects located within 1.5 miles of the Project Site and proposed projects beyond the 1.5 mile radius which could create traffic impacts.*
[2] *Includes apartments and condominiums*
[3] *Includes commercial and shopping center*
[4] *Includes general office, dental/medical office, business park, and office park*
[5] *Includes high school and community college*
[6] *Includes warehouse and manufacturing*

Specific past, present, and reasonably anticipated future projects listed above, as well as applicable land use planning documents, are considered when evaluating cumulative impacts in **Sections 5.1** through **5.15**, as appropriate for each environmental topic addressed in this Draft EIR.

4.0 PROJECT DESCRIPTION

INTRODUCTION

The project description is the starting point for all environmental analysis required by CEQA. The purpose of this section is to describe a project in a manner that will be meaningful to the public, reviewing agencies, and decision makers. This project description provides information pertaining to the Los Valles Project. As described in Section 15124 of the *State CEQA Guidelines*, the project description is required to contain the following information: (1) the location and boundaries of the proposed project; (2) a statement of the objectives of the proposed project; (3) a general description of the project's technical, economic, and environmental characteristics; and (4) a statement briefly describing the intended uses of the EIR. The *State CEQA Guidelines* mandates that a project description need not be exhaustive, but should provide the level of detail needed for the evaluation and review of potential environmental impacts. The following project description serves as the basis for the environmental analysis contained in this Draft EIR.

4.1 PROJECT LOCATION AND BOUNDARIES

The Project is situated on a currently undeveloped, partially graded 430.4-acre site in the northwesterly portion of the Santa Clarita Valley (hereafter referred to as the "Project Site"). The location and boundaries of the Project Site are shown on **Figure 3.0-1, Regional Location Map**, and **Figure 4.0-1, Site Vicinity Map**. As shown, the Project Site is situated approximately 1.9 miles west of I-5 and immediately north of Hasley Canyon Road between Gibraltar Lane and Sloan Canyon Road, to the northeast of the intersection of Hasley Canyon Road and Del Valle Road. At the location of the proposed entry to the Project Site and to the east, Hasley Canyon contains two through travel lanes in each direction. West of the entry to the Project Site, Hasley Canyon Road narrows to one through travel lane in each direction. Existing conditions occurring on and near the Project Site and surrounding uses have been described previously in **Section 3.0, Environmental Setting**, of this Draft EIR.

SOURCE: Google, Inc., April 2013

FIGURE **4.0-1**

Site Vicinity Map

1154.001•03/15

4.2 PROJECT CHARACTERISTICS

The Applicant (SFI Los Valles LLC) proposes to subdivide the Project Site into approximately 539 lots as shown on **Figure 4.0-2, Revised Vesting Tentative Tract Map No. 52584**. Land uses proposed on these lots include the following:

(1) 497 detached single-family homes;

(2) Approximately 189.29 acres of privately owned open space including approximately 123.25 acres of non-irrigated open space and/or open space landscaped with native vegetation (hereafter referred to as natural open space), approximately 59.6 acres of slopes and a 6.44 acre mitigation area;

(3) A 7.45-acre public park site;

(4) Approximately 28.28 acres for recreational use including a 4.5 acre vineyard and a 3.9 acre orchard and a 7 acre community center; [1]

(5) A multi-use trail at the southwest portion of the Project Site that will be dedicated to the County for public use;

(6) Water infrastructure including a 850,000 gallon water tank on a 1.55 acre lot and approximately 6.19 acres of storm drain basins; and

(7) Streets and on-site utilities and infrastructure, including a water booster station.

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[1] Approximately 7 acres within the recreation area consists of private parking and the community recreation center.

In addition, certain off-site improvements are necessary and described as part of the Project (See Section 4.8.5 below). **Figure 4.0-3, Conceptual Site Plan**, illustrates the location of these land uses within the proposed subdivision. **Table 4.0-1**, **Project Development Summary,** defines each land use and provides the land area (in acres) dedicated to each of the proposed land uses.

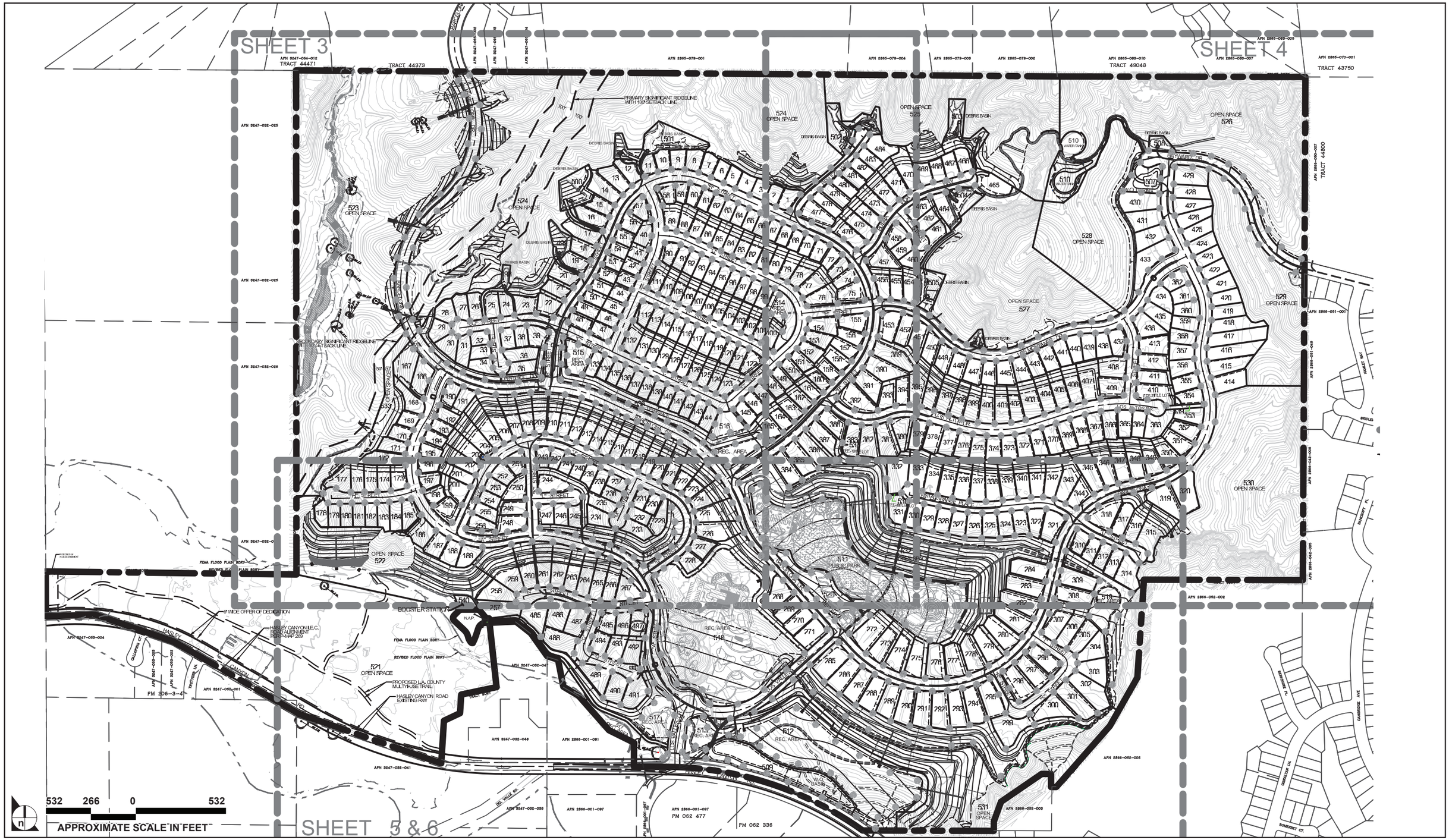
A design objective of the Project is to provide a transition between the suburban, smaller-lot subdivisions situated to the north and east and the low-density equestrian estate homes[2] and privately owned undeveloped land to the west and south. To accomplish this objective, the Project plan emphasizes the protection of open space and undisturbed connections to these adjoining areas by retaining as natural open space approximately 123.25 acres of land. These natural open space areas are primarily located adjacent to existing off-site open space located to the north and northeast, contiguous to existing undeveloped ridgelines, and along the westerly ridgeline and areas further to the west on the Project Site in areas contiguous with undeveloped land.

Table 4.0-1
Project Development Summary

Land Use	Number of Lots	Acreage	Percentage
OPEN SPACE			
Public Park	1	7.45	1.73
Recreation Area /a/	7	28.28	6.57
Open Space/b/	18	189.29	43.98
TOTAL OPEN SPACE	**26**	**225.02**	**52.28**
DEVELOPED AREA			
Single family	497	144.38	33.55
Storm Drain Maintenance	11	6.19	1.44
Water Tank	1	1.55	0.36
Streets	-	52.96	12.34
Booster Station	1	0.16	0.03
Fee Title Pedestrian Access Lots	3	0.14	0.03
TOTAL DEVELOPED AREA	**513**	**205.38**	**47.72**
TOTAL	**539**	**430.4**	**100.00**

/a/ recreation area includes 4.5 acres of vineyard and a 3.9 acre orchard and an approximately 7 acre community center
/b/ open space includes 123.25 acres of natural open space, 59.6 acres of transitional slopes and 6.44 acres of mitigation area.
Note: acreages provided in the table are approximate and may vary slightly from the exact tract map.
Source: Land Design Consultants and Impact Sciences, October 2015

2 See SCVAP 2012 Chapter 2, Land Use, Page 25 (description of Hasley Canyon subarea).



SOURCE: Land Design Consultants, Inc., March, 2015

FIGURE **4.0-2**

Revised Vesting Tentative Tract Map No. 52584

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SOURCE: Google Inc., December 2013

FIGURE **4.0-3**

Conceptual Site Plan

1154.001•03/15

4.3 DESCRIPTION OF PROPOSED LAND USES; REVISED VESTING TENTATIVE TRACT MAP NO. 52548

4.3.1 Residential Uses

4.3.1.1 Residential Zoning and Subdivision

The Project includes 497 residential lots on approximately 144.38 acres of land. Project density would be approximately 1.16 dwelling units per gross acre (i.e., 497 residential lots divided by 430.4 acres) which would be consistent with the 2012 update to the Santa Clarita Valley Area Plan (SCVAP 2012) designation of "H2 – Residential 2 (UR1 – Urban Residential 1)" that establishes the area as a residential neighborhood requiring urban services with a maximum density of 2-dwelling units per gross acre. Allowable uses in this designation include single-family homes.[3]

The proposed density is also permitted within Zone A-2-2 with a density-controlled development conditional use permit (CUP).[4]

Residential lot sizes would range from 8,300 square feet to 16,700 square feet, which is consistent with the minimum lot size requirement of 7,000 square feet as set forth in the Castaic Area Community Service District (CSD).[5] As designed, proposed residential development would be compatible with existing residential communities situated north, east, and southeast of the Project Site.

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3 SCVAP 2012, Chapter 2, Land Use Element, p. 52.

4 Under the SCVAP 2012 "Density-controlled development (clustering), in accordance with the provisions of the Zoning Ordinance, is encouraged on lands with significant environmental and/or topographical features or resources, in order to preserve open space for protection of these natural features or resources, to provide recreational amenities, or to act as a buffer to surrounding rural communities, provided that all residential lots meet the minimum lot size requirements of a Community Standards District, where applicable." SCVAP 2012, Chapter 2, Land Use Element, p. 52.

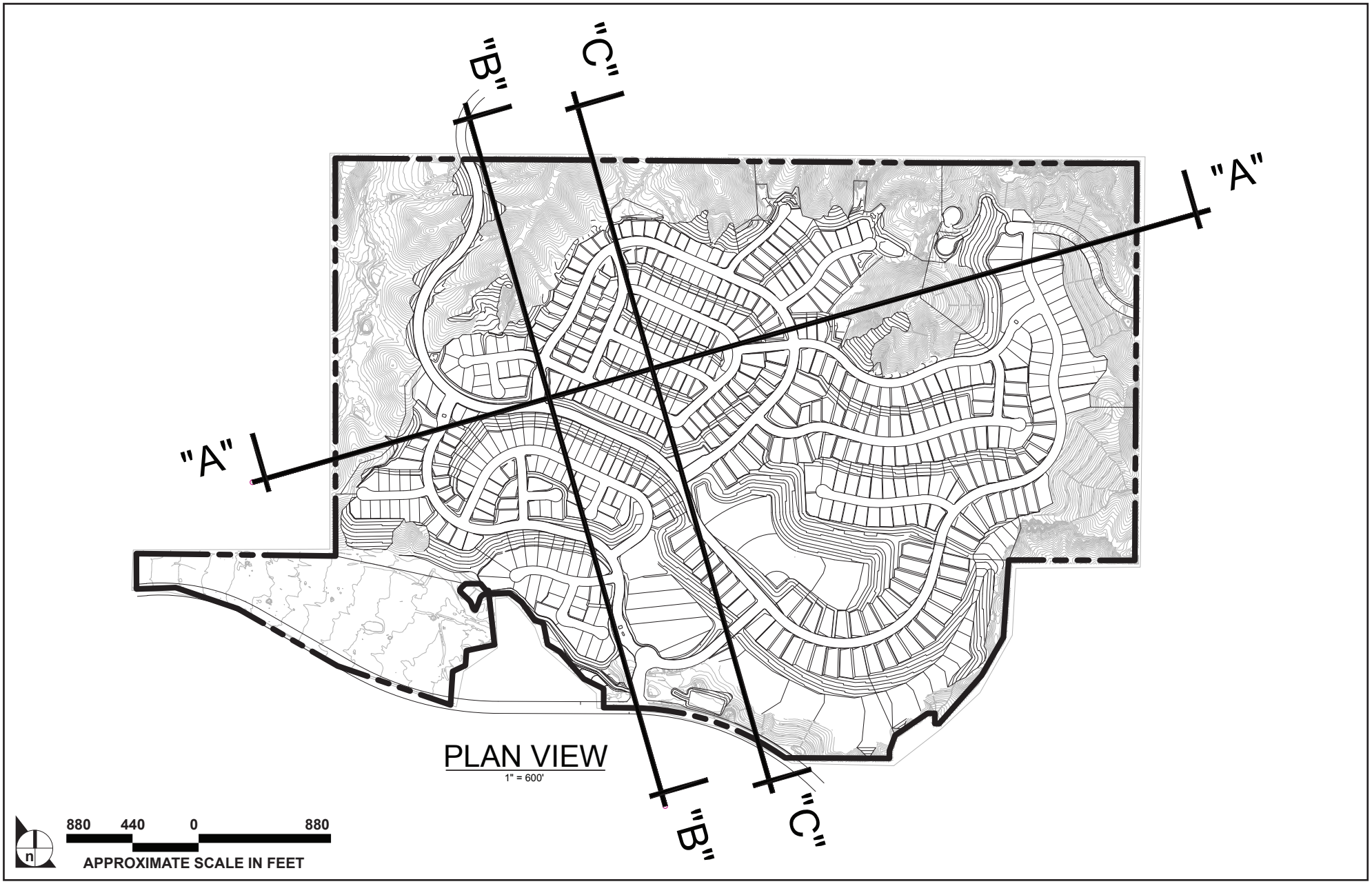
5 Section 22.44.137 (E)(1) of the CSD requires that not more than 43 percent of the lots be a minimum of 7,000 square feet with an the average of all lots not less than 10,000 square feet.

4.3.1.2 Design and Layout

In general, the Project Site slopes downward from north to south and upward from east to west. On-site elevations range from approximately 1,200 feet at the lowest point near the main entrance off Hasley Canyon Road, to approximately 1,600 feet at the northerly water tank location. Subsequent to Project Site grading, proposed lots in the southwestern portion of the Project Site would be at elevations of approximately 1,240 feet, while lots in the central and western portions of the Project Site would be at elevations of approximately 1,320 feet. Residential lots proposed in the northwestern portion of the Project Site would be at an elevation of approximately 1,460 feet and lots proposed in the northeastern portion would be at an elevation of approximately 1,200 feet. **Figure 4.0-4a** and **Figure 4.0-4b, Existing and Proposed Topography**, illustrates the existing topography on the Project Site and the future elevations once site grading is complete.

The primary Project access point is proposed to be taken from Hasley Canyon Road. Residential uses would be set back from Hasley Canyon Road with a series of landscaped areas. A recreation area that will include a vineyard, landscaped open space, and a clubhouse, is proposed east and immediately north of the Hasley Canyon Road entrance, (as shown on **Figure 4.0-3, Conceptual Site Plan**). West of the Hasley Canyon Project entrance and north and south of "A" Street (as shown on **Figure 4.0-3, Conceptual Site Plan)**, immediately west of the proposed community center, a citrus orchard is planned. Approximately 350 feet north of the entrance, a traffic roundabout would distribute vehicles to the eastern and western portions of the Project Site. The vineyard and orchard would soften the overall view toward the interior of the Project Site from Hasley Canyon Road. Lastly, the existing tunnels on the Project Site that were part of the partially constructed golf course will be repurposed as pedestrian tunnels.

Although design of the residences has not yet occurred, proposed residences will likely consist of both one and two story designs with varied heights, up to a maximum of 30 feet. Materials used for home exteriors may include a mix of stucco, wood siding, or other similar materials. Low reflective glass would be used for all windows.



SOURCE: Land Design Consultants, Inc., March 2015

FIGURE **4.0-4a**

Existing and Proposed Topography

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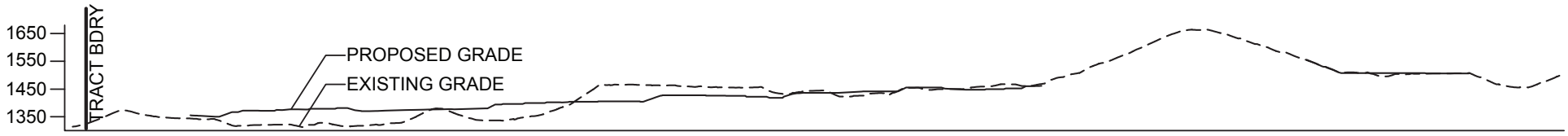
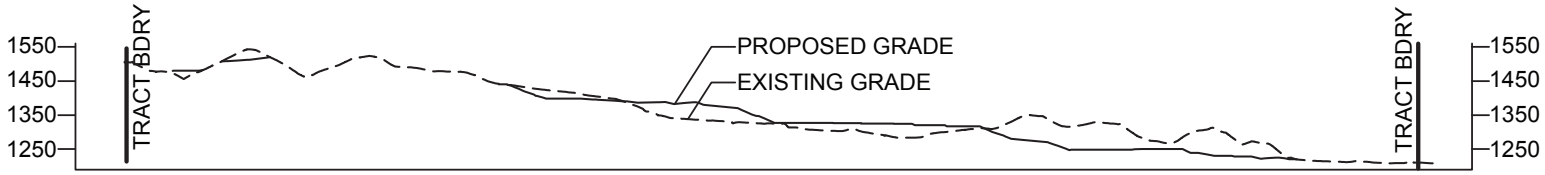


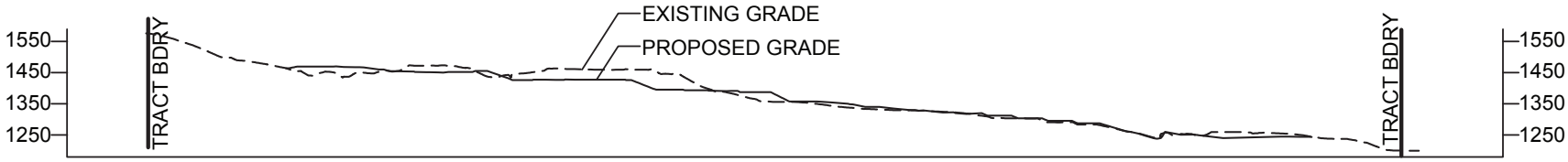
SECTION "A-A"

1" = 400'



SECTION "B-B"

1" = 400'



SECTION "C-C"

1" = 400'

SOURCE: Land Design Consultants, Inc., March 2015

FIGURE **4.0-4b**

Existing and Proposed Topography

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4.3.2 Open Space

The Project would provide approximately 189.29 acres of privately owned open space that would be restricted in the Revised Vesting Tentative Map as open space areas. These areas include approximately 123.25 acres of natural open space that would remain largely native in character, approximately 59.6 acres of transitional slopes, and a 6.44 acre mitigation area, on 18 lots.[6] Open space areas include primary portions of the westerly ridgeline and much of the western portion of the Project Site, as well as areas to the north and northeast of the Project Site. Open space would provide a transition between residential uses proposed as part of the Project and undeveloped land and equestrian estates situated west of the Project Site and housing to the north and east of the Project Site. Open space areas are proposed along the southern boundary of the Project Site and would buffer proposed residential uses from the adjacent Hasley Canyon Road and the light industrial/manufacturing commerce centers that are situated further south.

4.3.3 Public Park

The Project includes a 7.45-acre public park that would be located in the southeastern portion of the Project Site as shown on **Figure 4.0-3, Conceptual Site Plan**. It is expected that the 7.45-acre public park may be dedicated to, and would be maintained by, the County of Los Angeles Department of Parks and Recreation; however, if the County does not accept the dedication, the park would be maintained by the homeowners association (HOA) as a park for public use. The public park will be designed and improved pursuant to the County's Park Design Guidelines. Although the final design of the public park site will be determined at a later date, it is anticipated the park would include irrigated picnic areas, a flat meadow area, shade structures, sports facilities, and a restroom and would include lighting as described below. Parking would be provided pursuant to County requirements.

4.3.4 Secondary Parks

Secondary Parks: Six smaller secondary park and recreation areas (referred to in this EIR as secondary parks) are proposed throughout the community. These areas would be maintained by the HOA. The location of the secondary parks is illustrated on **Figure 4.0-3, Conceptual Site Plan** and they range in size from approximately 0.5 to 6 acres, with a total of approximately 12.88 acres of secondary parks proposed. Although not designed at this time, secondary parks are expected to include a mix of passive

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6 In addition to the 189.29 acres of natural open space, transitional slopes, and mitigation area, the Project provides 28.28 acres of recreation areas, and a 7.45 acre public park that all count toward the County's open space requirement. As such, the total open space provided by the project is approximately 225.02 acres.

open space, shade structures, seating areas, and/or play courts. The secondary parks are proposed to be accentuated with colorful and textured plantings providing interest at the pedestrian scale. Turf would provide space for flexible play and event functions. Water wise gardens would feature native compatible plant material.

4.3.5 Trails and Fee Access Lots

The Project includes a system of privately maintained, publicly accessible pedestrian trails and a multi-use trail. The location of these trails is shown on **Figure 4.0-5, Trails Map**. Both the pedestrian trails and the multi-use trail would provide a linkage to local and regional trails including built portions of the Hasley Canyon Trail and the proposed Castaic Creek Trail.

Pedestrian Trails: Approximately 4.5 miles of internal pedestrian trails would connect the different areas of the Project community and provide access to the various amenities and open space areas within the Project Site. The locations of pedestrian trails on the Project Site are shown on **Figure 4.0-5, Trails Map**. The pedestrian trails would provide access to open space at three points: the water tank location, the area east of Barcelona Road, and the area southwest of Barcelona Road (**Figure 4.0-5, Trails Map**).

Pedestrian trails would be approximately six feet wide and would be privately maintained, but available for public use. Design of the pedestrian trails is still conceptual; however possible trail materials could include crushed aggregate (brick, granite, etc.), gravel, asphalt, and/or concrete. As shown on **Figure 4.0-5, Trails Map,** portions of the trail would include sidewalks.

Multi-Use Trail: An approximately 3,000 linear foot public multi-use trail is proposed on the Project Site. This public multi-use trail could be used for hiking, mountain-biking, and equestrian use and will be developed and dedicated to the County of Los Angeles Department of Parks and Recreation. The location of the multi-use trail is shown on **Figure 4.0-5, Trails Map**. As proposed, the multi-use trail would be 16 feet wide would run parallel with Hasley Canyon Road on the southwestern portion of the Project Site. The multi-use trail would provide a linkage to the existing Hasley Canyon Trail located east of the Project Site (**Figure 5.13-3 Existing and Proposed Trails in the Project Vicinity**).

Fee Access Lots: Three "fee access" lots would be maintained by the HOA. These recreational lots provide pedestrian access within the gated portions of the community.

4.3.6 Vineyard and Citrus Orchard

Approximately 4.5 acres of vineyard is proposed as part of the Project to be located east of the community's main entrance off of Hasley Canyon Road, as well as to the north, east, and west of the

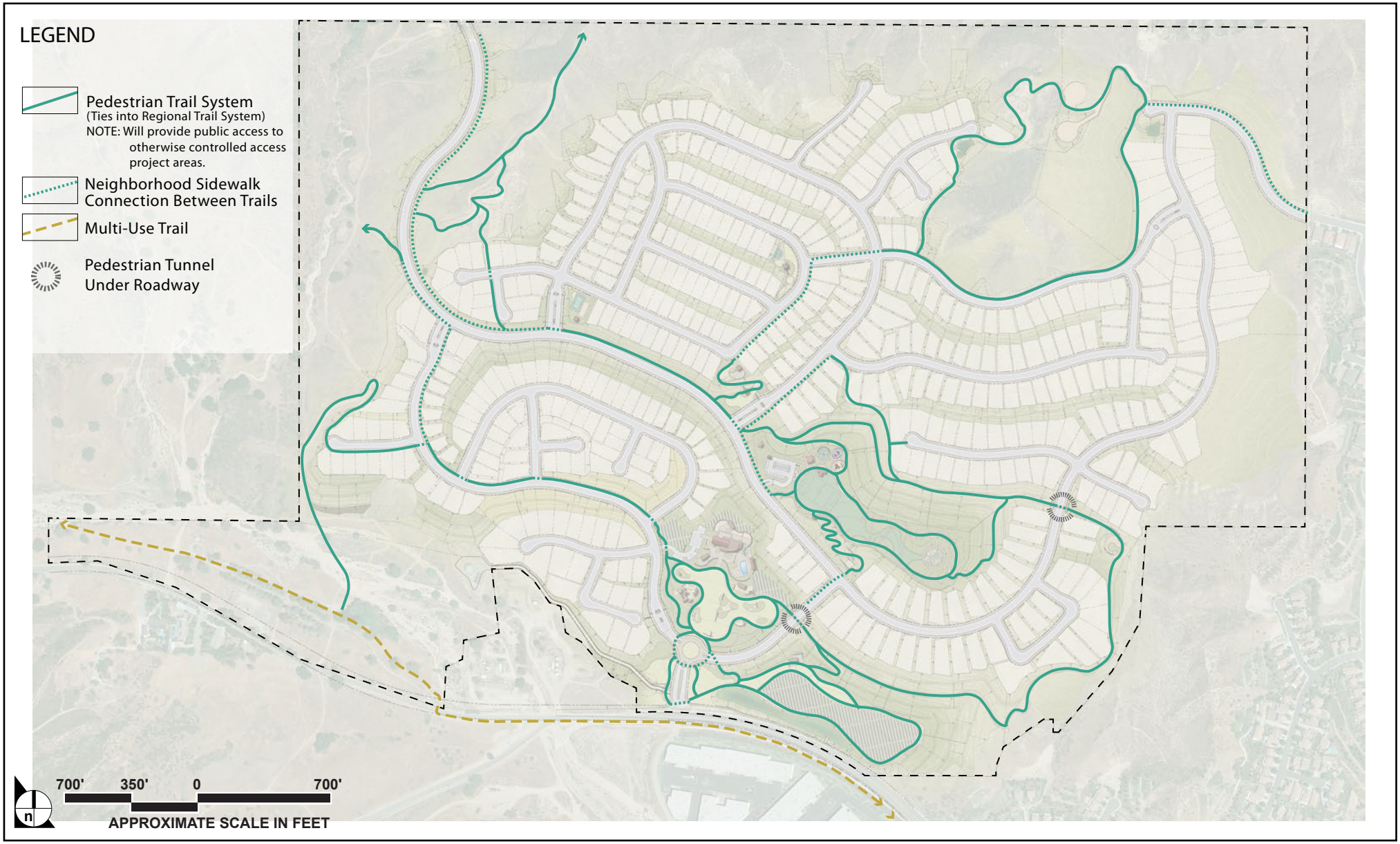
community center. Approximately 3.9 acres of citrus orchard is proposed to be located west of the community's main entrance along north and south of "A" Street (as shown on **Figure 4.0-3, Conceptual Site Plan**). The vineyard and orchard would be maintained by the HOA. The intent of these areas is to provide a pleasing visual element situated at the entrance to the Project, as well as to buffer residents of the project from Hasley Canyon Road and the light industrial and manufacturing land used situated further south.

4.3.7 Community Center

As shown on **Figure 4.0-3, Conceptual Site Plan**, a privately maintained community recreation center is proposed approximately 1,000 feet northwest of the community's main entrance off of Hasley Canyon Road. While the community recreation center has not yet been designed, possible improvements could include a pool, clubhouse, shade structures, play courts, and/or seating areas. The community recreation center will be gated and its use will be limited to Project residents.

4.3.8 Mitigation Area

The Project includes a 6.44 acre mitigation area to restore and expand the western drainage (Tributary 1) to a condition that would reduce the degree of erosion that occurs now. This includes terracing and re-contouring the near vertical existing banks and restoring vegetation including mainland holly-leaf cherry and California live oaks. As described in **Section 5.3, Biological Resources**, the streambed restoration will be coordinated with both the United States Army Corps of Engineers (USACE) and the California Department of Fish and Wildlife (CDFW). The Project also includes a habitat restoration area for western spadefoot toads (a California Species of Special Concern) referred to as the "enhanced habitat area," the enhanced habitat location will be selected in consultation with CDFW, but is anticipated to be located west of the westerly ridgeline, in close proximity to the restored western drainage.



SOURCE: ValleyCrest Design Group, September 2015

FIGURE **4.0-5**

Trails Map

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4.4 LANDSCAPING

4.4.1 Landscape Plan

A conceptual landscape plan is illustrated on **Figure 4.0-6, Conceptual Landscape Plan**. The landscape concept for the Project consists of a combination of open space areas, including natural open space areas (i.e., non-irrigated except in fuel modification zones), slopes, flat meadow areas, a public park and secondary recreation sites, parkways, vineyard and orchard areas that would provide opportunities for creating a visual pleasing environment. The plant palette emphasizes drought tolerant and water-wise plants.

Natural Open Space: Areas designated as natural open space areas are shown on **Figure 4.0-6, Conceptual Landscape Plan.** Outside of fuel modification zones, this natural open space would not be irrigated, but would be periodically "thinned" to reduce dry wildfire fuel. While plantings are not proposed for the natural open space (that is, these areas will be maintained in the current condition) in some areas disturbance of existing plants could occur during construction and specifically during slope stabilization. If replanting of these areas is required native species typical of existing open space areas or if necessary, non-invasive low water use plants would be used. Due to fuel modification requirements a small area ranging from approximately 10 to 20 feet around the edges of the natural open space would be irrigated to reduce fire potential.

Slopes: As shown on **Figure 4.0-6, Conceptual Landscape Plan**, the Project includes approximately 115 acres of slopes. Three types of manufactured slopes: transitional slopes, interior slopes and hillside slopes are proposed. Proposed plantings for the slopes are described below and a proposed plant palette is provided in **Table 4.0-2, Potential Plant Palette**.

Hillside Slopes are featured along high visibility roadways and park adjacent feature areas. These areas are defined by plantings of low spreading shrubs with vertical accent planting strategically placed to highlight the topography and views. Approximately 25 acres of hillside slopes occur within the Project Site. It is expected that these slopes would be planted with a combination of native and non-invasive species that require only limited irrigation. In these areas, it is expected the irrigation system would be connected to soil moisture sensors that will require irrigation only when soil condition dictate that it is necessary.

Transitional Slopes, defined as the steepest slopes along the perimeter of the community, offer evergreen low spreading shrubs which contribute to slope stabilization accentuated by larger accent shrubs and trees. These landscape areas provide a transition between the residential landscape areas and the adjacent natural open space. These areas will rely primarily on native plant material and be watered only during

the hottest months, or as required in accordance with fuel modification zone requirements. Approximately 59 acres of transitional slopes are proposed.

Interior Slopes are located throughout the community comprising a portion of the area behind or between residential lots. The internal slopes will be planted with evergreen low spreading shrubs which contribute to slope stabilization accentuated with vertical accent shrubs and trees. These internal slopes would be planted with native and selected non-invasive species that until established, will require watering only during the summer months. Once established, it is not expected that irrigation would be required on internal slopes. Irrigation will occur in accordance with fuel modification requirements. Approximately 30 acres of interior slopes are proposed.

Table 4.0-2
Los Valles Plant Palette

Area	Potential Plant Types			
Natural Open Space	**TREES:** **Alnus rhombifolia** (White Alder) **Cercis occidentalis** (Western Redbud) **Fraxinus spp.** (Ash) **Parkinsonia x 'Desert Museum'** (Palo Verde) **Pinus spp.** (Pine) **Platanus racemosa** (California Sycamore) **Prunus ilicifolia** (Catalina Cherry) **Quercus spp** (Oak)	**GROUNDCOVER:** **Arctostaphylos spp** (Manzanita) **Artemisia californica** (California Sagebrush) **Baccharis spp** (Coyote Brush) **Ceanothus spp**. (Ceanothus) **Clematis spp.** (Clematis)	**SHRUBS:** **Asclepias spp**. (Milkweed) **Baccharis spp** (Coyote Brush) **Encelia spp** (California Sunflower) **Galvezia speciosa** (Island Bush-snapdragon) **Heteromeles arbutifolia** (Toyon) **Melica californica** (Melica) **Rhamnus californica** (California Coffeeberry) **Rhus spp** (Sumac) **Salvia spp.** (Sage) **Sambucus mexicana** (Blue Elderberry) **Yucca whipplei parishii** (Our Lords Candle)	**GRASSES:** **Aristida purpurea** (Purple Three-Awn) **Festuca spp** (Fescue) **Juncus patens** (California Gray Rush) **Leymus spp.** (Wild Rye) **Muhlenbergia rigens** (Deer Grass) **Nassella spp.** (Needle Grass) **Vulpia microstachys** (Small Fescue)

Area	Potential Plant Types			
Transitional Slopes	**TREES:** **Cercis occidentalis** (Western Redbud) **Melaleuca spp** (Melaleuca) **Parkinsonia x 'Desert Museum'** (Palo Verde) **Platanus racemosa** (California Sycamore) **Prosopis spp**. (Mesquite) **Quercus spp** (Oak) **Rhus lancea** (African Sumac) **Robinia pseudoacacia 'Purple Robe'** (Locust)	**GROUNDCOVER:** **Acacia redolens 'Desert Carpet'** (Prostrate Acacia) **Arctostaphylos spp** (Manzanita) **Artemisia californica** (California Sagebrush) **Baccharis spp** (Coyote Brush) **Ceanothus spp**. (Ceanothus) **Cistus spp.** (Rockrose) **Lantana montevidensis** (Trailing Lantana) **Rosemarinus spp.** (Rosemary)	**SHRUBS:** **Agave spp.** (Century Plant) **Arbutus unedo 'compacta'** (Strawberry Tree – Shrub form) **Arctostaphylos spp** (Manzanita) **Ceanothus spp**. (Ceanothus) **Cistus spp.** (Rockrose) **Cotoneaster lacteus** (Parney Cotoneaster) **Dasilyrion arcotriche** (Desert Spoon) **Encelia spp** (California Sunflower) **Feijoa sellowiana** (Pineapple Guava) **Fremontodendron** (Flannel Bush) **Galvezia speciosa** (Island Bush-snapdragon) **Heteromeles arbutifolia** (Toyon) **Leonotis leonurus** (Lions Tail) **Rhamnus californica** (California Coffeeberry) **Rhus spp** (Sumac) **Rosemarinus spp.** (Rosemary) **Salvia spp.** (Sage) **Sambucus mexicana** (Blue Elderberry) **Westringia fruticosa** (Coast Rosemary) **Yucca spp.** (Yucca)	**GRASSES:** **Aristida purpurea** (Purple Three-Awn) **Carex spp** (Sedge) **Festuca spp** (Fescue) **Juncus patens** (California Gray Rush) **Leymus spp.** (Wild Rye) **Lysiloma watsonii** (Feather Bush) **Muhlenbergia rigens** (Deer Grass) **Nassella spp.** (Needle Grass)

Area	Potential Plant Types			
Hillside Slopes	**TREES:** **Agonis flexuosa** (Peppermint Tree) **Alnus rhombifolia** (White Alder) **Arbutus marina** (Arbutus) **Cinnamomum camphora** (Camphor) **Eucalyptus spp.** (Eucalyptus) **Fraxinus spp.** (Ash) **Geijera parvifolia** (Australian Willow) **Melaleuca spp** (Melaleuca) **Olea europaea 'Swan Hill'** (Fruitless Olive) **Parkinsonia x 'Desert Museum'** (Palo Verde) **Pinus spp.** (Pine) **Platanus racemosa** (California Sycamore) **Prosopis spp**. (Mesquite) **Quercus spp** (Oak) **Rhus lancea** (African Sumac)	**GROUNDCOVER:** **Acacia redolens 'Desert Carpet'** (Prostrate Acacia) **Aloe spp.** (Aloe) **Arctostaphylos spp** (Manzanita) **Artemisia spp.** (Sagebrush) **Baccharis spp** (Coyote Brush) **Callistemon 'Little John'** (Bottlebrush) **Ceanothus spp**. (Ceanothus) **Cistus spp.** (Rockrose) **Cotoneaster lacteus** (Parney Cotoneaster) **Lantana spp.** (Lantana) **Rosemarinus spp.** (Rosemary)	**SHRUBS:** **Agave spp.** (Century Plant) **Aloe spp.** (Aloe) **Anigozanthos flavidus** (Kangaroo Paw) **Arbutus unedo 'compacta'** (Strawberry Tree – Shrub form) **Baccharis spp** (Coyote Brush) **Ceanothus spp**. (Ceanothus) **Cistus spp.** (Rockrose) **Dasilyrion arcotriche** (Desert Spoon) **Dietes bicolor** (Fortnight Lily) **Echium candicans** (Pride of Madera) **Elaeagnus pungens** (Silverberry) **Encelia spp** (California Sunflower) **Feijoa sellowiana** (Pineapple Guava) **Heteromeles arbutifolia** (Toyon) **Kniphofia uvaria** (Red Hot Poker) **Lantana spp.** (Lantana) **Lavandula spp.** (Lavender) **Leonotis leonurus** (Lions Tail) **Rhamnus californica** (California Coffeeberry) **Rhus spp** (Sumac) **Rosemarinus spp.** (Rosemary) **Salvia spp.** (Sage) **Sambucus mexicana** (Blue Elderberry) **Viburnum tinus 'Spring Bouquet'** (Laurustinus) **Westringia fruticosa** (Coast Rosemary) **Yucca spp.**	**GRASSES:** **Aristida purpurea** (Purple Three-Awn) **Carex spp** (Sedge) **Festuca spp** (Fescue) **Helictotrichon sempervirens** (Blue Oat Grass) **Leymus spp.** (Wild Rye) **Miscanthus spp.** (Silvergrass) **Muhlenbergia rigens** (Deer Grass) **Nassella spp.** (Needle Grass) **Pennisetum spp.** (Fountain Grass)

Area	Potential Plant Types			
Interior Slopes	TREES: **Agonis flexuosa** (Peppermint Tree) **Alnus rhombifolia** (White Alder) **Arbutus marina** (Arbutus) **Cinnamomum camphora** (Camphor) **Eucalyptus spp.** (Eucalyptus) **Fraxinus spp.** (Ash) **Geijera parvifolia** (Australian Willow) **Melaleuca spp** (Melaleuca) **Olea europaea 'Swan Hill'** (Fruitless Olive) **Parkinsonia x 'Desert Museum'** (Palo Verde) **Pinus spp.** (Pine) **Platanus racemosa** (California Sycamore) **Prosopis spp**. (Mesquite) **Quercus spp** (Oak) **Rhus lancea** (African Sumac)	**GROUNDCOVER:** **Acacia redolens 'Desert Carpet** (Prostrate Acacia) **Aloe spp.** (Aloe) **Arctostaphylos spp** (Manzanita) **Artemisia spp.** (Sagebrush) **Baccharis spp** (Coyote Brush) **Ceanothus spp**. (Ceanothus) **Cistus spp.** (Rockrose) **Cotoneaster lacteus** (Parney Cotoneaster) **Lantana spp.** (Lantana) **Rosemarinus spp.** (Rosemary)	**SHRUBS:** **Agave spp.** (Century Plant) **Aloe spp.** (Aloe) **Anigozanthos flavidus** (Kangaroo Paw) **Arbutus unedo 'compacta'** (Strawberry Tree – Shrub form) **Baccharis spp** (Coyote Brush) **Callistemon 'Little John'** (Bottlebrush) **Ceanothus spp**. (Ceanothus) **Cistus spp.** (Rockrose) **Dasilyrion arcotriche** (Desert Spoon) **Dietes bicolor** (Fortnight Lily) **Echium candicans** (Pride of Madera) **Elaeagnus pungens** (Silverberry) **Encelia spp** (California Sunflower) **Feijoa sellowiana** (Pineapple Guava) **Heteromeles arbutifolia** (Toyon) **Kniphofia uvaria** (Red Hot Poker) **Lantana spp.** (Lantana) **Lavandula spp.** (Lavender) **Leonotis leonurus** (Lions Tail) **Rhamnus californica** (California Coffeeberry) **Rhus spp** (Sumac) **Rosemarinus spp.** (Rosemary) **Salvia spp.** (Sage) **Sambucus mexicana** (Blue Elderberry) **Viburnum tinus 'Spring Bouquet'** (Laurustinus) **Westringia fruticosa** (Coast Rosemary) **Yucca spp.** (Yucca)	**GRASSES:** **Aristida purpurea** (Purple Three-Awn) **Carex spp** (Sedge) **Festuca spp** (Fescue) **Helictotrichon sempervirens** (Blue Oat Grass) **Leymus spp.** (Wild Rye) **Miscanthus spp.** (Silvergrass) **Muhlenbergia rigens** (Deer Grass) **Nassella spp.** (Needle Grass) **Pennisetum spp.** (Fountain Grass)

Area	Potential Plant Types			
Parkways	**TREES:** **Agonis flexuosa** (Peppermint Tree) **Arbutus marina** (Arbutus) **Callistemon viminalis** (Bottlebrush) **Calodendrum capense** (Cape Chestnut) **Cassia leptophylla** (Gold Medallion Tree) **Catalpa speciosa** (Western Catalpa) **Cinnamomum camphora** (Camphor Tree)	**Fraxinus spp.** (Ash) **Geijera parvifolia** (Australian Willow) **Gleditsia triacanthos** (Honey Locust) **Jacaranda mimosifolia** (Jacaranda) **Koelreuteria spp.** (Chinese Flame Tree) **Lagerstroemia indica** (Crape Myrtle) **Liquidambar styraciflua** (American Sweetgum)	**Lithocarpus densiflorus** (Tanbark Oak) **Melaleuca quinquenervia** (Cajeput Tree) **Pinus spp.** (Pine) **Pistachia chinensis** (Chinese Pistache) **Platanus acerifolia** (London Plane Tree) **Podocarpus gracilior** (Fern Pine)	**Prosopis spp**. (Mesquite) **Quercus spp.** (Oak) **Rhus lancea** (African Sumac) **Ulmus parvifolia 'Drake'** (Chinese Elm)
Vineyard and Orchard	**TREES:** **Citrus, spp** (Citrus) **Punica granatum** (Pomegranate)	**GROUNDCOVER:** **Acacia redolens** (Prostrate Acacia) **Baccharis spp** (Coyote Brush) **Cerastium tomentosum** (Snow in Summer) **Coprosma kirkii** (Coprosma) **Duchesnea indica** (Indian Mock Strawberry) **Fragaria chiloensis** (Beach Strawberry) **Gazania rigens leucolaena** (Gazania) **Lonicera japonica** (Honeysuckle) **Myoporum pacifica** (Myoporum) **Potentilla tabernaemontanii** (Spring Cinquefoil) **Rosmarinus spp.** (Rosemary) **Salvia sonomensis** (Creeping Sage) **Santolina chamaecyparissus** (Lavender Cotton) **Santolina rosmarinifolius** (Green Lavender Cotton) **Thymus praecox arcticus** (Creeping Thyme) **Trachelospermum jasminoides** (Star Jasmine)	**GRASSES:** **Bouteloua gracilis** (Blue Grama) **Carex spp** (Sedge) **Festuca spp** (Fescue) **Helictotrichon sempervirens** (Blue Oat Grass) **Leymus spp.** (Wild Rye) **Vulpia microstachys** (Small Fescue)	**VINES:** **Lonicera japonica** (Honeysuckle) **Trachelospermum jasminoides** (Star Jasmine) **Vitis spp**. (Grape)

Area	Potential Plant Types			
Open Space Meadow	**TREES:** **Cercis occidentalis** (Western Redbud) **Melaleuca spp** (Melaleuca) **Parkinsonia x 'Desert Museum'** (Palo Verde) **Platanus racemosa** (California Sycamore) **Prosopis spp**. (Mesquite) **Quercus spp** (Oak) **Rhus lancea** (African Sumac)	**GROUNDCOVER:** **Achillea millefolium** (Common Yarrow) **Atriplex lentiformis** (Big Saltbush) **Baccharis spp**. (Coyote Bush) **Cerastium tomentosum** (Snow in Summer) **Deinandra fasciculate** (Fascicled Tarweed) **Eschscholzia californica** (California Poppy) **Lasthenia californica** (California Goldfields) **Lotus scoparius** (California Deer Weed) **Lupinus spp.** (Lupine) **Triticum aestivum** (Common Wheat)	**SHRUBS:** **Baccharis spp**. (Coyote Bush) **Encelia spp.** (California Sunflower) **Eriogonum spp.** (Buckwheat) **Salvia spp.** (Sage)	**GRASSES:** **Aristida purpurea** (Purple Three-Awn) **Bouteloua gracilis** (Blue Grama) **Bromus carinatus** (California Brome Grass) **Carex spp.** (Sedge) **Festuca spp.** (Fescue) **Leymus spp**. (Wild Rye) **Melica californiica** (Melica) **Miscanthus spp.** (Silvergrass) **Muhlenbergia spp.** (Muhly) **Nassella spp.** (Needle Grass) **Pennisetum spp.** (Fountain Grass) **Vulpia microstachys** (Small Fescue)

As shown on **Figure 4.0-6, Conceptual Landscape Plan**, parkways include landscaping along internal roadways. Community Parkways will delineate individual neighborhood streets by use of unique street trees. Low water use groundcovers and grasses provide an evergreen backdrop behind the curb. Parkways would be drip irrigated and planted with a combination of low water use groundcover and street trees.

Vineyard and Orchard: The agricultural vineyards would feature grapes typically found in the region and orchards would feature citrus typical of the region. The vineyard and citrus orchard would utilize a root bubbler system to minimize water usage. The vineyard would require water no more than six months out of each year.

Open Space Meadow: These include the flat areas along the southern boundary of the Project Site. Meadow colors and textures will visually tie into the surrounding areas.

Riparian Landscape: The riparian landscape area would blend with the naturally formed riparian area to the southwest. Native compatible evergreen ground covers, grasses, and perennials associated with the alluvial plant palette are accented with groupings of evergreen and deciduous trees and shrubs.

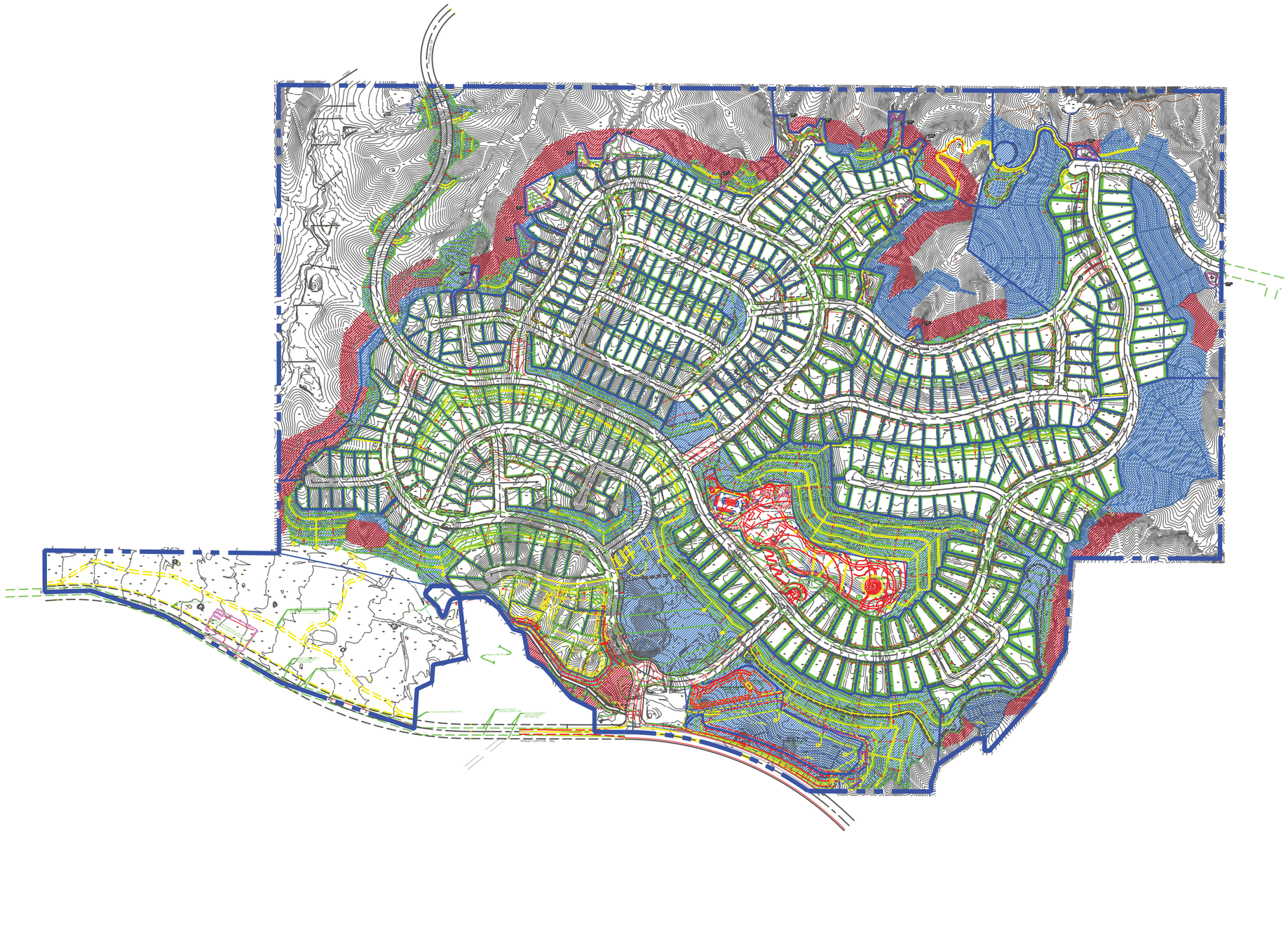
The Project would require removal of one non-heritage oak tree located approximately 1,200 feet north of the southern boundary of the Project Site in the western portion of the residential development. The precise location of the oak tree to be removed and the associated mitigation is included in the **Section 5.3, Biological Resources** of this Draft EIR.

SOURCE: ValleyCrest Design Group, September 2015

FIGURE **4.0-6**

Conceptual Landscape Plan

1154.001•09/15



LEGEND

Setback Zone A
20ft. Irrigation Zone

Irrigation/Transition Zone B
80ft. or as Noted

Native Brush Thinning
200ft. or PL

SOURCE: LDC, 6/15/2015.

FIGURE **4.0-7**

Preliminary Fuel Modification Plan

1154.001•07/15

4.4.2 Fuel Modification

The Project Site is located within the Very High Fire Hazard Severity Zone. The Preliminary Fuel Modification Plan for the Project is provided in **Figure 4.0-7, Preliminary Fuel Modification Plan**. As shown, for purposes of fire safety the Project Site is divided into three zones:

Zone A – Setback Zone: Zone A extends 20 feet beyond the edge of any combustible structure, accessory structure, appendage, or projection. Landscaping in Zone A will be irrigated by automatic or manual systems to maintain healthy fire-resistant vegetation.

Zone B – Irrigated Zone: Zone B extends from the outermost edge of Zone A to 100 feet from structures. Landscaping in Zone B will be irrigated by automatic or manual systems to maintain healthy vegetation. However, irrigation systems are not required in this zone if it consists of native plants.

Zone C – Native Brush Thinning Zone: Zone C extends from the outermost edge of Zone B up to 200 feet from structures. Irrigation is not required within this zone.

Selection of plantings within the Fuel Modification Zone will be made referencing the County's Fuel Modification Plant List (included in **Appendix 4.0**).

4.5 LIGHTING

Within the Project, lighting would be used to create a safe, adequately illuminated nighttime environment. As proposed, the Project plans high-efficacy solid state LED (Light Emitting Diode) bi-level adaptive lighting along streets and trails, and at building entrances, outdoor recreational facilities, parking areas, and other public places where people are expected to congregate to enhance safety and save energy. Decorative lighting is also proposed but would be limited to highlighting architectural accents and landscaping. Decorative lighting would be limited to LED low intensity, energy efficient luminaires.

Lighting in high-activity areas, including the Project entrance, community center, public park, and secondary park sites are expected to generate the highest light levels. Park playfields, restrooms, and similar areas could be lit for nighttime use. At these locations, light would be shielded from off-site vantage points by full cut off optics on the light sources, as well as by intervening structures and landscaping.[7] The Castaic CSD includes design standards for lighting in the County's Rural Lighting

[7] Full cutoff optics allow no light at or above 90 degrees.

District, commonly referred to as the "Dark Skies Ordinance." The Project would conform to all standards defined in the Castaic CSD for rural lighting.

4.6 SUSTAINABILITY

Sustainability features of the Project include project design elements proposed to minimize the use of natural resources and maximize energy efficiency. Specific sustainability features are defined below.

The Project will comply with the Los Angeles County Green Building Program, which consists of the County's Green Building Standards Code and third-party certifications as required in Table 22.52.2130-1; Low Impact Development Ordinance, and Drought Tolerant and Native Landscaping Ordinances; all Mandatory Measures of the 2013 California Green Building Standards Code;[8] the Los Angeles County's Healthy Design Ordinance; the SCVAP 2012 and applicable Castaic Area Community Design Standards. The Project will also meet or exceed all 2013 CALGreen Residential Mandatory measures in Chapter 4, Divisions 4.1 through 4.5 and Chapter 7 as applicable; 2013 CALGreen Tier 1 Prerequisite Measures and required minimum Tier 1 Elective Measures for Residential Uses.

In addition to the required compliance measures listed above, the Project includes the following sustainable features:

- **Location.** Nearby freeway access and adjacency to services and jobs helps to avoid vehicle trips (VT) and vehicle miles traveled (VMT).
- **Open Space.** The Project will maintain approximately 225.02 acres of recreation and open space, including, a public park (7.45 acres), a recreation area (28.28 acres), and open space (189.29 acres).
- **Trail System.** Approximately 4.5 miles of trails will be constructed throughout the Project with approximately 3,000 linear feet of public multi-purpose trails to provide a complete system and access to the local and regional trail system. Enhanced trailheads provide gathering points and connectivity to the local regional trail system. Trail standards will be in accordance with the Castaic Area CSD and other applicable requirements.[9]
- **Hillside Management.** Contour grading, curvilinear street design, terraced drains, terraced slopes, and related project design features have been incorporated as project best management practices.[10]

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8 The 2013 California Green Building Standards Code, Title 24, Part 11 (CALGreen), was adopted by reference in and amended by Title 31 (Green Building Standards Code) of the LACC on November 25, 2013 by the Los Angeles County Board of Supervisors under Ordinance 2013-0003.

9 Trails, Castaic Area Community Standards District (CSD).

10 Hillsides, Castaic Area Community Standards District (CSD).

- **Significant Ridgeline Protection.** To minimize Project Site grading, the Project proposes to use existing pads in the easterly portion of the Project Site to the extent feasible. The Project plan emphasizes open space and connections to adjoining areas by maintaining approximately 189.29 acres of land as open space (including slopes and the mitigation area). Approximately 123.25 acres of open space that would remain largely native in character. The westerly ridgeline will be largely undisturbed other than to restore and stabilize the slope as needed due to prior work on the ridgeline (which included early-stage grading operations within its setback limits, including but not limited to: clearing and grubbing, the grading of a construction road along its crest and over the crest in at least two places, and mining operations of natural sand deposits for use as utility beddings elsewhere on the Project Site) and the proposed Barcelona Road extension, which would not traverse the primary portion of the ridgeline (as is permitted by the Prior Entitlements) but would instead cross over a secondary portion of the ridgeline in one location in an area subject to such prior disturbance.

- **Link to Transit.** A bus stop is located within a quarter mile of the Project Site. Trails provide additional alternatives to auto travel.

- **Healthy Communities**. Project streets are designed to be safe and integrate a network of roadways and connector trails for a walkable community. Sidewalks, on-street parking, tree canopies, curbs and gutters, and narrower intersections with smaller radii are some of the Project's healthy walkable street features. A public park and six secondary parks provide opportunities for outdoor activity. Vineyards and orchards can be accessed by foot and may provide local food.

- **Site and Building Orientation to Optimize Solar.** Buildings will be oriented to optimize passive solar access (such as daylighting).[11]

- **Solar Photovoltaics (PV)** systems are to be installed in the common areas and clubhouse structure to help offset Project energy use.

- **Bicycle Parking**. For five percent of visitor parking spaces, permanently anchored bicycle racks will be provided within 200 feet of the visitors' entrance of the Clubhouse.

- **Electric Vehicle (EV) Charging**. One charging station will be provided at the clubhouse. All residential units will have capability for electric charging.

- **Reduce Heat Island Effect.** Tree canopy cover, light colored paving, and roofing materials will be used to reduce heat island effect.

- **Residential Dwellings Energy Efficiency.** All residential dwellings shall be designed and constructed to be a minimum of 15 percent better than the 2013 Energy Code.

- **Clubhouse Building Energy Efficiency.** The clubhouse will be designed and constructed to meet zero net electric[12] by incorporating passive solar techniques, high efficiency technologies, ENERGY STAR appliances, solid state LED adaptive lighting, coupled with solar PV to offset electrical loads.

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11 LA County General Plan Policy LU 10.3.

- **Solar Energy CC&Rs**. Applicant will develop solar energy CC&Rs to protect solar access throughout the community in perpetuity.
- **Model Demonstration - ZNE-TDV.** Each builder shall be required to build and demonstrate at least one model at each model complex, as Zero Net Energy (ZNE-TDV[13]) option to potential homebuyers. This is to be consistent with 2013 Title 24, Part 6, Tier 2; 30 percent better than the 2013 energy code and solar photovoltaic (PV) panels sufficient to offset 100 percent of the energy load over 12 months. [Note: This ZNE-TDV Tier is expected to be part of the 2016 CALGreen Residential Voluntary Measures; Division A4.2 Energy Efficiency.]
- **Model Demonstration – Recycling Stations.** Recycling stations shall be included in every model home. Recycling stations will be a standard feature in all residences to include a minimum of paper, corrugated cardboard, glass, plastics, and metals.
- **Model Demonstration – EV Charging.** Electric Vehicle chargers will be installed and functional in at least one model home within each of the model complexes. EV charging will be offered as an option for every potential homebuyer.
- **Los Valles Community Recycling Program.** The Applicant will develop a community-wide recycling program and design readily available recycling area(s) within the community clubhouse identified for the depositing, storage and collection of non-hazardous materials for recycling to include a minimum of paper, corrugated cardboard, glass, plastics, and metals or meet a lawfully enacted local recycling ordinance if more restrictive. Onsite landscaping clippings will be utilized as mulch within the community common area landscaping and agricultural vineyards and orchards as appropriate.
- **Local Agriculture**. Approximately 8.4 acres of vineyards or other productive agricultural uses will be provided on the Project Site. Incorporation of innovative agricultural practices that conserve resources and promote sustainability, such as drip irrigation, hydroponics, and composting will be explored.[14]
- **Community Outdoor Kitchen.** A simple outdoor kitchen will be provided for the Los Valles community with places designed for community gatherings. Some possible uses for the outdoor kitchen could be cooking demonstrations, jam making, canning preserves, and winemaking.
- **Homeowner Sustainability Stewardship Program**. The Project Applicant will develop Homeowner Sustainability Stewardship Educational Program (Educational Program) which will be made available to all new homebuyers to help educate and build Los Valles Land Stewards for the long-term. This Educational Program can be in the form of electric media rather than printed materials to minimize resource waste.

A full menu of both required compliance measures and sustainable features of the Project is provided in **Section 5.5, Energy.**

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12 Zero net energy (ZNE) electric means the building will be designed and constructed to generate as much energy from renewable sources, such as solar photovoltaic (PV) panels as it uses over a 12 month period.

13 Zero Net Energy – Time Dependent Valuation.

14 LA County General Plan Policy C/NR 9.2.

4.7 SITE ACCESS AND CIRCULATION

As proposed, three access points connect the Project with the existing roadway network. Primary access would be derived from Hasley Canyon Road, while secondary vehicle access would be provided via Hayward Drive and Barcelona Road. **Figure 4.0-8, Site Access and Internal Project Circulation**, illustrates each access location. More detailed descriptions of the Project Site's access ways are provided below.

4.7.1 Hasley Canyon Road (Southerly) Access

At the primary project entry at Hasley Canyon Road along the southerly frontage of the Project Site, the interior access roadway width (including right of way) would be 78 feet. Upon entry, traffic would be directed to a roundabout that would provide access to the entire internal circulation system (reference **Figure 4.0-8, Site Access and Internal Project Circulation**). The Hasley Canyon Road access would accommodate full vehicular access (i.e., left-turn and right-turn ingress and egress movements). This access is forecast to operate within acceptable parameters for motorists to and from the Project Site and is not expected to adversely impact through traffic on Hasley Canyon Road (**Section 5.14, Transportation/Traffic**). Nonetheless, Project plans include the improvement of Hasley Canyon Road along the Project Site's southern frontage to include a separate left-turn pocket for eastbound traffic. (**Section 4.8.5, Offsite Improvements**) No additional roadway improvements are proposed for Hasley Canyon Road.

4.7.2 Hayward Drive (Easterly) Project Access

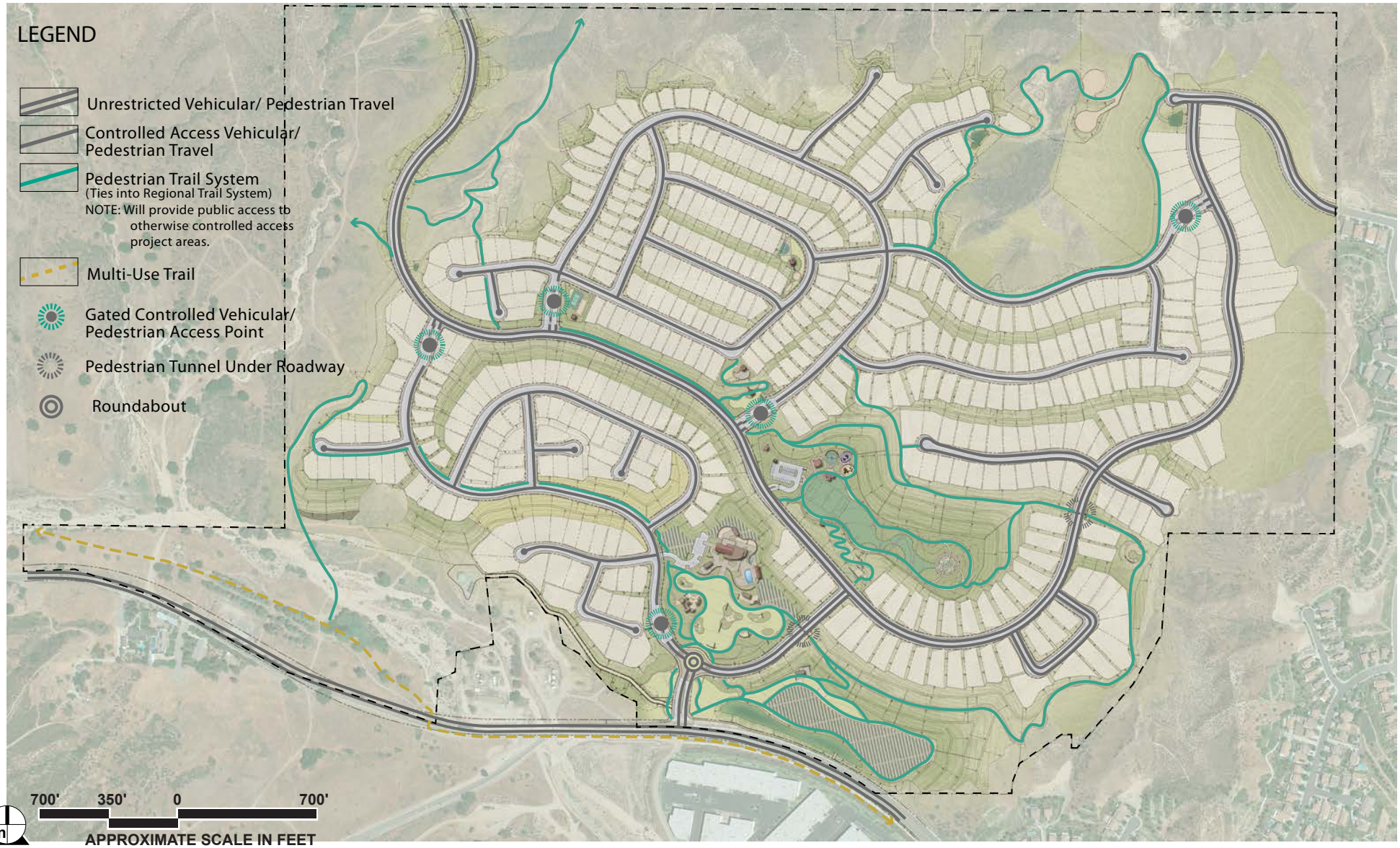
A secondary access point would connect the Project Site with the existing Hayward Drive, which currently terminates at the easterly boundary of the Project Site. Within the Project Site, Hayward Drive has been engineered and graded with a 64-foot right-of-way but is not paved. As planned, the Project would include the fine grading and paving of approximately 1,143 linear feet of Hayward Drive from the eastern project boundary (its current terminus) to the end of the proposed Hayward Drive as shown on **Figure 4.0-2, Revised Vesting Tentative Tract Map No. 52584**. In addition, depending on the condition of the previously installed utilities within the right of way, additional utility trenching and construction may be required. Upon completion, this extension would provide existing residents situated east of the Project Site with access to parks and open space within the Project Site, Castaic Middle School, and Hasley Canyon Road, and would facilitate access by emergency personnel, if needed. From the Project Site, Hayward Drive would not offer direct access to nearby schools or other uses and generally offers a more meandering circuitous route to Hasley Canyon Road than do the Project roadways. Therefore, only those residents living near the easterly portion of the Project Site (i.e., those with direct access to Hayward Drive) would be expected to use the proposed Hayward Drive access location.

4.7.3 Barcelona Road (Northerly) Project Access

Secondary access to the Project Site would also be provided from the north via Barcelona Road, which currently terminates at the northerly boundary of the Project Site. As proposed, Barcelona Road would be extended a total of approximately 1,500 linear feet from its existing terminus south of Hillcrest Parkway at the northerly project boundary through the Project Site to its proposed terminus on the Project Site, as shown on **Figure 4.0-2, Revised Vesting Tentative Tract Map No. 52584**. Within the Project Site, the Barcelona Road access would maintain a 64-foot right-of-way. The Barcelona Road extension would cross the secondary portion of the westerly ridgeline, but would not cross the primary portion of the ridgeline. Barcelona Road would provide direct access from the Project Site to Hillcrest Parkway and Castaic Middle School. As a result, it is expected that Project-related trips traveling to and from Castaic Middle School that originate from the north or east portions of the Project Site would utilize Barcelona Road rather than the less direct route east on Hasley Canyon Road, north on the Old Road, and then west on Hillcrest Parkway, which is the existing route from the Project Site to and from the school. Project-related trips originating at the southerly end of the Project Site would likely use the existing route (described immediately above) to get to Castaic Middle School. The Barcelona Road extension would also provide access for residents living north of the Project Site to parks and other amenities planned within the Project Site, as well as Hasley Canyon Road. Additionally, Barcelona Road would facilitate access by emergency personnel as needed.

4.7.4 Internal Circulation

Access from Hasley Canyon Road, the primary access point for the Project Site, to each of the secondary access points (Hayward Drive and Barcelona Road) would remain un-gated and available for public pedestrian and vehicular use. The Project includes the installation of five access-controlled gates all within the Project Site as shown on **Figure 4.0-8**. The gates will be located north (West, Central, and East gates) and south (North and South gates) of Barcelona Road and would restrict vehicular (but not pedestrian) access; residents would be able to access the restricted portions of the Project Site via five gated controlled access gates.



SOURCE: ValleyCrest Design Group, September 2015

FIGURE **4.0-8**

Site Access and Internal Project Circulation

1154.001•09/15

4.8 SERVICES AND UTILITIES

4.8.1 Water Infrastructure

4.8.1.1 On-Site Water Infrastructure

The Project Site is located entirely within the boundaries of the Castaic Lake Water Agency (CLWA) service area and almost entirely within the boundaries of Los Angeles County Waterworks District No. 36 (LACWWD 36). CLWA is a regional agency providing wholesale deliveries of imported State Water Project (SWP) water, wholesale recycled water supplies, and wastewater treatment. A small portion (approximately five acres) of the Project Site is not within the boundary of any retail supplier and another small portion (approximately 9.15 acres) of the Project Site is within the service area boundaries of Valencia Water Company. The Applicant has requested de-annexation from Valencia Water Company boundaries and has submitted an application to Los Angeles Local Agency Formation Commission (LAFCO) for an extension of the Sphere of Influence for LACWWD 36 to include those portions of the Project Site currently outside of the LACWWD 36 boundaries and to include areas of the Project Site currently served by the Valencia Water Company. Upon approval from LAFCO, the entire Project Site will be served by LACWWD 36 for potable and landscaping water needs. Please refer to **Section 5.15-1, Water Supply**, of this EIR for detailed discussion of the water supply for the Project.

An existing 16-inch water main is located in the Hasley Canyon Road right-of-way, south of and adjacent to the Project Site and an existing 14-inch water main is located in the Barcelona Road right-of-way, northwest of and adjacent to the Project Site. The Project proposes to connect to these two water mains. The Project Site will also be served by two water tanks; an existing 750,000-gallon tank (completed as part of the Prior Entitlements) and a proposed 850,000-gallon tank, both to be located on Lot 509 as shown on **Figure 4.0-2, Revised Vesting Tentative Tract Map No. 52584**, in the northeastern portion of the Project Site. These water tanks will provide water for fire suppression, in addition to potable and landscape water.

4.8.1.2 Offsite Water Infrastructure

As described in **Section 3.0, Existing Setting,** of this EIR, the Applicant had previously dedicated to LACWWD 36 a water well adjacent to the Project Site which will be used to provide water to the Project Site and surrounding LACWWD 36 service areas.

The Project could also be served by LACWWD 36's imported water supply. LACWWD 36 has determined that an upgrade to its off-site facilities is required to supplement LACWWD 36's capacity to deliver imported water supplies to the Project Site and other portions of LACWWD 36's service area. The

Project will include installation of approximately 5,500 linear feet of 16-inch-diameter pipeline from the CLWA supply turnout to the existing 16-inch pipeline along Hasley Canyon Road for this purpose.

To connect to existing piping, the Project will also include installation of (1) approximately 20 feet of underground pipe in Sedona Way, approximately 50 feet west of the Old Road, to connect existing underground piping, and (2) approximately 25 feet of above ground pipe, a water flow meter, and an electrical panel inside an existing fenced CLWA facility located behind the sidewalk on the south side of Sedona Way, approximately 70 feet west of the Old Road.

In addition to the pipeline, a booster pump station is necessary to move water to the water tanks on the Project Site. Based on information provided by LACWWD 36, the proposed booster station should be capable of filling about 3,333 gallons per minute (gpm). Based on this estimate, the preliminary design of the booster pump station would consist of three booster pumps, with two active and one standby pump, each capable of producing approximately 1,660 gpm. The size of the pump building would be 26 feet wide by 22 feet high and it would be surrounded by a security fence with dimensions of 56 feet wide by 52 feet high. The booster station is proposed to be located near the entrance of the Project Site adjacent to Hasley Canyon Road, approximately 2,000 feet west of the proposed 16-inch diameter pipeline connection and approximately 6,200 feet south of the existing 750,000-gallon water tank.

4.8.2 Drainage/Flood Control

The preliminary Drainage Concept Plan for the Project incorporates methodologies to meet or exceed the ongoing National Pollutant Discharge Elimination System (NPDES) permit requirements and conforms to existing drainage and water quality requirements. The plan includes a comprehensive series of drainage, flood control, and water quality improvements designed to allow for a system to both protect development and preserve the Santa Clara River. Drainage basins would be located at approximately 11 points on the northern portion of the Project Site (**Figure 5.9.1-4** in **Section 5.9-1, Hydrology).**

Under the Drainage Concept Plan, runoff on the Project Site would be collected and flow directed to Hasley Canyon Creek or Castaic Creek in a drainage pattern similar to existing conditions, where water flows have naturally formed paths of least resistance and concentrate at existing topographic depressions or cut channels through the Project Site. Energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters are proposed to be installed along Hasley Canyon Creek to reduce runoff velocities before entering the channel.

Design features incorporated into the Project to address water quality and hydrologic impacts include site design, source control, treatment control, and hydromodification control comprising existing Best Management Practices (BMPs). As currently planned, stormwater runoff from all urban areas within the

Project Site would be routed to retention areas, debris basins, vegetated swales and treatment control BMPs. Vegetated swales and retention areas will be designed to operate off-line, receiving dry weather flows, small storm flows, and the initial portion of large storm flows from a low-flow diversion structure in the storm drain. Please refer to **Section 5.9-2 Water Quality**, of this Draft EIR for a more detailed discussion of the water quality project design features (PDFs) incorporated into the drainage concept for the Project.

4.8.3 Wastewater Infrastructure

The Project Site is presently undeveloped and no wastewater collection and conveyance system exists. As part of the work undertaken for the Prior Entitlements, some rough grading and trenching for sewer lines was conducted, but connections to existing gravity sewer mains were not made.

As proposed, wastewater flows originating from the Project will first discharge into a new local network of sewer lines managed by Los Angeles County Department of Public Works (LACDPW), then to existing points of connection. One connection point is located at the main project entrance and a second connection point is located at Hayward Drive to the northeast. These connect along a right of way parallel to Hasley Canyon Road to the existing gravity sewer mains referred to as the Castaic Trunk Sewer which is located northwest of the intersection of Hasley Canyon Road and the Old Road. Once the Project is operational it may be necessary to upsize the existing sewer pipes downstream of the Project Site.

The closest pumping plant would be the Castaic Pumping Plant, located on the east side of the Old Road south of Henry Mayo Drive in Valencia. Please refer to **Section 5.15.3, Wastewater,** of this Draft EIR for a detailed discussion of wastewater requirements for the Project. Both connection points are within the limits of the Project Site. This private sewer line is not maintained by the Santa Clarita Valley Sanitation District (SCVSD) but does connect to the SCVSD's lines. The private sewer line, a 15-inch-diameter trunk sewer, has a design capacity of 2.9 million gallons per day (mgd). To complete installation of the sewer system, some grading and trenching may be necessary at two connection points: Hayward Drive and Hasley Canyon Road.

4.8.4 Electricity and Natural Gas Infrastructure

The Project Site is located within Southern California Edison's service area. The nearest electrical line is located along Hasley Canyon Road. Extension of electrical service to the Project Site would be taken from Hasley Canyon Road at the project entrance and would be distributed throughout the Project Site via a series of underground vaults located throughout the Project Site.

A natural gas distribution main would be constructed to serve the Project Site. The Project Site is located within the Southern California Gas Company service area and is currently vacant with no existing natural gas infrastructure. An existing 4-inch gas service line is located within Hasley Canyon Road to the south, an existing 2-inch service line within Gibraltar Lane to the southeast, and an 8-inch service line within Del Valle Road to the south. As described above, gas service to the Project Site would be extended from one of these existing sources. Electricity and Natural Gas are discussed in detail in **Section 5.15.4, Electricity and Natural Gas**.

4.8.5 Off-site Improvements

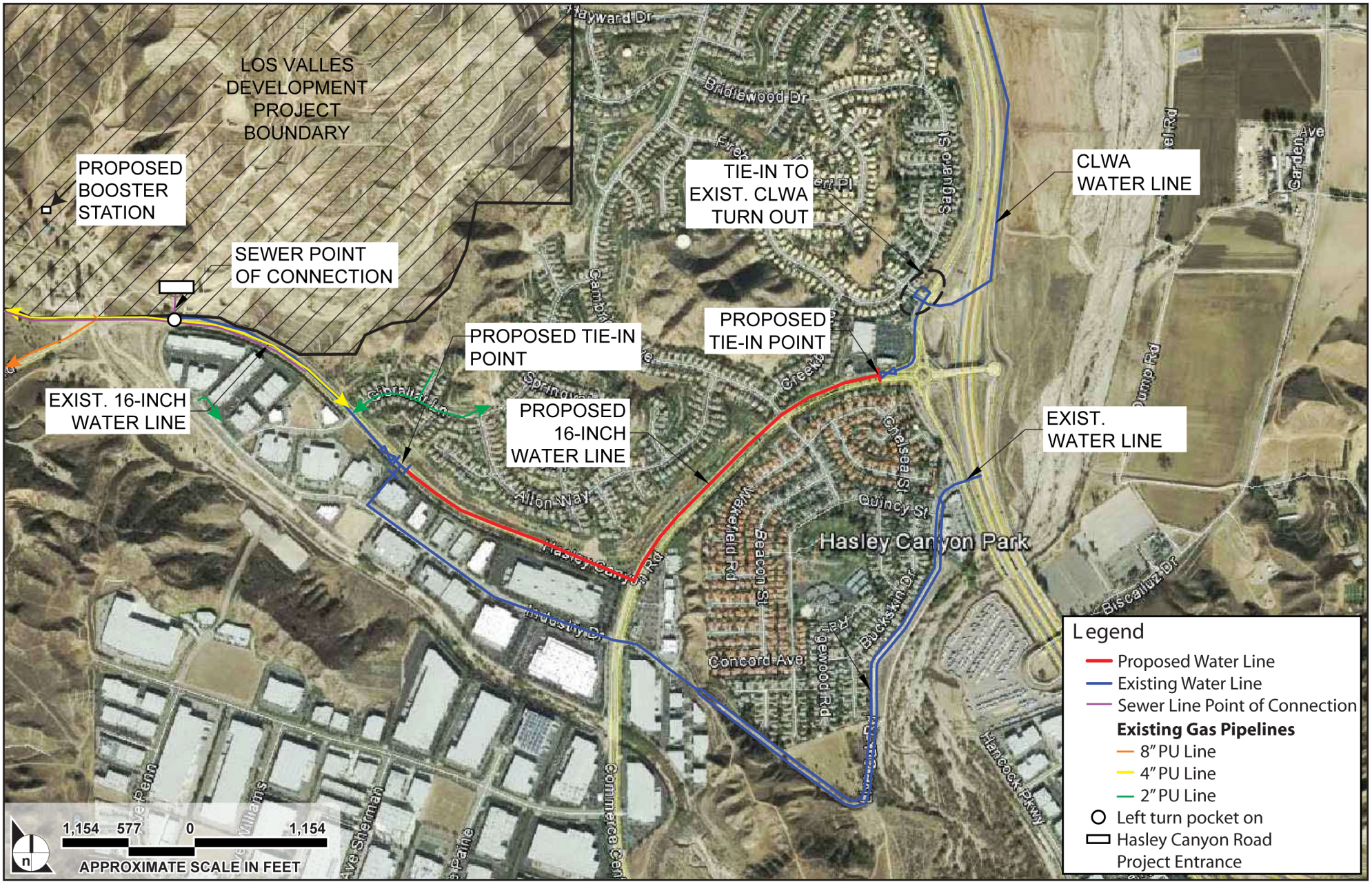
The Project would require the extension of water infrastructure to the Project Site as described above in **Section 4.8.1.2**. Wastewater infrastructure may also need to be upgraded to serve the Project. Once the Project is fully operational, it may be necessary to upsize sewer pipe downstream of the Project Site. Factors used to determine the need to replace a sewer pipe may include: exceedance of the design capacity by 150 percent,[15] the sewer area study, flow tests, maintenance records, and the potential for future development within the sewer-shed. As a result, some grading and trenching (an area of less than one half of an acre) would be required to replace of the existing pipe.

In addition to these off-site infrastructure improvements, the following improvements would occur immediately contiguous to the Project Site within the existing right-of-way on Hasley Canyon Road:

- Construction of a left turn pocket (for vehicles heading southeast) on Hasley Canyon Road at the project frontage and restriping as required the Department of Public Works;
- Additional grading within the right-of-way on Hasley Canyon Road (at the project entrance) and on Hayward Drive (at its current terminus) to construct sewer connections.
- Natural gas connections at one of three points. Ultimately, the gas provider will decide which connection point will be used. These three potential connection points include: an existing 4-inch gas service line located within Hasley Canyon Road to the south, an existing 2-inch service line within Gibraltar Lane to the southeast, and an 8-inch service line within Del Valle Road to the south. Regardless of which natural gas line is selected for use by the gas company, all three of these connections would occur at the Project frontage on Hasley Canyon Road.

Figure 4.0-9, Project Off-site Improvements, shows the location of the proposed offsite improvements. No other offsite improvements are anticipated to be necessary to construct the Project.

[15] The threshold used by the LACDPW to determine when a pipe needs to be replaced is 150 percent above design capacity.



SOURCE: Stetson Engineers, Inc., February 2015

FIGURE **4.0-9**

Project Off-Site Improvements

1154.001•11/15

4.9 SITE PREPARATION AND CONSTRUCTION

4.9.1 Construction and Grading

As proposed, the Project involves large-scale landform alteration. Proposed grading will consist of cutting of slopes and ridges and the associated filling of canyon areas to produce a series of pad areas, which generally rise in grade from south to north. As described above, slopes are proposed to be constructed between pad areas and adjacent to natural open space areas. Project-related grading would require the movement of a combined 7.6 million cubic yards of cut and fill. In general, this will consist of the excavation of approximately 3.8 million cubic yards of soil in the middle of the Project Site for use as fill in the western and southern areas of the Project Site. Areas of cut and fill are shown in **Figure 4.0-10, Los Valles Project Grading**. Grading on-site would be balanced and would not require the import or export of material.

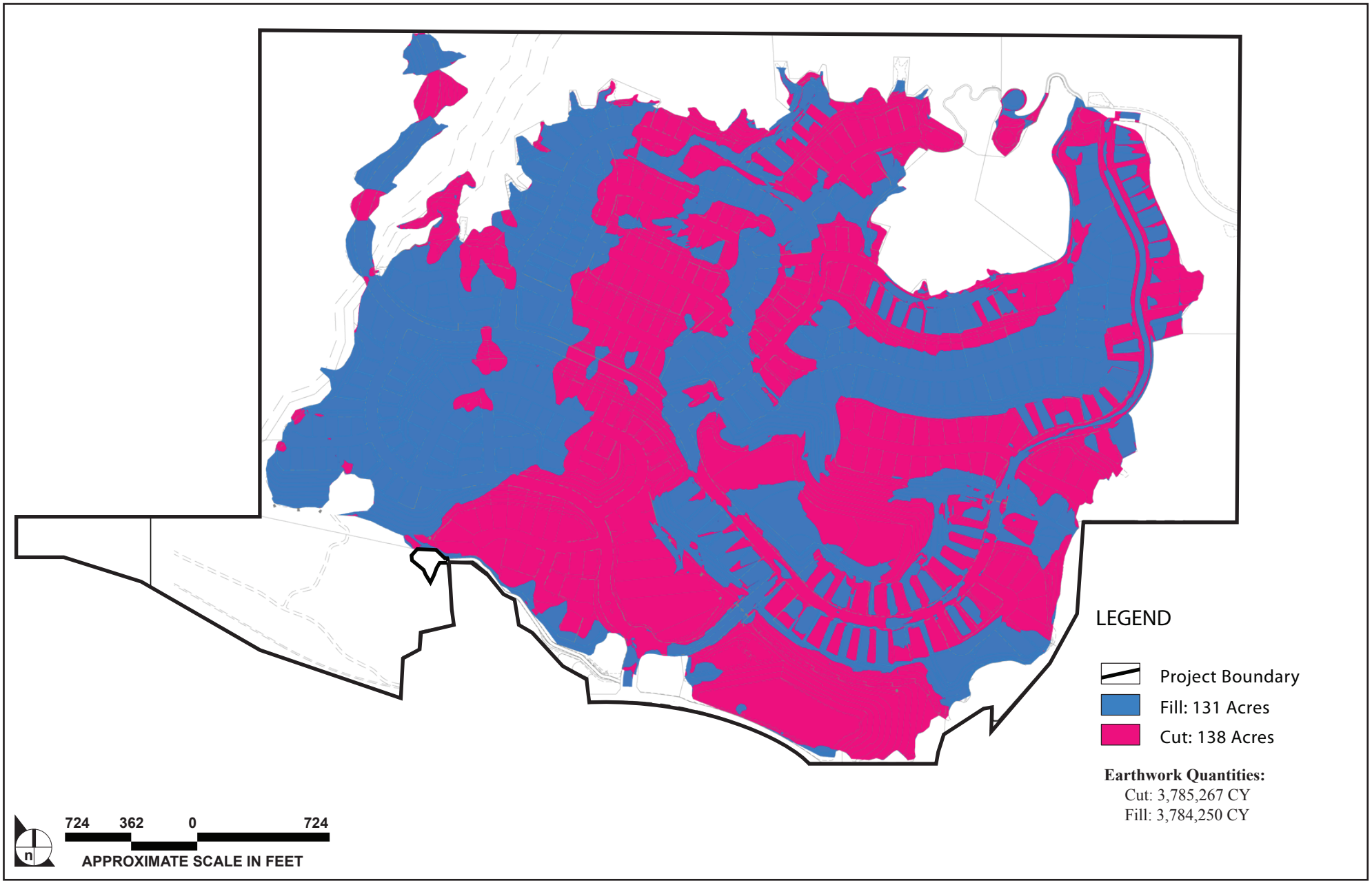
4.9.2 Construction Sequencing

The general construction sequence is proposed as follows:

- Mass and rough grading of the entire Project Site (36 weeks)
- Construction/installation of backbone infrastructure progressing from the easterly portion of the Project Site to the west (64 weeks)
- Home construction (3-5 years)

4.9.3 Grading

Mass grading, consisting of the cut and fill required to establish the overall Project design, is anticipated be the first construction activity to occur on the Project Site and would occur across all portions of the Project Site anticipated for development. **Figure 4.0-10, Los Valles Project Grading**, generally defines the proposed disturbance areas. It is estimated that approximately 50,000 cubic yards of soil would be moved per day during the mass grading of the Project Site. First, the required excavation, cut and fill would be carried out. As described above and in **Section 3.0 Environmental Setting**, the eastern portion of the Project Site was mass graded as part of grading activities that occurred in 2006-2008 that was permitted through the Prior Entitlements. To minimize Site grading that is currently proposed, existing pads will be used to the extent feasible. During proposed Project grading operations, the two remaining noncontiguous portions of the easterly ridgeline would be removed. Following mass grading, rough grading, required to create building pads, driveways, roads, parks and parking areas, slope engineering and landscaping, would also occur.



SOURCE: LDC, March 2015

FIGURE **4.0-10**

Los Valles Project Grading

1154.001•07/15

Grading on the Project Site will remove the fill and loose material remaining from the previous sand mining operation located on the westerly ridgeline. That fill material (approximately 6,000 cubic yards) will be incorporated into fill used elsewhere on-site. In addition, the existing sand mine site will be shaped so as to direct runoff toward a debris basin in the event any exposed materials are loosened by heavy rains after grading. Subsequent to these grading operations, graded slopes would be landscaped and irrigated pursuant to county grading and erosion control requirements. Upon completion of grading operations, additional work would be needed for fine grading of the development pads. The planting of graded slopes and fine grading of pads would occur during the home construction phase (i.e., as each phase of homes is built).

4.9.4 Construction/Installation of Backbone Infrastructure

Immediately following mass and rough grading operations, construction of backbone infrastructure will commence. Construction of the backbone infrastructure would include trenching, grubbing, and installation of backbone infrastructure required for roads, sewer lines, a second water tank, water lines, electrical and gas lines, the wastewater system and storm drains. Utility installation will require earthwork such as excavation of trenches and stockpiling of soils. This work would commence on the east side of the Project Site, where significant amounts of grading and backbone infrastructure (including sewer, storm drain, and water tank) have already been completed, and would continue in a southerly and westerly direction across the Project Site.

4.9.4.1 Road Extension Work

During this period of construction, grading for the Barcelona Road and Hayward Drive roadway extensions would be completed. Additional work necessary to complete the Hayward Drive extension will consist of the repair of damaged sewer and storm drain lines that were previously installed, along with installation of new water, sewer, and storm drain lines. This work is estimated to require approximately 12 weeks to complete. Installation of curb and gutter associated with the Hayward Drive extension is estimated to take and additional two weeks. Placing and compacting roadway base and final paving associated with the Hayward Drive extension is estimated to take approximately four weeks to complete.

Work required to complete the Barcelona Road extension will consist of grading and compaction of the roadway, installation of new water, sewer, and storm drain lines and is estimated to require approximately 16 weeks to complete. Installation of curb and gutter associated with the Barcelona Road extension is estimated to take three weeks, while placing and compacting roadway base and final paving

is estimated to require four weeks. Grading and construction associated with the Barcelona Road extension would disturb approximately 100 linear feet of a secondary portion of the westerly ridgeline.

4.9.4.2 Water Tank

Construction and installation of the proposed water tank including required grading for the new tank pad on the water tank lot and is estimated to take approximately 14 weeks.

4.9.4.3 Off-site Infrastructure Construction

Off-site trenching will be required for offsite improvements associated with the Project. In particular, installation of water mains would require trenching to depths of up to six feet within the Hasley Canyon Road right of way. Import or export of soil is not expected for this minimal earthwork.

In addition to the installation of the water main, several utility connections would be necessary at the Project frontage along Hasley Canyon Road. As a result, some additional trenching may be necessary within the Hasley Canyon right-of-way immediately adjacent to the Project Site.

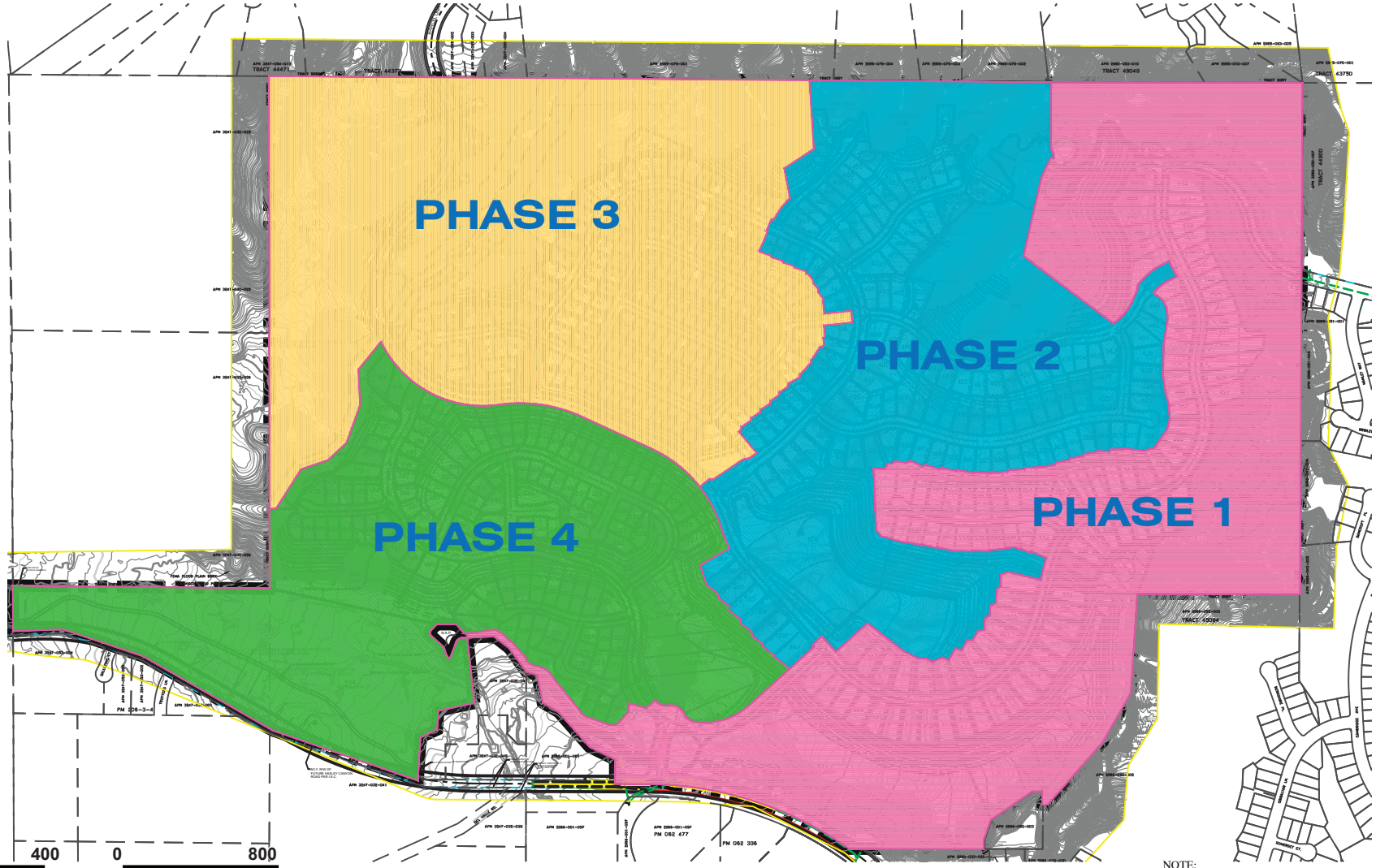
4.9.5 Home Construction

Construction of homes would be based on market conditions. For purposes of this analysis, it is assumed that residential units will be developed in four phases, with each phase constructed and completed as prior phases are sold. Some local infrastructure and final cap paving of roadways would be completed with or immediately following home construction. Phase 1 home construction would include construction on the eastern approximately 131 acres of the Project Site. Construction of recreation facilities including the community center and public park are anticipated to take place during this first phase. Phase 2 would include construction in the central portion of the Project Site and would consist of approximately 95 acres. Phase 3 and 4 home construction would occur in the northwest and southwest portions of the Project Site and would include approximately 114 and 91 acres respectively.

Because market demand may affect the overall timeline for Project construction, complete buildout of the Project is assumed to require approximately five to seven years from the commencement of construction. Demand for public services and utilities will increase gradually as the Project is constructed. To accommodate this phasing, and provide reasonable estimates of anticipated impacts, this EIR estimates the buildout year for the Project to be 2023. A preliminary phasing plan is depicted on **Figure 4.0-11, Project Phasing**.

VESTING TENTATIVE TRACT MAP No. 052584

LOCATED IN THE UNINCORPORATED TERRITORY OF
THE COUNTY OF LOS ANGELES, STATE OF CALIFORNIA



NOTE:
PHASING SHOWN HEREON REPRESENTS UNIT FINAL MAP BOUNDARIES ONLY. GRADING OPERATIONS WILL NOT BE PHASED.

SOURCE: Land Design Consultants, Inc., February 2014

FIGURE **4.0-11**

Project Phasing

1154.001•07/15

4.9.6 Sequencing of Off Site Infrastructure

The Project would require the installation of a new 16-inch-diameter pipeline (approximately 5,500 linear feet) to connect LACWWD 36 water distribution system to an existing connection from the CLWA supply turnout located at Sedona Way and installation of approximately 20 feet of underground water pipe within Sedona Way. Construction of the water line is estimated to proceed at 75 to 100 linear feet per day and therefore would take approximately 14 weeks to complete.

Based on the results of flow tests, the Project may require replacement of a sewer reach maintained by the LACDPW. The reach is approximately 275 linear feet. Installation would require grading and trenching in the existing right of way. Construction is estimated to proceed at 75 to 100 linear feet per day and therefore would take approximately one week to complete.

Additional off-site improvements include connections for natural gas, electrical and sewer at the entrance to the Project Site. Installation of the water line is expected to occur during site grading operations and prior to home construction. Similarly, connections for sewer, electricity, and natural gas would also occur during site grading operations and prior to construction of the homes.

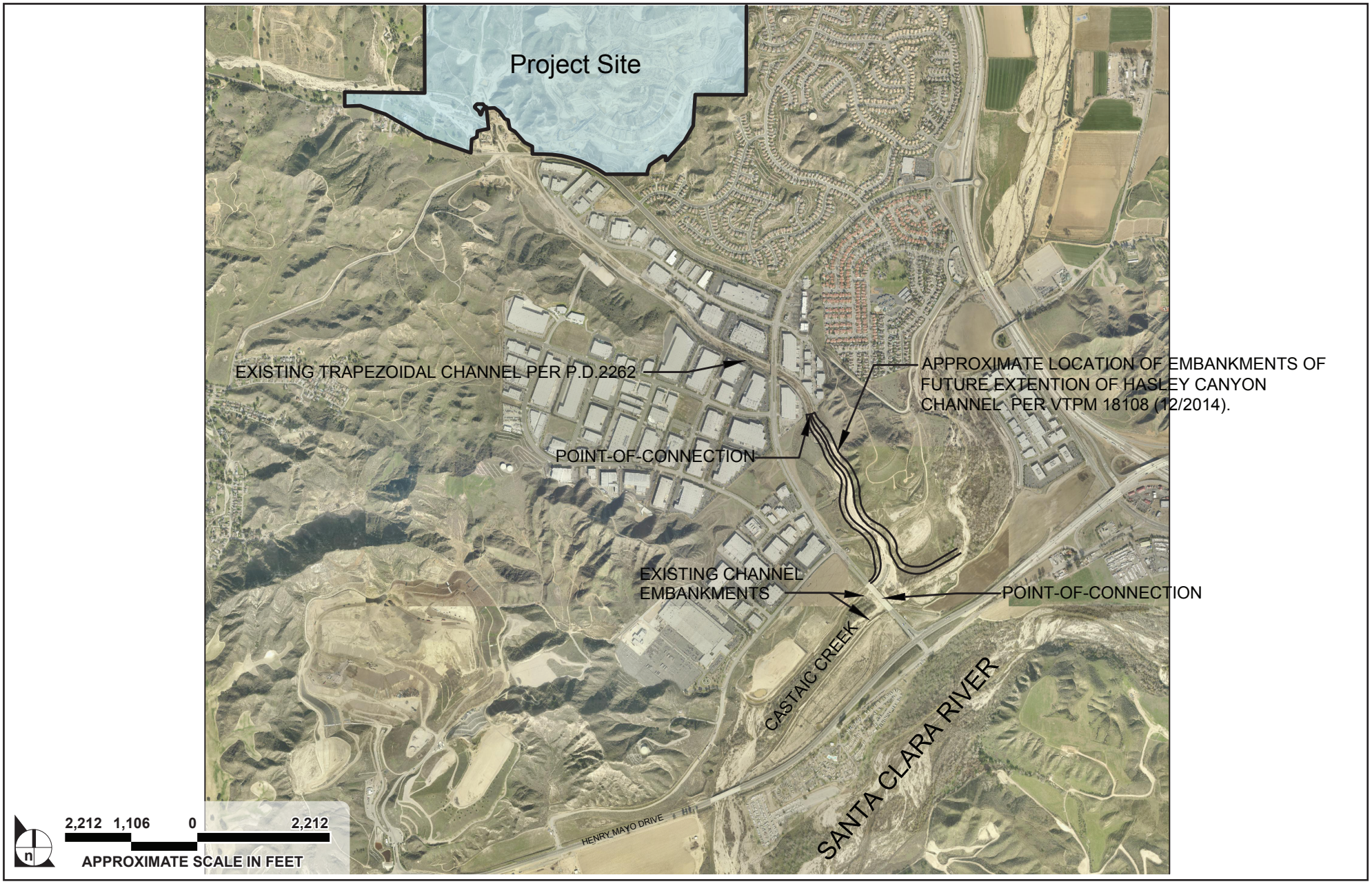
4.9.7 Construction Water

During construction, water would be used for dust suppression as required by the Air Quality Management District. It is anticipated that water trucks will utilize existing fire hydrants on Hasley Canyon Road to supply construction water for the Project Site. This would eliminate the need to truck water to the Project Site.

4.10 POTENTIAL ON-SITE HYDROMODIFICATION CONTROLS

This project description assumes implementation of future offsite, downstream, channel improvements to the Santa Clara River and its associated tributaries. The net result of these channel improvements would be to increase the capacity of stormwater runoff that can be accommodated within the Santa Clara River watershed downstream of the Project Site.

Planned downstream channel improvements include modifications to approximately 1,400 feet of Hasley Creek within the Newhall Ranch property and consist of one or more grade stabilization structures within the natural channel bottom and bank protection on the sides of the channel. These flood control improvements would add stormwater capacity such that the entire Santa Clara River watershed downstream from the Project Site would not be susceptible to the long term erosive impacts of hydromodification. The location of the planned downstream channel improvements is illustrated in **Figure 4.0-12, Planned Channel Improvements**.



SOURCE: LDC, April 2015

FIGURE **4.0-12**

Planned Channel Improvements

1154.001•04/15

These improvements to stream courses downstream of the Project Site are proposed as part of the Valencia Commerce Center project located south of the Project Site (Vesting Tentative Parcel Map (VTPM) 18108). In addition to the planned channel improvements, the Valencia Commerce Center includes approximately 3 million square feet of industrial and business park development. [16] These improvements are planned as part of an active development project and would increase stormwater capacity as described above. However, at this time, these planned channel improvements have not been constructed either wholly or partially, but are included within VTPM 18108. The precise timing of these improvements is unknown as they are not within the control of the Applicant.

Per the LACDPW, stormwater associated with the Project will not result in significant impacts to the hydrology environment should the planned channel improvements be completed. However, the uncertain timing of the planned channel improvements downstream of the Project Site and the Applicant's inability to effectuate their completion, may affect the design of the Project as it is currently proposed.

In the event that planned channel improvements are implemented prior to completion of Project grading, no change to the Project, as described above, would occur and none would be proposed. However, should planned channel improvements downstream of the Project Site not be implemented prior to the completion of grading, to avoid downstream hydromodification impacts LACDPW would require, as an interim condition, that hydromodification controls be constructed on the Project Site. These interim on-site hydromodification controls are referred to in this EIR as the "Interim Controls." If and when the planned channel improvements are completed, the Interim Controls would be removed (as on-site hydromodification controls would no longer be required) and the Project would be completed.

4.10.1 Retention Basin Construction

The Interim Controls would consist of construction and maintenance of two water retention basins on approximately 6.2 acres of land in two locations on the Project Site (referred to in this EIR as the "Retention Basin Areas"), as shown of **Figure 4.0-13, Retention Basin Areas**.

To provide maximum effectiveness, the Retention Basin Areas and associated retention basins are required to be located near the lowest point on the Project Site. As the Project Site slopes from north to south, the Retention Basin Areas will be located near the main entry to the Project off of Hasley Canyon Road. Retention Basin Area 1 would be comprised of approximately 2.5 acres and would be situated in

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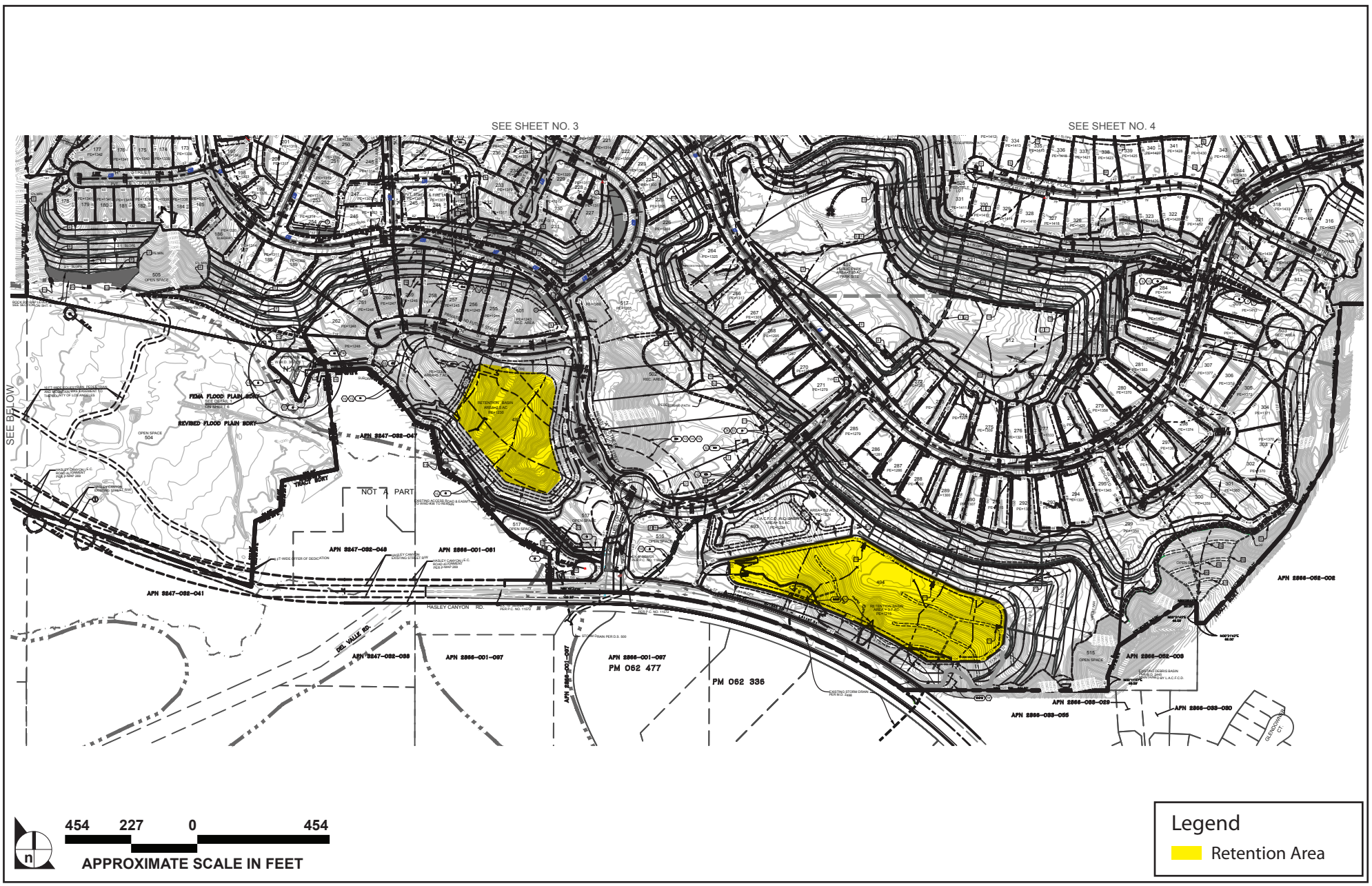
16 The Valencia Commerce Center project consists of an industrial/commercial subdivision of a 588.32-acre site (gross) into 68 lots with a total of 3,322,994 square feet of proposed development as follows: industrial (2,568,033 sf); commercial (754,961 sf including office/business park (721,872 sf) and retail (33,089 sf)); open space (385.69 acres including Castaic Creek (62.85 acres)); and supporting infrastructure.

the southwest portion of the Project Site west of the Project entrance where 13 homes are otherwise proposed. Retention Basin Area 2 would require approximately 3.7 acres in the southeast portion of the Project Site east of the Project entrance, where open space containing a portion of the vineyard is proposed. These Retention Basin Areas may vary slightly in size to assure that the required hydromodification control requirements are met after taking into account the infiltration capacity of the soil underlying the Project Site. As such, final design of the Retention Basin Areas has not occurred and will occur in coordination with LACDPW.



SOURCE: LDC, March 2015

FIGURE **4.0-13**

Retention Basin Areas

1154.001•04/15

Construction of the basins in the Retention Basin Areas would replace, on an interim basis, construction of the 13 housing units in Retention Basin Area 1, resulting in an interim condition in which there are 484 homes (rather than 497 residential dwelling units) on the Project Site, and would require interim replacement of the proposed vineyard with a retention basin in Retention Basin Area 2, resulting in a reduction in recreation areas of approximately 3.7 acres.[17] Even with this interim condition, the Project would exceed the County's requirement that forty percent of the Project Site be maintained as open space. Implementation of the Interim Controls would require minor changes to the mass grading plan in the Retention Basin Areas.[18] The Site Plan with construction of the Interim Controls is illustrated on **Figure 4.0-14, Interim Controls Conceptual Site Plan**.

The Project construction under the Interim Controls would occur in a similar manner as described above for the Project, with mass grading of the entire Project Site followed by installation of backbone infrastructure and finally home construction. Timing of the construction would not change with the implementation of the Interim Controls. The Interim Controls would remain in place until the planned channel improvements are completed.

While on site, the retention basin encompassed by the Riparian Landscape designation will receive a similar treatment as described above providing a transitional landscape along the southern boundary of the site.

4.10.2 Removal of Interim Controls; Project Completion

If and when the planned channel improvements are completed to the County's satisfaction, the Interim Controls would be removed and the remaining buildout of the Project would be carried out. Specifically, in Retention Basin Area 1, the retention basin would be removed and 13 single-family homes would be developed. In Retention Basin Area 2, the retention basin would be replaced with a vineyard. An additional 115,000 cubic yards of earthwork (i.e., cut and fill) would be required to remove the Interim Controls and complete the Project. This additional grading would also be balanced on site. A grading exhibit is provided in **Figure 4.0-15, Grading Interim Controls and Project**. As shown on **Figure 4.0-15**, earthwork to remove the retention basins and complete the Project would occur within the Retention

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17 The Project includes a variety of types of open space that count toward the County requirement. Specifically, these include: natural open space, transitional slopes, restoration and mitigation areas, recreation area (including vineyard and orchard), and the public park.

18 Construction of the Project is estimated to require approximately 3,785,267 cubic yards of cut and 3,784,250 cubic yards of fill, resulting in a total of 7,569,517 cubic yards of combined cut and fill balanced on site. Construction of the Interim Controls would require 115,000 cubic yards of fill which would be taken from elsewhere on the Project Site.

Basin Areas. For purposes of this analysis, all grading and earthwork associated with the removal of the Interim Controls and grading to achieve residential and open space construction is assumed to occur over a one month period, while construction of the 13 homes inclusive of the vineyard would require up to 13 months.

There is the potential that the planned channel improvements are never constructed in which case the Interim Control development would become permanent. The Retention Basins would be landscaped, but due to their location at the Project entrance, would be visible to passersby on Hasley Canyon Road. The visual impact of this condition to the Project is analyzed in **Section 5.1 Aesthetics**.

To conservatively analyze the impacts of the Project, this EIR evaluates the potential impacts of the Project as a whole. In certain instances, however, the construction and/or operation of the Interim Controls and the subsequent completion of the Project could lead to greater and/or slightly different impacts. Where it is possible that construction/operation of the Project with the Interim Controls would lead to greater impacts than the full Project buildout, this EIR analyzes the scenario in which the greatest potential impact would occur. In certain scenarios, these two scenarios (Interim Controls and final Project buildout) could have different impacts; in such cases, both scenarios are analyzed. The scenario for which greater impacts would occur is identified and analyzed for each environmental impact section.

4.11 INTENDED USE OF THIS EIR

The intended uses of this EIR include compliance with CEQA and to provide information needed by the Los Angeles County Regional Planning Commission and other County departments to make decisions regarding Project approvals and conditions. This EIR is also intended to support all federal, state, and regional and/or local government discretionary approvals that may be required to develop the Project.

4.12 REQUESTED DISCRETIONARY APPROVALS

The requested discretionary approvals required for implementation of the Project would include, but not be limited to, the following:

1. Revised Vesting Tentative Tract Map (Revised VTTM) No. 52584 to subdivide the Project Site into 497 single-family lots, 18 open space lots, seven recreation lots, one public park lot, one water tank lot, 11 storm maintenance/debris basin lots, and three "fee access" lots (pedestrian access lots) to be maintained by the HOA[19] and one booster station lot for a total of 539 lots.

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[19] These lots (also called HOA fee access lots) are narrow (8 or 20 foot wide) lots that provide pedestrian access between cul-de-sacs and nearby streets and/or pedestrian trails. These lots will be maintained by the HOA.

2. Conditional Use Permits (CUP) to authorize (1) density-controlled development to allow the proposed layout of the residential uses;[20] (2) an exemption from the Castaic CSD significant ridgeline exemption with respect to the westerly ridgeline for open space, construction of trails, landscape areas, stabilization of a pre-existing sand mining operation and access via extension of Barcelona Road and related infrastructure;[21] (3) development in accordance with the County's urban hillside management criteria;[22] and (4) on-site grading in excess of 100,000 cubic yards of combined cut/fill.[23] In addition, a CUP is requested for the installation of an additional 850,000-gallon water tank and the use of both the proposed and existing water tank.[24]

3. Oak Tree Permit to authorize the removal of one protected (non-heritage) oak tree on the property.

4. Variance to authorize the development of the portions of the easterly ridgeline identified on County maps as "significant ridgeline," but which has been removed (as to primary ridgeline areas) and removed and/or degraded (as to secondary ridgeline areas) by prior grading activity.

5. De-annexation from the Valencia Water Company boundaries

6. Annexation into LACWWD 36 to include extension of the Sphere of Influence of LACWWD 36, for portions of the Project Site currently outside of the LACWWD 36 boundaries and subsequent annexation of these areas into LACWWD 36. Upon approval from LAFCO the Project will be served by LACWWD 36 for potable and landscaping water needs.

4.13 OTHER PERMITS AND APPROVALS

Table 4.0-3, **Other Agency Actions**, identifies other permits and approvals which are known to be needed, or may be needed, in order to implement various Project components. This Draft EIR may also be used by other governmental agencies in connection with their approvals that may be required from time to time in connection with the Project.

Table 4.0-3
Other Agency Actions[1]

Agency	Action Required
Regional Water Quality Control Board	National Pollutant Discharge Elimination System Permit; and Section 401 permit under the federal Clean Water Act[2]
California Department of Fish and Wildlife	Streambed Alteration Agreement per Fish & Game Code Section 1602
	Incidental Take Permits authorizing impacts to listed species under Section 2081 of the Fish & Game Code[3]

20 LACC 22.24.150 & 22.56.205
21 LACC 22.44.137.D.6.d.i(B)
22 LACC 22.56.215
23 LACC 22.56.210
24 LACC 22.24.150

Agency	Action Required
United States Department of the Army, Corps of Engineers	Section 404 Permit under the federal Clean Water Act

[1] *This table is not intended to provide the complete and final listing of future actions required to implement the Project. This is an attempt to identify those actions that are known at this time to be required in the future.*
[2] *Impacts to waters of the United States*
[3] *Impacts to special status species*

4.14 PROJECT OBJECTIVES

Section 15124 (b) of the *State CEQA Guidelines* requires the project description to include a statement of the objectives sought by a project applicant.[25] Specific project objectives are defined below.

4.14.1 Land Use and Planning Objectives

a. Provide development that is compatible with surrounding communities and provides a transition between the master planned single-family developments to the north and east of the Project Site and the more rural residential uses and undeveloped land to the west of the Project Site.

b. Provide development that is consistent with the land uses and other policies and goals of the SCVAP 2012 and regulations in the Castaic CSD applicable to the Project Site.

c. Provide a project that can help to accommodate projected regional growth in a location that is designated for urban development under the SCVAP 2012 adjacent to existing and planned infrastructure, services, transportation corridors, and major employment centers.

d. Provide new housing on underutilized/graded land that will meaningfully contribute to addressing the housing needs for the Santa Clarita Valley as projected by the SCVAP 2012.

e. Develop housing in areas of the County designated for urban development to meet Countywide housing needs and to avoid leapfrog development.

f. Locate development in a manner that preserves regionally significant natural resource areas, sensitive habitat, and major landforms.

g. Foster the design and integration of the natural and built environments, and implement sensitive land use transition treatments, attractive streetscapes, and high quality design themes to create an attractive community and appropriate transitions between neighboring uses.

h. Provide neighborhood and secondary park and recreation areas, pedestrian and multi-purpose trails with a range of recreational opportunities for the community, which satisfy park dedication requirements and meet the recreational needs of local residents in a manner compatible with protection of natural resources.

25 *State CEQA Guidelines* Section 15124(b)

i. Provide a project that is compliant with the County's Healthy Design Ordinance.

j. Provide a residential development with substantial common amenities such open space, parkland, trails, landscaping and clubhouse, pool(s) and related recreational opportunities available to residents.

k. Improve upon the current aesthetics of the graded, partially developed Project Site.

l. Minimize the size and extent of retaining walls.

4.14.2 Mobility Objectives

a. Provide a safe, efficient, and aesthetically attractive street system with convenient connections to regional transportation routes.

b. Provide an efficient street circulation system that minimizes impacts on residential neighborhoods and environmentally sensitive areas.

c. Provide a highly livable, outdoor, pedestrian-friendly environment that encourages pedestrian, bicycle and equestrian uses by incorporating or providing access to trails and streets in a manner consistent with the County's Healthy Design Guidelines.

d. Enhance roadway connections to surrounding neighborhoods to increase mobility within the area, provide emergency access for residents of the Project and surrounding communities, and provide access for emergency services personnel.

4.14.3 Resource Conservation Objectives

a. Incorporate sustainable development principles, including energy efficiency, waste reduction, drought-tolerant landscaping, use of water efficiency measures, and use of recycled materials and renewable energy resources.

b. Restore and minimize impacts to important biotic resources and mitigate degraded habitat areas.

c. Minimize impacts to existing oak trees and incorporate, where possible, new oak trees into public spaces.

d. Balance grading on the Project Site to avoid a need to import or export dirt for development.

4.14.4 Economic Objectives

a. Provide a project that will invigorate the local economy, employment, and business opportunities through project construction and through the expenditures of its future residents.

b. Provide a project that will be financially feasible to develop and market and that will provide a return commensurate with the risk of development.

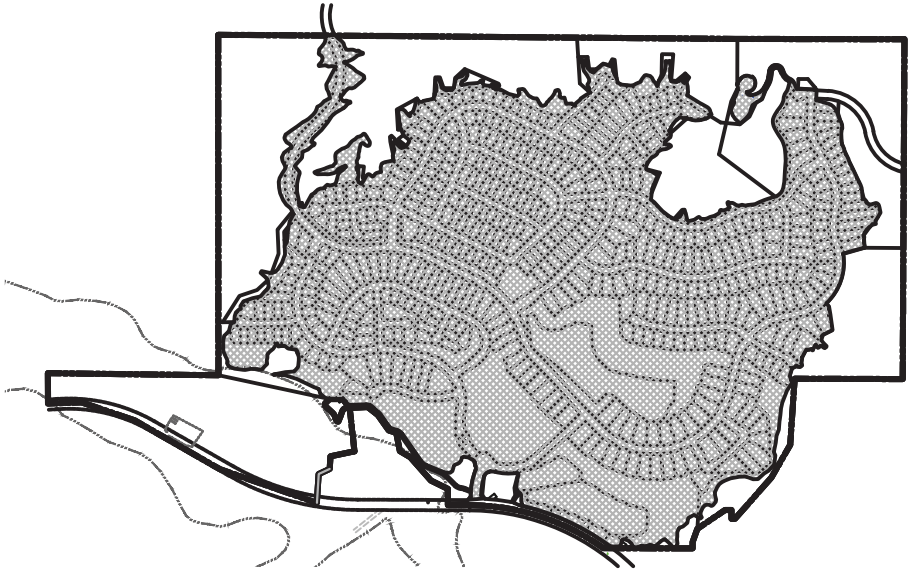
c. Provide a project that utilizes the existing grading and infrastructure completed from 2006 through 2008, to the extent feasible.

SOURCE: ValleyCrest Design Group, September 2015

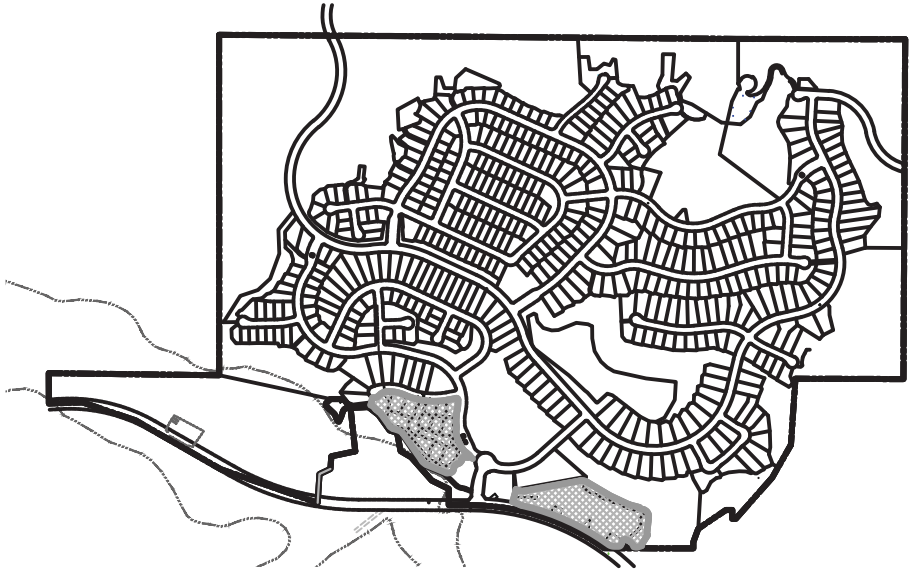
FIGURE **4.0-14**

Interim Controls Conceptual Site Plan

1154.001•09/15



Grading Project



Grading Interim Controls

1,504 752 0 1,504

APPROXIMATE SCALE IN FEET

SOURCE: LDC, March 2015

FIGURE **4.0-15**

Grading Interim Controls and Project

1154.001•07/15

5.0 ENVIRONMENTAL IMPACT ANALYSIS

INTRODUCTION

This section provides detailed discussion of the environmental setting for each environmental topic addressed in this Draft EIR, an analysis of the Project's potential impacts, the potential cumulative impacts of the Project , and mitigation measures intended to mitigate impacts found to be potentially significant. This section addresses the Project's potentially significant environmental impacts for the following environmental topics:

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Noise
- Public Services (Library, Education, Sheriff and Fire)
- Recreation
- Transportation/Traffic
- Utilities and Service Systems (Water Supply, Solid Waste, Electricity and Natural Gas, Wastewater)

5.1 AESTHETICS

INTRODUCTION

This section describes the existing visual character of the Project Site and the surrounding area from which the Project Site is visible (the Project vicinity), and evaluates the potential impacts on aesthetics, views, light, and glare associated with the Project. The analysis presented in this section is based, in part, on information provided by the Applicant on the overall design of the Project, visual simulations prepared by VisionScape, and site reconnaissance.

Aesthetics refers to the overall visual quality of an area or given field of view, and, as such, analysis of aesthetics focuses on a project's visual relationship with existing and planned land uses in the project vicinity. The analysis considers aspects of visual character, such as design, size, shape, color, texture, and the general composition of aesthetic features, and the relationships between these elements. It also considers natural and human-made features with aesthetic value. The potential impacts considered within the analysis include the loss of existing aesthetic features of value and the introduction of contrasting features that contribute to a decline in the overall visual character (e.g., the introduction of contrasting features that overpower familiar features, eliminate context or associations with history, or create visual incompatibility where there may have been apparent efforts to maintain or promote a thematic or consistent character).

The analysis of views assesses a project's potential impacts on visual access to visual resources (e.g., mountain ridgelines, rolling hills, canyons, creeks, historic structures, woodlands, natural open space, etc.). It considers the project's distance from valued visual resources, the topography of the project vicinity, and existing view obstructions. The analysis considers focal views (i.e., views of a particular object, scene, setting, or features of visual interest) and panoramic views or vistas (i.e., views of a large geographic area for which the view may be wide and extend into the distance) from surrounding publicly accessible areas.

The analysis of light impacts assesses the potential effects of a project's nighttime light from both point sources (e.g., illuminated building façades, street light poles, and vehicle headlights) and indirect sources (i.e., reflected light) on light-sensitive land uses such as residences that have a direct field of view to a lighting source or that may be impacted by more distant lighting that creates a nighttime sky glow. Such uses are recognized as light-sensitive because they are typically occupied by persons who have expectations of privacy during evening hours and who are subject to disturbance by bright light sources. The effects of nighttime lighting are contextual and depend upon the light source's intensity, its proximity to light-sensitive receptors, and the existing lighting environment in the vicinity of a project site. Lighting impacts may occur when project-related lighting is visually prominent and decreases

available views, alters the nature of community or neighborhood character, illuminates a sensitive land use, or negatively affects a biological habitat.

Glare is primarily a daytime occurrence caused by the reflection of sunlight or artificial light from highly polished surfaces, such as window glass or reflective materials, and, to a lesser degree, from broad expanses of light-colored surfaces. Daytime glare is typically caused by the reflection of sunlight from highly reflective surfaces at or above eye level. Daytime glare generation is more common in urban areas and is typically associated with mid- to high-rise buildings clad with broad expanses of highly polished surfaces, such as glass or metals, or with broad, light colored exterior walls or large areas of paving. Daytime glare is generally most pronounced during early morning and late afternoon hours when the sun is at a low angle and the potential exists for intense reflected light to interfere with vision, especially when driving. Glare generation is typically related to sun angles, although glare resulting from reflected sunlight can occur regularly at certain times of the year. Glare can also be produced during evening and nighttime hours by artificial light directed toward a light sensitive land use. Nighttime glare refers to direct, intense, focused light, as well as reflected light that hampers visibility. The analysis of glare assesses potential impacts on glare-sensitive uses, such as residences and transportation corridors (i.e., roadways) where nighttime glare can interfere with vision, especially when driving.

Shading is a common and expected occurrence in developed areas and is often considered a beneficial feature of the environment when it provides cover from excess sunlight and heat. However, shading can have an adverse impact if it substantially interferes with the enjoyment or performance of sun-related activities. While some incidental shading on shadow-sensitive uses is commonly acceptable, shading that occurs over extended periods of time can be considered a detriment. The analysis of shading impacts typically assesses several shade-related factors, including local topography, the height and bulk of a project's structural elements, the proximity and sensitivity of surrounding uses, the season of the year, and the duration of shadow projection. However, the Project would not cause any shading impacts as there are no existing buildings or shade-sensitive uses, such as residences, schools, or parks, located adjacent to the Project Site that could be shaded by the Project. As such, shading is not evaluated further herein.

5.1.1 ENVIRONMENTAL SETTING

Existing Conditions

Aesthetic/Visual Quality on the Project Site

The Project Site comprises 430.4 acres in the northwesterly portion of the Santa Clarita Valley. The Project Site is undeveloped, but approximately two-thirds of the site (approximately 300 acres) has been

substantially graded under the Prior Entitlements. In general, only the westernmost portion of the Project Site (west of the westerly ridgeline) has not been directly disturbed due to past use, but is nonetheless degraded due to substantial erosion from the residential neighborhood to the north and the storm water pollution prevention basin maintenance. **Figure 3.0-4, Areas of Previous Disturbance on the Project Site,** provides an aerial view of the Project Site. As a result of the extensive on-site grading activity authorized by the Prior Entitlements, areas of the easterly ridgeline that had been designated by the County as significant primary and secondary were almost entirely removed. While a small portion of the primary ridgeline remains outside of the grading limits of the Project (at the northern edge of the Project Site) the primary portion of the easterly ridgeline has been entirely removed within the grading limits of the Prior Entitlements. Only two small non-contiguous portions of the secondary ridgeline remain on the Project Site within the Project grading limits. Portions of the westerly ridgeline (now mapped by the County as significant ridgeline) were subject to early-stage grading operations within setback limits imposed for significant ridgelines, including but not limited to: clearing and grubbing, the grading of a construction road along its crest and over the crest in at least two places, and mining operations of natural sand deposits for use as utility beddings elsewhere on the Project Site. However, the westerly ridgeline remains substantially intact and is visible from the Project Site and areas to the west.

Historic uses on the Project Site include oil-drilling operations at 10 wells installed in the 1970s and 1980s, all of which were closed and properly abandoned in 2003. In addition to the oil drilling operations, 145 acres of the western portion of the Project Site was used as a golf course from 1963 until approximately the early 1980s. The former golf course pro shop building was later used as an office and maintenance shop by the oil company, Alabama Essential Oil (AEO). In addition, two or three mobile homes used by the golf course were on-site in the early 1980s. These structures are no longer present. Other than the partially completed infrastructure and grading work completed pursuant to the Prior Entitlements, the Project Site is undeveloped.

The majority of the Project Site is occupied with low lying scrub such as deerweed scrub. A variety of other low-lying scrub including chamise chaparral and California sagebrush scrub are found on the steep slopes with the California sagebrush being found largely on the steep south-facing slope in the east half of the Project Site and low-gradient flood deposits in Hasley Canyon. The Project Site also supports 22 oak trees; three of which are heritage oaks. All of the trees recorded are California (coast) live oak (*Quercus agrifolia*). The majority of the trees (all except one) occur in the northwest portion of the Project Site, outside of the proposed development envelope. Refer to **Section 5.3, Biological Resources,** for more information.

The eastern portion of the Project Site is characterized by a variety of low-lying scrub with engineered slopes visible from the end of Hayward Drive (at the eastern Project Site boundary) looking to the west

onto the Project Site. Much of this portion of the Project Site has been graded. The easterly ridgeline has been substantially graded such that only two non-contiguous portions of the secondary ridgeline remain. As a result of previous grading activities, a roadway network, engineered slopes and home pads are visible both on the ground and in the aerial view, as well as the existing 750,000 gallon water tank constructed under the Prior Entitlements. Infrastructure installation, including partial installation of electrical, storm drains, sewers, graded roadways, golf course fairways, and home pads, was undertaken as part of the Prior Entitlements. The electrical, sewer, and storm drains were trenched and installed within the confines of the graded portions of the Project Site. Although roads and underground utilities have been installed on the easterly portion of the Project Site, the only visible infrastructure is the (dirt) roadway network.

The western portion of the Project Site remains largely undeveloped. Hasley Canyon Creek and two unnamed tributaries traverse portions of this area of the Project Site. Tributary One runs in a north to south direction and is located on the western portion of the Project Site, while Tributary Two also runs in a north to south direction and is located more towards the central portion of the Project Site.

The southern portion of the Project Site, west of the intersection with Del Valle Road, is characterized by a flat grassy area with a variety of mature eucalyptus and California live oaks. The southern portion of the Project Site east of Del Valle Road is the undeveloped, central open and disturbed area of the Project Site. The northern portion of the Project Site is largely undeveloped and consists of a variety of the same low lying scrub and steep slopes.

A green chained linked fence is currently in place along the southern boundary of the Project Site along Hasley Canyon Road. Primary access to the Project Site is provided via Hasley Canyon Road; however, as the Project Site is graded, but undeveloped, no internal paved roadways exist that provide access through the Project Site.

No uses currently exist on the Project Site that would cause glare and the Project Site does not currently contain any development that produces light.

Surrounding Uses

The Project Site is located within a suburban area of the Santa Clarita Valley. Land uses surrounding the Project Site include residential communities, schools, industrial uses, oil production, privately held open space, and equestrian estate homes. There are no designated historic structures or significant rock outcroppings in the Project vicinity.

East of the Project Site are several residential communities located between the Project Site and the US Interstate Highway 5 (I-5). Many of the roadways located within the residential communities to the east

dead end into the Project Site, including Hayward Drive, which would be extended as part of the Project. While these communities to the east are at a similar elevation as the internal portions of the Project Site, the steep slopes to the west of these communities, along the eastern boundary of the Project Site, are immediately adjacent to existing homes and as a result, dominate the view and preclude views of the Project Site.

To the north, additional residential communities exist along Hillcrest Parkway and border three sides of Castaic Middle School, which is located to the northwest of the Project Site. These communities are almost entirely shielded from views of the Project Site by the intervening ridgeline, with the exception of views of the westerly ridge line from the terminus of Barcelona Road.

Land to the west and southwest is mostly undeveloped and consist of privately owned equestrian estate homes. Immediately adjacent to the Project Site to the south, along Hasley Canyon Road, are several active oil derricks and five water wells located on property adjacent to, but not part of, the Project Site and water well owned by Los Angeles County Waterworks District No. 36 (See **Figure 3.0-2, Project Boundary and Environmental Setting**). Further to the west, single-family homes are present, however, at much lower densities than to the north and east of the Project Site. Equestrian uses are prevalent in this area, as well as to the southwest. The westerly ridgeline on the Project Site blocks most of the views from the west and as a result, very little of the Project Site is visible from these uses.

To the south is the Valencia Commerce Center, a large commercial and industrial development containing numerous one- and two- story commercial buildings used primarily for manufacturing and industrial purposes. To the southwest, approximately 2.5 miles away, is the established Val Verde community.

Night lighting in the immediate vicinity of the Project Site is prevalent and is generated from the existing homes to the north and east, the existing Valencia Commerce Center to the south, light fixtures along existing roadways and vehicular headlights along Hasley Canyon Road and I-5. To the west, night lighting is limited as these areas are primarily undeveloped land. The equestrian estates in these areas do not generate substantial night lighting.

Views

A viewshed is a geographic area composed of land, water, biotic and/or cultural elements (i.e., visual resources) that may be seen from one or more viewpoints and has inherent scenic qualities and/or aesthetic value as determined by those who view it. The extent of a viewshed can be limited by a number of intervening elements, including trees and other vegetation, built structures, or topography such as hills and mountains.

It is useful to think of a viewshed in terms of typical views seen throughout an area, because visual resources are rarely encountered in isolation. A typical view may include several types of visual resources, including both natural and man-made elements, such as distant ridgelines, historic buildings, and rolling hillsides. It is also important to distinguish between public and private views. Private views are views seen from privately owned land and are typically viewed by individual viewers, including views from private residences. Public views are those visible from public lands, including roadways, parks, and trails.

Given the topography of the Project Site and the surrounding area, public views of the Project Site are generally limited to those from the south. To the east, where the largest number of potential viewers would be located (due to the large number of residences), the steep slopes between these residences and the Project Site limit any potential views. Similarly, the hilly topography and intervening ridgelines limit potential views from the residences to the north. To the west is privately held open space that may be developed in the future; however, this land does not contain any public access points such as trails, lookouts, etc. As such, the primary location from which the Project would be viewed is from the south, although there are limited views from the Barcelona Road and Hayward Drive termini, to the north and east of the Project Site, respectively.

The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area. The scenic quality component can best be described as the overall impression that an individual viewer retains after driving though, walking though, or flying over an area. Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, the number of views seen, the distance of the viewers, and the viewing duration. Viewer sensitivity relates to the extent of the public's concern for particular viewsheds. Therefore, the viewpoints outlined below were selected as they represent both 1) the most likely viewing locations (i.e., the most easily accessible views and 2) the greatest number of potential viewers—meaning the largest number of viewers would view the Project Site from these locations.

Figure 5.1-1, Viewpoint Key Map, identifies the location of the seven viewpoints on and around the Project Site that were selected for this analysis. Viewpoint 1 depicts the existing terminus of Barcelona Road looking south to the Project, which is the predominant public viewpoint to the Project Site from the north. Viewpoint 2 provides a northerly view of the Project Site from the intersection of Del Valle Road and Hasley Canyon Road approaching from the west. Viewpoint 3 provides the perspective of the Project Site from Del Valle Road from a point further to the west than is shown in Viewpoint 2. Viewpoint 4 provides the perspective from the Commerce Center at Avenue Penn looking north to the Project Site and also provides a perspective from the Hasley Canyon Equestrian Center. Viewpoint 5 is taken from the northbound on-ramp to I-5 from California State Route 126 (SR-126). Viewpoint 6 is taken from the terminus of Hayward Drive looking toward the Project Site. Viewpoint 7 provides the view from Hasley Canyon Road looking westward toward the Project Site. Each of the viewpoints selected for this analysis is described in greater detail below.

To evaluate each viewshed, this analysis divides the view shown into distance zones of foreground, middle ground, and background. Generally, the closer a resource is to the viewer, the more dominant it is and the greater its importance to the viewer. Although distance zones in a viewshed may vary between different geographic regions or types of terrain, for the purposes of this analysis, consistent with federal guidelines for landscape aesthetics, the standard foreground zone is considered to extend from the viewer to a distance of ¼ to ½ mile from the viewer, the middle ground zone extends from the end of the foreground zone to 3 to 5 miles from the viewer, and the background zone extends from the end of the middle ground to infinity.[1]

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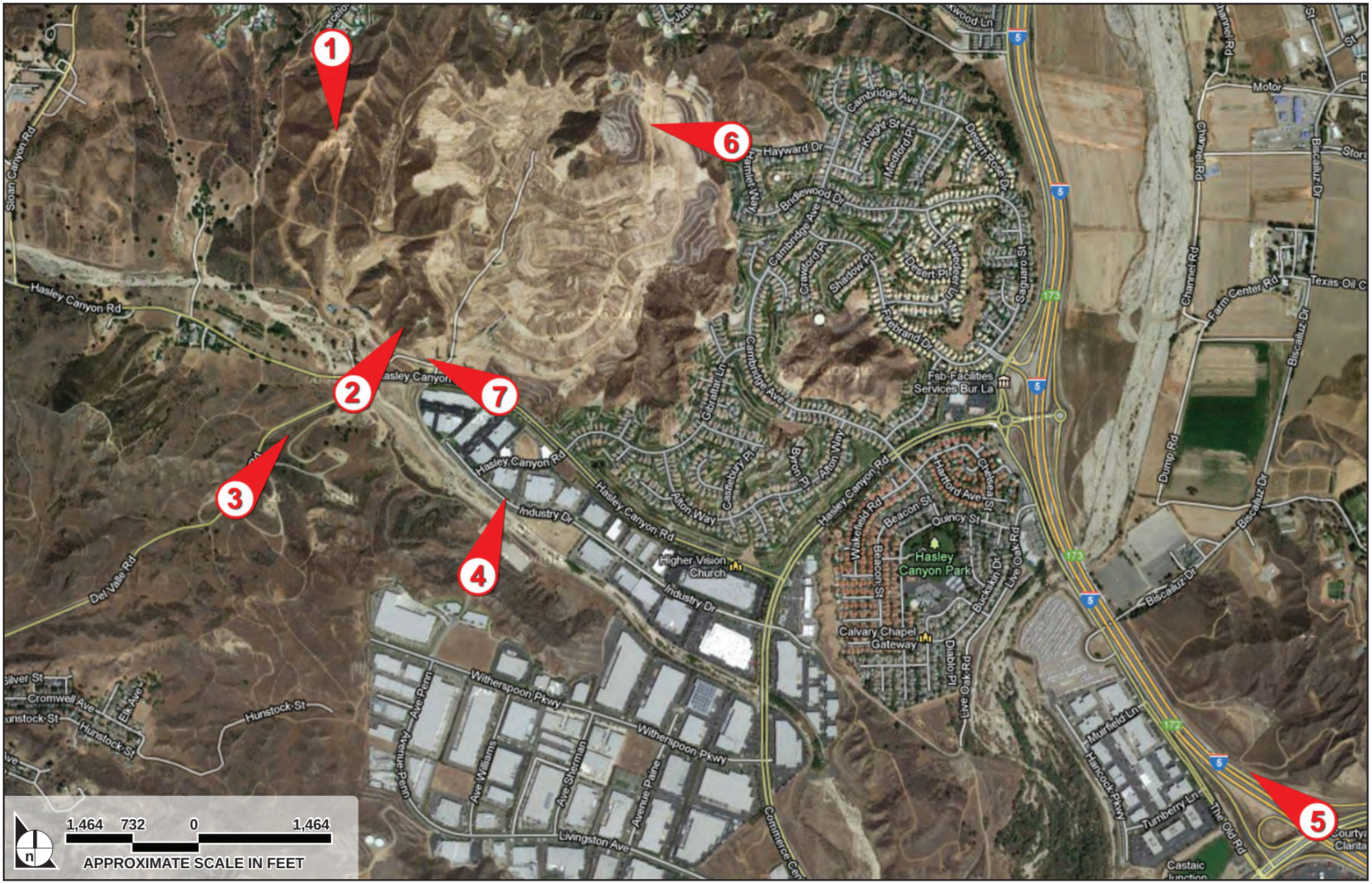
1 U.S. Forest Service. 1995. *Landscape Aesthetics: A Handbook for Scenery Management*. U.S. Department of Agriculture.



SOURCE: VisionScape Imagery, April 2015

FIGURE **5.1-1**

Viewpoint Key Map

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Viewpoint 1

Viewpoint 1, shown in **Figure 5.1-2**, is located at the terminus of Barcelona Road looking south to the Project Site. The view from this vantage point is representative of the view visible to a motorist traveling south on Barcelona Road. Because the road terminates at that location, this view has a limited number of viewers. As depicted in the figure, the foreground views show hardscape/pavement, street lighting and a fire hydrant and the present terminus of Barcelona Road. Middle ground views show trees and brush on the Project Site and the existing westerly ridgeline and the graded dirt road. The ridge presently blocks the majority of background views. Limited background views of the Santa Susana Mountains are depicted in the far right of the viewshed.

Prominent Visual Feature: In summary, the prominent visual features are hardscape/pavement and the existing ridgeline.

Viewpoint 2

Viewpoint 2, shown in **Figure 5.1-3**, shows the Project Site as viewed from approximately the intersection of Hasley Canyon Road and Del Valle Road. Both Del Valle Road and Hasley Canyon are well traveled, and as a result this viewpoint would likely be the most frequently viewed of the seven viewpoints. The view from this vantage point is representative of the view of a passing motorist stopped at the intersection and looking north toward the Project Site. As depicted in the figure, the foreground includes the two-lane roadways and the paved intersection of Hasley Canyon Road and Del Valle Road. There are no sidewalks along Hasley Canyon Road or Del Valle at this intersection. A stop sign and fire hydrant are also visible. The limited vegetation in the foreground is mainly comprised of non-native grasses and weeds. Middle-ground views depict five water tanks and two oil derricks, both located adjacent to the Project Site. Vegetation includes a small collection of approximately 10 trees near the oil infrastructure. From this vantage point, the height of the westerly ridgeline blocks much of the view of the interior of the Project Site and therefore comprises the majority of the view from this point. The westerly ridgeline is generally covered with low vegetation. Just beyond the water tanks and oil derricks the peak of the remains of the easterly ridgeline on the Project Site is visible. Overhead utility lines are also visible in the middle ground. Off to the right, background views depict only a small portion of the graded areas of the Project Site, as the majority of the interior of the Project Site is blocked by the westerly ridgeline.

Prominent Visual Feature: In summary, the prominent off-site visual features are hardscape/pavement, oil derricks, and water tanks and the prominent on-site features are the westerly ridgeline, and the graded and natural areas of the Project Site.

Viewpoint 3

Viewpoint 3, shown in **Figure 5.1-4**, shows the Project Site from a point south along Del Valle Road, looking north. The view from this vantage point is representative of the view visible to a motorist traveling north along Del Valle Road. Due to the topography of Del Valle Road and its elevation being

above the Project Site at this point, a large portion of the Project Site is visible, although it is in the background view. As shown in the figure, the foreground views consist primarily of a two-lane paved roadway with a dirt shoulder. No roadways improvements, such as curbs and gutters or sidewalks, are visible outside of travel lanes. An oil derrick is visible to the west of the roadway. Vegetation in the foreground view is limited to low brush on the hillsides, with non-native grasses and weeds closer to the roadside. Middle-ground views continue to show the two-lane highway, large brush/trees and overhead utility lines with a large ridge on either side of the roadway. Background views show portions of the highly disturbed Project Site, including the remains of the easterly ridgeline. The more natural areas of the westerly ridgeline are also visible off to the west. Distant views of the Angeles National Forest are also visible beyond the Project Site.

Prominent Visual Feature: In summary, the prominent off-site visual features are hardscape/pavement, an oil derrick, and the on-site features are the existing easterly and westerly ridgelines and graded areas on the Site.

Viewpoint 4

Viewpoint 4, shown in **Figure 5.1-5,** is located south of the Project Site along Avenue Penn in the Valencia Commerce Center looking north. The views from this vantage point are representative of the view visible to motorist traveling north on Avenue Penn and generally from the Hasley Canyon Equestrian Center. Due to the limited number of uses, this road does not experience as much traffic as other nearby roadways, and as such, only a limited number of viewers would regularly experience this view. As depicted in the figure, the foreground views show hardscape/roadway flanked by a concrete drainage channel, non-native grasses, and brush. Middle-ground views show the fenced riding arena for the Hasley Canyon Equestrian Center (the barn building is to the east (right) of the viewpoint and is screened by the intervening hillside) with the dry Hasley Canyon Creek bed just beyond, industrial office uses in the Valencia Commerce Center and single-family homes to the east of the Project Site. Background views primarily depict the graded areas of the Project Site and some natural areas to the west.

SOURCE: VisionScape Imagery, January 2014

FIGURE **5.1-2**

Existing View – Viewpoint 1

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SOURCE: VisionScape Imagery, January 2014

FIGURE **5.1-3**

Existing View – Viewpoint 2

1154.001•03/14

SOURCE: VisionScape Imagery, January 2014

FIGURE **5.1-4**

Existing View – Viewpoint 3

1154.001•03/14

SOURCE: VisionScape Imagery, January 2014

FIGURE **5.1-5**

Existing View – Viewpoint 4

1154.001•03/14

The remains of the easterly ridgeline are visible to the west. The distant ridgelines of the Angeles National Forest are also visible toward the left hand side of the view.

Prominent Visual Features: In summary, the prominent visual features are hardscape/pavement, the equestrian center riding arena, Valencia Commerce Center industrial office buildings, single-family dwellings, and the graded area on the Project Site.

Viewpoint 5

Viewpoint 5, shown in **Figure 5.1-6**, is located at the I-5/SR-126 intersection on-ramp looking north, northwest. The view from this vantage point is representative of the view visible to a passing motorist accessing the on-ramp travelling north on I-5. Foreground views are primarily hardscape/pavement and weedy brush to the west of the on-ramp. Middle-ground views depict the I-5 and industrial buildings located in a business park along 'The Old Road', immediately west of the I-5. Background views depict single-family houses and distant views of the Santa Susana Mountains. This viewpoint was selected as this is the nearest point to SR-126 (an eligible scenic highway) from the Project Site. Due to the existing topography and intervening structures, the Project Site is not visible from this viewpoint.

Prominent Visual Features: In summary, the prominent visual features are hardscape/pavement, industrial office buildings in a business park located along 'The Old Road', I-5, single-family dwellings, and the Santa Susana Mountains.

Viewpoint 6

Viewpoint 6, shown in **Figure 5.1-7,** is located at the terminus of Hayward Drive adjacent to the eastern boundary of the Project Site. This vantage point is representative of the views visible to a passing motorist traveling west on Hayward Drive to its current terminus at the Project Site boundary. Foreground views depict an existing single-family residence, a sidewalk and ornamental landscaping, as well as Hayward Drive hardscape/pavement and the terminus of the roadway. Middle ground views depict weedy brush on slopes within the Project Site, the engineered slopes constructed on the Project Site as part of the engineering of the extension of Hayward Drive, as well as a graded dirt road comprising the extension of Hayward Drive onto the Project Site. A tree, a chain link fence, some scrubby vegetation, and a slope are visible off to the right. Background views depict a hillside within the Project Site, and more distant views are blocked due to the elevation of the viewpoint and intervening topography.

Prominent Visual Features: In summary, the prominent visual features are Hayward Drive hardscape/pavement, the existing residence and its ornamental landscaping, a dirt road, weedy brush, and a hillside within the Project Site.

Viewpoint 7

Viewpoint 7 shown in **Figure 5.1-8**, is located east of the Project entrance along Hasley Canyon Road. This vantage point is representative of views visible to a passing motorist traveling westbound on Hasley Canyon Road. Foreground views depict the roadway and associated infrastructure including sidewalks,

and a light pole. The steep slopes of the Project Site are prominent in the view to the north. Middle ground views depict weedy brush on the slopes on the southern boundary of the Project Site. Due to the topography of the Site, views in to the Project Site from this viewpoint are limited. Background views depict a hillside within the Project Site, and more distant views are blocked due to the elevation of the viewpoint and intervening topography.

Prominent Visual Features: In summary, the prominent visual features are Hasley Canyon Road, and the Project slopes to the north.

Light and Glare on the Project Site

As discussed above, the Project Site does not currently generate light or glare. Sensitive receptors with respect to light and glare are generally those uses to the south and could include motorists traveling along Hasley Canyon Road, as they would be the only potential viewers of the Project Site.

Regulatory Framework

State

California Department of Transportation (Caltrans) Scenic Highway Program

The California Scenic Highway Program was created by the state legislature in 1963 to preserve and protect scenic highway corridors from change that would reduce the aesthetic value of lands adjacent to highways. The State Scenic Highway System includes a list of highways that are either eligible for designation as scenic highways or have been so designated. 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.

State goals for scenic highways include the following:

1. Preserve and enhance the unique visual, biological, and ecological resources of the Scenic Highway Corridor;
2. Prevent and eliminate (when reasonably possible) conditions that detract from or compromise the quality of the aesthetic resources of the Scenic Highway Corridor;
3. Encourage the development and maintenance of park and recreational facilities that contribute to the aesthetic quality of the Scenic Highway Corridor;
4. Encourage preservation of historical landmarks adjacent to the Scenic Highway Corridor; and
5. Encourage community civic groups to create programs that increase community interest in the visual assets of the Scenic Highway Corridor and facilitate the implementation of such programs.

SOURCE: VisionScape Imagery, January 2014

FIGURE **5.1-6**

Existing View – Viewpoint 5

1154.001•03/14

SOURCE: VisionScape Imagery, January 2014

FIGURE **5.1-7**

Existing View – Viewpoint 6

1154.001•03/14

SOURCE: VisionScape Imagery, April 2015

FIGURE **5.1-8**

Existing View – Viewpoint 7

1154.001•04/15

To be included in the program, the highways proposed for designation must meet Caltrans' eligibility requirements and have visual merit. After it is determined that a proposed highway satisfies the qualifications for Scenic Highway designation, the local jurisdiction, with support of its citizens, must adopt a program to protect the scenic corridor. The five legislatively required standards for scenic highways are:

1. Regulation of land use and density (i.e., density classifications and types of allowable land uses);
2. Detailed land and site planning (i.e., permit or design review authority and regulations for the review of proposed developments);
3. Prohibition of off-site outdoor advertising and control of on-site outdoor advertising;
4. Careful attention to and control of earthmoving and landscaping (i.e., grading ordinances, grading permit requirements, design review authority, landscaping and vegetation requirement); and
5. The design and appearance of structures and equipment (i.e., placement of utility structures, microwave receptors, etc.).

The status of a state scenic highway changes from eligible to officially-designated when the local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives notification that the highway has been designated as a scenic highway. There are no adopted scenic highways in the vicinity of the Project Site. The nearest eligible scenic highway is SR-126 located approximately two miles to the south of the Project Site.

Local

County General Plan

The County General Plan is primarily a policy document that sets goals concerning the community and gives direction to growth and development. In addition, it outlines the programs that were developed to accomplish the goals and policies of the General Plan. Refer to **Section 5.10, Land Use and Planning**, of this Draft EIR for policy consistency analysis related to aesthetics.

Santa Clarita Valley Area Plan

Section 5.10, Land Use and Planning, of this Draft EIR provides a consistency analysis of the Santa Clarita Valley Area Plan (SCVAP 2012) policies related to aesthetics. Refer to **Table 5.10-2** for a list of the policies related to aesthetics and the consistency analysis for each policy.

Hillside Management

A variety of hillside requirements apply throughout the County. Within the General Plan, the Hillside Management Area Ordinance (LA County Code, Title 22, § 22.56.215) would be applicable to the Proposed Project. The portion of this ordinance relevant to this analysis is the preservation of the natural beauty of hillsides in the unincorporated County in areas where the natural slope is 25 percent or greater. As the Project carries an "urban" H2-Residential 2 land use designation under SCVAP 2012, the Project is subject to the County's hillside management criteria for urban hillside management areas.

The County has also developed advisory Hillside Design Guidelines to assist developers in preparing plans for hillside areas with natural slopes of 25 percent or greater. These guidelines apply to residential, commercial, and industrial projects within designated Hillside Management Areas. The goal of the guidelines is to promote quality design and development that is compatible with existing natural surroundings. The Hillside Design Guidelines address such development elements as project design, grading, circulation, site design, fire protection, landscaping, and plant palettes. General guidelines that are applicable to the Project include the following:

- Minimize grading and removal of native vegetation.
- Preserve distinctive natural features and existing topographical forms.
- Preserve prominent skyline ridge silhouettes; locate roads and structures below skyline ridges.
- Design circulation routes that incorporate existing contours; undulating road patterns, cul-de-sacs, split roadways and varying grades.
- Incorporate hiking, bicycle, walking and equestrian trails where appropriate; integrate trails and open space with existing networks.
- Vary lot sizes, setbacks and building orientation and elevations to ensure views and avoid monotony.
- Preserve steep hillsides by clustering buildings and using other innovative site design approaches.
- Use flag lot design where essential to reduce grading.
- Preserve significant trees and habitats, natural watercourses, wildlife corridors and distinctive natural features.
- Consider the project's appearance from higher, lower, or adjacent roads or development.
- Place water tanks and other unsightly forms below ridgelines and in a bermed and naturally landscaped area.

Numerous additional guidelines specific to grading, circulation, fire protection, and landscaping are also provided within the Hillside Design Guidelines.

Community Standards Districts

Community Standards Districts (CSDs) are established as supplemental districts to provide a means of implementing special development standards contained in adopted neighborhood, community, area, specific and local coastal plans within the unincorporated areas of Los Angeles County, or to provide a means of addressing special problems which are unique to certain geographic areas within the unincorporated areas of Los Angeles County. The County has established a CSD for the Castaic Area (Castaic CSD), to address planning issues and set specific guidelines for development. Regulations in the Castaic CSD relevant to aesthetics include hillside management, significant ridgeline protection, protection of native vegetation, limitations on outdoor lighting and screening of water tanks.

Los Angeles County Rural Outdoor Lighting District

In 2012, the County adopted a Rural Outdoor Lighting District. The Rural Outdoor Lighting District includes regulations to conserve energy and resources and promote dark skies in rural areas, while permitting reasonable outdoor lighting for nighttime safety and security. The regulations include limitations on allowable light trespass, require full shielding of outdoor lighting, and impose maximum heights on light fixtures.

5.1.2 ENVIRONMENTAL IMPACTS

Methodology

The impact assessment methodology used in this analysis consists of evaluating the visual changes caused by the Project on the Project Site and to the surrounding area. Photo visual simulations were prepared to supplement the analysis by showing the potential for the Project to impact available scenic views and vistas or to degrade the visual character of the Project Site.

Project Design Elements/Project Design Features

Project Design Elements

A complete description of the Project and associated development characteristics is provided in **Section 4.0, Project Description,** of this Draft EIR. Specifically, implementation of Land Use and Planning objective g, described in the **Project Description**, would ensure the Project would foster the design and integration of the natural and built environments, and implement sensitive land use transition

treatments, attractive streetscapes and landscapes, and high quality design themes to create an attractive community and appropriate transitions between neighboring uses.

The Project includes 497 residential lots on approximately 144.81 acres of land. Project density would be approximately 1.16 dwelling units per gross acre (i.e., 497 residential lots divided by 430.4 acres) which would be consistent with the SCVAP 2012 designation of "H2 – Residential 2 (UR1 – Urban Residential 1)" that establishes the area as a residential neighborhood requiring urban services with a maximum density of 2-dwelling units per gross acre. Allowable uses in this designation include single-family homes.[2] Residential lot sizes would range from 8,300 square feet to 16,700 square feet, which is consistent with the minimum lot size requirement of 7,000 square feet as set forth in the Castaic Area Community Service District (CSD).[3] Primary access to the Project Site will be from Hasley Canyon Road from the south with secondary access points provided from the extension of Barcelona Road from the north and Hayward Drive from the east.

The Project is conceived as a transitional development and, as such, is designed with lot sizes slightly larger than the more densely developed, single-family residential communities to the east and north, while mostly preserving a ridgeline (to the west) and providing open space buffers against the more rural, non-urban equestrian estate homes located to the west and the Valencia Commerce Center located to the south.

The Project has been designed to frame the new residential development with open space boundaries. Project amenities will include a community recreation center, a 7.45-acre public park, six privately maintained recreational lots, and 4.5 miles of pedestrian trails. The Project would be compatible with the existing adjacent residential developments to the north and east of the Project Site. To remain consistent with the visual character of the surrounding area, the Project incorporates land uses that would be consistent in size, architectural quality, density, and topographic orientation when compared to the existing surrounding residential uses. The Project maintains more than 50 percent of the Project Site (225.02 acres) as open space,[4] including approximately 123.25 acres of natural open space that would remain largely unchanged topographically and would support enhanced native landscaping.

As shown in **Figure 4.0-6, Conceptual Landscape Plan,** and discussed in **Section 4.4 Landscaping,** the landscape design is defined by the unique landforms and ecology of the Project Site. Slopes, ridges, and

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2 SCVAP 2012, Chapter 2, Land Use Element, p. 52.

3 Section 22.44.137 (E)(1) of the CSD requires that not more than 43 percent of the lots be a minimum of 7,000 square feet with an the average of all lots not less than 10,000 square feet.

4 Open space includes natural open space, transitional slopes, mitigation area, recreational areas (including an orchard and vineyard), and the public park.

valleys influence the landscape composition and give the Project Site a distinct character comprised of varying elevations and views. Open space areas, including non-irrigated areas, slope and meadow areas, a public park and secondary recreation sites, parkways, and vineyard and orchard areas would be designed to be harmonious with the existing riparian and vegetation typology. As such, plant palettes for all areas would emphasize drought tolerance and native plant compatibility.

Slopes along the perimeter of the Project Site would be landscaped with evergreen low spreading shrubs as well as accent shrubs and trees to provide slope stabilization and a transition between the residential landscape areas with the adjacent natural open space and natural open space buffers. Interior slopes interspersed throughout the Project Site would also be planted with low native and non-invasive plant species. Unique street trees, low water use groundcovers, and grasses would be planted along parkways. The type of street trees planted along parkways would be altered between blocks to delineate individual neighborhood streets. Vineyard areas would feature grapes found in the region and orchards would feature citrus typical of the region, creating an agrarian feel. The open space meadow (located along the southern portion of the Project Site) and riparian landscape (located along the southwest portion of the Project Site) would be landscaped with native compatible ground covers, grasses, and perennials with colors and textures that would visually tie into the surrounding areas.

The Project would require removal of one non-heritage oak tree located approximately 1,200 feet north of the southern boundary of the Project Site in the western portion of the residential development. The precise location of the oak tree to be removed and the associated mitigation is included in **Section 5.3, Biological Resources,** of this Draft EIR.

As it relates to visual character, the proposed homes would be designed to reflect the existing suburban character of the area. The new buildings would be integrated into the topography of the Project Site by keeping development off of the westerly ridgeline and maintaining the open space within the north, east and west portions of the Project Site. Although design of the residences has not yet occurred, proposed residences will likely consist of both one and two story designs with varied heights, up to a maximum of 30 feet. Building materials are expected to include wood, brick, stucco, concrete and low-reflective glass. The Project Site would be partially screened from view by the vineyard proposed near the community center and additional vegetation along the Project frontage and other access points.

A new 850,000 gallon water tank would be located on the northeastern portion of the Project Site, just to the south of the existing 750,000 gallon water tank constructed under the Prior Entitlements, as shown on **Figure 4.0-2, Revised Vesting Tentative Tract Map No. 52584**. The water tanks would be located at an elevation of 1,577 feet and 1,600 feet, respectively. The water tanks would be painted a neutral color that is predominant in the surrounding area so as to blend with the surrounding landscape. In addition, the

areas disturbed during construction of the new tank would be revegetated with native plants as discussed in the Project Description, **Section 4.4, Landscaping.** In addition, as discussed in **Section 4.4**, a combination of mostly native trees and shrubs would be planted on the transitional slopes downhill from the two tanks, to stabilize the slopes and further help screen the tanks from view. (See **Figure 4.0-3, Conceptual Site Plan,** and **Figure 4.0-6, Conceptual Landscape Plan**).

West of the primary entrance to the Project Site, the Applicant would dedicate an easement for a proposed multi-use trail, which would be constructed as a public, multi-use trail for hiking, mountain-biking, and equestrian use and would connect to existing trails within Angeles National Forest.

Off-site improvements proposed for the Project include roadway striping and utility construction as discussed in the Project Description, **Sections 4.8.2.1** and **4.8.5**. Following the installation of the extensions to the utility infrastructure, all trenching would be backfilled and the areas returned to their prior condition.

As discussed in the **Project Description**, **Section 4.9.5,** the construction of homes would be based on market conditions and is anticipated that the Project would be developed in four phases, with each phase constructed and completed as prior phases are sold. Some local infrastructure and final cap paving of roadways would be completed with or immediately following home construction.

The general construction sequence is proposed as follows:

- Mass and rough grading of the entire Project Site (36 weeks)
- Construction/installation of backbone infrastructure progressing from the easterly portion of the Project Site to the west (64 weeks)
- Home construction (3-5 years)

As discussed in the **Project Description** section, in the event that planned channel improvements are implemented prior to completion of Project grading, no change to the Project, as described above, would occur and none would be proposed. However, should planned channel improvements downstream of the Project Site not be implemented prior to the completion of grading, to avoid downstream hydromodification impacts, the Los Angeles County Department of Public Works (LACDPW) would require "Interim Controls" consisting of construction and maintenance of two water retention basins on approximately 6.2 acres of land in two locations on the Project Site, as shown of **Figure 4.0-13, Retention Basin Areas**.

In addition to the retention basins located at the entrance to the Project Site, additional retention and debris basins would be provided in different locations on the Project Site to control runoff flows. Portions of the aboveground areas of the retention basins would be vegetated to screen the basins from view. The debris basins near Hasley Canyon Road would be concrete-lined with a cement access ramp. Vegetation would be provided along Hasley Canyon Road to screen these basins from off-site views.

Construction of the basins would replace, on an interim basis, construction of the 13 housing units in Retention Basin Area 1, resulting in an interim condition in which there are 484 homes (rather than 497 residential dwelling units) on the Project Site; and would require interim replacement of the proposed citrus orchard with a retention basin in Retention Basin Area 2, resulting in a reduction in agricultural recreation areas. The site plan with implementation of the Interim Controls is illustrated on **Figure 4.0-14, Interim Controls Conceptual Site Plan**. Project construction under the Interim Controls would occur in a similar manner as described above for the Project, with mass grading of the entire Project Site followed by installation of backbone infrastructure and finally home construction. Timing of the construction would not change with the implementation of the Interim Controls. The Interim Controls would remain in place until the planned channel improvements are completed.

If and when the planned channel improvements are completed to the County's satisfaction, the Interim Controls would be removed and the remaining buildout of the Project would be carried out.

Based on the two potential conditions (Project buildout and Interim Controls Condition), the visual experience would change depending on the viewing location and the whether the Interim Controls must be implemented. Therefore, for each view, the most impactful stage (either full buildout or Interim Controls Condition) is identified and analyzed.

Project Design Features

In addition to the Project elements discussed above, the following project design features (PDFs) will be included:

- The Applicant, or designee, shall require that if necessary, the use of nighttime lighting during Project construction be limited to only those areas on the construction site requiring illumination; and further shall require that all work and any security lighting be properly shielded and projected downwards, such that light is directed only onto the work site and minimizes light spillover on adjacent uses. Lighting shall consist of the minimum wattage necessary to provide safety at the construction site.
- The Applicant, or designee, shall have temporary green screen construction fencing of between six and eight feet tall placed along the Project frontage on Hasley Canyon Road. Green screen fencing

shall also be placed around any active construction areas on the Project Site, to provide security and to screen construction activity from view.

- The Applicant, or designee, shall ensure that construction equipment staging and stockpile areas shall be located a minimum of 500 feet from existing residential uses.
- The Applicant, or designee, shall require that all operational outdoor lighting along the Project Site boundary consist of high-efficacy solid state LED (Light Emitting Diode) bi-level adaptive lighting, equipped with full cut off optics that allow no light at or above 90 degrees, so as to illuminate the intended surface and minimize light spillover.
- The Applicant, or designee, shall comply with the requirements of the County's Rural Outdoor Lighting District (Dark Skies) Ordinance.
- The Applicant, or designee, shall require that materials used for home exteriors include a mix of textured, non-reflective exterior surfaces such as stucco, wood siding, or other similar materials. Low reflective glass would be used for all windows.

Significance Thresholds

The potential for the Project to result in impacts associated with aesthetics is based on the CEQA significance thresholds specified by the Los Angeles County Department of Regional Planning. These significance thresholds are based in part on Appendix G of the *State CEQA Guidelines* and are as follows:

Threshold 5.1-1 **Would the project have a substantial adverse effect on a scenic vista?**

Threshold 5.1-2 **Would the project be visible from or obstruct views from a regional riding or hiking trail?**

Threshold 5.1-3 **Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, historic buildings, or undeveloped or undisturbed areas?**

Threshold 5.1-4 **Would the project substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character, or other features?**

Threshold 5.1-5 **Would the project create a new source of substantial shadows, light, or glare which would adversely affect day or nighttime views in the area?**

Impact Analysis

Threshold 5.1-1 Would the Project have a substantial adverse effect on a scenic vista?

Publicly available long-range views of the Project Site are available from segments of nearby roadways including Hasley Canyon Road, Del Valle Road and Avenue Penn with intermittent obstruction due to intervening topography and vegetation. Nonetheless, views of and across the Project Site would be expected to change with the Project. Refer to **Figure 5.1-9** through **Figure 5.1-16** for views of pre- and post-Project conditions from various vantage points in the Project vicinity (refer to **Figure 5.1-1, Viewpoint Key Map**). Each existing view is provided again in order to allow the reader to compare the existing view of the Project Site to the proposed view that would result after the complete buildout of the Project. The following discussion evaluates the impact that the Project would have on existing views from each of the seven viewpoints as they relate to scenic vistas. The analysis in this section focuses on the two ridgelines on the Project Site as these have been designated by the County as significant and therefore are deemed to be the primary component of the scenic vista in the Project vicinity. However, as the easterly ridgeline has been substantially degraded by grading operations under the Prior Entitlements and offers little scenic value, the analysis focuses primarily on the westerly ridgeline. Other components of scenic views are also discussed such as hillsides, blue sky views, open space, and so forth. There are no designated historic structures or significant rock outcroppings on the Project Site or in the Project vicinity.

As shown in the figures and described below, the Project would not block views of the surrounding hillsides to the north, east and west. Public views would continue to be of the westerly ridgeline and the surrounding hillsides within a suburban setting with pockets of oil infrastructure and water storage tanks. The overall change to the Project Site (i.e., visual character) is discussed separately under **Threshold 5.1-4**.

Viewpoint 1

Figure 5.1-9 shows the existing and proposed views available from Viewpoint 1 from just south of existing residences on Barcelona Road. The direction of the view is facing south toward the Project Site. Viewpoint 1 of the Project Site contains the westerly ridgeline, the primary portion of which will be maintained as open space. As shown in **Figure 5.1-9**, foreground views would continue to show hardscape/pavement associated with Barcelona Road while the barrier guard would be removed for the extension of Barcelona Road. With the Project, middle-ground views would include landscaping along the slopes on either side of the roadway, a continuation of the existing streetscape landscaping presently found along Barcelona Road. The Santa Susana Mountains would remain visible in the background view. The residences of the Project would not be visible from this location. Grading on the westerly ridgeline

would be limited to approximately 100 linear feet along the western bank of a secondary portion of the ridgeline, that is, the primary ridgeline would remain in its current condition. Engineered slopes would be installed in connection with roadway construction and landscaped with primarily native plant material to stabilize the slope and provide a transition between the roadway and the adjacent natural open space.

Implementation of the Project would change the westerly ridgeline as shown in Viewpoint 1. The western bank below the primary ridgeline would change from a natural undisturbed state to containing a road and associated infrastructure (sidewalks, curbs, etc.). However, only a limited number of viewers (i.e., motorists traveling to/from/through the Project Site) would view the change in the ridgeline from Barcelona Road. Further, the change represents an extension of the existing view which contains the roadway with landscaping on either side. The extension of the roadway would continue the roadway and landscaping, but would maintain the primary portion of the significant ridgeline which would remain the focal point of the view.

Additional scenic features available in the landscape include the distant Santa Susana Mountains and blue sky views, both of which would remain in view with the Project. The westerly ridgeline and additional hillsides on and off the Project Site that were not previously visible would come into view. As the primary view would consist of rolling hills, blue skies, and the distant mountains, the extension of Barcelona Road would not substantially alter the view such that a scenic vista would be substantially adversely affected from Viewpoint 1. Impacts from this viewpoint would be less than significant.

Viewpoint 2

Viewpoint 2 (along with Viewpoint 7) would be the view seen by the largest number of people as it is of the frontage of the Project Site along Hasley Canyon Road. The analysis of Viewpoint 2 is divided into two parts. Viewpoint 2a relates to the full buildout of the Project (i.e., 497 homes), as proposed. The analysis of Viewpoint 2b relates to the Interim Condition, which assumes on site hydromodification and the two Retention Basins near Hasley Canyon Road. It should be noted that Viewpoint 2b and Viewpoint 7 are the only two viewpoints that include a discussion of the Interim Condition, as they are the only two viewpoints analyzed from which the Retention Areas would be seen.

Viewpoint 2a

Existing and proposed views of Project buildout in Viewpoint 2a are presented in **Figure 5.1-10, Existing and Proposed Views of Project Buildout – Viewpoint 2a.** As can be seen in the proposed view from Viewpoint 2a, the foreground views would remain unchanged. Views of the roadway hardscape/pavement, oil derricks/pumps, and water tanks—all of which are located off of the Project

Site—would remain unchanged. Middle-ground views would change as the single-family homes and landscaping on the Project Site would be visible. To contribute to slope stabilization, the transitional slope at the Project Site boundary would be planted with a combination of mostly native trees and shrubs. Views would generally be limited to the rooftops of the homes, as much of the homes themselves would be obscured by landscaping. Due to the removal of the remains of the easterly ridgeline, background views would change allowing for expanded views across the Project Site to the scenic hillsides within the Angeles National Forest beyond.

Viewpoint 1 – Existing

Viewpoint 1 – Proposed View

SOURCE: Vision Scape Imagery, January 2014

FIGURE **5.1-9**

Existing and Proposed Views – Viewpoint 1

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Viewpoint 2a – Existing

Viewpoint 2a – Proposed View

SOURCE: Vision Scape Imagery, January 2014

FIGURE **5.1-10**

Existing and Proposed Views of Project Buildout – Viewpoint 2a

1154.001•09/15

In summary, the existing prominent visual features on the Project Site of the partially graded easterly ridgeline with large areas of exposed dirt and low brush would be replaced with limited views of single-family homes (which would largely be obscured by Project landscaping) and views to distant hillsides to the east. In addition, although the homes within the community will likely consist of both one and two story designs with varied heights (up to approximately 30 feet), as shown they do not protrude into the skyline above the (off-site) ridgelines to the north and east of the Project Site. Although the easterly ridgeline would be removed to accommodate the Project, in its current condition, the scenic value of the ridgeline is low due to the extensive landform alteration that has already occurred. While views would change, the landscaping provided along Hasley Canyon Road and within the Project Site, including the landscaping of the transitional slope with a combination of mostly native evergreen trees and shrubs along the Project Site boundary, the proposed vineyard and citrus orchard, would buffer the view by shielding most of the homes from view (although some rooftops would remain visible). Scenic resources or scenic vistas would not be substantially adversely affected by the Project from Viewpoint 2a. Impacts would be less than significant.

Viewpoint 2b

Existing and proposed views of the Interim Condition in Viewpoint 2b are presented in **Figure 5.1-11, Existing and Proposed Views of Interim Control – Viewpoint 2b.** As can be seen in the proposed Viewpoint 2b, the foreground views would remain unchanged. Views of the roadway hardscape/pavement, oil derricks/pumps, and water tanks, all of which are located off of the Project Site, would remain unchanged. As with Viewpoint 2a, middle-ground views would change as the proposed single-family homes and retention basins on the Project Site would be visible. To contribute to slope stabilization, the transitional slope at the Project Site boundary would be planted with a combination of mostly native trees and shrubs. However, because the Retention Basins would only have low vegetation (no trees), and due to the removal of the remains of the easterly ridgeline, background views would change allowing for expanded views across the Project Site to the scenic hillsides within the Angeles National Forest beyond.

In summary, similar to conditions under the Project buildout scenario, the existing prominent visual features on the Project Site of the partially graded easterly ridgeline with large areas of exposed dirt and low brush would be replaced with views of the Retention Areas and single-family homes and views to distant hillsides to the north and east. The homes do not protrude into the skyline above the (off-site) ridgelines to the north and east of the Project Site. Although the easterly ridgeline would be removed to accommodate the Project, in its current condition, the scenic value of the ridgeline is low due to the extensive landform alteration that has already occurred. The landscaped, open areas of the Retention Areas would soften the view and buffer the homes by placing them in the background view. Therefore,

similar to the Project buildout scenario, scenic resources or scenic vistas would not be substantially adversely affected from Viewpoint 2b. Impacts would be less than significant.

Viewpoint 3

Existing and proposed views from Viewpoint 3 are presented in **Figure 5.1-12**. As can be seen in the proposed view photo, foreground views from Viewpoint 3 would remain unchanged. Middle-ground and background views would be altered by the Project development, as the hillsides, depressions, and valleys located on the Project Site would be graded to support the residential neighborhoods, although distant background views of the Angeles National Forest would remain unchanged. The Project would be visible between the Angeles National Forest and Del Valle Road. The westerly ridgeline, which is visible just off to the left, would remain largely unchanged with the exception of the extension of Barcelona Road. The highly degraded easterly ridgeline would be entirely removed to accommodate the Project; however, as previously discussed, none of the new development would break the profile of the Angeles National Forest and the existing skyline which dominate the more distant background. Nonetheless, the view of the Project Site would change substantially from undeveloped land with the hillsides in the background to a view of a residential community with the hillsides in the background. While views would change substantially, the landscaping provided along Hasley Canyon Road, including the proposed vineyard and citrus orchard and open space, would buffer the view by shielding most of the homes on the lower areas of the Project Site from view. Further, landscaping in the interior of the Project Site would also soften the view by breaking up views of the community.

While building design has not yet been finalized, as described in **Section 4.0, Project Description**, materials used for home construction may include a mix of stucco, wood siding, or other similar materials. The homes would be painted in an earth-toned color palate with earth-toned roofs and would be on lots ranging from 8,300 square feet to 16,700 square feet, to reflect the character of the surrounding area. The combination of landscaping, project design, and views of the hillsides in the background (that would remain unchanged) would reduce the effect of the homes from this viewpoint. Changes in the visual context of the Project Site and other portions of the Project vicinity would be tempered by the introduction of landscaping and landscaped open space areas, such as parks and pedestrian trails. Further, the Project would provide for a cohesive site design in part by ensuring architectural compatibility and integration with the surrounding natural environment, thus creating a new, positive visual identity on a site that is currently left in a partially graded and unattractive state. As a result, impacts would be less than significant.

Viewpoint 2b – Existing

Viewpoint 2b – Proposed View

SOURCE: Vision Scape Imagery, April 2015

FIGURE **5.1-11**

Existing and Proposed Views of Interim Control – Viewpoint 2b

1154.001•04/15

Viewpoint 3 – Existing

Viewpoint 3 – Proposed View

SOURCE: Vision Scape Imagery, January 2014

FIGURE **5.1-12**

Existing and Proposed Views – Viewpoint 3

1154.001•04/15

Viewpoint 4

Figure 5.1-13 shows the existing and proposed view from Viewpoint 4. As previously discussed, current views of the Project Site are in the background and primarily depict the graded areas with some natural areas to the west. The remains of the easterly secondary ridgeline are somewhat visible. Neither the foreground nor middle-ground views would be altered with the development of the Project. The primary change that would occur is found in the background view. Viewpoint 4 shows the proposed residential development on the Project Site. As can be seen, the homes would fill much of the area between the industrial buildings of the Valencia Commerce Center and the hillsides to the north, east, and west. Within the western portion of the Project Site, residential development is shown at the toe of the slope of the westerly ridgeline, the crest of which remains undisturbed. Distant views of the Angeles National Forest are maintained in Viewpoint 4. While the view would change from undeveloped (but substantially disturbed) land to suburban residential uses, the visible surrounding uses are industrial to the south and residential to the east and north. Changes in the visual context of the Project vicinity and portions of the Project Site would be tempered by the introduction of landscaping and landscaped open space areas, such as the agricultural and recreation areas and the public park. In addition, from this viewpoint, the Project would represent a continuation of exiting uses (residential from the east). Therefore, the scenic vista would not be substantially degraded and impacts would be less than significant.

Viewpoint 5

Figure 5.1-14 shows the existing and proposed view from the vantage point of Viewpoint 5. This viewpoint shows whether the Project would affect a scenic corridor (i.e., SR 126). Neither the foreground, middle-ground or background views are changed as the Project is not visible from this viewpoint as it is screened from view by existing development and topography. Therefore, implementation of the Project would have no impact to scenic resources or scenic vistas as viewed from Viewpoint 5.

Viewpoint 6

The existing and proposed views from Viewpoint 6 are depicted in **Figure 5.1-15**. As described above, the primary component of the scenic view/vista from this location is the ridgeline and the blue sky views. As is reflected in the existing view photo, Hayward Drive currently terminates in the foreground view but evidence of grading for the roadway beyond that point is visible. Hayward Drive would be extended into the Project Site as is shown in the proposed view. Under the proposed view, the roadway terminus barrier would be removed. Contouring of the hillside adjacent to the Hayward Drive extension would be visible as would the landscaped engineered slopes. Visually, this would result in a continuation of the existing street landscaping present along Hayward Drive. Background views are of a hillside on the

Project Site within the area designated to remain as open space under the Project. As shown in **Figure 5.1-15,** the top of the existing slope would remain intact (although it would be landscaped with evergreen low spreading shrubs which contribute to slope stabilization, accentuated with vertical shrubs and trees), and the existing road would be extended northwesterly around the slope. Due to the intervening slope and landscaping, Project homes would not be visible from this viewpoint. As with the Barcelona Road extension, the roadway infrastructure would not introduce an entirely new visual element to the area, as the roadway and associated landscaping currently exists. As the ridgeline and blue sky views would remain intact, the impacts from Viewpoint 6 would be less than significant.

Viewpoint 7

The existing and proposed views from Viewpoint 7 are depicted in **Figure 5.1-16.** This view shows the project in the Interim Condition, which is chosen because it would include only low vegetation and no trees along the Retention Basin areas, providing greater views into the Project Site from Hasley Canyon Road. The foreground views would remain largely unchanged and consist of roadway infrastructure, pavement, and sidewalks. In the proposed middle-ground views would change, as the landscaping associated with the Project Site would be clearly visible along the slope where the partially graded easterly ridgeline with large areas of exposed dirt and low brush was. Green construction fencing would be replaced with trees, small plants, and low grasses. In the middle ground view, the rooftops of a limited number of homes would be visible at the top of the slope. Two additional homes would be visible near the entrance to the Project Site. Beyond those two homes, the second story of a small group of homes would be visible at the slightly higher elevation. Due to the intervening topography and landscaping, during the Interim Condition, Retention Basin Area 1 would be only slightly visible to the beyond the homes. Under the full Project buildout scenario, the rooflines of the 13 additional homes may be visible. Background views would remain largely unchanged and consist of a utility pole and the distant hills. Changes in the visual context of the Project vicinity and portions of the Project Site would be tempered by the introduction of landscaping and landscaped open space areas, such as pedestrian trails, the recreation areas, and the public park. In addition, from this viewpoint, the Project would represent a continuation of exiting uses (residential development from the east). Therefore, the scenic vista would not be substantially degraded and impacts would be less than significant.

Summary

In summary, the Project would not result in a substantial adverse change to the westerly ridgeline, which is designated by the County as a scenic resource, or the northerly ridgeline bounding the Project Site, which are the primary components of the scenic vista. Similarly, although the remains of the easterly ridgeline would be removed, the existing visual condition of the ridgeline in its partially graded condition is poor, and therefore cannot be considered as a valuable scenic resource. As such, impacts

associated with scenic resources (in this case the ridgelines) from a variety of public viewpoints would be less than significant. Further, none of the new development would break the dominant profile of views toward the Angeles National Forest and the existing skyline. Therefore, no scenic vista or scenic resource would be substantially adversely affected and impacts would be less than significant.

Viewpoint 4 – Existing

Viewpoint 4 – Proposed View

SOURCE: Vision Scape Imagery, January 2014

FIGURE **5.1-13**

Existing and Proposed Views – Viewpoint 4

1154.001•04/15

Viewpoint 5 – Existing

Viewpoint 5 – Proposed View

SOURCE: Vision Scape Imagery, January 2014

FIGURE **5.1-14**

Existing and Proposed Views – Viewpoint 5

1154.001•04/15

Viewpoint 6 – Existing

Viewpoint 6 – Proposed View

SOURCE: Vision Scape Imagery, January 2014

FIGURE **5.1-15**

Existing and Proposed Views – Viewpoint 6

1154.001•04/15

Viewpoint 7 – Existing

Viewpoint 7 – Proposed View

SOURCE: Vision Scape Imagery, April 2015

FIGURE **5.1-16**

Existing and Proposed Views – Viewpoint 7

1154.001•04/15

Project implementation would not affect views along a designated scenic highway as none exist in the vicinity. However, SR-126 (south of the Project Site) is designated as eligible for designation as a scenic highway by Caltrans. As previously discussed, although the Project Site would not be visible from SR-126, the Project has been designed to support the County's scenic highway and open space policies by protecting most of westerly ridgeline and further enhancing the Project Site by maintaining and revitalizing the natural open space areas as described above. As such, similar to other public views of and across the Project Site (analyzed above), the Project would not block views of the surrounding hillsides. As only a modest amount of grading to the secondary portion of the westerly ridgeline would be required for the road construction, the primary portion of the westerly ridgeline would remain intact and remain as the prominent view from long distances and panoramic views would not substantially change. Therefore, the Project would not have a substantial adverse effect on a scenic vista during daytime hours and impacts would be less than significant.

Threshold 5.1-2 Would the project be visible from or obstruct views from a regional riding or hiking trail?

Existing trails in the vicinity of the Project Site are detailed in **Section 5.13, Parks and Recreation**, of this Draft EIR. There is an extensive existing and proposed trail system in the Santa Clarita Valley area, which includes three regional trails and two local trails. There is also a developed "paseo" system (i.e., pedestrian walkways), which runs through the community of Valencia, east of the Project Site. The partially built Hasley Canyon Trail is proposed by the Los Angeles County Department of Parks and Recreation to follow Hasley Canyon Road for 4 miles in a westerly direction from the existing Castaic Creek trail, including adjacent to the Project Site (refer to **Figure 5.13-3, Existing and Proposed Trails in the Project Vicinity**). Due to the topography of the area, the only nearby regional trail that the Project would be visible from would be the Hasley Canyon Trail. The Castaic trail to the south is in an area that is generally flat and does not offer expansive views of the surrounding area. The Project Site would be visible from the Hasley Canyon Trail at close range views (less than one-half mile from the Site). Further views would not be available when traveling north due to the bend in Hasley Canyon Road and the fact that the trail is not elevated. As described above, the existing visual quality of the Project Site is low due to its partially graded nature. This is particularly true at close range where the weed covered hills and temporary fencing are the primary visual features. Views of the Project Site are limited as the remnants of the easterly ridgeline in its partially graded state dominate the view and blocking views to the interior of the Site. The Project Site does not currently offer expansive views from trails of wide open natural areas or similar features that would be of high aesthetic value.

Although the Project would change views of and across the Project Site, once completed, the entryway to the Project would offer a finished, visually appealing appearance. Views from the Hasley Canyon Trail

would include the vineyard and citrus grove and recreational areas. The homes nearest to the trail (located in the southeastern portion of the Project Site) would be set back and shielded from view by the landscaping and recreational areas. This new view would not be inconsistent with surrounding views that include suburban development and the Valencia Commerce Center. Therefore, while the Project Site would be visible from an existing trail, impacts would be less than significant.

Threshold 5.1-3 **Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, historic buildings, or undeveloped or undisturbed areas?**

The Project Site was substantially graded under the Prior Entitlements, but it is undeveloped. The Project Site does not contain any historic buildings or significant rock outcroppings (such as those found at the nearby Vasquez Rocks Natural Area Park). Twenty-two oaks have been identified on the Project Site; three of which are heritage oaks. The majority of the trees occur in the northwest portion of the Project Site, outside of the proposed development envelope. Construction of the Project would result in the loss of one County-protected oak (not a heritage oak) that would be removed in accordance with County requirements. The County requires oak trees to be replaced at a ratio of a minimum of 2:1. As discussed in **Section 5.3, Biological Resources**, with mitigation and compliance with County requirements, impacts to oak trees would be less than significant. As described in **Threshold 5.1-1**, impacts to scenic vistas and scenic resource would be less than significant.

Threshold 5.1-4 **Would the project substantially degrade the existing visual character or quality of the site and its surroundings because of height, bulk, pattern, scale, character, or other features?**

Project Construction

Development of the Project Site would involve a total of approximately 7.5 million cubic yards of combined cut and fill, which will be balanced on-site. Mass grading, required to establish the overall Project design, including major roads and infrastructure, drainage patterns, and building pads for the various proposed land uses within the Project Site, would be the first construction activity to occur on the Project Site. This work would commence on the east side of the Project Site, where significant amounts of grading and backbone infrastructure (including sewer, storm drain, and water tank) have already been completed, and would continue in a southerly and westerly direction across the Project Site.

Approximately two-thirds of the Project Site has been previously graded. Grading ceased on the property in 2008 and while some areas of the Project Site have revegetated with scrub and ruderal vegetation typical of disturbed sites (refer to **Section 5.3, Biological Resources**), the majority of the graded area

remains as exposed dirt. As a result, during grading operations for the Project, visual contrast would be limited to those areas that have not previously been graded, on the western side of the Project Site. During grading operations, heavy trucks and other construction equipment (e.g., small trucks, scrappers, etc.) would be visible moving to and from active construction areas across the Project Site, however, as previously discussed, not all areas of the Project Site would be undergoing grading at once (refer to **Section 4.0, Project Description,** and **Figure 4.0-11, Project Phasing)**. Staging of construction equipment will take place at the entrance to the Project Site off of Hasley Canyon Road, and although the PDFs would include the provision of screening construction fencing, these areas may be visible from some of the surrounding areas. As part of the construction, backbone infrastructure and utilities such as water, wastewater, gas, electric and cable, will be installed, and streets would be constructed and initially paved (although fine grading would be required to finish off pads, drainage areas, etc.). The grading phase is expected to be the most intensive as it would require the most equipment on the site and would be the most visually intrusive due to the combination of earthmoving and equipment on site. Completion of the grading phase and installation of backbone infrastructure is anticipated to occur over a period of approximately 24 months (approximately 100 weeks).

Construction of residential structures would be phased and would occur over a period of three to five years. Home construction would follow grading and backbone infrastructure. During this period, foundations will be poured and the framework of residential structures would be raised and finished, likely using wood framing. As the structures are constructed and finished, the scale of the Project and changes in the visual character of the Project Site would become more evident.

Evaluation of construction impacts focuses on the temporary, short-term visual impacts resulting from construction of the Project, the presence of equipment and material storage, as well as the grading and earthmoving in the existing landscape. In a visual sense, construction impacts from the Project could be obtrusive or out of character with the surrounding undeveloped landscape. The visual impact is created by the presence of mobile construction equipment and unfinished structures without the mitigation of final designs, colors, and landscaping.

During construction, motorists traveling on Hasley Canyon Road, Del Valle Road, and the newly constructed extensions to Barcelona Road and Hayward Drive, as well as users of the Hasley Canyon Trail could view the Project Site. Views could include exposed dirt, construction equipment, and construction material laydown areas. Such views could reduce the visual quality along the roadway during Project construction. However, implementation of the PDFs would largely screen active construction operations from motorists and hikers, as their sightlines and views across the Project Site would be limited by the construction fencing, a condition similar to the existing condition at the Project Site. As a result, during construction, viewers may not experience a substantial visual change in the

Project Site as 1) green construction fencing would remain across the site and 2) the portions of the Project Site where the majority of construction would take place (i.e., the eastern and central portions of the site) are currently highly disturbed and consist of bare dirt and 3) construction equipment would be stored at the interior of the Project Site meaning equipment would not be entering and leaving daily and generally would not be visible to nearby viewers.

Ultimately, as construction moves across the Project Site, substantial new landscaping would be introduced, including a vineyard and a citrus orchard, recreational areas and landscape trees along Hasley Canyon Road. Given the limited views of the Project Site, the developed character of the surrounding areas, and the temporary nature of the loss of roadway vegetation, which would ultimately be replaced and enhanced, the Project would not substantially degrade the existing visual character of the vicinity.

A new 850,000-gallon water tank would be located on the north eastern portion of the Project Site adjacent to the existing 750,000 gallon water tank constructed under the Prior Entitlements. The water tanks would be located at an elevation of 1,577 feet and 1,600 feet, respectively, approximately 400 feet west of the terminus of Hayward Drive. A fire road would provide access to the water tanks. Visual impacts associated with construction of the 850,000-gallon water tank would evolve over the course of construction. Initial views would be temporary and consist of work crews and equipment preparing the site. Concrete footings would be poured and the concentric steel rings welded into place. Displaced soil, heavy equipment, and trucks transporting material to and from the work zone would all be visible during construction of the water tank. Over time, the tank would begin to take shape and the views of work crews and construction equipment would be replaced by permanent views (discussed above).

Construction activities would include truck traffic to and from the Project Site. Trucks will be required to access the Project Site from the entrance at Hasley Canyon Road. Grading and other heavy equipment would typically remain on site, but as much of the Project Site is not visible from surrounding areas, this would have limited and temporary visual impact. In addition, the impact of construction trucking would not significantly degrade the visual quality of the area, since major roadways are intended to accommodate a range of vehicle types, including trucks incidental to construction and deliveries. Furthermore, as construction activities would be temporary, the visual impacts associated with construction would cease after completion.

Although the visual character of the Project Site will be altered from its current condition during construction, this impact is not considered significant for the following reasons: 1) the progressive and temporary nature of the mass grading and backbone infrastructure construction activities (limited to a total of approximately 24 months); 2) grading and other construction activities are occurring primarily

within the previously disturbed areas of the Project Site which preserves the visually dominant westerly ridgeline; 3) implementation of the PDFs would largely screen active construction operations from motorists and hikers, as their sightlines and views across the Project Site would be limited by the construction fencing, a condition similar to the existing condition at the Project Site; and; 4) there are already suburbanized areas surrounding the Project Site (commercial, residential, and institutional). Based on the above, the Project's construction activities would not substantially degrade the existing visual character of the Project Site or the surrounding area. Therefore, visual quality impacts associated with construction would be less than significant.

Project Operation

Once the Project is completed and fully occupied, the Project Site would be substantially different from the existing condition. Current conditions include the approximately two-thirds of the Project Site that has been substantially graded, including the primary and secondary portions of the easterly ridgeline which remain in a considerably degraded condition and therefore cannot be considered as a valuable scenic resource.[5] Natural areas would remain on the Project Site that offer aesthetic value, in particular, the westerly ridgeline and undisturbed open space that borders the Project to the north, east, and west.

Once completed, the two water tanks would be screened from view in accordance with the Castaic CSD, including painting the tanks a neutral color that is predominant in the surrounding area so as to blend with the surrounding landscape. In addition, the area disturbed during construction immediately surrounding the water tank's unpaved fire road and fencing would be revegetated with native plants. A combination of native trees and shrubs would be planted around the perimeter of the southernmost (new) water tank to screen it from view. The water tanks would also be screened by additional native trees and shrubs planted along Hayward Drive (See **Figure 4.0-6, Conceptual Landscape Plan).** As a result, the placement of the (new) water tank would not degrade the visual character of the Project Site and its vicinity.

The finished condition would include 497 homes, landscaping and amenities as described above. While this would represent a visual change, it would not be out of character with the surrounding area. The Project is located in a suburban area with single-family homes located to the north and east and the open space and rural uses located to the west, with commercial/industrial uses to the south. Residential lot sizes would range from 8,300 square feet to 16,700 square feet, which is consistent with the minimum lot

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5 While a small portion of the primary ridgeline remains outside of the grading limits (at the northern edge of the Project Site) the primary portion of the easterly ridgeline has been entirely removed within the grading limits of under the grading done under the Prior Entitlements. Only two small non-contiguous portions of the secondary ridgeline remain on the Project Site within the grading limits.

size requirement of 7,000 square feet as set forth in the CSD. Recreational amenities would include a 7.45-acre park, secondary parks, a recreational/community center, and 4.5 miles of walking trails (internal to the site). The entrance to the Project Site would be improved with a landscaped roundabout at the entryway, a vineyard, and a citrus grove; or in the Interim Condition with landscaped Retention Basins. The primary portions of the westerly ridgeline would remain intact and the natural hills that border the site on the north, east, and west would also remain. (Refer to **Section 4.0, Project Description,** for more detailed information.) As such, the overall change would result in a "finished" development on the Project Site rather than a partially graded and disturbed site. Further, as described under **Threshold 5.1-1**, the Project would be shielded from view to the more rural areas of development to the west of the Project Site by the largely intact westerly ridge. Therefore, at full buildout, the Project would be in character with the surrounding area development and impacts would be less than significant.

Off Site Infrastructure Areas

The Project includes the construction of certain off-site infrastructure improvements as described in **Section 4.0, Project Description**. This construction would result in temporary visual quality impacts primarily within existing roadways on largely disturbed or developed land. Further, construction of the improvements would last fewer than ten days along any given roadway segment. Other than limited aboveground infrastructure such as a pump station (which will be located on the Project Site), the utility improvements would involve underground pipelines that would not be visible following installation and repaving of the roadways, or would be located within an existing fenced Castaic Lake Water Agency facility. In addition, the off-site roadway improvements would involve the restriping of the Project entrance where conditions are developed and disturbed, and operation of the improved intersection would not represent a change in use from existing conditions. Improvements to the sewer pipelines would also occur over a period of a few days and would result in the area being repaved and restriped following installation. As such, the off-site improvements would not substantially damage scenic resources, substantially degrade the existing visual character or quality of the area, or affect an undeveloped or undisturbed area that contains unique aesthetic features. Off-site impacts would be less than significant during both Project construction and operation.

Interim Controls

As previously discussed, the Project assumes that off-site, downstream, channel improvements will be implemented sometime prior to or during Project construction. However, should planned channel improvements downstream of the Project Site not be implemented prior to the completion of grading, the LACDPW would require "Interim Controls" consisting of construction and maintenance of two water Retention Basins on the Project Site, as shown of **Figure 4.0-13, Retention Basin Areas**.

Project construction under the Interim Controls would occur in a similar manner as described above for the Project. Timing of the construction would not change with the implementation of the Interim Controls. As such, construction impacts under the Interim Controls would be similar to the proposed project and less than significant.

If and when the planned channel improvements are completed to the County's satisfaction, the Interim Controls would be removed and the remaining buildout of the Project would be carried out.

Grading and earthwork associated with the removal of the Interim Controls and grading to achieve residential and open space construction is assumed to occur over a one month period, while construction of the 13 homes inclusive of the vineyard would require approximately 13 months. Similar to the Project, this impact is not considered significant for the following reasons: 1) the progressive and temporary nature of the construction activities (limited to a total of approximately 14 months with the most intense phase (grading) lasting only one month); 2) grading and other construction activities are occurring primarily within very limited areas of the Project Site that would not be highly visible to those off the Project Site; and 3) implementation of the PDFs would largely screen active construction operations from residents, motorists and hikers, as their sightlines and views across the active construction areas would be limited by the construction fencing. Therefore, visual quality impacts associated with buildout construction after the lifting of the Interim Controls would be less than significant.

Threshold 5.1-5 Would the project create a new source of substantial shadows, light, or glare which would adversely affect day or nighttime views in the area?

Construction

Substantial nighttime lighting is not anticipated during construction within the Project Site areas, as most construction activities would occur during daylight hours. As discussed in the PDFs, any required construction and/or security lighting would be properly shielded and projected downwards, such that light is directed only onto the work site and minimizes light spillover on adjacent uses. Lighting would consist of the minimum wattage necessary to provide safety at the construction site. Additionally, the Project will have temporary green screen construction fencing of between six and eight feet tall placed around the periphery of the Project Site, particularly those areas undergoing active construction operations, to provide security and to screen construction activity from view. Given these PDFs, the Project's potential on-site, short-term lighting impacts during construction would be less than significant.

Construction activities are not anticipated to create sources of glare that could affect visibility in the area since construction is not expected to involve bright light sources that would be visible from off-site or use reflective materials that could directly or indirectly generate glare. As discussed in the **Environmental**

Setting of this section, no off-site areas are located near the Project Site that could be affected by shadows, as such, analysis of shadows is not necessary. Impacts would be less than significant.

Operation

The Project would not create substantial glare effects during daytime hours. As described above, building materials would likely include wood, brick, stucco, concrete, and glass. All exterior windows, glass, and metal used on building surfaces would be non-reflective or treated with a standard low-reflective or non-reflective glazing. Sunlight reflected from these surfaces would not be expected to generate substantial daylight glare during most of the year.

Although glass and other polished surfaces have the potential to produce glare during late afternoons in winter months, such effects are primarily a nuisance to motorists on eastbound roadways when placed on upper-story western façades of high-rise buildings. The Project is a residential development and does not include any high-rise structures. Additionally, landscaping would partially screen residential structures from view from Hasley Canyon Road and as such there would not be an opportunity for eastbound motorists (i.e., the most likely to experience glare conditions) to be affected. Acute glare conditions that hazardously interfere with driving are typically rare.

However, to further ensure the potential for daytime glare is minimized, PDFs are proposed to require that only low-reflective building materials such as stucco, wood, and/or stone be used on building exteriors and all windows would use low-reflective or non-reflective glazing.

The Project would not introduce any sources of substantial nighttime light or glare. Proposed lighting would be used to create a safe, adequately illuminated nighttime environment on the Project Site by illuminating streets, trails, building entrances, outdoor recreational facilities, parking surfaces, and other public places where people are expected to congregate. Decorative lighting would be limited to highlighting architectural accents and landscaping, and would be low intensity. Lighting of high-activity areas, including the Project entrance, the community center and recreational areas are expected to generate the highest light levels on the Project Site. Lighting of these uses would be shielded from off-site vantage points by structures and landscaping. In addition, per the PDFs, lighting at these locations would consist of high-efficacy solid state LED bi-level adaptive lighting, equipped with full cut off optics, intended to minimize light spillover. Further, the topography of the Project Site would limit the amount of spillover lighting that could affect residences to the north, west, and east. While the Project would be visible from the south, the change in lighting would represent a continuation of the currently developed Valencia Commerce Center directly south of the Project Site and the residential neighborhoods to the east of the Project Site. PDFs and **Mitigation Measure MM 5.1-1** is proposed to control the placement and

orientation of lighting fixtures to prevent glare or light intrusion into adjacent areas and to be consistent with the County of Los Angeles Rural Outdoor Lighting District Ordinance[6], (also known as the 'Dark Skies' Ordinance) which is applicable to development within the Castaic CSD, including the Project. Such measures would minimize the outward and upward migration of nighttime light. Additionally, as described above, the westerly ridgeline and surrounding hills would "buffer" the Project from the surrounding residences to the east, north, and west. That is, the raised topography of the ridgeline would block views and associated lighting from these areas. Given the suburban nature of the surrounding development to the north, east, and south of the Project and the buffering effect of the intact westerly ridge to the more rural areas to the west of the Project Site, following implementation of PDFs and **Mitigation Measure MM 5.1-1,** the introduction of nighttime lighting would not adversely affect nighttime views or create impacts related to nighttime Project lighting in the Project area and impacts would be less than significant.

5.1.3 CUMULATIVE IMPACTS

Views

The geographic context for the cumulative impact analysis of aesthetics, views, light, and glare is the immediate Project vicinity; as such impacts are typically localized. In general, only development within the same viewshed has the potential for cumulative effects. While projects located at a distance from one another may appear within the same panoramic view, the overall effect that a particular development or structure has on aesthetics, views, light, and glare generally decreases with distance. Therefore, of future development in the surrounding area, only those projects sufficiently close to influence the visual character of the Project vicinity or affect the same off-site sensitive uses could pose cumulative effects in conjunction with the Project. As indicated in **Table 3.0-1, List of Related Projects** and mapped in **Figure 3.0-6, Location of Related Projects** within **Section 3.0, Environmental Setting**, six projects are located near enough to the Project Site to be within the same viewshed. These related projects, LAC1, LAC2, LAC3, LAC18, LAC20, and LAC25 are single-family detached housing projects. Projects LAC1, LAC20 and LAC3 include four residential units, LAC18 is proposed as two residential units, LAC2 is proposed as nine residential units, and LAC25 is proposed as 34 residential units. One additional project, the Valencia Commerce Center (LAC27) is also included in the cumulative impact analysis. Excluding the Valencia Commerce Center, the small number of units associated with each of the Related Projects, make it unlikely views would change substantially due to a combination of the Project and the Related Projects. The addition of the Valencia Commerce Center would further add to urbanization of the area over the

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6 Los Angeles County Planning Department, Rural Outdoor Lighting District Ordinance, http://planning.lacounty.gov/view/rural_outdoor_lighting_district_ordinance, accessed April 4, 2014.

period of buildout of the Project. Only long-range views from elevated vantage points would have opportunities for viewsheds that include all six sites. Further, all related projects would be expected to comply with adopted plans, regulations, and guidelines regarding the protection of scenic views. As such, cumulative impacts relative to views would be less than significant.

Light

Development of the Project in combination with Related Projects would introduce new sources of artificial light and thus could contribute to increased nighttime light levels as experienced by off-site sensitive uses. While the six Related Projects listed above are located sufficiently close to existing residential uses to the west as to potentially pose impacts to them, only the adjacent roadway (Hasley Canyon Road) has the potential to be affected by both the Related Projects and the Project. As previously indicated, the Project would have limited light spillover beyond the limits of the Project Site, in part due to the introduction of perimeter landscaping and more importantly, due to the location of the ridgelines, which create a large physical barrier between the Project Site and Related Projects. Related projects would be expected to implement similar measures to reduce light trespass. Therefore, cumulative impacts relative to light would be less than significant.

Glare

With regard to glare, only related development immediately adjacent to Project structures would have the potential to create glare that could collectively pose impacts affecting a given off-site use, property, or activity. As the closest Related Projects are located west of the westerly ridgeline, it is unlikely that glare could have a combined effect from a particular vantage point. In addition, it is anticipated that all future development projects would be required to implement applicable measures to ensure that significant sources of glare are not introduced. As such, cumulative glare impacts would be less than significant.

5.1.4 MITIGATION MEASURE

MM 5.1-1: Prior to issuance of the first building permit for the Project, the Applicant shall submit the Project's final design drawings, including a lighting plan to the County of Los Angeles Department of Regional Planning for review and approval, consistent with the County's established codes and procedures.

5.1.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the PDFs and **Mitigation Measure MM 5.1-1,** above, potential impacts associated with scenic views, visual resources, and light and glare would be less than significant.

5.2 AIR QUALITY

INTRODUCTION

This section of the Draft EIR provides an assessment of the Project's potential air quality impacts. The evaluation addresses the air emissions generated by construction and operation of the Project and the consistency of the Project with the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan (AQMP). The emissions calculations, analysis assumptions, and model outputs used in this evaluation are contained in **Appendix 5.2-1** of this Draft EIR.

5.2.1 ENVIRONMENTAL SETTING

Existing Conditions

Regional Air Quality

The Project Site is located in the South Coast Air Basin (Basin). The Basin consists includes Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties, and the San Gorgonio Pass area in Riverside County. Meteorological conditions such as wind speed, wind direction, solar radiation, atmospheric stability, along with local topography heavily influence air quality by affecting the movement and dispersal of pollutants. Predominant meteorological conditions in the Basin are light winds and shallow vertical mixing due to low-altitude temperature inversions. These conditions, when coupled with the surrounding mountain ranges, hinder the regional dispersion of air pollutants. These meteorological conditions, in combination with regional topography, are conducive to the formation and retention of ozone (O_3) and urban smog.

The atmospheric pollution potential of an area is largely dependent on winds, atmospheric stability, solar radiation, and topography. The combination of low wind speeds and low inversions produce the greatest concentration of air pollutants. Smog potential is greatly reduced on days without inversions or on days with winds averaging over 15 miles per hour (mph).[1]

Regional climate significantly influences air quality in the Basin. Temperature, wind, humidity, precipitation, and the amount of sunshine are several factors that influence the quality of the air. In addition, the Basin is frequently subjected to an inversion layer that traps air pollutants. Temperature has an important influence on Basin wind flow, pollutant dispersion, vertical mixing, and

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1 South Coast Air Quality Management District, *CEQA Air Quality Handbook*, 1993 A8-1.

photochemistry. The average annual maximum temperature in the Santa Clarita area is 75.9° Fahrenheit (F) and the average annual minimum is 52.4° F.[2]

Although climate of the Basin can be characterized as semi-arid, air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of Basin climate. Humidity restricts visibility in the Basin, and the conversion of sulfur dioxide (SO_2) to sulfates is heightened in air with high relative humidity. The marine layer is an excellent environment for this conversion process, especially during the spring and summer months. The annual average relative humidity is 71 percent along the coast and 59 percent inland. Because the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90 percent of the Basin's rainfall occurs from November through April. Annual average rainfall is 17.2 inches for the Santa Clarita area.[3] Monthly and yearly rainfall totals are highly variable. Summer rainfall usually consists of widely scattered thundershowers near the coast and slightly heavier shower activity in the eastern portion of the region near the mountains.

Air Pollution and Potential Health Effects

Criteria Pollutants

The determination of whether a region's air quality is healthful or unhealthful is made by comparing contaminant levels in ambient air samples to national and state standards. California and the United States Environmental Protection Agency (US EPA) have established health-based air quality standards for the following criteria air pollutants: O_3, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (PM10), fine particulate matter (PM2.5), and lead. These standards were established to protect sensitive receptors with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards, and in the case of PM10 and SO_2, much more stringent. California has also established standards for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. The state and national ambient air quality standards for each of the monitored pollutants as well as the attainment status for Los Angeles County, and their effects on health are summarized in **Table 5.2-1, State and Federal Ambient Air Quality Standards**.

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2 Western Regional Climate Center, "Newhall 5NW, California (046161)," http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6161. 2012.

3 Western Regional Climate Center, "Newhall 5NW, California (046161)," http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6161. 2012.

Table 5.2-1
State and Federal Ambient Air Quality Standards

Air Pollutant	Concentration/Averaging Time: State Standard (CAAQS)[1]	State Attainment Status[2]	Federal Primary Standard (NAAQS)[3]	Federal Attainment Status[4]	Most Relevant Health Effects
Ozone (O_3)	0.09 ppm, 1-hour avg.	Non-Attainment	None	None	(a) Pulmonary function decrements and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage
	0.070 ppm, 8-hour avg.	Non-Attainment	0.075 ppm, 8-hour avg. (three-year average of annual 4th-highest daily maximum)	Non-Attainment	
Nitrogen Dioxide (NO_2)	0.18 ppm, 1-hour avg.	Attainment	0.100 ppm, 1-hour avg. (three-year avg. of the 98th percentile of the daily maximum 1-hour avg.)	Attainment/ Unclassified	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extrapulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration
	0.030 ppm, annual arithmetic mean	Attainment	0.053 ppm, annual arithmetic mean	Attainment/ Unclassified	
Carbon Monoxide (CO)	20 ppm, 1-hour avg.	Attainment	35 ppm, 1-hour avg. (not to be exceeded more than once per year)	Attainment (Maintenance)	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses
	9.0 ppm, 8-hour avg.	Attainment	9 ppm, 8-hour avg. (not to be exceeded more than once per year)	Attainment (Maintenance)	
Sulfur Dioxide (SO_2)	0.25 ppm, 1-hour avg.	Attainment	0.075 ppb, 1-hour avg. (three-year avg. of the 99th percentile)	Attainment	Bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in person with asthma
	0.04 ppm, 24-hour avg.	Attainment	0.5 ppm, 3-hr avg. (not to be exceeded more than once per year)	Attainment	

Air Pollutant	Concentration/Averaging Time: State Standard (CAAQS)[1]	State Attainment Status[2]	Federal Primary Standard (NAAQS)[3]	Federal Attainment Status[4]	Most Relevant Health Effects
Respirable Particulate Matter (PM10)	50 μg/m³, 24-hour avg.	Non-Attainment	150 μg/m³, 24-hour avg. (not to be exceeded more than once per year on average over three years)	Attainment	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death
	20 μg/m³, annual arithmetic mean	Non-Attainment			
Fine Particulate Matter (PM2.5)	12 μg/m³, annual arithmetic mean	Non-Attainment	35 μg/m³, 24-hour avg. (three-year average of 98th percentile)	Non-Attainment	a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death
			15 μg/m³, annual arithmetic mean (three-year average)	Non-Attainment	
Lead(Pb)	1.5 μg/m³, 30-day avg.	Attainment	0.15 μg/m³, three-month rolling average	Non-Attainment	(a) Learning disabilities, and (b) Impairment of blood formation and nerve conduction
Visibility-Reducing Particles	In sufficient amount such that the extinction coefficient is greater than 0.23 inverse kilometers at relative humidity less than 70%, 8-hour avg. (10:00 AM–6:00 PM)	Unclassified	None	N/A	Visibility impairment on days when relative humidity is less than 70 percent.
Sulfates	25 μg/m³, 24-hour avg.	Attainment	None	N/A	(a) Decrease in ventilatory function, (b) Aggravation of asthmatic symptoms, (c) Aggravation of cardio-pulmonary disease, (d) Vegetation damage, (e) Degradation of visibility, and (f) Property damage
Hydrogen Sulfide (H_2S)	0.03 ppm, 1-hour avg.	Unclassified	None	N/A	Odor annoyance
Vinyl Chloride	0.010 ppm, 24-hour avg.	Unclassified	None	N/A	Known carcinogen

μg/m³ = microgram per cubic meter; ppm = parts per million by volume.
CAAQS = California Ambient Air Quality Standards; NAAQS = National Ambient Air Quality Standards.
[1]=CAAQS standards, CARB website, http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm, accessed January 20, 2015
[2]=State attainment status, CARB website, http://www.arb.ca.gov/desig/adm/adm.htm, accessed January 20, 2015
[3]=Federal standards, US EPA website, http://epa.gov/air/criteria.html, accessed January 20, 2015
[4]=Federal attainment status, CARB website, http://www.arb.ca.gov/desig/adm/adm.htm, accessed January 20, 2015
If a Basin satisfies the established regulatory agency criteria the Basin is in "attainment." If the Basin does not meet the established federal or state standard, the Basin is in "non-attainment."

Toxic Air Contaminants

Toxic air contaminants refer to a diverse group of "non-criteria" air pollutants that can affect human health, but have not had ambient air quality standards established for them. This is not because they are fundamentally different from the pollutants discussed above, but because their effects tend to be local rather than regional. TACs are classified as carcinogenic and noncarcinogenic, where carcinogenic TACs can cause cancer and noncarcinogenic TACs can cause acute and chronic impacts to different target organ systems (e.g., eyes, respiratory, reproductive, developmental, nervous, and cardiovascular). The California Air Resources Board (CARB) and the Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified, or "listed," as a TAC in California. CARB has included 21 substances on the TAC identification list.[4]

Diesel Particulate Matter

Diesel Particulate Matter (DPM), which is emitted in the exhaust from diesel engines, was listed by the state as a TAC in 1998. DPM has historically been used as a surrogate measure of exposure for all diesel exhaust emissions. DPM consists of fine particles (fine particles have a diameter less than 2.5 μm), including a subgroup of ultrafine particles (ultrafine particles have a diameter less than 0.1 μm). Collectively, these particles have a large surface area which makes them an excellent medium for absorbing organics. The visible emissions in diesel exhaust include carbon particles or "soot." Diesel exhaust also contains a variety of harmful gases and cancer-causing substances.

Exposure to DPM may be a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. DPM levels and resultant potential health effects may be higher in close proximity to heavily traveled roadways with substantial truck traffic or near industrial facilities. According to CARB, DPM exposure may lead to the following adverse health effects: aggravated asthma; chronic bronchitis; increased respiratory and cardiovascular hospitalizations; decreased lung function in children; lung cancer; and premature deaths for people with heart or lung disease.[5, 6]

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4 CARB, TAC Identification List, http://www.arb.ca.gov/toxics/id/taclist.htm, accessed January 19, 2015.

5 CARB, Diesel and Health Research, www.arb.ca.gov/research/diesel/diesel-health.htm, accessed February 26, 2015.

6 CARB, Fact Sheet March 2008, Diesel Particulate Matter Health Risk Assessment Study for the West Oakland Community: Preliminary Summary of Results, http://www.arb.ca.gov/ch/communities/ra/westoakland/documents/factsheet0308.pdf, accessed February 26, 2015.

Criteria Pollutants in Los Angeles County

Generally, the sources for hydrogen sulfide emissions include decomposition of human and animal wastes and industrial activities, such as food processing, coke ovens, kraft paper mills, tanneries, and petroleum refineries. The sources for vinyl chloride emissions include manufacturing of plastic products, hazardous waste sites, and landfills. In addition, according to the SCAQMD's *2012 Air Quality Management Plan*,[7] the sulfate and visibility-reducing particle standards have not been exceeded anywhere in the Basin, thus further evaluation of the hydrogen sulfide, vinyl chloride, sulfate, or visibility-reducing particle emissions for the Project is not necessary. Although the Los Angeles County portion of the Basin is designated as nonattainment for lead, the exceedance is the result of lead emissions from an industrial lead-acid battery recycling facilities in the City of Vernon and the City of Industry.

In 2013 the US EPA designated a portion of Los Angeles County as nonattainment for the National Ambient Air Quality Standards (NAAQS) lead standard. The higher lead concentrations were recorded downwind from stationary sources. The SCAQMD Source Receptor Areas (SRAs), which monitor lead emissions in more populated areas, show concentrations that do not exceed the revised federal lead standard. Motor vehicles and paints used to be a source of lead; however, unleaded fuel and unleaded paints have virtually eliminated lead emissions from most land use projects. As a result, there is no need for any further evaluation of lead emissions. Accordingly, this air quality analysis will focus primarily on the criteria air pollutants summarized below.

- **Ozone (O_3).** Ozone is a gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_X) undergo photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.
- **Volatile Organic Compounds (VOCs).** VOCs are compounds comprised primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Several VOCs are classified as TACs, however, VOCs themselves are not criteria pollutants; but they contribute to the formation of criteria pollutants, including O_3, NO_2, and PM2.5.
- **Nitrogen Dioxide (NO_2).** NO_2 is a reddish-brown, highly reactive gas that is formed in the ambient air through the oxidation of nitric oxide (NO) and is also a byproduct of fuel combustion. NO_X is primarily emitted in the form of NO, but quickly reacts to form NO_2. NO_X is primarily a mixture of NO and NO_2. NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. According to the US EPA, NO_2 concentrations on or near major roads can be approximately 30 to 100

7 South Coast Air Quality Management District, *2012 Air Quality Management Plan*, 2012.

percent higher than concentrations in the surrounding community, which could contribute to health effects for at-risk populations, including people with asthma, children, and the elderly.[8]

- **Carbon Monoxide (CO).** CO is a colorless, odorless gas produced by the incomplete combustion of fuels. Motor vehicles operating at slow speeds are the primary source of CO. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.
- **Sulfur dioxide (SO_2).** SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high-sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When sulfur dioxide oxidizes in the atmosphere, it forms sulfates (SO_4).
- **Respirable Particulate Matter (PM10).** PM10 consists of small, suspended particles or droplets 10 microns or smaller in diameter. Some sources of PM10, like pollen and windstorms, are naturally occurring. However, in populated areas, most PM10 is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.
- **Fine Particulate Matter (PM2.5).** PM2.5 refers to particulate matter that is 2.5 microns or smaller in diameter. The sources of PM2.5 include fuel combustion from automobiles, power plants, wood burning, industrial processes, and diesel-powered vehicles.

Local Air Quality

Criteria air pollutants during construction and operation are generated by mobile, stationary, and area-wide sources. Area source emissions during construction would be generated by construction activities including construction vehicle and equipment refueling and architectural coatings of buildings. During operation of the Project, area source emissions would include refueling of landscaping equipment. Mobile emissions during construction and operation would be generated by combustion of fuel and dust particulates blown into the air by trucks and vehicles travelling to and from the Project Site. Motor vehicles are the primary source of pollutants in the local vicinity.

Existing Pollutant Levels at Nearby Monitoring Stations

The SCAQMD has divided the Basin into 38 air-monitoring Source Receptor Areas (SRAs) with a designated ambient air monitoring station representative of each area. The Project Site is located in SRA 13 (Santa Clarita Valley). The monitoring station for this SRA is located at 22224 Placerita Canyon, in the City of Santa Clarita, approximately 8 miles southeast of the Project Site. This station monitors emission levels of O_3, NO_2, CO, and PM10. This station does not monitor SO_2 or PM2.5. The station located in SRA 6 (West San Fernando Valley) in the City of Reseda was used to represent PM2.5 concentrations because it is the nearest station that monitors PM2.5. The station located in SRA 7 (East San Fernando Valley) in the

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8 US EPA, Final Revisions to the Primary National Ambient Air Quality Standard for NO_2 General Overview, Office of Air and Radiation Office of Air Quality Planning and Standards, pgs. 11-12, http://www.epa.gov/eogapti1/video/no22010/NO2overview.pdf, accessed January 20, 2015.

City of Burbank was used to represent SO_2 concentrations because it is the closest station that monitors SO_2. **Table 5.2-2, Local Ambient Pollutant Concentrations,** lists the ambient pollutant concentrations registered and the exceedances of state and federal standards that have occurred at the abovementioned monitoring stations from 2011 through 2013, the most recent years in which data is available from the SCAQMD. In 2011 the SCAQMD stopped reporting 1-hour CO concentrations in its annual air quality reports. CO standards have not been exceeded in the Basin since 2002. As shown in **Table 5.2-2**, in 2013 the relevant monitoring stations have registered values above state and federal standards for O_3, and federal standards for PM2.5.

Table 5.2-2
Local Ambient Air Pollutant Concentrations

Pollutant	Standards[1]	Year		
		2011	2012	2013
OZONE (O_3)				
Maximum 1-hour concentration (ppm)		0.144	0.134	0.134
Maximum 8-hour concentration (ppm)		0.122	0.112	0.104
Number of days exceeding state 1-hour standard	0.09 ppm	31	45	30
Number of days exceeding state 8-hour standard	0.070 ppm	52	81	58
Number of days exceeding federal 8-hour standard	0.075 ppm	30	57	40
NITROGEN DIOXIDE (NO_2)				
Maximum 1-hour concentration (ppm)		0.0601	0.0661	0.0654
Annual average concentration (ppm)		0.0133	0.0136	0.0144
Number of days exceeding state 1-hour standard	0.18 ppm	0	0	0
CARBON MONOXIDE (CO)				
Maximum 1-hour concentration (ppm)		--	--	--
Maximum 8-hour concentration (ppm)		0.8	1.1	0.8
Number of days exceeding 1-hour standard	20 ppm	0	0	0
Number of days exceeding 8-hour standard	9.0 ppm	0	0	0
SULFUR DIOXIDE (SO_2)				
Maximum 1-hour concentration (ppm)		0.0090	0.0065	0.0108
Maximum 24-hour concentration (ppm)		--	--	--
Number of days exceeding state 1-hour standard	0.25 ppm	--	--	--
Number of days exceeding state 24-hour standard	0.04 ppm	--	--	--
RESPIRABLE PARTICULATE MATTER (PM10)				
Maximum 24-hour concentration ($\mu g/m^3$)		45	37	43
Annual average concentration ($\mu g/m^3$)		20.8	19.6	21.6
Number of samples exceeding state standard	50 $\mu g/m^3$	0	0	0
Number of samples exceeding federal standard	150 $\mu g/m^3$	0	0	0
FINE PARTICULATE MATTER (PM2.5)				
Maximum 24-hour concentration ($\mu g/m^3$)		39.8	41.6	41.8
Annual average concentration ($\mu g/m^3$)		10.2	10.5	9.71
Number of samples exceeding federal 24-hour standard	35 $\mu g/m^3$	1	2	1

Source: South Coast Air Quality Management District, "Historical Data by Year," http://www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year, accessed January 21, 2015.
[1] *Parts by volume per million of air (ppm), micrograms per cubic meter of air ($\mu g/m^3$), or annual arithmetic mean (aam).*

Sensitive Receptors and Locations

According to the US EPA sensitive receptors include uses in which patrons and/or occupants are more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants.[9] Examples include hospitals, schools, and senior housing facilities. As shown in **Figure 3.0-2, Project Boundary and Environmental Setting**, land uses surrounding the Project Site include: suburban single-family residential and Castaic Middle and Elementary Schools to the north, suburban single-family residential to the east, light industrial and undeveloped land to the south, low–density residential and equestrian uses to the west, a water well and related structures owned by Los Angeles County Waterworks District 36 (LACWWD 36) in the southern portion of the Project Site, and active oil derricks immediately to the south of the Project Site.

Additional information regarding nearby land uses is located in **Sections 3.0, Environmental Setting,** and **5.10, Land Use and Planning**.

Regulatory Framework

Federal

The US EPA is responsible for enforcing the federal Clean Air Act (CAA) and the National Ambient Air Quality Standards (NAAQS). The US EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The US EPA also maintains jurisdiction over emissions sources outside state waters (outer continental shelf), and establishes national emissions standards for vehicles. The US EPA formally classifies air basins as attainment or nonattainment based on whether the region meets or exceeds the NAAQS. As part of its enforcement responsibilities, the US EPA requires each state with areas that do not meet the NAAQS to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the period identified in the SIP. The US EPA makes area designations for seven criteria pollutants: O_3, CO, NO_2, SO_2, PM10, PM2.5, and lead. The status of the Los Angeles County portion of the Basin with respect to attainment with the NAAQS is summarized in **Table 5.2-1** above.

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9 US EPA, Urban Environmental Program in New England, What Are Sensitive Receptors, http://www.epa.gov/region1/eco/uep/sensitivereceptors.html, accessed February 26, 2015

In response to rapid population growth and the associated rise in motor vehicle operations, the 1990 CAA Amendments addressed tailpipe emissions from automobiles, heavy-duty engines, and diesel fuel engines. The amendments established more stringent standards for hydrocarbons, NO_X, and CO emissions in order to reduce the levels of these pollutants in heavily populated areas. Under the 1990 CAA Amendments, new fuels were required to be less volatile, contain less sulfur (regarding diesel fuel), and have higher levels of oxygenates (oxygen-containing substances to improve fuel combustion). Due to the lack of a substantial reduction in hazardous emissions under the 1977 Clean Air Act, the 1990 CAA Amendments include regulations for reducing impacts from 189 listed hazardous air pollutants (HAPs) that are carcinogenic, mutagenic, and/or reproductive toxicants. The 1990 CAA Amendments also affects major stationary sources and area emissions sources requiring use of Maximum Achievable Control Technology (MACT) to reduce HAP emissions and their associated health impacts.

State

The CARB oversees air quality planning and control throughout California. It is primarily responsible for ensuring the implementation of the California Clean Air Act (CCAA), responding to federal CAA requirements, and regulating emissions from motor vehicles and consumer products within the state. In addition, CARB also sets health-based air quality standards and control measures for toxic air contaminants (TACs). Automobile emissions are a major focus of CARB's research as they are the largest contributor to air pollution in California. CARB establishes new standards for vehicles sold in California and for various types of equipment available commercially and sets vehicle fuel specifications to reduce vehicular emissions.

The CCAA established a legal mandate for air basins to achieve the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. These designation criteria provide the basis for CARB to designate areas of the state as attainment, nonattainment, or unclassified according to state standards. CARB makes area designations for 10 criteria pollutants: O_3, NO_2, CO, SO_2, PM10,

PM2.5, lead, sulfates, hydrogen sulfide, and visibility-reducing particles.[10] The status of the Basin with respect to attainment with the CAAQS is summarized in **Table 5.2-2.**

In addition to the criteria pollutants discussed above, TACs are another group of pollutants of concern. Public exposure to TACs can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset spill conditions. Health effects of TACs include cancer, birth defects, neurological damage, and premature death. In 1998, CARB identified diesel particulate matter from diesel-fueled engines as a TAC. Mobile sources (including trucks, buses, automobiles, trains, ships, and farm equipment) are by far the largest source of diesel emissions. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Many of these toxic compounds adhere to the particles and, because diesel particles are very small, they penetrate deeply into the lungs.

Before California listed particulate matter from diesel engine exhaust as a TAC, it had already adopted various regulations that would reduce diesel emissions. These regulations include new standards for diesel fuel; exhaust emission standards for new diesel trucks, buses, automobiles, and utility equipment; and inspection and maintenance requirements for heavy-duty vehicles. Since listing diesel exhaust as a TAC, CARB continues to evaluate what additional regulatory action is needed to reduce public exposure.

California Air Toxics Program

The California Air Toxics Program was established in 1983, when the California Legislature adopted AB 1807 to establish a two-step process of risk identification and risk management to address potential health effects from exposure to toxic substances in the air. In the risk identification step, CARB and the OEHHA determine if a substance should be formally identified, or "listed," as a TAC. Since inception of the program, a number of such substances have been listed. In 1993, the California Legislature amended the program to identify the 189 federal hazardous air pollutants (HAPs) as TACs. In 1999, CARB completed the final staff report, Update to the Toxic Air Contaminant List. The list represented the priorities for identifying and regulating substances as directed by state law. The report described the process followed by CARB in reviewing and revising the Toxic Air Contaminant List, and presented changes to the list.

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10 California Air Resources Board, "Area Designations (Activities and Maps)," http://www.arb.ca.gov/desig/desig.htm. 2010. According to California Health and Safety Code, Section 39608, "state board, in consultation with the districts, shall identify, pursuant to subdivision (e) of Section 39607, and classify each air basin which is in attainment and each air basin which is in nonattainment for any state ambient air quality standard." Section 39607(e) states that the state shall "establish and periodically review criteria for designating an air basin attainment or nonattainment for any state ambient air quality standard set forth in Section 70200 of Title 17 of the California Code of Regulations. California Code of Regulations, Title 17, Section 70200 does not include vinyl chloride; therefore, CARB does not make area designations for vinyl chloride.

In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce risk. Based on results of that review, CARB has promulgated a number of airborne toxic control measures (ATCMs), both for mobile and stationary sources. In 2004, CARB adopted an ATCM to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to DPM and other TACs. The measure applies to diesel fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time.

Air Toxics "Hot Spots" Program

The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) was enacted in 1987, and requires stationary sources to report the types and quantities of certain substances routinely released into the air. The program's goals include collecting emission data, identifying facilities having localized impacts, ascertaining health risks, notifying nearby residents of significant risks, and reducing those significant risks to acceptable levels. The Air Toxics Program provides direction and criteria to facilities on how to compile and submit air toxic emission data required by the "Hot Spots" Program, and requires the local air district to prioritize facilities to determine which facilities must perform a health risk assessment. Facilities identified as high risk are required to reduce their toxic emissions to acceptable levels as determined by the local air district.[11]

Regional

South Coast Air Quality Management District

Air Quality Management Plan

The SCAQMD is required to produce air quality management plans (AQMPs) directing how the Basin's air quality will be brought into attainment with federal and state standards. The US EPA requires that transportation conformity budgets be established based on the most recent planning assumptions (i.e., within the last five years). Plan updates are necessary to ensure continued progress toward attainment and to avoid a transportation conformity lapse and associated federal funding losses. A multi-level partnership of governmental agencies at the federal, state, regional, and local levels implement the

[11] CARB, AB 2588 Air Toxics "Hot Spots" Program, http://www.arb.ca.gov/ab2588/ab2588.htm, accessed January 21, 2015.

programs contained in these plans. Agencies involved include the US EPA, CARB, the Southern California Association of Governments (SCAG), local governments, and the SCAQMD.

Since 1979, the SCAQMD has prepared a number of AQMPs. The SCAQMD adopted the currently applicable 2012 Air Quality Management Plan (2012 AQMP) on February 1, 2012. CARB approved the 2012 AQMP as the comprehensive SIP component for the Basin on September 27, 2007. The 2012 AQMP for the Basin (and those portions of the Salton Sea Air Basin under the SCAQMD's jurisdiction) sets forth a comprehensive program to lead these areas into compliance with federal and state air quality planning requirements for ozone, PM10, and PM2.5. The 2012 AQMP demonstrates that with implementation of all feasible controls, the 24-hour PM2.5 attainment will be achieved by 2014. In addition, the Basin still exceeds the federal 8-hour ozone standard and is designated as an "extreme" nonattainment area. The rate of ozone reduction has slowed over the last several years. Therefore, a strategy focusing primarily on NOx reductions has been identified as the optimum method to achieve long-term ozone attainment objectives. Additional VOC reductions are still required to achieve ozone reduction.

CEQA Handbook

In 1993, the SCAQMD prepared its *CEQA Air Quality Handbook* (CEQA Handbook) to assist local government agencies and consultants in preparing environmental documents for projects subject to CEQA.[12] The SCAQMD is in the process of developing its *Air Quality Analysis Guidance Handbook* (Guidance Handbook) to replace the CEQA Handbook. The CEQA Handbook and the Guidance Handbook describe the criteria that SCAQMD uses when reviewing and commenting on the adequacy of environmental documents. Although the Guidance Handbook is still being prepared, the Guidance Handbook provides the most up-to-date recommended thresholds of significance in order to determine if a project will have a significant adverse environmental impact. SCAQMD provides additional supplementation information including methodologies for estimating project emissions and mitigation measures that can be implemented to avoid or reduce air quality impacts on the Guidance Handbook website. Although the Governing Board of the SCAQMD has adopted the CEQA Handbook, and is in the process of developing the Guidance Handbook, the SCAQMD does not, nor intends to, supersede a local jurisdiction's CEQA procedures.[13]

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12 South Coast Air Quality Management District, "Air Quality Analysis Guidance Handbook," http://www.aqmd.gov/CEQA/hdbk.html. 2010.

13 South Coast Air Quality Management District, "Frequently Asked CEQA Questions," http://www.aqmd.gov/ceqa/faq.html. 2010.

While the Guidance Handbook is being developed, supplemental information has been adopted by the SCAQMD. These include revisions to the air quality significance thresholds and a procedure referred to as "localized significance thresholds," (LSTs) which has been added as a significance threshold under the *Final Localized Significance Threshold Methodology* (LST Methodology).[14] The LST Methodology provides thresholds of significance for NO_x, CO, PM10, and PM2.5 to evaluate localized air quality impacts at sensitive receptors in the vicinity of a project. In addition, the SCAQMD has recommended that lead agencies not use the screening tables in the CEQA Handbook's Chapter 6 because the tables were derived using an obsolete version of CARB's mobile source emission factor inventory and are also based on outdated trip generation rates from a prior edition of the Institute of Transportation Engineer's Trip Generation Handbook.[15] The SCAQMD has also recommended that lead agencies not use the on-road mobile source emission factors in Tables A9-5-J1 through A9-5-L as they are obsolete, and instead recommends using on-road mobile source emission factors approved by CARB.[16] The outdated and obsolete information were not used in this analysis. The applicable portions of the CEQA Handbook and other revised methodologies were used in preparing the air quality analysis in this section, as discussed and referenced later in this section.

Multiple Air Toxics Exposure Study IV

The South Coast Air Quality Management District (SCAQMD) 2014 Draft MATES IV Multiple Air Toxics Exposure Study (MATES IV) includes the most recent air toxics data collected in the Basin. The study includes a monitoring program, an updated emissions inventory of toxic air contaminants, a modeling effort to characterize risk across the Basin, projections for carcinogenic risk from exposure to air toxics and the measurement of ultrafine particle concentrations.[17] The purpose of the study is to provide the public with information on risks associated with the exposure of air toxics, evaluate any progress in reducing air toxics exposure, and to provide direction on future toxics control programs.[18] The potential cancer risk for a given substance is expressed as the incremental number of potential excess cancer cases per million people over a 70-year lifetime exposure at a constant annual average pollutant concentration. The risks are presented in chances per million. For example, if the cancer risk were estimated to be 100

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14 South Coast Air Quality Management District, *Final Localized Significance Threshold Methodology*. 2008.

15 South Coast Air Quality Management District, "CEQA Air Quality Handbook," http://www.aqmd.gov/ceqa/oldhdbk.html. 2010.

16 South Coast Air Quality Management District, "EMFAC 2007 (v2.3) Emission Factors (On-Road)," http://www.aqmd.gov/CEQA/handbook/onroad/onroad.html. 2010.

17 SCAQMD, Mates IV Multiple Air Toxics Exposure Study, http://www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iv, accessed January 20, 2015.

18 SCAQMD, Mates IV Presentation http://www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/matesivbrdmtg100314.pdf?sfvrsn=4, accessed January 20, 2015.

per million, this would predict an additional 100 excess cases of cancer in a population of 1 million people over a 70-year lifetime.[19]

Rules and Regulations

The SCAQMD primarily regulates emissions from stationary sources such as manufacturing and power generation. Mobile sources such as buses, automotive vehicles, trains, and airplanes are largely out of the SCAQMD's jurisdiction and within the regulatory jurisdiction of CARB and the US EPA. In order to achieve air quality standards, the SCAQMD adopts an AQMP that serves as a guideline to bring pollutant concentrations into attainment with federal and state standards. The SCAQMD determines if certain rules and control measures are appropriate for their specific region according to technical feasibility, cost effectiveness, and the severity of nonattainment. Once the SCAQMD has adopted the proper rules, control measures, and permit programs, it is responsible to implement and enforce compliance with those rules, control measures, and programs. These rules not only regulate the emissions of the federal and state criteria pollutants but also TACs and acutely hazardous materials. The rules are also subject to ongoing refinement by SCAQMD. The SCAQMD has published a rule book and updates their website with rule changes over the last 12 months.[20] Stationary emissions sources are regulated through SCAQMD's permitting process. Through this permitting process, SCAQMD monitors the amount of stationary emissions being generated and uses this information in developing AQMPs.

SCAG Regional Transportation Plan/Sustainable Communities Strategy

SCAG coordinates with various air quality and transportation stakeholders in Southern California to ensure compliance with the federal and state air quality requirements. As the federally designated Metropolitan Planning Organization (MPO) for the six-county Southern California region, SCAG is required by law to ensure that transportation activities "conform" to, and are supportive of, the goals of regional and state air quality plans to attain the NAAQS. SCAG is a co-producer, with the SCAQMD, of the transportation strategy and transportation control measure sections of the AQMP for the Basin. With regard to future growth, SCAG has prepared the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) which provides population, housing, and employment projections for cities under its jurisdiction. The growth projections in the RTP/SCS are based on projections originating under county

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19 SCAQMD Mates IV Carcinogenic Risk Interactive Map, http://www3.aqmd.gov/webappl/OI.Web/OI.aspx?jurisdictionID=AQMD.gov&shareID=73f55d6b-82cc-4c41-b779-4c48c9a8b15b, accessed January 20, 2015.

20 SCAQMD, Rules, http://www.aqmd.gov/home/regulations/rules, accessed January 21, 2015.

and city General Plans. The RTP/SCS growth projections are utilized in the preparation of the air quality forecasts and consistency analysis included in the SCAQMD's AQMP.

Local

County General Plan

The County's General Plan is primarily a policy document that sets goals concerning the community and gives direction to growth and development. In addition, it outlines the programs that were developed to accomplish the goals and policies of the General Plan. Refer to **Section 5.10, Land Use and Planning**, of this Draft EIR for policy consistency analysis related to air quality.

Santa Clarita Valley Area Plan

Section **5.10, Land Use and Planning**, of this Draft EIR provides a consistency analysis of the SCVAP 2012 policies related to air quality. Refer to **Table 5.10-2** for a list of policies related to air quality and the consistency analysis for each.

5.2.2 ENVIRONMENTAL IMPACTS

Methodology

As discussed in **Section 4.0, Project Description**, the Project assumes construction of the planned channel improvements prior to the completion of grading for the Project. If the planned channel improvements are not completed, two Retention Basins would be constructed as an interim condition. Once the planned channel improvements are completed, the Retention Basins will be removed and the Project will be completed. For modeling regional emissions, the grading phase for the removal of the Retention Basins is assumed to occur immediately after the completion of Project grading with trenching and construction of the 484 homes. That is, the modeling assumes that the 484 homes on the Project Site are completed, and that immediately following this, the retention areas would be re-graded and construction of the final 13 homes would take place. This is a conservative analysis in that it accounts for the maximum construction-related air quality emissions that are reasonably expected to occur.

The general construction sequence for the Project, and if Interim Controls are required, is proposed as follows:

- Mass and rough grading of the entire Project Site (36 weeks)
- Construction/installation of backbone infrastructure progressing from the easterly portion of the Project Site to the west (64 weeks)

- Home construction (3-5 years)

Proposed grading will consist of cutting of slopes and ridges and the associated filling of canyon areas to produce a series of pad areas, which generally rise in grade from south to north. Slopes are proposed to be constructed between pad areas and adjacent to natural open space areas. Project-related grading would require the movement of a combined 7.6 million cubic yards of cut and fill. In general, this will consist of the excavation of approximately 3.7 million cubic yards of soil in the middle of the Project Site for use as fill in the western and southern areas of the Project Site. Grading on-site would be balanced and would not require the import or export of material.

Mass grading, consisting of the cut and fill required to establish the overall Project design, is anticipated be the first construction activity to occur on the Project Site and would occur across all portions of the Project Site anticipated for development. **Figure 4.0-10, Los Valles Project Grading**, generally defines the proposed disturbance areas. It is estimated that approximately 50,000 cubic yards of soil would be moved per day during the mass grading of the Project Site. First, the required excavation, cut and fill would be carried out. As described in **Section 3.0, Environmental Setting**, the eastern portion of the Project Site was mass graded as part of grading activities permitted through the Prior Entitlements. To minimize site grading that is currently proposed, existing pads will be used to the extent feasible. During proposed Project grading operations, the two remaining noncontiguous portions of the easterly ridgeline would be removed.

Immediately following mass and rough grading operations, construction of backbone infrastructure will commence. Construction of the backbone infrastructure would include trenching, grubbing, and installation of backbone infrastructure required for roads, sewer lines, a second water tank, water lines, electrical and gas lines, the wastewater system and storm drains. Utility installation will require earthwork such as excavation of trenches and stockpiling of soils. This work would commence on the east side of the Project Site, where significant amounts of grading and backbone infrastructure (including sewer, storm drain, and water tank) have already been completed, and would continue in a southerly and westerly direction across the Project Site. During this period of construction, grading for the Barcelona Road and Hayward Drive roadway extensions would be completed. Additional work necessary to complete the Hayward Drive extension will consist of the repair of damaged sewer and storm drain lines that were previously installed, along with installation of new water, sewer, and storm drain lines.

Construction of homes would be based on market conditions. For purposes of this analysis, it is assumed that residential units will be developed in four phases, with each phase constructed and completed as prior phases are sold. Some local infrastructure and final cap paving of roadways would be completed with or immediately following home construction. Phase 1 home construction would include

construction on the eastern approximately 131 acres of the Project Site. Construction of recreation facilities including the community center and public park are anticipated to take place during this first phase. Phase 2 would include construction in the central portion of the Project Site and would consist of approximately 95 acres. Phase 3 and 4 home construction would occur in the northwest and southwest portions of the Project Site and would include approximately 114 and 91 acres respectively. For purposes of this analysis, all grading and earthwork associated with the removal of the two Retention Basins and grading to achieve residential and open space construction is assumed to occur over a one month period, while construction of the 13 homes inclusive of the vineyard would require up to 13 months.

For operation, emissions associated with all 497 homes were used to present the worst case analysis.

Off-site trenching will be required for off-site improvements associated with the Project. In particular, installation of water lines would require trenching to depths of up to six feet within the Hasley Canyon Road right of way. Import or export of soil is not expected for this minimal earthwork.

In addition to the installation of the water main, several utility connections would be necessary at the Project frontage along Hasley Canyon Road. As a result, some additional trenching may be necessary within the Hasley Canyon right-of-way immediately adjacent to the Project Site. Emissions associated with offsite improvements are also included in the estimated construction estimates, although they would be short term and temporary.

Regional Emissions

The SCAQMD provides methodologies for evaluating the significance of construction and operation emissions from projects. The methodologies are described in the SCAQMD CEQA Handbook and Guidance Handbook. The SCAQMD thresholds of significance apply to all sources of air pollutants, including equipment and businesses not directly regulated by the SCAQMD and motor vehicles. The SCAQMD has produced substantial data to demonstrate the appropriateness of these thresholds in the Basin. Emissions modeling were conducted using the California Emissions Estimator Model (CalEEMod) Version 2013.2.2 and information provided in the CalEEMod *User's Guide*.[21] CalEEMod is a program that calculates air pollutant emissions from land use sources and incorporates the CARB on-road and off-road vehicle emissions models. The model also incorporates factors specific to air basins in California, such as vehicle fleet mixes. Air quality impacts are also estimated based on information and estimated activity levels of project operation.

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21 South Coast Air Quality Management District, *California Emissions Estimator Model User's Guide*, 2011. The model and User's Guide may be downloaded from the following website: http://www.caleemod.com.

Localized Emissions

Per the recommendation of the SCAQMD, ambient NO_2, CO, PM10, and PM2.5 concentrations due to the construction of the Project were analyzed using methods described in its *Final LST Methodology*.[22] The SCAQMD-approved dispersion model, AERMOD[23] was used for the analysis to model the dispersion of the pollutants of concern. AERMOD is a steady-state plume model that incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. The AERMOD model can estimate the air quality impacts of single or multiple sources using regional meteorological data. Meteorological data from the Burbank monitoring station for 2005–2009 (the most current available), made available by the SCAQMD, was used for this Project as it is the nearest meteorological monitoring station. A Cartesian receptor grid, spaced at 75-meter intervals and extending up to 900 meters from the Project Site, was used in the modeling. Additional discrete receptors were placed at the residences nearest the property boundary. Sources of emissions from diesel trucks were modeled using the volume source options in AERMOD. The emission rates calculated using CalEEMod were used as input for the AERMOD model. As the greatest emission rates for all pollutants occurred during grading operations in the first year of construction, these rates were chosen for use in AERMOD. Impacts during other phases of construction would be lower, and considerably lower in the years 4 through 6. NOx and CO emissions are from the construction fleet equipment, while PM10 and PM2.5 emissions combine both fleet combustion emissions and fugitive dust.

CO Emissions

The Project was evaluated to determine if it would cause a CO hotspot utilizing a simplified CALINE4[24] screening model developed by the Bay Area Air Quality Management District (BAAQMD). The simplified model is intended as a screening analysis that identifies a potential CO hotspot and is used by projects located in the SCAQMD to determine whether further CO analysis is required. If a hotspot is identified, the complete CALINE4 model is then utilized to determine precisely the CO concentrations predicted at the intersections in question. This methodology assumes worst-case conditions (i.e., wind direction is parallel to the primary roadway and 90 degrees to the secondary road, wind speed of less than 1 meter per second and extreme atmospheric stability) and provides a screening of maximum, worst-case, CO concentrations. This method is acceptable to the SCAQMD as long as it is used

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22 South Coast AQMD, *Final Localized Significance Threshold Methodology*.

23 Lakes Environmental Software, *AERMOD View* (Version 8.2).

24 A modeling program to assess air quality impacts near transportation facilities.

consistently with the *BAAQMD Guidelines*. This model is utilized to predict future CO concentrations 0 and 25 feet from the intersections in the study area based on projected traffic volumes from the intersections contained in the project Traffic Impact Study (**Appendix 5.14-1**)[25] Intersections operating at level of service (LOS) between A through D are determined to not have the potential to create a CO Hotspot and are therefore not included in the analysis. Intersections operating at an LOS of E or F are considered have to have the potential to create a CO hotspot. The localized CO analysis for the Project was conservatively conducted with 2030 cumulative traffic volumes. The 2030 volumes include all growth projected for the area as well as the Project traffic, resulting in the highest projected traffic volume used for the CO hotspot analysis. The most conservative CO emissions generated by the model are reported, which are based on representative receptors located 0 feet from the intersection. Receptors further from an intersection would experience lower concentrations and therefore are not reported.

Toxic Air Contaminants

The potential for the Project to cause health impacts is assessed in accordance with land use planning recommendations described in CARB's *Air Quality and Land Use Handbook*.[26] The purpose of the *Air Quality and Land Use Handbook* is to provide information that will help keep vulnerable populations out of harm's way with respect to nearby sources of air pollution. Other sources of information relied upon are provided as footnote citations where applicable.

Project Design Elements/Project Design Features

Project Design Elements

A complete description of the Project and associated development characteristics is provided in **Section 4.0, Project Description,** of this Draft EIR. Construction of the Project has the potential to last five to seven years starting in late 2015. This presents a conservative analysis by effectively compressing air emissions into a shorter construction time, thus increasing maximum daily emissions (which is the standard used for measuring air quality impacts). Further, fleet mix for both construction (i.e., construction equipment) and operation (i.e., passenger vehicles) becomes cleaner in out years and more stringent regulations are put in place and older equipment and cars are retired. For the purposes of the analysis, construction is estimated to occur from late 2015 to early 2021. Grading would move 7.6 million

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25 Linscott, Law and Greenspan, Engineers, *Traffic Impact Study, Los Valles Project,* 2014.

26 California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective*, (2005). The document may be downloaded from the following website: http://www.arb.ca.gov/ch/landuse.htm.

cubic yards (cy) of cut and fill which would be balanced on the Project Site. As such, no dirt hauling off-site would be required.

It is estimated that the number of truck deliveries would average 55 per day the majority of the time during each of the four phases. At peak times, there would be approximately five inbound and five outbound delivery truck trips per hour. Applying a Passenger Car Equivalent (PCE) factor of 2.5, these trips would be equivalent to approximately 13 inbound and 13 outbound passenger car trips per peak hour. Hauling of construction waste from the Project Site to local landfills would also generate additional trips. However, based on the volume of construction debris anticipated (see **Section 5.15.2, Solid Waste**), truck trips would be minimal and infrequent. The analysis assumes 117 construction worker trips per day.

As discussed in **Section 5.14, Transportation/Traffic**, at buildout the Project would generate 4,756 daily trip ends (approximately 2,378 inbound trips and 2,378 outbound trips) during a typical weekday.[27] Based on the Traffic Impact Study's trip generation forecast, the Project would add up to 373 trips (93 inbound trips and 280 outbound trips) during the AM peak hour and 502 trips (316 inbound trips and 186 outbound trips) during the PM peak hour. Application of the County's threshold criteria to the "Existing with Project" scenario indicates that the Project is not expected to create significant impacts at any of the eight study intersections.

Project Design Features

Construction

During construction, the Project shall comply with SCAQMD Rule 403 regarding fugitive dust control. The following measures shall be implemented to control fugitive dust.

- Watering active construction areas twice daily unless visibly moist to control dust caused by construction and hauling, and at all times provide reasonable control of dust caused by wind.
- Covering stockpiled soil with secured tarps or plastic sheeting or spraying with a soil stabilizer when not in active use.
- Securing loads by trimming, watering, or other appropriate means to prevent spillage and dust.
- Maintaining soil stabilization of inactive construction areas with exposed soil via water, non-toxic soil stabilizers, or replaced vegetation.

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27 Linscott, Law & Greenspan, *Traffic Impact Study, Los Valles Project*, (2014) 27.

- Suspending earthmoving operations or applying additional watering to meet Rule 403 criteria if wind gusts exceed 25 miles per hour;
- Covering all haul trucks or maintaining at least 6 inches of freeboard;
- Minimizing track-out emissions using the methods provided for in Rule 403; and
- Limiting vehicle speeds to 15 miles per hour or less in staging areas and on haul roads.

In addition, the Applicant shall evaluate the potential for reducing exhaust emissions from on-road and off-road construction equipment. Control technologies to be considered and implemented may include:

- Particulate traps and filters, selective catalytic reduction, oxidation catalysts, air enhancement technologies, and the use of alternatively (non-diesel) fueled engines. Considerations will include commercial availability of appropriate California Air Resources Board verified technologies.

Operation

As discussed in **Section 4.0, Project Description,** the following project design features (PDFs) would reduce the amount of air pollutant emissions generated during operation of the Project:

- Nearby freeway access and adjacency to services and jobs helps to avoid vehicle trips and vehicle miles traveled.
- A bus stop is located within a quarter mile of the Project Site. Trails provide additional alternatives to auto travel.
- Project streets are designed to be safe and integrate a network of roadways and connector trails for a walkable community. Sidewalks, on-street parking, tree canopies, curbs and gutters, and narrower intersections with smaller radii are some of the Project's healthy walkable street features. A public park and seven secondary parks provide opportunities for outdoor activity. Vineyards and orchards can be accessed by foot.
- Buildings will be oriented to optimize solar access, passive (such as daylighting) and active design techniques, and cross breezes through the buildings.[28]
- Solar Photovoltaics (PV) systems are to be installed in the common areas and Clubhouse structure to help offset Project energy use.

[28] LA County General Plan Policy LU 10.3.

- Bicycle Parking would be provided for five percent of visitor parking spaces, including permanently anchored bicycle racks that would be provided within 200 feet of the visitors' entrance of the Clubhouse.

- Electric Vehicle (EV) Charging

  - Clubhouse. The Project will install at least one electric vehicle charging station at the Clubhouse, and comply with CALGreen Sections 4.106.4.1, 4.106.4.2.2 through and 4.106.4.2.5, to facilitate future installation and use of EV chargers. Electrical vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.

  - Residential Dwelling Units. For each dwelling unit, the Project will install a listed raceway to accommodate a dedicated 208/240-volt branch circuit and comply with CALGreen Section 4.106.4.1 and Section 4.106.4.2.2. The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box, or other EV charger. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. Compliance will include the Prerequisite electric vehicle (EV) charging requirements in Section A4.106.8.

- All residential dwellings shall be designed and constructed to be a minimum of 15 percent better than the 2013 Energy Code.

- The Clubhouse will be designed and constructed to meet zero net electric[29] by incorporating passive solar techniques, high efficiency technologies, ENERGY STAR appliances, solid state LED adaptive lighting; coupled with solar PV to offset electrical loads.

- The Project will go beyond the conservation and efficient use of water by utilizing a watershed approach and recognizing the underlying groundwater aquifers in the Project design.

- The Project Applicant will develop Solar Energy CC&Rs to protect solar access throughout the community in perpetuity.

- Each builder shall be required to build and demonstrate at least one model at each model complex, a Zero Net Energy (ZNE-TDV[30]) option to potential homebuyers. This is to be

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29 Zero net energy (ZNE) electric means the building will be designed and constructed to generate as much energy from renewable sources, such as solar photovoltaic (PV) panels as us uses over 12 months.

30 Zero Net Energy – Time Dependent Valuation.

consistent with 2013 Title 24, Part 6, Tier 2; 30 percent better than the 2013 energy code and install enough solar photovoltaic (PV) panels to offset 100 percent of the energy load over 12 months. [Note: This ZNE-TDV Tier is expected to be part of the 2016 CALGreen Residential Voluntary Measures; Division A4.2 Energy Efficiency.]

In addition to these measures, PDFs in **Section 5.14, Transportation/Traffic** that include the preparation of a Traffic Management Plan, would also reduce the Project's air pollutant emissions by improving traffic flow on public roadways.

Significance Thresholds

The potential for the Project to result in impacts associated with air quality is based on the CEQA significance thresholds specified by the Los Angeles County Department of Regional Planning. These significance thresholds are based in part on Appendix G of the *State CEQA Guidelines* and are as follows:

Threshold 5.2-1 **Would the project conflict with or obstruct implementation of applicable air quality plans of either the South Coast AQMD (SCAQMD) or the Antelope Valley AQMD (AVAQMD)?**

Threshold 5.2-2 **Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

Threshold 5.2-3 **Would the project 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)?**

Threshold 5.2-4 **Would the project expose sensitive receptors to substantial pollutant concentrations?**

Threshold 5.2-5 **Would the project create objectionable odors affecting a substantial number of people?**

Impact Analysis

Threshold 5.2-1 **Would the project conflict with or obstruct implementation of applicable air quality plans of either the South Coast AQMD (SCAQMD) or the Antelope Valley AQMD (AVAQMD)?**

The Project is not within the jurisdiction of the AVAQMD. The Project is within the jurisdiction of the SCAQMD, which provides quantitative thresholds that can be used to evaluate the Project impacts under

this CEQA Threshold. Per the SCAQMD guidelines, a project would have a significant impact under this CEQA Threshold if it would generate total criteria pollutant emissions during operation (direct and indirect) in excess of the thresholds given in **Table 5.2-3**, SCAQMD Regional Emissions Significance Thresholds.

The SCAQMD CEQA Handbook provides significance thresholds for evaluation of impacts from both the construction and operation of projects within SCAQMD jurisdictional boundaries. Exceedance of the SCAQMD thresholds could result in a potentially significant impact. Ultimately, the lead agency determines the thresholds of significance for impacts. If the Project proposes development that would generate emissions in excess of the established thresholds, as illustrated in **Table 5.2-3**, a significant air quality impact may occur and additional analysis is warranted to fully assess the significance of impacts.

Table 5.2-3
South Coast Air Quality Management District Regional Emission Thresholds

	Pollutant (pounds per day)					
Phase	**VOC**	**NOx**	**CO**	**SOx**	**PM10**	**PM2.5**
Construction	75	100	550	150	150	55
Operational	55	55	550	150	150	55

Source: South Coast Air Quality Management District, Air Quality Significance Thresholds, 2012.

The *State CEQA Guidelines* Section 15064.7 provides the significance criteria established by the applicable air quality management district or air pollution control district, when available, may be relied upon to make determinations of significance. The potential air quality impacts of the Project are, therefore, evaluated according to thresholds developed by the SCAQMD in their *CEQA Air Quality Handbook*, *Air Quality Analysis Guidance Handbook*, and subsequent guidance, which are listed below.

The Project is not located in the same SRA as the lead exceedances and the Project does not include any uses that would emit lead. Furthermore, as discussed above, the data collected from the SRAs indicate that there are no state or federal lead exceedances in population-oriented sites. Therefore, the Project would not emit lead and lead emissions will not be analyzed further.

The 2012 AQMP, discussed previously, was prepared to accommodate growth, to reduce the levels of pollutants within the areas under the jurisdiction of the SCAQMD, to return clean air to the region, and to minimize the impact on the economy. Projects that are determined to be consistent with the AQMP would not interfere with attainment because the growth associated with the projects is included in the growth projections utilized in the formulation of the AQMP. Therefore, projects, uses, and activities that

are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD's recommended daily emissions thresholds.

Consistency with the assumptions in the AQMP is established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast. The 2012 AQMP based its assumptions on growth forecasts contained in the SCAG *2012–2035 Regional Transportation Plan/ Sustainable Communities Strategy* (2012 RTP/SCS).[31] The 2012 RTP/SCS is based on growth assumptions through 2035 developed by each of the cities and counties in the SCAG region. As SCAG's growth forecasting includes extensive outreach and coordination with local jurisdictions to accurately reflect anticipated growth at the local level, it is assumed that the growth reflected in the 2012 SCVAP is consistent with SCAG and therefore consistent with the AQMP. Further, the Project is generally consistent with 2012 SCVAP as demonstrated by the consistency analysis in **Section 5.10, Land Use and Planning,** which includes those policies related to air quality. Thus, the Project would be considered consistent with the air quality-related regional plans, and would not have a long-term impact on the region's ability to meet state and federal ambient air quality standards. The Project would have a less than significant impact.

Threshold 5.2-2 Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

As discussed above under **Threshold 5.2-1,** the Project would be consistent with the air quality regional plans and the region's ability to meet state and federal ambient air quality standards. The following discussion provides a detailed analysis of the Project's construction and operation air quality impacts.

Construction

The Project Site is approximately 430.4 acres, of which approximately 300 acres will be graded. Grading operations would involve 7.6 million cy of material (approximately 3.8 million cy of cut and fill each), with the material balanced on-site and not requiring import or export of material. The open space areas such as the secondary parks and public park are included as part of the acreage graded. The 497 single-family detached dwelling units and recreation center would be constructed as part of the Project.

The Project is anticipated to have a five to seven year build out, beginning in late 2015 with completion in 2021. Construction would include grading, trenching, paving, building construction, and architectural

31 South Coast AQMD, *Final 2012 Air Quality Management Plan*, 2012.

coating sub-phases. Mass grading followed by trenching would occur first, which is anticipated to take place during the first two years. The remainder of the Project, comprised primarily of housing and roadway construction, would take place as houses are constructed and sold over the next three to five years. Building construction was assumed to occur over a three year time frame to represent a "worst case" scenario. If Interim Controls are required and later removed, that work is anticipated to occur in a one month period as described in **Section 5.2.2 Methodology**.

Regional Construction Impacts

Project construction has the potential to create air quality impacts from the operation of construction equipment and vehicle trips generated from construction workers. In addition, fugitive dust emissions would result from disturbance of soil and construction activities. Mobile source emissions would result from haul trucks and the use of heavy-duty construction equipment. Paving operations and the application of architectural coatings during the finishing stage would release VOCs. These emission sources are accounted for in the air quality analysis.

Table 5.2-4, Unmitigated Construction Emissions presents the estimated maximum daily emissions associated with the Project. Construction emissions include all emissions associated with the construction equipment, grading and demolition activities, worker trips, and on-road diesel trucks. All of the construction equipment is assumed to operate between 6 and 8 hours every day of the workweek (Monday through Friday) during construction activities. These operating estimates are conservative (i.e., an overestimate) since they are based on the assumption that all equipment will be operating continuously during all phases. In reality, construction equipment often operates for only a fraction of each workday, and is occasionally idle for entire workdays depending on need.

Table 5.2-4
Unmitigated Construction Emissions

Construction Year	Maximum Emissions in Pounds per Day					
	VOC	NOx	CO	SOx	PM10[1]	PM2.5[1]
Year 1	41.9	375.9	485.7	0.3	32.4	21.7
Year 2	38.6	355.9	454.9	0.3	29.8	20.5
Year 3	35.8	333.1	429.0	0.3	29.5	19.8
Year 4	15.0	58.1	60.5	0.1	6.0	3.9
Year 5	14.4	42.4	50.1	0.1	5.2	2.9
Year 6	14.0	38.7	48.8	0.1	4.9	2.7
Year 7	12.3	22.4	32.9	0.1	4.0	1.8
Maximum Emissions in Any Year	41.9	375.9	485.7	0.3	32.4	21.7
SCAQMD Threshold:	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Threshold?	NO	**YES**	NO	NO	NO	NO

*Source: Impact Sciences, Inc., 2015. Emissions calculations are provided in **Appendix 5.2-1**.*
Note: Totals in table may not appear to add exactly due to rounding in the computer model calculations.
[1] *As mandated by the SCAQMD dust suppression measures have been included as part of the Project, consequently PM10 and PM2.5 emission estimates are based on compliance with SCAQMD requirements.*

As indicated above, emissions would exceed the applicable SCAQMD thresholds for NOx during the first three years of construction. Therefore, the regional air quality impact from emissions generated by Project construction would be potentially significant. **PDFs** as well as **Mitigation Measures MM 5.2-1** and **MM 5.2.2** would be implemented to reduce combustion-based emissions of NOx through the use of Tier 3 and Tier 4 engines, proper maintenance of vehicles and equipment, limiting construction during smog alert days, as well as other measures. The use of Tier 3 engines for all construction vehicles and equipment would reduce the NOx emissions by approximately half but not to below SCAQMD thresholds as shown in **Table 5.2-5, Mitigated Construction Emissions.**

Table 5.2-5
Mitigated Construction Emissions

Construction Year	Maximum Emissions in Pounds per Day[2]					
	VOC	NOx	CO	SOx	PM10[1]	PM2.5[1]
Year 1	21.8	170.8	404.7	0.3	23.2	13.5
Year 2	19.5	166.7	383.6	0.3	21.2	13.0
Year 3	18.1	164.1	370.9	0.3	21.8	13.1
Year 4	11.7	39.5	63.2	0.1	4.8	2.9
Year 5	11.6	31.3	53.4	0.1	4.6	2.4
Year 6	11.5	30.7	52.4	0.1	4.6	2.4
Year 7	10.9	19.1	34.2	0.1	3.8	1.8
Maximum Emissions in Any Year	21.8	170.8	404.7	0.3	23.2	13.5
SCAQMD Threshold:	**75**	**100**	**550**	**150**	**150**	**55**
Exceeds Threshold?	NO	**YES**	NO	NO	NO	NO

Source: Impact Sciences, Inc., 2014. Emissions calculations are provided in ***Appendix 5.2****.*
Note: Totals in table may not appear to add exactly due to rounding in the computer model calculations.
[1] *As mandated by the SCAQMD dust suppression measures have been included as part of the Project, consequently PM10 and PM2.5 emission estimates are based on compliance with SCAQMD requirements.*
[2] *All construction engines are elevated to Tier 3.*

However, with implementation of these measures, the impact would not be sufficiently reduced to bring emissions under the thresholds developed by the SCAQMD. The regional air quality impacts from construction emissions associated with the Project after mitigation would be significant and unavoidable.

Localized Construction Impacts

The construction emissions generated by the Project were conservatively analyzed for the impact on the nearest residential receptors using the methods described in the SCAQMD *Final LST Methodology.* As described in greater detail above, the emission rates calculated using CalEEMod were used as input for the AERMOD model. As the greatest emission rates for all pollutants occurred during grading operations in the first year of construction, these rates were chosen for use in AERMOD. Impacts during other phases of construction would be lower and considerably lower in the years 4 through 6. NOx and CO emissions are from the construction fleet equipment, while PM10 and PM2.5 emissions combine both fleet combustion emissions and fugitive dust.

The nearest sensitive receptors are the single-family residences located at the closest point approximately 75 feet to the east of the Project Site. There are residences, approximately 615 feet, and two schools, approximately 1,000 feet and 1,315 feet, to the north of the Project Site. However, the closest receptors would experience the greatest potential impact from construction emissions. Operational emissions were

not analyzed for this Project because there are no stationary sources that would emit emissions and mobile source emissions are not considered to have a localized impact. **Table 5.2-6, LST Analysis – Maximum Ambient Construction Pollutant Impacts at Sensitive Receptors,** shows the maximum PM10, PM2.5, NO_2, and CO concentrations associated with the Project at the closest residential receptors to the east of the Project Site, where the highest off-site pollutant concentrations occur.

Table 5.2-6
LST Analysis – Maximum Ambient Construction Pollutant Impacts at Sensitive Receptors

Pollutant	Averaging Period	Modeling Results		LST Criteria[1]		Exceeds Threshold?
		μg/m³	ppm	μg/m³	ppm	
Respirable Particulate Matter (PM10)	24 hours	75.66	NA	10.4	NA	**YES**
Fine Particulate Matter (PM2.5)	24 hours	49.15	NA	10.4	NA	**YES**
Nitrogen Dioxide (NO_2)	1 hour	1,271	0.68	226	0.12	**YES**
Carbon Monoxide (CO)	1 hour	1,247	1.09	20,598	18	NO
Carbon Monoxide (CO)	8 hours	1,095	0.96	9,384	8.2	NO

*Source: Impact Sciences, Inc., (2014). Emissions calculations are provided in **Appendix 5.2**.*
[1] *South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008).*
The maximum impacts were observed at the residential areas southeast of the Project site.

As indicated in **Table 5.2-6**, localized emissions would exceed the applicable SCAQMD LST thresholds for PM10, PM2.5, and NO_2 during construction. The impact to localized air quality from Project construction would be potentially significant. The **PDFs,** as well as **Mitigation Measures MM 5.2-1** and **MM 5.2-2** would be implemented to reduce combustion-based emissions of PM10, PM2.5, and NO_2 by Tier 3 and Tier 4 engines, proper maintenance of vehicles and equipment, limiting construction during smog alert days, as well as other measures. However, with implementation of these measures, the impact would not be reduced to below significance thresholds. Therefore, the localized air quality impacts during Project construction would be significant and unavoidable.

As discussed above, the emissions estimates provided here are conservative in that they assume that all construction equipment is running at full capacity for the entire workday during construction, which is not generally the case. Therefore, the results provided in **Table 5.2-5** represent the worst-case emissions estimates for nearby residents to the east. Since air pollutants generally disperse over distance, other receptors, such as the residences and schools to the north, that are further away or in areas that are upwind of construction activities would have less exposure, although that exposure would also be significant and unavoidable.

Health Impacts

During construction of the Project, specifically during grading and trenching, from late 2015 to late 2017, NOx emissions would exceed both the regional emission thresholds as well as the LST levels, and due to the Project's construction emissions, PM10 and PM2.5 concentrations near the Project Site would exceed LST levels. However, available research indicates that it would be speculative to predict likely health effects that could result from these particular exceedances. While there is evidence that indicates a general correlation between exposure to NOx and the health effects described above in **Table 5.2-1**, the most recent US EPA study of the potential health effects of NOx finds that there is insufficient evidence to claim a causal relationship between NOx and these health effects, let alone a correlation between particular levels of NOx emissions and specific health effects.[32] Furthermore, the emissions of NOx during construction would be temporary and the emissions estimates are conservative. With respect to PM10 and PM2.5, the US EPA has found some evidence of a causal relationship between PM10 and PM2.5 and certain health effects, but at this time, adequate data and analytical models are not available to relate specific levels of exposure to PM10 and PM2.5 to specific health effects.[33] Further, as with NOx, emissions of PM10 and PM2.5 would be temporary and would exceed thresholds only during grading activities. Calculations of PM10 and PM2.5 are also conservative, and assume a worst-case scenario that is unlikely to occur in actual construction operations.

Operation

Regional Operational Impacts

Regional operational air pollutant emissions associated with Project operations would be generated by both stationary and mobile sources. Stationary emissions would be generated by the consumption of natural gas for space and water heating devices (including residential and commercial use water heater and boilers). Mobile source emissions would be generated by the motor vehicles traveling to, from, and within the Project Site. Operational emissions for the Project were calculated using the latest version of the CalEEMod program. CalEEMod estimates emissions from area and mobile sources by using project specific data and default emissions factors and assumptions. CalEEMod also incorporates emissions reductions based on regulations such as the Renewable Portfolio Standard for energy generation, the Pavley standards for vehicles, and general improvements in fuel efficiency and emissions control technology through use of updated Emissions Factors (EMFAC) data. For this Project, default assumptions were used for trip generation and energy use. **Table 5.2-7, Unmitigated Operational**

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32 US EPA, *Integrated Science Assessment for Oxides of Nitrogen – Health Criteria*, 2008

33 US EPA, *Integrated Science Assessment for Particulate Matter*, 2009

Emissions, shows the operational emissions generated by the Project. This analysis is based on mobile emissions assuming full Project buildout.

Table 5.2-7
Unmitigated Operational Emissions

Emissions Source	Emissions in Pounds per Day					
	VOC	NOx	CO	SOx	PM10	PM2.5
Area/Stationary Sources	21.1	0.5	42.1	0.0	0.2	0.2
Mobile Sources	12.8	31.2	146.2	0.6	37.1	10.4
Total pounds per day:	33.9	31.7	188.3	0.6	37.3	**10.6**
SCAQMD Threshold:	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Threshold?	NO	NO	NO	NO	NO	NO

*Source: Impact Sciences, Inc., 2014. Emissions calculations are provided in **Appendix 5.2**.*
*Note: Totals in table are rounded and may be slightly different from the totals in **Appendix 5.2**.*

As shown above in **Table 5.2-7**, emissions associated with the operation of the Project are not expected to exceed the SCAQMD significance thresholds. Therefore, the regional air quality impact from Project operational emissions would be less than significant.

Threshold 5.2-3 **Would the project 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)?**

According to the SCAQMD *CEQA Handbook*, projects that do not exceed the project-specific SCAQMD thresholds of significance should be considered less than significant on a cumulative basis unless there is other pertinent information to the contrary.[34]

As shown above in **Table 5.2-5,** most of the construction emissions are below the regional thresholds of significance except emissions of NOx that exceed applicable thresholds in the first three years of construction. **Table 5.2-6** indicates that localized construction emissions of NO_2, PM10, and PM2.5 would exceed LST thresholds and result in localized effects. These high concentrations of air pollutants disperse at further distances from the source site and consequently would not have an effect on regional attainment. Construction emissions of NOx exceed the regional significance thresholds. The Basin is non-attainment for ozone, and NOx is an ozone precursor. Consequently, by emitting NOx emissions in excess of the significance thresholds, the Project would result in a cumulatively considerable net increase

[34] South Coast Air Quality Management District, *CEQA Air Quality Handbook*, 9–12.

of criteria pollutants for which the Project region is in a state of non-attainment. The Project's impact to state non-attainment of ozone would be potentially significant. The PDFs, as well as **Mitigation Measures MM 5.2-1** and **MM 5.2-2** would be implemented to reduce combustion-based emissions of NOx. However, the reduction would not be substantial and the impact would be significant and unavoidable.

Table 5.2-7 indicates that operational emissions are below the thresholds of significance for all pollutants. Therefore, the Project would not generate operational emissions that would result in a cumulatively considerable net increase of criteria pollutants for which the Project region is in non-attainment under an applicable federal or state ambient air quality standard. The impact would be less than significant.

Threshold 5.2-4 Would the project expose sensitive receptors to substantial pollutant concentrations?

The SCAQMD recommends that potential impacts on localized ambient air concentrations due to emissions be evaluated.[35] The evaluation of LSTs requires that anticipated ambient air concentrations, determined using a computer-based air quality dispersion model, be compared to localized significance thresholds for PM10, PM2.5, NO_2, and CO.[36] The significance threshold for PM10, which is 10.4 micrograms per cubic meter ($\mu g/m^3$), represents compliance with Rule 403 (Fugitive Dust), while the thresholds for NO_2 and CO represent the allowable increase in concentrations above background levels in the vicinity of the Project Site that would not cause or contribute to an exceedance of the relevant ambient air quality standards. The significance threshold for PM2.5, which is also 10.4 $\mu g/m^3$, is intended to constrain emissions to aid in progress toward attainment of the ambient air quality standards. The allowable emission rates depend on (1) the SRA in which the Project is located, (2) the size of the Project Site, and (3) the distance between the Project Site and the nearest sensitive receptor. (Sensitive receptors are places where people who could be easily affected by air pollutants, such as people with health conditions or young children, are located. These places include hospitals, schools, and residences.) The Project Site is located in the Santa Clarita Valley, which is in SCAQMD SRA 13 (Santa Clarita Valley). Sensitive receptors are located immediately adjacent to the Project boundary to the north, east, and south. Based on these factors, the LST for each pollutant is shown in **Table 5.2-8, Localized Significance Thresholds for SRA 13**.

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35 The SCAQMD's methodology does not require an evaluation of ambient air impacts for operational emissions because the Project does not include any of the land uses (uses that have stationary sources) that typically require such an analysis to be performed. SCAQMD. 2008. Final Localized Significance Threshold Methodology. Available at: http://www.aqmd.gov/ceqa/handbook/lst/lst.html. Accessed: February, 2015. See page 1-4 (Basic Approach).

36 South Coast AQMD, *Final Localized Significance Threshold Methodology*, 2008.

Table 5.2-8
SCAQMD Localized Significance Thresholds for SRA 13

Pollutant	Averaging Period	LST Criteria		CAAQS/NAAQS[1]	
		μg/m³	ppm	μg/m³	ppm
Respirable Particulate Matter (PM10)	24 hours	10.4	NA	50	NA
Fine Particulate Matter (PM2.5)	24 hours	10.4	NA	35	NA
Nitrogen Dioxide (NO_2)	1 hour	226	0.12	338	0.18
Carbon Monoxide (CO)	1 hour	20,598	18	23,000	20
Carbon Monoxide (CO)	8 hours	9,384	8.2	10,000	9.0

Source: South Coast Air Quality Management District, Final Localized Significance Threshold Methodology, (2008). LST criteria for NO_2 and CO are based on highest concentrations during 2011.

[1] *California has not adopted a 24-hour ambient air quality standard (AAQS) for PM2.5; the 24-hour PM2.5 AAQS shown is the national standard. All other standards are the California standards.*

CO Hotspots

Per the SCAQMD guidelines, a project would have a significant impact under this CEQA Threshold if it would cause or contribute to the formation of CO Hotspots.

Motor vehicles are a primary source of pollutants within the vicinity of the Project. Traffic congested roadways and intersections have the potential to generate localized high levels of CO referred to as "hotspots." CO is produced in greatest quantities from vehicle combustion and is usually concentrated at or near ground level because it does not readily disperse into the atmosphere. As a result, potential air quality impacts to sensitive receptors are assessed through an analysis of localized CO concentrations. Areas of vehicle congestion have the potential to create CO hotspots that exceed the state ambient air quality 1-hour standard of 20 ppm or the 8-hour standard of 9.0 ppm. The federal levels are less stringent than the state standards and are based on 1- and 8-hour standards of 35 and 9 ppm, respectively. Thus, an exceedance condition would occur based on the state standards prior to exceedance of the federal standard.

Post-Project maximum future CO concentrations were calculated for peak-hour traffic volumes for both AM and PM using the CALINE4 screening model described above. The results of these CO concentration calculations for AM peak hour and PM peak hour are presented in **Table 5.2-9, Carbon Monoxide Concentrations – Future Cumulative with Project Traffic**.

Table 5.2-9
Carbon Monoxide Concentrations – Future Cumulative with Project Traffic

Intersection[3]	AM 1-Hour[1]	PM 1-Hour[1]	8-Hour[2]
Commerce Center Drive and Henry Mayo Drive	3.5	3.6	2.1
Exceeds state 1-hour standard of 20 ppm?	NO	NO	—
Exceeds federal 1-hour standard of 35 ppm?	NO	NO	—
Exceeds state 8-hour standard of 9.0 ppm?	—	—	NO
Exceeds federal 8-hour standard of 9 ppm?	—	—	NO

[1] *State standard is 20 parts per million. Federal standard is 35 parts per million.*
[2] *State standard is 9.0 parts per million. Federal standard is 9 parts per million.*
[3] *This intersection was chosen based on the intersections in Table 12(c) from the Traffic Study.*
Source: Impact Sciences, Inc. Emissions calculations are provided in ***Appendix 5.2****.*

The significance of a project's CO impacts depends on whether existing ambient CO levels in the vicinity of the Project Site are above or below state and federal CO standards. If the ambient CO levels are less than these standards and operation of the project causes an exceedance of either the state 1-hour or 8-hour CO concentrations, the Project would be considered to have a significant local impact. If ambient levels already exceed a state or federal standard, Project emissions would be considered significant if they cause an increase in the 1-hour CO concentrations by 1.0 parts per million (ppm) or more or 8-hour CO concentrations by 0.45 ppm or more.

As shown above in **Table 5.2-9**, the CALINE4 screening procedure conservatively predicts that future CO concentrations at the intersection would not exceed the state 1-hour and 8-hour standards with the operation of the Project. No significant CO hotspot impacts would occur to sensitive receptors in the vicinity of the intersection. As a result, no significant Project-related impacts would occur relative to future CO concentrations. The CO hotspot impact would be less than significant.

Health Risk

As mentioned in the SCAQMD threshold above, the Project would have a significant effect if the incremental increase in cancer risk is found to be greater than or equal to 10 in 1 million, a cancer burden greater than 0.5 excess cancer cases (in areas where the incremental increase in risk is greater than 1 in 1 million), or a Hazard Index (HI) (non-cancerous) greater than or equal to 1, as determined by a Human Health Risk Assessment (HRA).

Toxic Air Contaminants

Diesel-fueled equipment would emit diesel particulate matter (DPM) which is also known as toxic air contaminants (TACs), as described above. TACs can be generated by diesel-fueled trucks, generators, or other stationary equipment. The SCAQMD recommends a detailed health risk assessment be performed for DPM for facilities that are substantial sources of DPM. Such sources are considered to be land uses such as truck stops and warehouses.

During construction, the Project would result in emissions of TACs primarily from diesel-fueled trucks. The SCAQMD CEQA guidance does not require a health risk assessment for short-term construction emissions. It is therefore not meaningful to evaluate long-term cancer impacts from construction activities which occur over a relatively short duration. In addition, there would be no residual emissions after construction and no corresponding individual cancer risk. As such, toxic emission impacts related to construction activities would be less than significant. The Project would not construct land uses or install stationary sources which would produce substantial amounts of TACs. There are no other substantial sources of other TACs associated with operation of the Project. Therefore, there would be a less than significant impact due to TACs attributed to the Project.

As the Project would not result in significant TAC emissions, a detailed health risk assessment is not necessary. Health impacts would be less than significant.

Threshold 5.2-5: Would the project create objectionable odors affecting a substantial number of people?

For impacts associated with odors, the SCAQMD considers specific land uses primarily associated with odor complaints such as waste transfer and recycling stations, wastewater treatment plants, landfills, composting operations, petroleum operations, food and byproduct processes, factories, and agricultural activities, such as livestock operations. Construction and operation of the Project would not result in the development of any of the land uses listed above. Additionally, the Project would comply with SCAQMD Rule 402 regarding odor nuisances.

The Project would not include the development and operation of any of land uses associated with odor complaints. Any project generated refuse would be stored in covered containers and removed at regular intervals in compliance with the County's solid waste regulations which would prevent substantial nuisance odors to be perceived off the Project Site. Therefore, potential odor impacts associated with construction of the Project and/or the Project operation would be less than significant.

5.2.3 CUMULATIVE IMPACTS

As noted above in **Threshold 5.2-3**, according to the SCAQMD *CEQA Handbook*, projects that result in emissions that do not exceed the project-specific SCAQMD regional thresholds of significance should be considered to result in a less than significant impact on a cumulative basis unless there is other pertinent information to the contrary. The mass-based regional significance thresholds published by the SCAQMD are designed to ensure compliance with both National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) and are based on an inventory of projected emissions in the Basin. So if a project is estimated to result in emissions that do not exceed the thresholds, the project's contribution to the cumulative impact on air quality in the Basin would not be cumulatively considerable. As presented previously in **Table 5.2-4**, construction of the Project would result in daily construction emissions that would exceed the thresholds of significance recommended by the SCAQMD. Mitigation would not be sufficient to reduce the impact to a less than significant level, as shown in **Table 5.2-5**. Applying the SCAQMD criteria, the Project would result in a cumulatively considerable contribution to regional air pollutant emissions for NOx during project construction.

5.2.4 MITIGATION MEASURES

MM 5.2-1 The Applicant shall require by contract specifications that the following practices be implemented by the construction contractor to reduce construction emissions:

- All outdoor construction activities shall be suspended during first-stage smog alerts.
- All construction equipment shall be properly tuned and maintained in accordance with manufacturer's specifications and recommendations. Verification documentation shall be provided to the County of Los Angeles Department of Regional Planning upon request within five business days.
- During construction, trucks and vehicles in loading and unloading queues shall have their engines turned off after 5 minutes when not in use, to avoid vehicle emissions.

MM 5.2-2 The construction contractor shall use a mix of equipment that includes Tier 3 or Tier 4 equipment for off-road construction equipment, as defined by the United States Environmental Protection Agency, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. Verification documentation shall be provided to the County of Los Angeles Department of Regional Planning upon request within five business days.

5.2.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

No operational impacts would occur.

Construction of the Project would exceed regional and localized NOx thresholds and localized NO_2, PM10 and PM2.5 thresholds as shown in **Tables 5.2-5** and **5.2-7.** Implementation of **PDFs** as well as **Mitigation Measures 5.2-1** and **5.2-2** above, would reduce exceedances in regional and localized emissions generated during construction. However, even with implementation of these measures and the PDFs, regional and localized impacts from construction emissions associated with the Project would be significant and unavoidable.

5.3 BIOLOGICAL RESOURCES

INTRODUCTION

This section of the Draft EIR discusses the Project's potential impacts on Biological Resources including common and special-status plants, animals, and habitats. This analysis is based on biological surveys conducted on the Project Site between 1998 and 2014 that were performed for both the Project and the Prior Entitlements. **Appendix 5.3-1** contains assessments for the Prior Entitlements, which are included in this Draft EIR to show the condition of the Project Site prior to commencement of construction activities in 2006. Biological surveys conducted for this Project include a rare plant survey, vegetation inventory, and plant community mapping by Dr. Edith Read in spring and summer 2013 (**Appendix 5.3-2**), a Jurisdictional Delineation by Dr. Read in November and December 2013 (**Appendix 5.3-3**), and an oak tree survey by Land Design Consultants, Inc. (**Appendix 5.3-4)**. Site photos are provided in **Appendix 5.3-5.**

Additionally, a general survey was conducted on March 5, 2014 for western spadefoot toad and fairy shrimp. Visual inspection was conducted within all pools of standing water on site for swimming fairy shrimp. After discussion with United States Fish and Wildlife Service (USFWS) and County biologists in September 2015, USFWS protocol surveys were determined not be required at the Project Site. There are no specific required USFWS or California Department of Fish and Wildlife (CDFW) survey methods for spadefoot toads. Therefore, surveys consisted of visually inspecting rain pools for egg masses, tadpoles, and adults.

This EIR analyzes the effect of the Project on the baseline conditions as observed in 2013 and 2014. These baseline conditions are the result of previously permitted activity conducted under the Prior Entitlements that was not mitigated by the prior owner of the Project Site. Such mitigation is also the responsibility of the Applicant and is included in the mitigation described in this Section.

5.3.1 ENVIRONMENTAL SETTING

Existing Conditions

General

The 430.4-acre Project Site is located in the Transverse Range, in the southeastern foothills of the Sierra Madre Mountains, in Hasley Canyon, within the community of Castaic, in unincorporated Los Angeles County. The USGS map location of the Project Site is described as occupying a portion of the Val Verde, California, 7.5-minute quadrangle, Range 17W, Township 4N, in the northern portion of Section 2 and

northeastern Section 3. Elevations on the Project Site range from 1,400 to 1,700 feet above mean sea level. The Project Site is mostly a south-facing slope, trending downward to Hasley Canyon Creek, which drains to Castaic Creek, which ultimately drains to the Santa Clara River. The Santa Clara River flows into the Pacific Ocean in Ventura, California.

Existing land uses in the vicinity of the Project Site consist of varying densities of residential, commercial, and light industrial. However, land to the west and southwest is mostly undeveloped and privately owned and some properties contain oil wells.

As a result of past use on the Project Site, including the 1960s golf course, past oil drilling, and the grading and partial infrastructure installation associated with the Prior Entitlements, including previously permitted activity conducted under the Prior Entitlements, the majority of the Project Site has been disturbed. While the exact acreage is difficult to estimate, as access roadways and uses overlapped resulting in some areas being graded more than once, it is estimated that approximately 300 acres were graded or disturbed (i.e., through roadway access, etc.) as a direct result of past use on the Project Site. In general, only the western most portion of the Project Site (west of the ridgeline) has not been disturbed due to past uses and, with the exception of effects from drainage from a northern residential community as further described below, remains in a near natural state. **Figure 3.0-4. Areas of Previous Disturbance,** illustrates the areas of previous disturbance on the Site. Refer to **Section 4.0, Project Description,** for a more detailed project description. However, some vegetation remains on the Project Site, including scrub and riparian plant alliances including 22 oak trees.

The Project Site currently supports jurisdictional resources, protected oak trees, special-status vegetation associations and has a moderate potential to support special-status plants and wildlife. Based on approvals issued as part of the Prior Entitlements, the prior owner undertook significant landform alteration (in excess of 12 million cubic yards) thus substantially altering the landforms and eliminating vegetation in those areas. As described above, the remaining area of the Project Site includes areas ranging from highly disturbed, including the previous 1960s golf course, to relatively undisturbed natural habitats. Biological field studies conducted in 1997 and 1998 (prior to the extensive grading on site) found five plant communities: non-native grassland (118.1 acres); chamise chaparral (259 acres); Riversidian sage scrub (3.8 acres; equivalent to *Artemisia californica* Shrubland Alliance); mainland cherry/oak woodland (3 acres) and a very open southern cottonwood-willow riparian woodland associated with Hasley Canyon Creek (2.8 acres). The Project Site also contained ruderal/disturbed areas (no acreage given) including an abandoned golf course (consisting of non-native grassland and planted

mature trees), dirt roadways, and active and abandoned oil facilities. Two aquatic habitats were present: a small concrete pond and nearby seep.[1]

Vegetation

The following section describes the primary plant communities found on the Project Site. **Appendix 5.3-2** provides a list of plant species observed on-site.

Upland Communities

For the purpose of classification, upland vegetation communities are defined here as consisting primarily of plant species that are not dependent on stream flow, high soil moisture, or groundwater for survival under drought conditions.

The Vegetation Classification of the Santa Monica Mountains recognizes five of the six upland and three of the four riparian vegetation types occurring on the Project Site. These associations are described below, and on-site vegetation is shown in **Figure 5.3-1, Vegetation Communities on the Project Site**.

***Acmispon glaber* Shrubland Alliance [G5 S5]**

Also referred to as deerweed scrub and (using former taxonomy) *Lotus scoparius* Shrubland Alliance, this community, occupies most of the Project Site. Its species composition appears to have mixed origins ranging from indigenous to introduced through revegetation and erosion control measures. The smallest stands of mulefat (*Baccharis salicifolia*) in ephemeral streambeds and gullies occur wholly within a matrix of deerweed, so have been grouped into this alliance here for the purpose of mapping and impact analysis.

Deerweed is a drought-deciduous shrub commonly included in seed mixes for erosion control and is typically one of the first shrub species to colonize open ground (Sawyer et. al, 2009, p. 578).[2] Depending on location, co-dominant shrubs may include California sagebrush (*Artemisia californica*) and leafy California buckwheat (*Eriogonum fasciculatum* var. *foliolosum*). Another buckwheat variety, Eastern Mojave Desert California buckwheat (*E. f. polifolium*) is also present, but is outside of its typical range and possibly introduced with hydroseed. Surveys conducted in 1997, prior to grading and subsequent reseeding, did not specify the variety of buckwheat observed.

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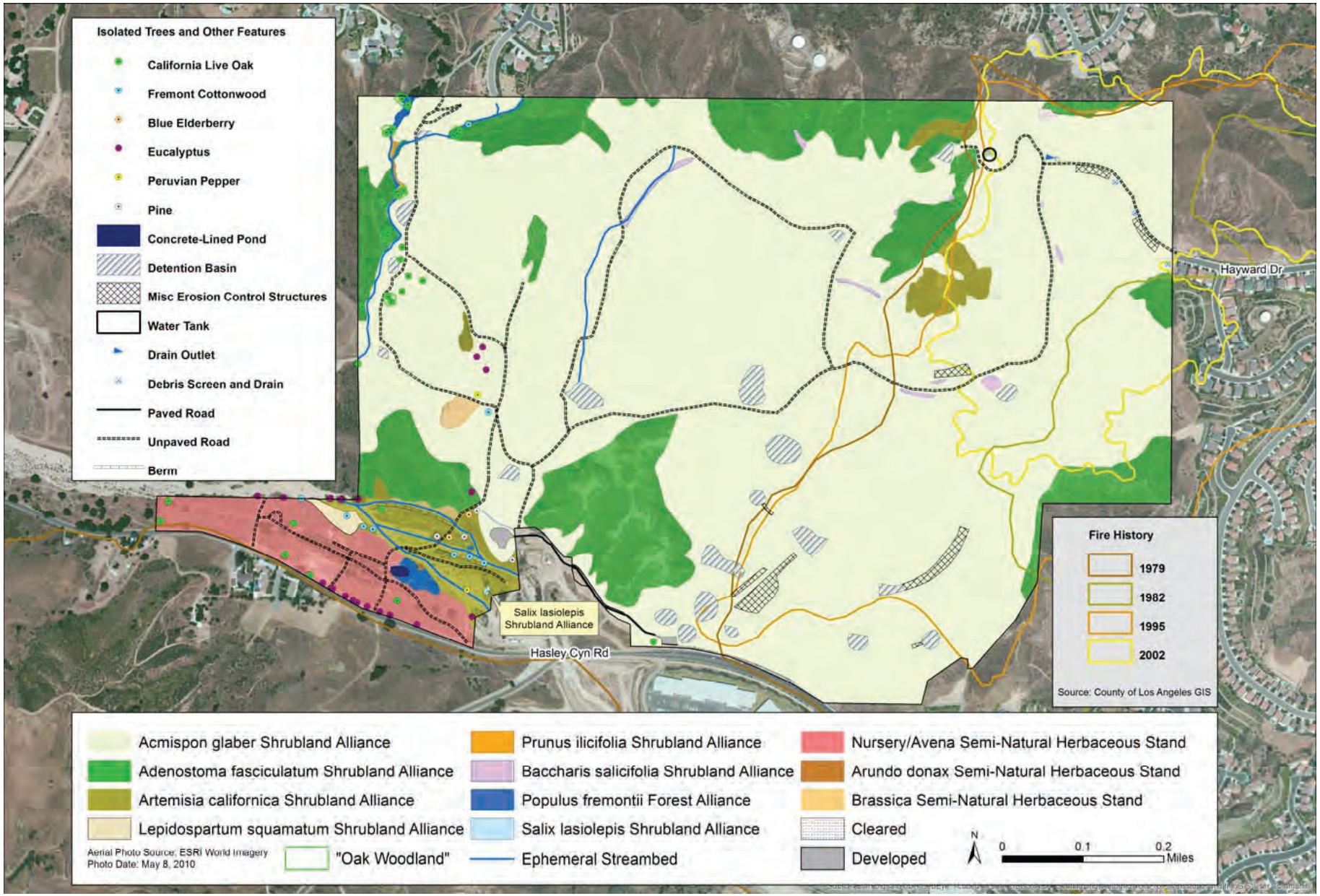
1 Rachel Tierney Consulting. "Biological Resources Assessment, Hasley Canyon Project, Vesting Tentative Tract 52584." Prepared for Taylor & Company, Los Angeles, California. 1998.

2 Sawyer, J.T. Keeler-Wolf and J. Evens. *A Manual of California Vegetation.* 2nd edition. California Native Plant Society, Sacramento, CA. p. 578. 2009.



SOURCE: E Read and Associates, Inc., February 2014

FIGURE **5.3-1**

Vegetation Communities

1154.002•01/15

Non-native annual grasses such as wild oat (*Avena* sp.) and brome (*Bromus* sp.) are frequent understory species in this community, along with native wildflowers such as California poppy (*Eschscholzia californica*). Shrub cover varies widely across the Project Site, from less than 10 percent along graded roads to 100 percent on slopes.

Scattered throughout the deerweed scrub community there are numerous detention basins created from earth berms, plastic sheets, and sandbags. Many of these basins periodically support small stands of riparian vegetation alliances (see Riparian Communities section) that are required to be removed under an approved Stormwater Pollution and Prevention Plan (SWPPP) in order to maintain their functionality. These ephemeral stands of riparian vegetation are not included on the map.

***Adenostoma fasciculatum* Shrubland Alliance [G5 S5]**

Also referred to as chamise chaparral, this community occupies steep slopes that are relatively undisturbed by previous grading. Other species in this community include bigpod ceanothus (*Ceanothus megacarpus*) and chaparral yucca (*Hesperoyucca whipplei*). Bigpod ceanothus is not common in this region but does occur in scattered locations. Shrub cover within this alliance ranges from 50 to 100 percent.

***Artemisia californica* Shrubland Alliance [G5 S5]**

Also referred to as California sagebrush scrub, this community is limited to a steep south-facing slope in the east half of the Project Site and low-gradient flood deposits in Hasley Canyon. While California sagebrush is dominant, this community includes co-dominant species that are also common to the *Acmispon glaber* shrubland alliance, especially buckwheat. Shrub cover is highly variable and in the range of 5 to 80 percent.

***Lepidospartum squamatum* (Scalebroom scrub) Shrubland Alliance [G3-S3]**

Also referred to as scale broom scrub, this community is limited to a small alluvial deposit at the southwest corner of the Project Site in Hasley Canyon. While scale broom is dominant, species common to the *Acmispon glaber* and *Artemisia californica* alliances are also present. Shrub cover is in the range of 30 to 50 percent.

***Prunus ilicifolia* Shrubland Alliance [G3 S3]**

Mainland holly leaf cherry (*Prunus ilicifolia ssp. ilicifolia*) is an evergreen shrub with spiny leaf margins. Although this species is fire-adapted, all individuals on the Project Site occur outside of areas that have been disturbed by fire since 1979. Many of these individuals are isolated from one another, but small

groups occur in the northwest corner of the Project Site along an un-named ephemeral streambed that is a tributary to Hasley Canyon Creek.

As a whole, these scattered groups of mainland cherry shrubs only marginally qualify as an "Alliance," with a total area of 0.36 acre. They are not dominant in the drainage. Mainland holly leaf cherry was classified as a sensitive habitat in a 1998 biological study[3] because of its rarity in Los Angeles County. At that time, the Draft EIR for the Prior Entitlements called for preservation of this plant community, which was estimated at 3.0 acres.[4] [5] The previous grading did not directly impact this drainage. A later survey in 2008 by Planning Consultants Research (PCR)[6] estimated the area at 1.33 acres. Part of the reduction in acreage between 1998 and 2008 was attributed to mapping error, but in any case it appears that there has been some actual loss of this habitat, unrelated to the previous or current Project. Presently the mainland cherry vegetation is in poor health, a condition most likely due to a combination of low rainfall and deep incision of the channel beyond the reach of many roots (see photographs in **Appendix 5.3-5**). This erosion was noted by PCR in 2009, and appears to have resulted from continuous runoff from residential development north of the property that occurred sometime in the early 2000s. A review of historical aerial photographs indicates that runoff from this development has resulted in a type-conversion of habitat in the north part of the drainage, from mainland cherry woodland with scattered oaks, to a dense riparian forest.

Semi-Natural Herbaceous Stands

The current vegetation classification system for California[7] uses the term "semi-natural" to refer to naturalized non-native vegetation, i.e., species that have colonized on their own and are not part of a cultivated landscape. On the Project Site, there are two types of these stands that occur in uplands:

- Wild oat (*Avena* sp.) annual grassland. While occurring in small patches throughout the Project Site, this vegetation is most prominent on an abandoned golf course area in the Hasley Canyon floodplain. This area is currently used for storing and irrigating boxed conifers.

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3 Rachel Tierney Consulting. "Biological Resources Assessment, Hasley Canyon Project, Vesting Tentative Tract 52584." Prepared for Taylor & Company, Los Angeles, California. 1998.

4 Taylor & Company. *Draft Environmental Impact Report for Hasley Canyon Project*. State Clearinghouse No. 98071037 dated June 7, 2001. Prepared for the Los Angeles County Department of Regional Planning.

5 A subsequent letter report by PCR (2009) stated the originally mapped area was 4.56 acres, but the source of this information could not be found. The acreage in the Taylor & Company, 2001 DEIR and biology appendix is 3.0 acres.

6 Planning Consultants Research (PCR). "Los Valles Project Summary Report – Jurisdictional Resources." Letter submitted to Palmer Investments, Inc. Dated February 10, 2009.

7 Sawyer, J.T. Keeler-Wolf and J. Evens. *A Manual of California Vegetation.* 2nd edition. California Native Plant Society, Sacramento, CA. p. 578. 2009.

- Mustard (*Brassica* sp.). Black mustard (*Brassica nigra*) and summer mustard (*Hirschfeldia incana*) occur in small stands on graded pads on the Project Site that have been disturbed and/or not seeded with natives.

Riparian Communities

For the purpose of classification, riparian communities are defined here as consisting of plant species that are dependent on relatively high soil moisture or at least a consistent water supply to survive the summer months. This vegetation only occurs in drainages with available groundwater, summer runoff, and/or persistence of small ponds into the early summer (i.e., detention basins).

***Baccharis salicifolia* Shrubland Alliance [G5 S4]**

Also referred to as mulefat thickets by Sawyer et al., this shrub-dominated alliance occurs in small stands scattered throughout the survey area, within ephemeral streambeds on the Project Site and often associated with detention basins. The vegetation map (**Figure 5.3-1**) illustrates only the largest of these stands. Mulefat is relatively drought tolerant compared to other riparian species and tends to occur in seasonally or intermittently flooded habitats.

***Populus fremontii* Forest Alliance [G4 S3]**

Also referred to as Fremont cottonwood forest, this tree-dominated alliance occurs only in association with a perennial supply of surface water at two locations: an artificial pond in Hasley Canyon, and the north section of an unnamed tributary to Hasley Canyon Creek that receives summer runoff from a residential development north of the Project Site. Fremont cottonwoods also occur as isolated mature individuals in the Hasley Canyon floodplain and immature (emergent) individuals in detention basins, but they are not dominant in these areas and therefore they are mapped as individuals rather than an "Alliance." Arroyo willow (*Salix lasiolepis*) is a co-dominant in the Alliance and canopy cover is 100 percent.

***Salix lasiolepis* Shrubland Alliance [G4 S4]**

Also referred to as arroyo willow thickets,[8] this vegetation occurs as a small stand adjacent to an earth berm, downstream of an artificial pond in the Hasley Canyon floodplain. Shrub cover is 100 percent.

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8 Sawyer, J.T. Keeler-Wolf and J. Evens. *A Manual of California Vegetation.* 2nd edition. California Native Plant Society, Sacramento, CA. p. 578. 2009.

Semi-Natural Herbaceous Stands

Similar to the uplands described previously, semi-natural herbaceous stands on the site are dominated by naturalized non-native species. Riparian non-native vegetation on the Project Site consists of giant reed (*Arundo donax*). Giant reed is a highly invasive perennial grass. On-site, it is currently limited to thickets in the Hasley Canyon floodplain.

Aquatic and Emergent Marsh Communities

These communities are limited to an artificial, concrete-lined pond in the Hasley Canyon floodplain that was part of the now abandoned golf course that was operational in the 1960s. This water is supplied from pumped groundwater. A small spillway at the southwest end of the pond supports a small (5 feet by 10 feet) wetland (emergent marsh) occupied by immature cattails (*Typha* sp.) and sedges (*Cyperus* sp.). This vegetation appears to be frequently trimmed or removed, along with algae and other aquatic vegetation in the pond. Leakage from the pond supports an adjacent forest of native and non-native trees. Water in the pond is pumped to irrigate mature, boxed non-native conifers that are stored west of the pond.

Wildlife

Approximately 300 acres of the Project Site were previously graded and/or disturbed and now support primarily sparse and low-growing shrubs and grasses. The previous disturbance from grading is expected to have displaced much of the wildlife that was established on-site prior to the grading. The updated wildlife inventory for this Project was limited to a one-day survey in March 2014, as there was very little suitable habitat present on-site to sustain a viable population of most wildlife species known to occur in the area; particularly special-status species. Notwithstanding, all wildlife species detected during site visits and meetings were recorded and are discussed in the following text. Due to the seasonal timing of site visits and vacant areas of land near the Project Site, more wildlife species than those observed are expected to utilize on-site habitats and are listed.

Amphibians

With the exception of western spadefoot toad – discussed in detail in the Special-Status Resources section of this report – no amphibians were observed or otherwise detected. Amphibian numbers and diversity are expected to be relatively low on-site due to the overall lack of suitable habitat. However, the on-site detention basins do provide suitable breeding habitat for some amphibians. The artificial pond in the southwestern portion of the Project Site also provides some breeding habitat for amphibians. However, previous studies conducted on the Project Site identified bass and sunfish in the pond, which would

likely consume any larval amphibians. A focused survey for California red-legged frog and arroyo toad was conducted in 2001 in the most suitable habitat areas on site.[9] That report determined neither species was present and that the habitat was marginal for both species. A lesser quantity and quality of habitat for both species exists today with current conditions.

Reptiles

Reptile species observed on-site include Great Basin fence lizard (*Sceloporus occidentalis longipes*) and side-blotched lizard. Although not observed, suitable habitat is present in the less disturbed areas of the Project Site for several other lizard and snake species. These include, but are not limited to, striped racer (*Masticophis lateralis*), coast horned lizard (*Phrynosoma blainvillii*), San Diego gopher snake (*Pituophis catenifer annectens*), southern Pacific rattlesnake (*Crotalus helleri*), and California kingsnake (*Lampropeltis getula californiae*), each of which is likely to be present in low densities on-site.

Birds

A number of bird species have been recorded on-site to date. These included several songbirds that are common throughout the region. These are believed to be reflective of the habitat value and functions provided by chaparral and sage scrub that remain on-site, as well as the use of ruderal areas by a few species. In its structure and species composition, the scrub habitats remaining on the slopes are not very diverse and, consequently, bird diversity is expected to be low to moderate. Bird species recently observed on-site in include western scrub-jay (*Aphelocoma californica*), red-tailed hawk (*Buteo jamaicensis*), Anna's hummingbird (*Calypte anna*), lesser goldfinch (*Carduelis psaltria*), house finch (*Carpodacus mexicanus*), rock pigeon (*Columba livia*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), California towhee (*Pipilo crissalis*), bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), and mourning dove (*Zenaida macroura*). Numerous additional species are anticipated to occur seasonally.

Mammals

Observations of individuals or evidence of the presence of several mammal species were made during the site visits. These included large, wide-ranging species and smaller species. Both the abundance and diversity of mammals on-site are expected to be relatively low on the Project Site overall, but greater in the less disturbed habitats in the western portion of the Project Site. Mammal species observed or

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9 Environmental Science Associates. 2001. "Report on red-legged frog and southwestern arroyo toad surveys in and near Hasley Canyon Creek." Memorandum report to Palmer Investments. August 1, 2001.

otherwise detected on-site include coyote (*Canis latrans*), mule deer (*Odocoileus hemionus*), California ground squirrel (*Spermophilus beecheyi*), desert cottontail (*Sylvilagus audubonii*), and Botta's pocket gopher (*Thomomys bottae*).

Special-Status Resources

As further described under **Threshold 5.3-1** below, for the purposes of this report, the term "Special Status" refers to all plant and wildlife species and their habitats that are considered by the federal or state regulatory branches as Endangered, Threatened, candidates for listing as Endangered or Threatened, plant species designated by CDFW as "Rare," plant species afforded a Rare Plant Rank of 1, 2 or 4 by the California Native Plant Society (CNPS), and wildlife species designated by CDFW as Fully Protected, Species of Special Concern, Watch List Species, and any other species included on the most recent CDFW "Special Animals List."

Based on a query of California Natural Diversity Database (CNDDB) and the CNPS Inventory and general knowledge of the Project region, 24 special-status plant and 38 special-status animal species are reported within the Project region, as defined by the USGS quadrangle containing the Project Site and the surrounding five quadrangles. A summary of these species' potential to utilize the Project Site is provided in **Table 5.3-1, Special-Status Plant Species Recorded from the Project Vicinity** and **Table 5.3-2, Special-Status Wildlife Species Recorded from the Project Vicinity**.

No plant species listed in **Table 5.3-1** were observed on-site during the 1997–1998 or the 2013 focused rare plant surveys. Likewise, no wildlife species listed in **Table 5.3-2** have been observed on-site. Focused surveys for listed wildlife species requiring USFWS protocol methodology were not completed as it was determined there was not enough suitable habitat present on-site to sustain a viable population of any of the federal- or state-listed wildlife species known to occur in the area. Notwithstanding, some of the plant and wildlife species listed in **Tables 5.3-1** and **5.3-2** are still considered to have a limited potential to occur because the species has been recorded in the vicinity of the Project Site, one or more habitat elements for the species is present on-site, and/or recent conditions on the Project Site (e.g. drought conditions, disturbance history, etc.) prevent a positive determination.

Table 5.3-1
Special-Status Plant Species Recorded from the Project Vicinity

Common Name and *Scientific Name*	Status: Federal	Status: State	Status: CNPS	Habitat Requirements	Elevation Range, Life Form, and Flowering Period	Potential Occurrence
Braunton's milk-vetch *Astragalus brauntonii*	FE	--	1B.1	Chaparral, coastal scrub, valley and foothill grassland; recent burns or disturbed areas, usually sandstone with carbonate layers.	274-825 m S(e) March-June	**Moderate Potential**. Not Observed. Reported occurrence from one of the Project quadrangles (Val Verde); substrate typically associated with this species is not present on-site.
Nevin's barberry *Berberis nevinii*	FE	CE	1B.1	Chaparral, cismontane woodland, coastal scrub, riparian scrub; sandy or gravelly	274-825 m S(e) March-June	**Low Potential**. Not Observed. Site probably too arid for this species; no reported occurrences in Project quadrangles.
Round-leaved filaree *California macrophylla*	--	--	1B.1	Cismontane woodland, valley and foothill grassland; clay soils	15-1200 m AH March-May	**Moderate Potential**. Not Observed. Reported from one of the Project quadrangles (Newhall) but habitat on-site is limited to areas not previously graded. Not observed in 1997-1998 or 2013 surveys.
Slender mariposa lily *Calochortus clavatus* var. *gracilis*	--	--	1B.2	Chaparral, coastal scrub, valley and foothill grassland	360-1,000 m PH(b) March-June	**Moderate Potential**. Not Observed. Many occurrences in the region but not observed in 1997-1998 or 2013 surveys.
Late-flowered mariposa lily *Calochortus fimbriatus*	--	--	1B.2	Chaparral, cismontane woodland, riparian woodland; often serpentinite substrate	275-1905 m PH(b) June-August	**Low Potential**. Not Observed. Known only from areas in Los Angeles County that are outside the database search region; no serpentinite substrate on-site.
Southern tarplant *Centromadia parryi* ssp. *australis*	--	--	1B.1	Marshes and swamps (margins), valley and foothill grassland (vernally mesic), vernal pools	0-480m AH May-November	**Moderate Potential**. Not Observed during focused rare plant surveys, but has some potential to occur around detention basins.

Common Name and *Scientific Name*	Status Federal	State	CNPS	Habitat Requirements	Elevation Range, Life Form, and Flowering Period	Potential Occurrence
San Fernando Valley spineflower *Chorizanthe parryi* var. *fernandina*	FC	CE	1B.1	Coastal scrub, valley and foothill grassland; sandy soils	150-1220 m AH April-July	**Moderate Potential**. Not Observed. Historical occurrences in the region, but not observed in 1997-1998 or 2013 surveys
Parry's spineflower *Chorizanthe parryi* var. *parryi*	--	--	1B.1	Coastal scrub, chaparral; dry sandy soils	40-1705 m AH April-June	**Low Potential**. Not Observed. One historical occurrence in the far eastern part of the database search region (green Valley), none reported from the near Project vicinity.
Santa Susana tarplant *Deinandra minthornii*	--	CR	1B.2	Chaparral and coastal scrub; associated with sandstone outcroppings and rocky areas.	280-760 m S (d) July-November	**Not Expected**. Not Observed. No habitat typical of this species is present on-site.
Slender-horned spineflower *Dodecahema leptoceras*	FE	CE	1B.1	Chaparral, cismontane woodland, coastal scrub (alluvial fan); sandy	200-760 m AH April-June	**Not Expected**. Not Observed. No habitat typical of this species is present on-site.
Conejo Dudleya *Dudleya parva*	FT	--	1B.2	Coastal scrub, valley and foothill grassland; rocky or gravelly, clay or volcanic	60-450 m PH May-June	**Not Expected**. Not Observed. No habitat typical of this species is present on-site.
San Gabriel bedstraw *Galium grande*	--	--	1B.2	Broadleaf upland forest, chaparral, cismontane woodland, lower montane coniferous forest	425-1500 m S(d) January-July	**Moderate Potential**. Not Observed. Historical occurrence in the region but not observed in 1997-1998 or 2013 surveys.
Newhall sunflower *Helianthus inexpectatus*	--	--	1B.1	Marshes and swamps, riparian woodland; freshwater, seeps.	None listed RH August-October	**Not Expected**. Not Observed. No habitat typical of this species is present on-site.
Mesa horkelia *Horkelia cuneata* var. *puberula*	--	--	1B.1	Maritime chaparral, cismontane woodland, coastal scrub	70-810 m PH February-Sept.	**Low Potential**. Not Observed. Vegetation on-site is not typical of the species; no reported occurrences in the Project quadrangles.
Ross' pitcher sage *Lepechinia rossii*	--	--	1B.2	Chaparral, in soil derived from reddish fine-grained sedimentary rock.	305-790 m S(e) May-September	**Not Expected**. Not Observed. No habitat typical of this species is present on-site.

Common Name and *Scientific Name*	Status: Federal	Status: State	Status: CNPS	Habitat Requirements	Elevation Range, Life Form, and Flowering Period	Potential Occurrence
Davidson's bush-mallow *Malacothamnus davidsonii*	--	--	1B.2	Sandy washes in chaparral, cismontane woodland, coastal scrub, riparian woodland	185-855 m S(d) June-January	**Moderate Potential**. Not Observed. Historical occurrence in the search region, but not observed in the 1997-1998 or 2013 surveys.
Tehachapi monardella *Monardella linoides ssp. oblonga*	--	--	1B.3	Lower and upper montane coniferous forest, pinyon and juniper woodland	900-2,470 m RH June-August	**Not Expected**. Not Observed. No habitat typical of this species is present on-site.
Spreading navarretia *Navarretia fossalis*	FT	--	1B.1	Vernal pools, chenopod scrub, marshes	30-665 m AH April-June	**Not Expected**. Not Observed. No habitat typical of this species is present on-site.
Ojai navarretia *Navarretia ojaiensis*	--	--	1B.1	Valley and foothill grassland, openings in chaparral and coastal scrub	275-620 m AH May-July	**Not Expected**. Not Observed. No habitat typical of this species is present on-site.
Piute Mountains navarretia *Navarretia setiloba*	--	--	1B.1	Cismontane woodland, pinyon-juniper woodland, valley and foothill grassland; red clay soils or gravelly loam	285-2100 m AH April-July	**Not Expected**. Not Observed. No habitat typical of this species is present on-site.
Short-joint beavertail *Opuntia basilaris* var. *brachyclada*	--	--	1B.2	Chaparral, Joshua tree woodlands, Mojavean desert scrub, pinyon and juniper woodland	425-1,800 m PSS April-August	**Low Potential**. Not Observed. Historical occurrence in the search region, but not observed in 1997-1998 or 2013 surveys. No habitat typical of this species is present on-site.
California Orcutt grass *Orcuttia californica*	FE	CE	1B.1	Vernal pools	15-660 m AH April-August	**Not Expected**. Not Observed. No habitat typical of this species is present on-site.

Common Name and *Scientific Name*	Status: Federal	Status: State	Status: CNPS	Habitat Requirements	Elevation Range, Life Form, and Flowering Period	Potential Occurrence
Lyon's pentachaeta *Pentachaeta lyonii*	FE	CE	1B.1	Chaparral (openings), coastal scrub, valley and foothill grassland; rocky clay.	30-630 m AH March-August	**Moderate Potential**. Not Observed. Historical occurrence in the search region, but not observed in 1997-1998 or 2013 surveys.
Chaparral ragwort *Senecio aphanactis*	--	--	2B.2	Dry alkaline flats within cismontane woodland, coastal scrub.	15-800 m AH Jan-April	**Moderate Potential**. Not Observed. Historical occurrence in the search region, but not observed in 1997-1998 or 2013 surveys.
Greata's aster *Symphyotrichum greatae*	--	--	1B.3	Chaparral, cismontane woodland, coastal scrub on drying alkaline flats.	15-800 m AH Jan-April	**Not Expected**. Not Observed. No habitat typical of this species is present on-site.

Federal
FE: Federally listed as Endangered
FT: Federally listed as Threatened
FC: Federal Candidate for listing as Endangered or Threatened

State
SE: State listed as Endangered
ST: State listed as Threatened

California Rare Plant Ranks
1B: Rare, Threatened, or Endangered in California and elsewhere
2B: Rare, Threatened, or Endangered in California, but more common elsewhere
3: More information needed to determine rarity

CNPS threat ranks
.1: Seriously Threatened in California
.2: Moderately Threatened in California
.3: Not Very Threatened in California

Table 5.3-2
Special-Status Wildlife Recorded From the Project Vicinity

Common Name and *Scientific Name*	Status Federal	Status State	Habitat Requirements	Potential Occurrence
Invertebrates				
Monarch butterfly (wintering sites) *Danaus plexippus*	--	sa	Winter roost sites located in wind-protected tree groves (gum trees, Monterey pine, and cypress trees), with water sources nearby.	**Not Expected**. Individual monarchs may occur, but no suitable wintering roost sites are present on the Project Site.
Riverside fairy shrimp *Streptocephalus woottoni*	FE	--	Vernal pools, temporary rain pools	**Low Potential**. Seasonal rainpools do occur on-site. However, visual surveys conducted in 2014 did not reveal the presence of any fairy shrimp and USFWS protocol surveys were determined not be required at the Project Site.
Fishes				
Santa Ana sucker *Catastomus santaanae*	FE (excludes Santa Clara River population)	SSC	Rivers and streams	**Not Expected**. No suitable habitat on-site.
Unarmored threespine stickleback *Gasterosteus aculeatus williamsoni*	FE	SE	Slow-moving or back water sections of warm to cool streams	**Not Expected**. No suitable habitat on-site.
Arroyo chub *Gila orcutti*	--	SSC	Rivers and streams	**Not Expected**. No suitable habitat on-site.
AMPHIBIANS & REPTILES				
Arroyo toad *Anaxyrus californicus*	FE	SSC	Semi-arid regions near washes or intermittent streams including valley foothill and desert riparian streams. Rivers with sandy terraces, riparian trees.	**Not Expected**. Very marginal habitat present on-site. Focused studies were performed on the Project Site in May 2001. Results determined no arroyo toads were present and habitat was "marginally suitable."
Western spadefoot toad *Spea hammondii*	--	SSC	Open sandy, gravelly areas in mixed woodlands, grasslands, alluvial fans, playas, vernal pools where rainpools do not contain predators.	**Present**. Spadefoot toad egg clusters and tadpoles were observed in two of the detention basins and two other rainpools occurring on site after a storm in March 2014.

Common Name and *Scientific Name*	Status Federal	Status State	Habitat Requirements	Potential Occurrence
California red-legged frog *Rana draytonii*	FT	SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby, or emergent riparian vegetation.	**Not Expected**. No suitable habitat present on-site. Focused studies were performed on the Project Site in May 2001. Results determined no red-legged frogs were present and that they were unlikely to successfully occupy the habitat on site.
Sierra Madre yellow-legged frog *Rana muscosa*	FE	SC	Lakes, ponds, meadow streams, isolated pools and sunny riverbanks.	**Not Expected**. No suitable habitat present on-site and Project Site outside of known distributional range of species.
Western pond turtle *Emys marmorata*	--	SSC	Streams, rivers, ponds, freshwater marshes, and lakes with growth of aquatic vegetation.	**Not Expected.** No suitable habitat present on-site.
Silvery legless lizard *Anniella pulchra pulchra*	--	SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential.	**Moderate Potential**. Sandy areas under tree leaf litter in western portion of Project Site and along Hasley Canyon Creek may provide some suitable habitat.
Coast horned lizard *Phrynosoma blainvillii*	--	SSC	Relatively open grasslands, scrublands, and woodlands with fine, loose soil.	**Moderate Potential.** Species may occur in remaining patches of scrub, but disturbance history would likely preclude a sustainable population surviving there.
Coastal whiptail *Aspidoscelis tigris stejnegeri*	--	sa	Open areas in semiarid grasslands, scrublands, and woodlands.	**Moderate Potential.** Species may occur in remaining patches of scrub, but disturbance history may preclude a sustainable population surviving there
Rosy boa *Charina trivirgata*	--	sa	Woodlands, grassland, chaparral, and scrub habitats; often found in mesic areas under rocks, logs, and debris.	**Low Potential.** Very limited suitable habitat is present on-site and disturbance history likely to discourage this species from occurring.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	--	SSC	Semi-arid brushy habitats; canyons, rocky hillsides, plains	**Low Potential.** Very limited suitable habitat is present on-site and disturbance history likely to discourage this species from occurring.
Two-striped garter snake *Thamnophis hammondii*	--	SSC	Perennial and intermittent streams and man-made lakes and stock ponds; requires dense riparian vegetation.	**Not Expected.** No suitable habitat present on-site.

Common Name and *Scientific Name*	Status Federal	Status State	Habitat Requirements	Potential Occurrence
Birds				
Cooper's hawk *Accipiter cooperi*	--	WL (Nesting)	Dense stands of live oaks and riparian woodlands.	**Moderate Potential.** Species may occur as infrequent forager, and a few of the oaks on western portion of the Project Site may provide opportunity for nesting, but disturbance history may preclude nesting there.
So. California rufous-crowned sparrow *Aimophila ruficeps canescens*	--	WL (Nesting)	Chaparral, Coastal sage scrub.	**Moderate Potential.** Species may occur as periodic forager, and remaining patches of scrub may provide opportunity for nesting, but disturbance history may preclude nesting there.
Grasshopper sparrow *Ammodramus savannarum*	--	WL	Grasslands and marshes.	**Low Potential.** Very limited suitable habitat is present on-site and this species was not detected during site surveys. Disturbance history is also likely to discourage this species from occurring.
Bell's sage sparrow *Amphispiza belli ssp. belli*	--	WL	Coastal sage scrub and chamise chaparral.	**Moderate Potential.** Species may occur as periodic forager, and remaining patches of scrub may provide opportunity for nesting, but disturbance history may preclude nesting there.
Burrowing owl *Athene cunicularia*	--	SSC (Burrow sites, some wintering sites)	Open, dry annual or perennial grasslands, deserts and scrublands with low-growing vegetation	**Low Potential.** Limited suitable habitat is present on-Project Site, but no sign of species on-site during site surveys. Disturbance history also likely to discourage this species from occurring.
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC	SE (Nesting)	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willows often mixed with cottonwoods, with dense understory.	**Not Expected.** No suitable habitat present on-site.
Yellow warbler *Dendroica petechial brewsteri*	--	SSC	Riparian scrub and woodlands.	**Low Potential**. Can occur as infrequent forager in southern portion of Project Site near Hasley Canyon Creek. No suitable nesting habitat present on-Project Site.
White-tailed kite *Elanus leucurus*	--	CFP	Open vegetation and uses dense woodlands for cover.	**Moderate Potential**. Species can occur as infrequent forager, and a few of the oaks on western portion of the Project Site may provide opportunity for nesting, but disturbance history may preclude nesting there.

Common Name and *Scientific Name*	Status Federal	Status State	Habitat Requirements	Potential Occurrence
California horned lark *Eremophila alpestris actia*	--	WL	Grasslands, disturbed areas, agriculture fields, and beach areas.	**Not Expected**. No suitable habitat present on-Project Site.
California condor *Gymnogyps californianus*	FE	SEL	Forage in numerous habitats from mountain forests to beaches. Nest in caves on cliff faces in the mountains.	**Low Potential**. Could show up if carrion were to be present within Project boundary and buffer, but no suitable nesting habitat in immediate vicinity.
Yellow-breasted chat *Icteria virens*	--	SSC (Nesting)	Dense riparian scrub and woodlands.	**Low Potential**. Can occur as infrequent forager. Very limited suitable nesting habitat present on-site.
Loggerhead shrike *Lanius ludovicianus*	--	SSC (Nesting)	Grasslands, open scrub, disturbed areas, agriculture fields	**Low Potential**. Can occur as infrequent forager. Very limited suitable nesting habitat present on-site.
California gnatcatcher *Polioptila californica*	FE	SSC	Coastal sage scrub in areas of flat or gently sloping terrain.	**Low Potential**. Very little suitable habitat present on-site. Not likely enough to support a territory for a single pair.
Bank swallow *Riparia riparia*	--	ST (Nesting)	Low areas along rivers, streams, coasts, or reservoirs. Nest in colonies in bluffs and stream banks.	**Not Expected**. No suitable habitat present on-site and no recent records in the vicinity.
Least Bell's vireo *Vireo bellii pusillus*	FE	SE (Nesting)	Low riparian scrub in vicinity of water or in dry riverbeds.	**Low Potential**. Very limited habitat along Hasley Canyon Creek
MAMMALS				
Spotted bat *Euderma maculatum*	--	SSC	Variety of habitats from arid deserts and grasslands to mixed coniferous forests; feeds over water and washes.	**Low Potential**. Can occur as infrequent forager in southern portion of Project Site near Hasley Canyon Creek. No suitable roosting habitat present on-site.
California leaf-nosed bat *Macrotus californicus*	--	SSC	Desert riparian, desert wash, desert scrub, alkali scrub and pond oases; rocky terrain with mines or caves for roosting.	**Low Potential**. Can occur as infrequent forager in southern portion of Project Site near Hasley Canyon Creek. No suitable roosting habitat present on-site.
Pallid bat *Antrozous pallidus*	--	SSC	Deserts, grasslands, woodlands and forests; open dry habitats with rocky areas for roosting	**Not Expected**. Can infrequently forage in the area, but no suitable roosting habitat present on-site.

Common Name and *Scientific Name*	Status Federal	Status State	Habitat Requirements	Potential Occurrence
Western mastiff bat *Eumops perotis californicus*	--	SSC	Arid and semi-arid habitats including conifer and deciduous woodlands, coastal scrub, chaparral, grasslands; roosts in crevices in cliff faces, high buildings, trees, and tunnels.	**Not Expected**. Can infrequently forage in the area, but no suitable roosting habitat present on-site.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	--	SSC	Open chaparral, coastal sage scrub, and grasslands.	**Moderate Potential**. Known to occur in the area, however, habitat on-site is highly degraded, resulting in a lack of refugia and food.
San Diego desert woodrat *Neotoma lepida intermedia*	--	SSC	Chaparral and coastal sage scrub; rock outcrops, rocky cliffs and slopes	**Moderate Potential**. Limited suitable habitat present on-site. This species more commonly associated with upland scrub habitat with rocky outcrops.
American badger *Taxidea taxus*	--	SSC	Plains, prairies, open edges of woodlands, grassy hillsides	**Not Expected**. Very little suitable habitat present and no suitable burrows observed on-site.

KEY:

(nesting) = *For most taxa the CNDDB is interested in sightings for the presence of resident populations. For some species (primarily birds), the CNDDB only tracks certain parts of the species range or life history (e.g., nesting locations). The area or life stage is indicated in parenthesis after the common name.*

Status:

Federal -- US Fish and Wildlife Service

FE: Federally Endangered

FT: Federally Threatened

FC: Proposed for Federal Listing

State -- California Department of Fish and Wildlife

SE: State-listed Endangered Species

ST: State-listed Threatened Species

SC: State Candidate for listing as Endangered or Threatened

CFP: California Fully Protected Species

SSC: California Species of Special Concern

WL: CDFW Watch List

sa *California Special Animal (species with no official federal or state status, but are included on CDFW's Special Animals list as CDFW is interested in collecting distribution and population data)*

Special-Status Plant Species

Table 5.3-1 lists all of the rare plants recorded from the Project region and summarizes the assessment of potential for each to occur on the Project Site. No Threatened, Endangered, or other special-status plant species were observed in 2013 or in surveys conducted in 1997–1998.

Some of the special-status plant species in **Table 5.3-1** have been identified as having a "moderate" potential for occurrence primarily because there have been records of occurrence in the region and at least one primary habitat element may be present on-site. However, other important habitat requirements (e.g., soil type) are lacking. Additionally, following multiple focused rare plant surveys in 1997–1998 and 2013, occurrence of these species on the Project Site is it thought to be unlikely, but cannot be fully ruled out. Although considered absent after conducting valid protocol-level surveys, if suitable habitat elements are present in a given area where a particular species is known and there are documented occurrences in the near region, it is assumed there is still some limited potential for them to germinate on-site in the future. Therefore, some of the rare plants included on **Table 5.3-1** are still considered to have a "moderate" potential for occurrence. These particular plant species are described in more detail below.

Braunton's milk-vetch (*Astragalus brauntonii*) – ***Federally listed Endangered Species, CNPS Rare Plant Rank 1B.1*** — This perennial herb is endemic to California. Unlike many rare plants in the area, it actually thrives in post-burn and disturbed areas; usually in sandstone substrate with carbonate layers. The Project Site supports generally suitable habitat for the species and it has been recorded in the region. However, the Project Site does not support the typical sandstone and carbonate soils this species is found in and none of this species was found during the 1997–1998 or the 2013 focused rare plant surveys. Therefore, this species has a moderate potential for occurrence.

Round-leaved filaree (*California macrophylla*) — ***Rare Plant Rank 1B.1*** — This is a small annual herb that is most commonly associated with valley and foothill grasslands, but may also occur in cismontane woodlands. Clay soils are usually present where they occur. Marginally suitable habitat is present in the previously ungraded portions of the Project Site, though typical soils are not present in most of those areas and none of this species was found during either the 1997–1998 or 2013 focused rare plant surveys. However, because there are still some habitat elements present on-site and they are known from the region, round-leaved filaree is considered to have a moderate potential for occurrence.

Slender Mariposa lily (*Calochortus clavatus* var. *gracilis*) — ***Rare Plant Rank 1B.2.*** Although the bulbs of this lily are perennial, the flowers are typically only seen between March and June. Multiple focused rare plant surveys have been conducted during the appropriate time to have observed this plant if it were present on-site. Notwithstanding, there have been several occurrences of this species recorded in the area

and some suitable habitat remains on the Project Site in the previously ungraded areas. Therefore slender mariposa lily is considered to have a moderate potential for occurrence.

Southern tarplant (*Centromadia parryi* ssp. *australis*) — ***Rare Plant Rank 1B.1.*** This annual herb is known to occur in wet areas and has some potential to occur around the detention basins on the Project Site. It was not observed during rare plant surveys. This is possibly because the detention basins are required to be scraped annually as part of the SWPPPs requirements for maintenance. Further, this plant has not been recorded in the CNDDB or the CNPS databases as occurring within the 9-quadrangle search area. Notwithstanding, it is considered to have a moderate potential for occurrence.

San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*) — ***Federal Candidate Species for Listing, State-listed Endangered Species, Rare Plant Rank 1B.1*** — This tiny plant was thought to be extinct before it was rediscovered on Ahmanson Ranch in 1999. Since then it has been listed as Endangered in California and is a Candidate for listing under the federal Endangered Species Act (ESA). This annual herb is typically detectable between April and July in grassland or coastal scrub habitats with sandy soils. Despite focused surveys during the blooming period in 1997–1998 and 2013, none of this species was found. However, some habitat elements are present on-site and there are several records of occurrence of this species on nearby Newhall Ranch. Therefore, San Fernando Valley spineflower is still considered to have a moderate potential for occurrence.

San Gabriel bedstraw (*Galium grande*) — ***Rare Plant Rank 1B.2*** — This deciduous shrub has been recorded in a number of different habitat types including woodlands and chaparral. Despite multiple focused surveys conducted during the appropriate seasons, none has been observed on-site. Because some habitat elements are present on-site in the previously ungraded areas, and because there are historic occurrences in the region, the potential for occurrence on-site remains moderate.

Davidson's bush-mallow (*Malacothamnus davidsonii*) — ***Rare Plant Rank 1B.2*** — Davidson's bush-mallow is a perennial deciduous shrub occurring in chaparral, coastal scrub, and woodlands. It can flower anytime between June and January and despite multiple focused surveys during the appropriate seasons none has been observed on-site. Because some habitat elements are present on-site in the previously ungraded areas, and because there are historic occurrences in the region, the potential for occurrence on-the Project Site remains moderate.

Lyon's pentachaeta (*Pentachaeta lyonii*) — ***Federally listed Endangered Species, State-listed Endangered Species, Rare Plant Rank 1B.1*** — This small annual herb is typically only visible between March and August, with most of the flowering periods being identified in the summer. Despite focused surveys during the blooming period in 1997–1998 and 2013, none of this species was found. However, some

habitat elements are present on-site and there are records of occurrence of this species in the region. Therefore, it is still considered to have a moderate potential to occur on-site.

Chaparral ragwort (*Senecio aphanactis*) — ***Rare Plant Rank 2B.2*** — This is another small annual herb that typically flowers between January and April. It is usually associated with alkaline soils within cismontane woodlands and coastal scrub. Multiple focused rare plant surveys have been conducted on-site during this period, but none has been recorded. Since there are coastal sage scrub elements remaining on-site and because soils in the areas of the retention basins could become alkaline over time with repeated filling and evaporation, this species is considered to have a moderate potential for occurrence on-site.

Special-Status Animal Species

Highly motile special-status wildlife species including birds and larger mammals can periodically forage over the Project Site or use trees to roost or nest in. However, the disturbed nature of the Project Site likely precludes these animals from residing on-site or being dependent upon the remaining resources on-site.

Following a storm event in March 2014, the Project Site was surveyed for the purpose of determining the presence or absence of western spadefoot toad and fairy shrimp. Visual surveys conducted at that time did not reveal the presence of any fairy shrimp. However, numerous western spadefoot egg clusters and tadpoles were observed.

Vernal Pool Fairy shrimp - Various species collectively referred to as Listed Vernal Pool Branchiopods (LVPB), potentially including *Branchinecta* spp., *Linderiella* spp., and *Streptocephalus woottoni*: Vernal pool fairy shrimp occupy seasonal rain ponds such as vernal pools and wet depressions, where they reproduce during periods of inundation. Fairy shrimp can complete their life cycle from egg to adult in 16 days. Fairy shrimp survive during dry periods as eggs in dry soil, which remain viable for 6-10 months or longer, with eggs remaining viable for 10 years.[10] Eggs may be transported between suitable wetland habitat by animals (primarily birds) or even by wind. Although the Project Site does not support traditionally-defined vernal pools (seasonally inundated wetlands underlain by hardpans which pool water), the artificial detention basins and tire-rut rain pools could support vernal pool fairy shrimp.

Western spadefoot (*Spea hammondii*)—*CDFW Species of Special Concern*: Western spadefoot is a small toad that typically occurs in open scrub, open woodland, and grassland habitats. They require seasonal

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10 California Department of Pesticide Regulation: http://www.cdpr.ca.gov/docs/endspec/espdfs/vpool1.pdf.

rainpools that last long enough for complete metamorphosis of tadpoles, but not long enough to support predatory fish or amphibians (e.g. bullfrog) to become established. Therefore, they are often associated with vernal pools in central to Southern California, but they may also breed in seasonal pools that occur both naturally or artificially such as livestock wallows and tire ruts (personal observation). The retention basins on the Project Site, required for the installation of anti-erosion Best Management Practices (BMPs) on the previously graded portion of the Project Site, provide suitable breeding pools when there is enough rain to fill them. Although much of the Project Site has been graded, which effectively eliminated most of the suitable non-breeding habitat on-site; there are still some pockets of vegetation on-site that would be suitable for the non-breeding periods of time when spadefoot toads spend much of their time underground. Following a rain event in March 2014, the Project Site was visited on two occasions to survey for the presence of western spadefoot. Spadefoot egg clusters and tadpoles were observed within two of the on-site detention basins and in two additional rain pools that formed along the side of existing access roads.

Special-Status Wildlife Species with Moderate Potential to Occur

Silvery legless lizard (*Anniella pulchra pulchr*a) — ***CDFW Species of Special Concern***: Silvery legless lizards occur primarily in areas with sandy or loose loamy soils. They are most commonly found in sparsely vegetated beaches, stabilized dunes, chaparral, and riparian woodlands. They spend most of their lives beneath the surface soils and are often found under logs, rocks, debris, and leaf litter. Soil moisture is critical for their survival. Disturbed areas from agriculture, mining, and some other human uses are not suitable for this species. As such, much of the Project Site does not support suitable habitat. However, the least disturbed areas of chaparral on-site and the riparian habitats along the western portion of the Project Site and along Hasley Canyon Creek still provide suitable conditions for this species to persist. Although much of the Project Site has been altered to a degree that would not be expected to support legless lizards, some patches of suitable habitat remain. Therefore, this species is considered to have a moderate potential for occurrence.

Coast horned lizard (*Phrynosoma blainvillii*) — ***CDFW Species of Special Concern***: Despite their name, coast horned lizards occur in suitable habitats from the coast to the mountains where they can be found in a variety of scrub and woodland habitats, and sometimes open grasslands. They require loose soils to burrow into for thermoregulation. They are insectivorous with their primary prey species being harvester ants (*Pogonomyrmex* spp.). The previously graded portions of the Project Site no longer provide any suitable habitat for this species. However, some of the flatter and less disturbed scrub habitats on-site remain marginally suitable, though no native harvester ants were observed. Therefore, coast horned lizards have a moderate potential for occurrence.

San Diego tiger (coastal) whiptail (*Aspidoscelis tigris stejnegeri*) – ***CDFW Special Animal***: This relatively long (to 13 inches) and slender lizard occurs in a variety of habitats, primarily hot and arid area with sparse vegetation within chaparral, woodlands and riparian areas. They are known for their rapid movements and prefer open areas where they have plenty of space to run from predators. The un-graded portions of the Project Site provide some marginally suitable habitat for them to hide and forage on invertebrates and other small lizards. Because of the disturbance history on-site and the limited amount of high quality habitat for this species on-site, they are thought to have a moderate potential for occurrence.

Cooper's hawk (*Accipiter cooperii*) —***CDFW Watch List***: Nesting individuals of this species are considered special-status by CDFW. It nests in open forests, groves, trees along rivers, and less frequently in low scrub of treeless areas. The wooded area is often near the edge of a field or water. Only marginally suitable nesting habitat is present, but they probably forage on-site periodically for smaller birds, their primary prey. They are known to nest in the region of the Project, but since nesting habitat on-site is limited, their potential for occurrence is considered moderate.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) —***CDFW Watch List:*** This species is common within the region of the Project Site and most commonly nests on slopes in chaparral. The most suitable habitat on-site is limited in quality and quantity so rufous-crowned sparrows have a moderate potential to occur on-site.

Bell's sage sparrow (*Amphispiza belli belli*) — ***CDFW Watch List:*** Less common than the rufous-crowned sparrow, this species is still fairly common within the region of the Project Site and may also utilize the remaining scrub habitat on-site. However, due to the level of disturbance of the remaining scrub on-site, their expected occurrence on-site is moderate.

White-tailed kite (*Elanus leucurus*) — ***California Fully Protected Species*****:** White-tailed kites utilize a variety of habitats, but are generally associated with riparian woodlands situated near open grassland and/or agricultural fields. This species is a year-long resident in coastal and valley lowlands. White-tailed kites are known to occur in the vicinity of the Project Site. Due to the disturbance history on-site and existing conditions, foraging opportunities are limited as habitat for small mammals (their primary prey) is considerably reduced. Likewise, there are only a few suitable nesting trees on and immediately adjacent to the Project Site. Notwithstanding, because there are some foraging opportunities and limited nesting habitat this species has a moderate potential for occurrence.

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) — ***CDFW Species of Special Concern****:* Black-tailed jackrabbits occur in a variety of habitats including deserts, pastures, agricultural fields, and

open scrub. They feed on several species of grasses and herbs, including many cultivated crops. No jackrabbits were observed during 2013 site visits. The previous grading on-site has eliminated most of the suitable habitat for this species. Though there is remaining scrub on-site, most of it is on slopes and jackrabbits tend to remain in flatter areas. Notwithstanding, since black-tailed jackrabbits do occur in the area and some foraging opportunities are present, they are considered to have a moderate potential to occur on-site.

San Diego desert woodrat (*Neotoma lepida intermedia*) — ***California Species of Special Concern*:** San Diego desert woodrats are associated with moderate to dense scrub canopies, rock crevices, and in other protected areas where nest building materials are available. This species is highly adaptable and may depend upon succulents for water. Desert woodrats have a moderate potential to occur in the denser, undisturbed scrub habitats on the Project Site.

Protected Trees and Sensitive Habitats

Oak Trees

The County of Los Angeles Oak Tree Ordinance (CLAOTO), Sections 22.56.2050–22.56.2260, protects oak trees that are at least 8 inches in diameter, as well as trees that have two trunks totaling at least 12 inches in diameter, as measured 4.5 feet above natural ground. A heritage oak, as defined by CLAOTO, is any species in the genus *Quercus* that measures 36 inches or more in diameter as measured 4.5 feet above natural ground, or any oak of 36 inches or less in diameter having a significant historical or cultural importance to the community. CLAOTO requires that all potential impacts to oak trees regulated by this ordinance be preceded by an application to the County that includes a detailed oak tree report. Mitigation for impacts to oak trees is usually required as a condition of an Oak Tree Permit issued by the County.

California Public Resources Code Section 21083.4 sets forth the following three analytical and mitigation requirements for oak tree impacts: (a) counties must determine whether a project may result in the conversion of oak woodlands; (b) if it does, the County must determine if the conversion will have a significant impact on the environment; and (c) if there is a conversion, and it has a significant impact, the County must impose one or more of the following mitigation measures:

1. Conserve oak woodlands, through the use of conservation easements
2. Plant an appropriate number of trees, including maintaining plantings and replacing dead trees
    a. Maintain planted oak trees for seven years
    b. The planting of oak trees shall not fulfill more than one-half of the mitigation requirement for the Project

3. Contribute funds to the Oak Woodlands Conservation fund
4. Other mitigation measures developed by the County

California Public Resources Code Section 21083.4, subdivision (a), defines "oak" as a "native tree species in the genus *Quercus*, not designated as Group A or Group B commercial species pursuant to regulations adopted by the State Board of Forestry and Fire Protection pursuant to Section 4526, and that is 5 inches or more in diameter at breast height." This statute generally defines "oak woodland" as any oak stands with greater than 10 percent canopy cover with oaks at least five (5) inches in diameter measured at 4.5 feet above mean natural grade. The California Public Resources Code Section 12220, subdivision (g), indicates that "forest land" is any "land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits."

Using California Public Resources Code Section 12220, subdivision (g), as a guide, this EIR defines "oak woodland" as an area with at least 10 percent cover by oak trees.

In April 2013 biologists surveyed the entire Project Site, recording all oak trees in terms of size and maturity, including all trees with trunk diameters of 5 inches or more, measured at breast height, as required under California Public Resources Code Section 21083.4, subdivision (a). The report is provided in **Appendix 5.3-4**. The survey identified 22 oaks potentially regulated by the California Public Resource Code and CLAOTO within the total survey area; three of which are heritage oaks. All of the trees recorded are California (coast) live oak (*Quercus agrifolia*). **Figure 5.3-2, Oak Tree Locations,** illustrates the distribution of these trees on the Project Site. The majority of the trees occur in the northwest portion of the property, outside of the proposed development envelope. These surveys also indicated that no oak woodlands occur within the grading envelope. It should also be noted that no small oak trees were present on-site, indicating a lack of recruitment and reproduction of oaks within the past several years.

SOURCE: Land Design Consultants, Inc., May 2013

FIGURE **5.3-2**

Oak Tree Locations

1154.001•02/15

California Live Oak Woodland [G5 S4]

California live oaks occur mainly as isolated trees within the *Acmispon glaber* shrubland alliance. Exceptions consist of six stands of trees, each of which has no more than three individuals, but a canopy cover of more than 10 percent, thereby meeting the definition of an "oak woodland" under the state oak Woodlands Conservation Act. All of these stands are on the west side of the Project Site (**Figure 5.3-1**).

Mainland Holly-leaf Cherry Woodland

As discussed, the mainland holly-leaf cherry "woodland" once identified on the Project Site has deteriorated. Based on-site evaluation it is apparent that erosion from runoff from the adjacent development to the north has resulted in the majority of holly-leaf cherry trees dying and/or falling into the drainage course, thus reducing over 1.3 acre of this alliance to 0.36 acre. As such, although still sensitive, a description as "woodland" is not necessarily appropriate as the surviving trees are scattered and shrubby. Therefore, for the purposes of this this analysis, it will continue to be referred to as a shrub alliance.

Lepidospartum squamatum (Scalebroom scrub) Shrubland Alliance [G3 S3]

Also referred to as scale broom scrub, this community is limited to a small alluvial deposit at the southwest corner of the Project Site in Hasley Canyon. While scale broom is dominant, species common to the *Acmispon glaber* and *Artemisia californica* alliances are also present. Shrub cover is in the range of 30 to 50 percent.

Jurisdictional Resources

A delineation of jurisdictional resources was completed on the Project Site and is attached as **Appendix 5.3-3**.

Delineation Criteria

California Department of Fish and Wildlife

At the state level, CDFW has jurisdictional authority over resources associated with rivers, streams, and lakes.[11] The California Code of Regulations define a stream as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish and other aquatic

[11] California Fish and Game Code §§ 1600-1616

life including watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."[12] CDFW jurisdiction typically extends between the top of each bank or to the outer edge of contiguous riparian vegetation, whichever is greater.

US Army Corps of Engineers

At the federal level, the United States Army Corps of Engineers (USACE) regulates placement of "dredge" and "fill" in waters of the US including adjacent wetlands under the authority of Section 404 of the federal Clean Water Act.[13] The Code of Federal Regulations defines "waters of the US" as intrastate lakes, rivers, streams, mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, play lakes, or natural ponds. Wetlands are defined as "areas that are inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Assessment of federal jurisdiction is based on two main factors: (1) nexus or connectivity of "traditionally navigable waters" or "relatively permanent waters" and (2) presence of "ordinary high water marks."

Regional Water Quality Control Board

Federal authority over water quality under Section 401 of the federal Clean Water Act is typically delegated to Regional Water Quality Control Boards (RWQCBs) unless a project encompasses more than one region, in which case the State Water Resources Control Board may assert regulatory authority. This Project falls under the authority of the Los Angeles Regional Water Quality Control Board. Section 401 of the federal Clean Water Act requires that "any applicant for a federal permit for activities that involve a discharge to waters of the United States, shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the Federal Clean Water Act."

In addition to Section 401 of the federal Clean Water Act, the RWQCB exerts authority of "Waters of the State" and water quality by means of state law. "Waters of the State" are broadly defined by sections of the California Water Code, known as the Porter-Cologne Water Quality Control Act, as "any surface water or ground water, including saline waters, within the boundaries of the state."[14]

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12 California Code of Regulations (C.C.R.), Title 14 § 1.72

13 Federal Clean Water Act of 1972 § 404. See also 33 USC. § 1341

14 California Water Code § 13050(e).

Project Site Features

The jurisdictional delineation determined that federal and state jurisdictional features on-site consist of non-wetland, relatively permanent waters with seasonal flow. No wetlands were observed, and the National Wetlands Inventory for California does not indicate any presence of wetlands on the Project Site. A concrete-lined pond in the southwest corner of the property in Hasley Canyon floodplain is isolated and used to irrigate a small nursery of boxed conifers. This artificial pond, which appears to have originated as part of the abandoned 1960s golf course, is not jurisdictional.

There are three federal and state jurisdictional features on the Project Site: Hasley Canyon Creek and two un-named tributaries to Hasley Canyon Creek. **Figure 5.3-3, Jurisdictional Features** illustrates their locations relative to the vegetation communities.

Hasley Canyon Creek

Hasley Canyon Creek is a tributary of Castaic Creek, which connects to the Santa Clara River. The Santa Clara River ultimately flows to the Pacific Ocean at Ventura, thus a federal nexus to "traditionally navigable waters."

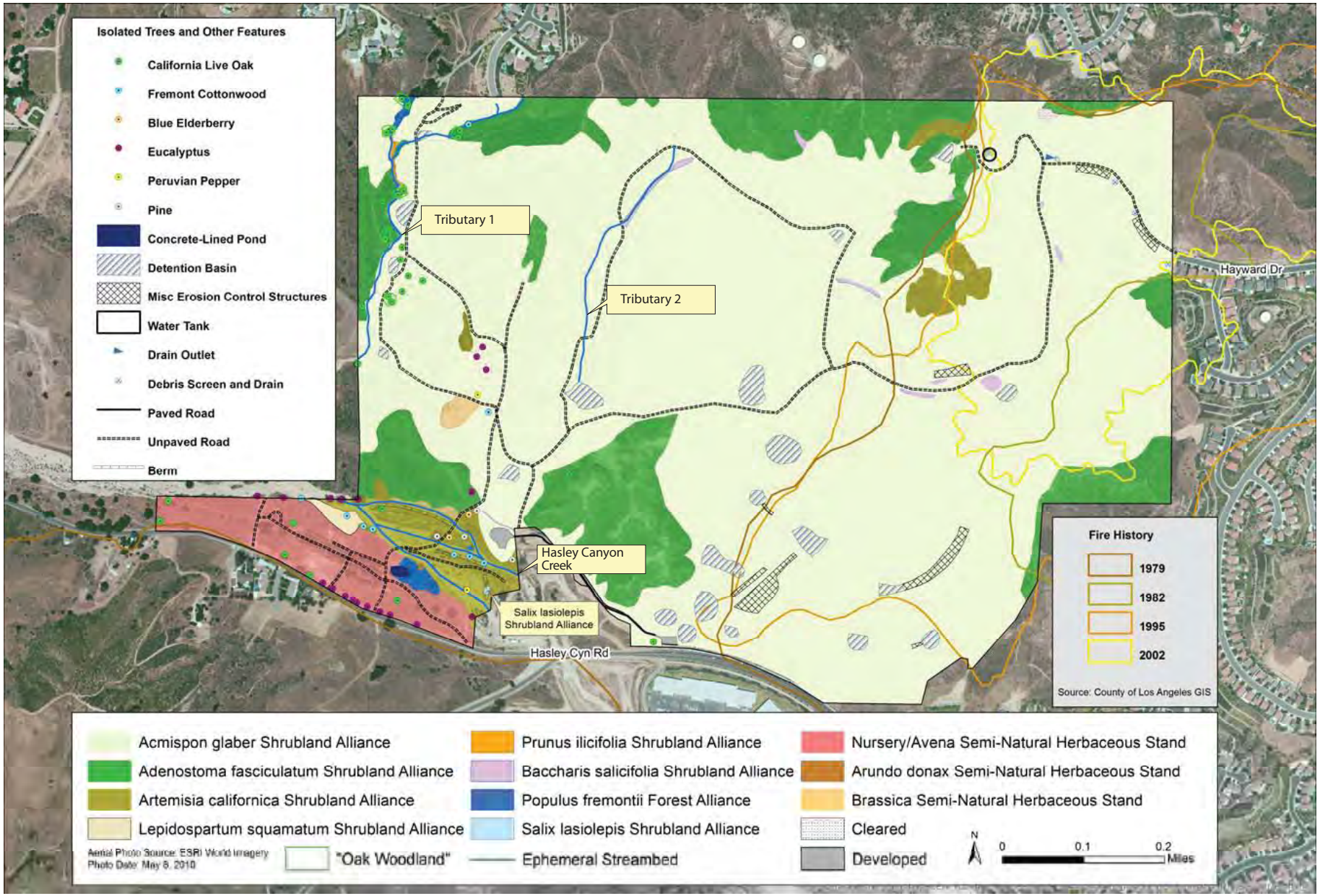
Federal jurisdiction totals 8.8 acres and state jurisdiction totals 9.4 acres, both along a section of the creek that is about 1,200 feet long.

Un-Named Tributary #1

The main stem of this tributary is mapped by the USGS as a "blue-line" stream and was identified as jurisdictional in previous delineations. After further analysis, it was concluded that jurisdiction also includes a fork to the northeast that exhibits evidence of flows. It is possible that this northeastern fork had not yet formed a definable bed and bank prior to the most recent surveys, and therefore was not indicated in the previous jurisdictional delineations. Notwithstanding, past years of rain and runoff have now created this small fork that also meets jurisdictional criteria.

Most of un-named Tributary #1 is classified as riverine, relatively permanent waters with seasonal flow. However, the northernmost section of the tributary main stem receives runoff from a residential development north of the Project Site, and this runoff appears to be perennial, supporting a dense forest of riparian vegetation that was not present historically. This runoff has also incised the channel to a depth below the root zone of mainland holly leaf cherry and other vegetation downstream of the riparian section.

Federal jurisdiction over un-named Tributary #1 totals 0.62 acre. State jurisdiction totals 1.72 acres.



SOURCE: E Read and Associates, Inc., February 2014

FIGURE **5.3-3**

Jurisdictional Features

1154.002•01/15

Un-Named Tributary #2

This tributary was filled by construction of a golf course that predated federal and state environmental regulations, and remained undetected when delineations were conducted in 1997–1998 and 2009. However, subsequent rains have exposed the feature, which was mapped by the USGS as a "blue-line" stream in 1952, and currently exhibits streambed structure that makes the feature different from simple eroded gullies.

Federal jurisdiction totals 0.28 acre and 1,800 linear feet and state jurisdiction totals 1.81 acres. The tributary is dominated by deerweed scrub (*Acmispon glaber* shrubland alliance), an upland vegetation type. Small stands of mulefat (FAC) are scattered throughout but not dominant. Hydrologically, the tributary is isolated from Hasley Canyon Creek by historical fill. Its downstream section terminates at a detention basin.

Habitat Connectivity

As used in this document, habitat connectivity is an umbrella term referring to all of the factors relating to integration of habitats within an ecosystem. Wildlife corridors and habitat linkages are features that promote habitat connectivity. Wildlife corridors are typically discrete linear features within a landscape that are constrained by development or other non-habitat areas. Habitat linkages are networks of corridors and larger natural open space areas that encompass an adequate diversity and acreage of useable habitats to provide long-term resilience of ecosystems against the detrimental effects of habitat fragmentation, which creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open-space areas, various studies have concluded that many wildlife and plant species would not likely persist over time in fragmented or isolated habitat areas because they prohibit the movement of new individuals and genetic information among areas where they may be periodically displaced by natural or human-caused disturbances such as disease, fire, flood, etc.

Habitat linkages mitigate the effects of this fragmentation by:

- allowing plant and animal species to disperse between remaining habitat areas, thereby permitting at-risk populations to maintain sustainable levels of genetic variability;
- providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) causing population or local species extinction; and
- serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs.

South Coast Missing Linkages is an inter-agency effort to identify and conserve the highest priority linkages in the South Coast Ecoregion. Partners in the effort include South Coast Wildlands, National Park Service, US Forest Service, California State Parks, The Wildlands Conservancy, The Resources Agency, California State Parks Foundation, The Nature Conservancy, Santa Monica Mountains Conservancy, Resources Legacy Foundation, Conservation Biology Institute, San Diego State University Field Stations Program, Environment Now, Mountain Lion Foundation, and the Zoological Society of San Diego's Conservation and Research for Endangered Species, among others. The South Coast Missing Linkages project has developed a comprehensive plan for a regional network that would maintain and restore critical habitat linkages between existing open space reserves. Adjacent and outlying open spaces are also important in maintaining connections between open spaces. The nearest identified linkage to the Project Site is the San Gabriel – Castaic Connection. The Project Site and adjacent off-site parcels do not lie within the linkage design for this connection.

The Project Site is surrounded on three sides by existing development. Additionally, as described, approximately two thirds of the Project Site have been previously graded and support only sparse vegetation. Therefore, those portions of the Project Site are unsuitable for local or regional wildlife movement as there is no cover or refuge. The resulting condition is that local wildlife can move on to or off of the Project Site to utilize on-site resources that remain, but only from the west side. This situation of the Project Site among existing development combined with the disturbed nature of most of the Project Site indicates the Project Site is not an important part of local or regional wildlife movement linkages.

Notwithstanding, Hasley Canyon Creek does provide a connection from west and southwest of the Project Site to Castaic Creek and ultimately to the Santa Clara River. At the southwest corner of the Project Site, the creek turns southeast and crosses Hasley Canyon Road where it becomes a concrete-sided channel through a light industrial area, then daylights again east of Commerce Center Drive.

Watersheds

The Project Site lies within the Santa Clara River watershed with the majority of the Project Site draining either directly to Hasley Canyon Creek or to an unnamed tributary of the creek. Hasley Canyon Creek, in turn flows into Castaic Creek which ultimately drains to the Santa Clara River. The County of Los Angeles endeavors to minimize impacts to watersheds. Alterations in stormwater flows would occur with development of the Project Site and runoff associated with improper landscape irrigation could also occur. This runoff may potentially carry fertilizers, pesticides, and trash.

Section 5.9-2, Water Quality, in this EIR, addresses these issues with respect to water quality. By design, adherence to standard federal, state, and county development guidelines, along with site specific

mitigation measures outlined in **Section 5.9-2**, **Water Quality,** mitigate potential impacts to water quality to a less than significant level.

5.3.2 REGULATORY FRAMEWORK

Federal

Federal Endangered Species Act of 1973 (16 USC 1531 through 1543)

The federal Endangered Species Act (ESA) and subsequent amendments provide guidance for the conservation of Threatened or Endangered species and the ecosystems upon which they depend. The ESA defines species as "Threatened" or "Endangered" and provides regulatory protection for listed species. The federal ESA provides a program for conservation and recovery of Threatened and Endangered species, and conservation of designated critical habitat that the USFWS has determined is required for the survival and recovery of these listed species.

Section 7 of the ESA, requires federal agencies, in consultation with, and with the assistance of the Secretary of the Interior or the Secretary of Commerce, as appropriate, to insure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of Threatened or Endangered species or result in the destruction or adverse modification of critical habitat for these species. The USFWS and National Marine Fisheries Service (NMFS) share responsibilities for administering the ESA. Regulations governing interagency cooperation under Section 7 are found at 50 CFR Part 402. The opinion issued at the conclusion of consultation will include a statement authorizing a take that may occur incidental to an otherwise legal activity.

Section 9 of the ESA, lists those actions that are prohibited under the ESA. Take of a species listed in accordance with the ESA is prohibited. There are two processes whereby a take is allowed when it is incidental to an otherwise legal activity. Section 9 of the ESA prohibits take (i.e., to harass, harm, pursue, hunt, wound, kill, etc.) of listed species of fish, wildlife, and plants without special exemption. "Harm" is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or shelter. "Harass" is further defined as actions that create the likelihood of injury to listed species to an extent which significantly disrupt normal behavior patterns which include, but not limited to, breeding, feeding, and shelter.

Section 10 of the ESA, provides a means whereby a non-federal action with a potential to result in the 'take' of a listed species could be allowed under an incidental take permit. Application procedures are

found at 50 CFR Parts 13 and 17 for species under the jurisdiction of USFWS and 50 CFR Parts 217, 220, and 222 for species under the jurisdiction of NMFS.

Migratory Bird Treaty Act (16 USC 703 through 711)

The Migratory Bird Treaty Act (MBTA) is the domestic law that affirms and implements the United States' commitment to four international conventions (with Canada, Mexico, Japan, and Russia) for the protection of a shared migratory bird resource. The MBTA makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law also applies to the removal of nests occupied by migratory birds during the breeding season. The MBTA makes it unlawful to take, pursue, molest, or disturb these species, their nests, or their eggs anywhere in the United States.

State

California Endangered Species Act (California Fish and Game Code 2050 et seq.)

The California ESA (CESA) establishes the policy of the state to conserve, protect, restore, and enhance Threatened or Endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of Threatened or Endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under the CESA. For projects that affect both a state and federal listed species, compliance with the federal ESA will satisfy the CESA if the CDFW determines that the federal incidental take authorization is "consistent" with the CESA under California Fish and Game Code Section 2080.1. For projects that will result in a take of a state-only listed species, the project proponent must apply for a take permit under Section 2081(b).

California Fish and Game Code

Sections 1600 through 1616. Under these sections of the California Fish and Game Code, the project proponent is required to notify CDFW prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Pursuant to the California Fish and Game Code, a "stream" is defined as a body of water that flows at least periodically, or intermittently, through a bed or channel having banks and supporting fish or other aquatic life. Based on this definition, a watercourse with surface or subsurface flows that supports or has supported riparian vegetation is a stream and is subject to CDFW jurisdiction. Altered or artificial drainages valuable to fish and wildlife are subject to CDFW jurisdiction. The CDFW also has jurisdiction over dry washes that carry water ephemerally during storm events. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely

affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a streambed alteration agreement between the CDFW and the Applicant.

Sections 2080 and 2081. Section 2080 of the California Fish and Game Code states, "No person shall import into this state [California], export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the Commission [California Fish and Game Commission] determines to be an Endangered species or Threatened species, or attempt any of those acts, except as otherwise provided in this chapter, or the Native Plant Protection Act, or the California Desert Native Plants Act." Pursuant to Section 2081 of the California Fish and Game Code, the CDFW may authorize individuals or public agencies to import, export, take, or possess, and state-listed Endangered, Threatened, or candidate species. These otherwise prohibited acts may be authorized through permits or a memorandum of understanding (MOU) if: (1) the take is incidental to an otherwise lawful activity, (2) impacts of the authorized take are minimized and fully mitigated, (3) the permit is consistent with any regulations adopted pursuant to any recovery plan for the species, and (4) the project proponent ensures adequate funding to implement the measures required by the CDFW. The CDFW makes this determination based on available scientific information and considers the ability of the species to survive and reproduce.

Sections 3503 and 3503.5. Under these sections of the California Fish and Game Code, the project proponent is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory non-game bird as designated in the MBTA or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to California Fish and Game Code Section 3800.

Native Plant Protection Act (California Fish and Game Code 1900 through 1913)

California's Native Plant Protection Act (NPPA) requires all state agencies to utilize their authority to carry out programs to conserve Endangered and Rare native plants. Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The project proponent is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to Rare or Endangered plants. Since there are no suitable habitats present on the Project Site that would support special-status plant species recorded from the region, inventory and CDFW consultation is not applicable.

Local

General Plan

Refer to Section **5.10, Land Use and Planning**, of this Draft EIR for a list of the Los Angeles County Draft General Plan policies pertaining to Biological Resources. **Table 5.10-2** includes a list of the biological policies included in the 2014 Draft General Plan that pertain to the Project and analysis of the Project's consistency for each policy.

Santa Clarita Valley Area Plan

Refer to **Section 5.10, Land Use and Planning**, of this Draft EIR for a listing of the Santa Clarita Valley Area Plan (SCVAP 2012) policies that pertain to Biological Resources. **Table 5.10-2** includes a list of the biological policies included in the SCVAP 2012 pertinent to the Project and an analysis of the Project's consistency for each policy.

5.3.3 ENVIRONMENTAL IMPACTS

Methodology

Reviews of the California Natural Diversity Database[15] and California Native Plant Society Inventory of Rare and Endangered Plants[16] were conducted prior to field surveys. These databases were searched by 7.5-minute US Geological Survey (USGS) topographic quadrangles. The search region included the two quadrangles the Project occurs within (Newhall, Val Verde) and the following adjacent quadrangles: Cobblestone Mountain, Green Valley, Mint Canyon, Oat Mountain, Piru, San Fernando, Simi, Warm Springs Mountain, and Whitaker Peak. In total, this search area encompasses about 720 square miles around the Project Site. A previous Biological Assessment for the Project Site that describes botanical field surveys conducted in July 1997 and April 1998,[17] soil data[18] and fire history data available from the County of Los Angeles were reviewed to assess the extent to which these factors could affect vegetation communities and potential for rare plants. Additionally, a report discussing the results of focused

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15 California Department of Fish and Wildlife. California Department of Fish and Wildlife Natural Diversity Data Base. Commercial Version. Accessed April 2013.

16 California Native Plant Society. "Inventory of Rare, Threatened, and Endangered Plants of California." Online database available at: http://www.rareplants.cnps.org/. Accessed April 2013.

17 Rachel Tierney Consulting. *Biological Resources Assessment, Hasley Canyon Project, Vesting Tentative Tract 52584*. Prepared for Taylor & Company, Los Angeles, California. 1998.

18 Natural Resources Conservation Service. "Soil Survey map and data, version 5." Accessed at http:/websoilsurvey.nrce.usda.gov. January 3, 2008.

surveys for California red-legged frog (*Rana draytonii*) and arroyo toad (*Anaxyrus californicus*) on the Project Site was reviewed.[19]

Field surveys for special status plants were conducted by Dr. Edith Read of E Read & Associates on April 29, May 16, and June 30, 2013 (included here as Appendix 5.3-2). Vegetation communities were also mapped during these surveys, with additional site surveys on October 24 and November 15, 2013 to finalize community classifications. The April and May surveys included visits to a known population of slender-horned spineflower (*Dodecahema leptoceras*), an Endangered plant species in lower Bee Canyon east of Santa Clarita, to assess detectability of this annual herb species. Surveys of the Project Site documented all plant species observed, following protocols of the California Native Plant Society and California Department of Fish and Wildlife. The taxonomic reference for all species was the current Jepson Manual.[20] Vegetation types were classified according to the current manual for California vegetation.[21]

Vegetation communities were mapped in the field using a 2010 aerial photograph and then digitized with Geographic Information System (GIS) software. Potential impacts of the Project on vegetation communities were assessed by importing the Applicant's AutoCAD drawing of the site plan into GIS and calculating the extent of temporary and permanent impacts. Temporary impacts were assumed to be equivalent to the grading limit footprint, and permanent impacts were assumed to be equivalent to the footprint of development and all areas not designated as undisturbed open space.

On November 15 and December 9, 2013, Dr. Read conducted surveys on the Project Site for the purpose of delineating jurisdictional resources on the Project Site. A desktop analysis of potential jurisdictional features was conducted for guidance in the field, based on 7.5-minute USGS topographic maps of the Project area (Newhall, Val Verde) and aerial photographs. Shape files available online from the National Wetlands Inventory (NWI) at the US Fish and Wildlife Service web site[22] were imported into GIS to assess proximity of mapped wetlands to the Project Site. Soil survey data and maps available from the National Cooperative Soil Survey[23] were also reviewed, along with a jurisdictional delineation and other

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19 Environmental Science Associates. 2001. "Report on red-legged frog and southwestern arroyo toad surveys in and near Hasley Canyon Creek." Memorandum report to Palmer Investments. August 1, 2001.

20 Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken, editors. *The Jepson Manual: Vascular Plants of California.* 2nd edition. University of California Press, Berkeley. 2012.

21 Sawyer, J.T. Keeler-Wolf and J. Evens. *A Manual of California Vegetation.* 2nd edition. California Native Plant Society, Sacramento, CA. 2009.

22 fws.gov; last updated March 5, 2013.

23 Natural Resources Conservation Service. "Soil Survey map and data, version 5." Accessed at http:/websoilsurvey.nrce.usda.gov. January 3, 2008.

environmental studies conducted by Rachel Tierney Consulting[24], Taylor & Company[25], and Planning Consultants Research (PCR)[26] in connection with the approval by the County of the Prior Entitlements.

Documents consulted for delineation of federal jurisdiction consisted of Lichvar and McColley[27] regarding identification of "ordinary high water mark" in arid regions, the US Army Corps of Engineers (USACE) guidelines for interpretation of federal jurisdiction following the "Rapanos," "Carabell," and "SWANCC" decisions,[28, 29] the USACE 1987 Wetland Delineation Manual (Environmental Laboratory, 1987), and USACE guidelines and forms for jurisdictional determination in the arid southwest.[30, 31] Delineation of state jurisdiction (California Department of Fish and Wildlife [CDFW] and Regional Water Quality Control Board [RWQCB]) was based on definitions and regulations specified by Sections 1600–1616 of the California Fish and Game Code, Title 14 of the California Code of Regulations, and Section 13050 of the California Water Code. Additional references consisted of Richardson and Vepraskas[32] and Tiner[33] with respect to assessing wetland presence/absence under site conditions that are significantly disturbed or problematic.

Field surveys for the delineation were conducted by E. Read in conjunction with vegetation community mapping and rare plant surveys on April 29, May 16, and June 30, 2013. Additional field surveys for the delineation were conducted on November 15 and December 9, 2013. An ortho-rectified and geo-referenced aerial photograph dated May 8, 2010 was used to map channel alignments and relevant site features. One soil pit was excavated at each of two locations where there was at least one hydrologic

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24 Rachel Tierney Consulting. *Biological Resources Assessment, Hasley Canyon Project, Vesting Tentative Tract 52584.* Prepared for Taylor & Company, Los Angeles, California. 1998.

25 Taylor & Company. *Draft Environmental Impact Report for Hasley Canyon Project*. State Clearinghouse No. 98071037, dated June 7, 2001. Prepared for the Los Angeles County Department of Regional Planning. 2001.

26 Planning Consultants Research. "Los Valles Project Summary Report – Jurisdictional Resources." Letter submitted to Palmer Investments, Inc. Dated February 10, 2009.

27 Lichvar, R. W., and S. M. McColley. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.* A Delineation Manual. US Army Corps of Engineers, Engineer Research and Development Center. Technical report ERDC/CRREL TR-08-12. 2008.

28 USACE. *Final Summary Report: Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest*. Issued June 2001.

29 USACE and US Environmental Protection Agency. *Jurisdictional Determination Form Instructional Guidebook.* 2007.

30 USACE. *Final Summary Report: Guidelines for Jurisdictional Determinations for Waters of the United States in the Arid Southwest*. Issued June 2001.

31 USACE. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0).* Report No. ERDC/EL TR-08-28. Issued September 2008.

32 Richardson J.L. and M.J. Vepraskas. Ed. *Wetland Soils: Genesis, Hydrology, Landscapes, and Classification.* CRC Press, LLC. 2001.

33 Tiner, R.W. *Wetland Indicators: A Guide to Wetland identification, Delineation, Classification, and Mapping.* Lewis Publishers and imprint of CRC Press, LLC. 1999.

indicator of wetlands (cracked surface mud) and one biological indicator of wetlands (dominance of willows, *Salix* spp.). Determination of soil color was based on standard Munsell color charts.[34]

Pursuant to *California Environmental Quality Act (CEQA) Guidelines* §15126.2, this Draft EIR evaluates the existing conditions as they occurred on the date of the Notice of Preparation, since it is not possible to accurately describe the site's condition prior to the 2006 grading. The baseline condition of the property is the result of permitted activity undertaken pursuant to the Prior Entitlements that was never mitigated. Nonetheless, prior studies contained in **Appendix 5.3** were reviewed and relied upon in preparation of this Draft EIR as evidence of conditions on the Project Site prior to the 2006 grading. No mitigation for impacts from the prior grading, including impacts to jurisdictional areas, was conducted. Therefore, mitigation is included in this EIR for both prior and current impacts which will result in restored habitat.

Project Elements

The 430.4-acre project site would be developed with single-family homes, a community recreation center, parks and additional undeveloped open space, along with ancillary infrastructure and roadways, and 189.29 acres would be retained as open space, including 59.6 acres of transitional slopes and the 6.44-acre mitigation area. Of this total, about 123.25 would be natural open space. Small portions of the latter could be cleared or thinned to comply with fuel modification requirements, expected to be no more than 10-20 feet along roadways. A complete description of the Project and associated development characteristics is provided in **Section 4.0, Project Description,** of this Draft EIR.

As described in the **Section 4.0, Project Description,** the Project anticipates downstream channel improvements. If these planned channel improvements are not completed, hydromodification will be necessary on the Project Site until the planned channel improvements are completed. For purposes of the analysis of biological resources, there would be no material difference in the determination of impacts. Whether portions of the Project Site are developed as retention basins or homes, they would 1) be disturbed during construction and 2) offer limited opportunities for biological resources once developed. The Project Site currently supports jurisdictional resources, protected oaks trees, and special status vegetation associations. The plan for the Project emphasizes opens space and connections to natural areas. The Project would locate the residential development primarily on areas of the Project Site that were previously graded under the Prior Entitlement, allowing for approximately 225 acres, comprising more than 50 percent of the Project Site to be maintained as recreational and open space in a combination of flat and sloped improved areas and unimproved slopes. A significant portion of the proposed on-site

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34 Gretag Macbeth. *Munsell Soil Color Charts*. New Windsor, NY. 2000.

open space areas are adjacent to existing off-site open space areas to the north and west. This approach would also minimize impacts to important biotic resources, including the preservation of 22 oaks trees, and the substantial preservation of the westerly ridgeline. In addition, new oak trees would be planted throughout the Project Site.

Off-site improvements including the installation of the water line and the grading and restriping along Hasley Canyon Road would occur within the existing right of way. These areas are not biologically sensitive.

Significance Thresholds

The County of Los Angeles generally relies on significance thresholds as defined by the *State CEQA Guidelines*, Appendix G.

The definition of significant impact as defined by CEQA has been derived from several sources. Significance criteria are defined in the *State CEQA Guidelines*. According to Appendix G (Environmental Checklist) of the *State CEQA Guidelines*, and the Los Angeles County Department of Regional Planning (LACDRP) a project may be deemed to have a significant impact on the environment under the following circumstances:

Threshold 5.3-1 **Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS);**

Threshold 5.3-2 **Would the project have a substantial adverse effect on any sensitive natural communities (e.g. riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, and regulations or by the CDFW or USFWS? These communities include Significant Ecological Areas (SEAs) identified in the General Plan, SEA Buffer Areas, and Sensitive Environmental Resource Areas (SERAs) identified in the Coastal Zone Plan**

Threshold 5.3-3 **Would the project have a substantial adverse effect on federally protected wetlands (including, but not limited to, marshes, vernal pools, coastal wetlands, and drainages) or waters of the United States, as defined by Section 404 of the federal Clean Water Act or California Fish and Game Code § 1600, et seq. through direct removal, filling, hydrological interruption, or other means;**

Threshold 5.3-4 **Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native**

resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

Threshold 5.3-5 **Would the project convert oak woodlands (as defined by the state, oak woodlands are oak stands with greater than 10 percent canopy cover with trunks at least 5 inches in diameter measures at 4.5 feet above man natural grade) or otherwise contain oak or other unique native trees (junipers, Joshua trees, southern California walnut, etc.);**

Threshold 5.3-6 **Would the project conflict with any local policies or ordinances protecting biological resources, including Wildflower Reserve Areas (L.A. County Code, Title 12, Ch. 12.36) and the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.56, Part 16), the Significant Ecological Areas (SEAs) (L>A> County Code, Title 22, § 22.56.215), and Sensitive Environmental Resource Areas (SERAs) (L.A. County Code, Title 22, Ch. 22.44, Part 6); or**

Threshold 5.3-7 **Would the project conflict with the provisions of an adopted state, regional, or local habitat conservation plan.**

There are no adopted state, regional, or local habitat conservation plans applicable to the Project Site. Therefore, no further analysis **Threshold 5.3-7** is necessary.

Impact Analysis

Applicable CEQA thresholds of significance are listed below followed by analysis of the significance of any potential impacts. Mitigation measures are also identified which would reduce the impact to a level of less than significant or avoid potentially significant adverse impacts.

Threshold 5.3-1 **Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or United States Fish and Wildlife Service (USFWS)?**

For the purposes of this impact analysis, a sensitive or special-status plant species is any taxon that satisfies one or more of the following criteria listed by CDFW as categories for inclusion on the Special Vascular Plants, Bryophytes, and Lichens List:

- Officially listed by California or the federal government as Endangered, Threatened, or Rare;
- A candidate for state or federal listing as Endangered, Threatened, or Rare;
- Taxa which meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the *State CEQA Guidelines*; these taxa may indicate "none" under listing status, but

note that all California Rare Plant Rank 1 and 2 and some Rank 3 plants may fall under Section 15380 of CEQA.

- A Bureau of Land Management, US Fish and Wildlife Service, or US Forest Service Sensitive Species;
- Taxa listed in the California Native Plant Society's Inventory of Rare and Endangered Plants of California;
- Taxa that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extirpation;
- Population(s) in California that may be peripheral to the major portion of a taxon's range but are threatened with extirpation in California; and
- Taxa closely associated with a habitat that is declining in California at a significant rate (e.g., wetlands, riparian, vernal pools, old growth forests, desert aquatic systems, native grasslands, valley shrubland habitats, etc.).

For the purposes of this impact analysis, a special-status animal species is any taxon that satisfies one or more of the following criteria listed by CDFW as categories for inclusion on the Special Animals list:

- Officially listed or proposed for listing under the state and/or federal Endangered Species Acts;
- State or federal candidate for possible listing;
- Taxa which meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the *State CEQA Guidelines*;
- Taxa considered by the CDFW to be a Species of Special Concern (SSC);
- Taxa that are biologically rare, very restricted in distribution, declining throughout their range, or have a critical, vulnerable stage in their life cycle that warrants monitoring;
- Populations in California that may be on the periphery of a taxon's range, but are threatened with extirpation in California;
- Taxa closely associated with a habitat that is declining in California at an alarming rate (e.g., wetlands, riparian, old growth forests, desert aquatic systems, native grasslands, vernal pools, etc.); and

- Taxa designated as special status, sensitive, or declining species by other state or federal agencies, or non-governmental organization (NGO).[35]

Those special-status species that are known to be present or that have been determined to have at least a moderate potential to be present on the Project Site are listed below, as well as a discussion of potential impacts (construction and operational) that may arise as a result of Project implementation.

Plants

Focused surveys for rare plants in 1997–1998 and in 2013 determined no special-status plants species were present on the Project Site at that time (**Appendix 5.3-2**). Since there is always some potential for plants to be translocated by natural occurrences such as wind-borne seeds or by wildlife movement, this analysis determined there was still some potential for occurrence of several rare plant species to occur on-site. However, because multiple focused surveys were specifically timed to ensure surveys were conducted during peak blooming periods for all potentially occurring rare plant species, it is reasonable to conclude that they are not present on-site. Therefore, Project impacts to special-status plant species are less than significant, both for construction and operation.

Animals

With the exception of the previously discussed surveys for California red-legged frog and arroyo toad, and the fairy shrimp and western spadefoot surveys described below, focused surveys for listed species following CDFW or USFWS survey protocol methods were not conducted on the Project Site. However, based on the analysis of existing Project Site conditions and recorded occurrences of special-status wildlife in the region, inferences can be made regarding the potential presence of special-status wildlife on the Project Site.

Following a storm event in March 2014, Impact Sciences biologists surveyed the Project Site for indication of the presence of fairy shrimp and western spadefoot as they are known to occur in seasonal rain pools. No fairy shrimp were detected, but egg clusters and tadpoles of western spadefoot were observed in two detention basins and two additional seasonal rain pools. After discussion with the County and USFWS it

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35 State, federal and NGO lists compiled in the CDFW Special Animals list include the American Bird Conservancy Green List, the American Fisheries Society categories of risk for marine, estuarine & diadromous fish stocks; the Audubon Watch List; the list of Bureau of Land Management Sensitive Species; the list of California Department of Forestry and Fire Protection Sensitive species; the CDFW list of Fully Protected species; the list of US Department of Agriculture Forest Service Sensitive species; the list of USFWS Birds of Conservation Concern; the Marine Mammal Commission list of Marine Mammal Species of Special Concern; the United States Bird Conservation Watch List; the Western Bat Working Group High, Medium and Low Priority species categories; and the Xerces Society Red list of pollinators.

was determined that USFWS protocol surveys for fairy shrimp would not be required as there is no suitable habitat for such species on the Project Site, as the only potential habitat is comprised of SWPPP maintained basins that required routine maintenance and dewatering of ponded features within 96 hours of a rain event and therefore could not support species development.

Western Spadefoot — The existing conditions include a number of detention basins created as part of the erosion control requirements on-site. Following measurable rain events, these basins provide suitable breeding habitat for western spadefoot. In March 2014 such a rain event occurred and following two site surveys by Impact Sciences biologists, western spadefoot egg clusters, and tadpoles were observed in two detention basins and in two rainpools that formed along existing dirt access roads.

Project implementation would require the removal of the detention basins and rainpools where western spadefoot were detected. As such, impacts to western spadefoot from construction grading would be significant without mitigation. **Mitigation Measure MM 5.3-1** would reduce impacts to western spadefoot and their habitat to a less than significant level by creating a new breeding pool and adjacent non-breeding season habitat.

Other than western spadefoot, and based on the existing conditions, none of the other special-status wildlife species recorded from the region is considered to have a high potential for occurrence on-site. However, there are nine species that have been determined to have a moderate potential for occurrence. Those species are discussed in more detail below.

Silvery legless lizard — As previously described silvery legless lizards are most commonly found in sparsely vegetated beaches, stabilized dunes, chaparral, and riparian woodlands and soil moisture is critical for their survival. Based on this understanding, the most likely places on the Project Site where this species would occur would be near the western-most drainage course (un-named Tributary #1) and the upland terrace areas of Hasley Canyon Creek where no development is proposed. However, the western drainage is proposed to be significantly altered during restorative efforts that would serve as mitigation for other impacts occurring on this Project. The alteration will include re-contouring the banks, slowing flows to control erosion, and a restorative planting effort that will substantially expand the existing riparian and adjacent transitional upland habitats. Without mitigation, Project impacts to silvery legless lizard would be potentially significant. The combination of **Mitigation Measure MM 5.3-2** to relocate lizards and the habitat enhancement to the western drainage would reduce impacts to silvery legless lizard and its habitat to less than significant by expanding the amount of suitable habitat for the species on site.

Coast horned lizard, San Diego tiger (coastal) whiptail — Based on the site analysis it was determined that both of these special-status species of lizard have a moderate potential to occur on-site. If present, both would be expected to occur in the ungraded scrub habitat and upland riparian habitats on-site. Due to the existing level of disturbance, it is likely that there would not be many of either species remaining on-site. Additionally, the majority of suitable habitat that does remain on the Project Site is located outside of the development envelope. Because of these two factors, Project impacts to these species could be adverse, but would not be expected to substantially affect a local or regional population. As such, Project related impacts would be considered less than significant. Notwithstanding, implementation of **Mitigation Measure MM 5.3-2** to relocate lizards would further reduce potentially adverse effects.

Cooper's hawk, **White-tailed kite, Southern California rufous-crowned sparrow** and **Bell's sage sparrow —** All of these species are known to nest and forage in the Project region. If present on-site, the loss of on or off site individuals or active nests of these species resulting from grading and/or construction activities would be a potential violation of the Migratory Bird Treaty Act of 1918 and the California Fish and Game Code and therefore, a potentially significant impact. Implementation of **Mitigation Measure MM 5.3-3** would reduce impacts to all migratory nesting bird species to a less than significant level through avoiding construction during the nesting season and, when avoidance is not possible, through the implementation of nesting bird surveys.

San Diego black-tailed jackrabbit —This species utilizes dry, open stages of most shrub and herbaceous habitats. Black-tailed jackrabbits are relatively uncommon in the area. Biological surveys conducted on the Project Site in 1997 and 1998 indicated this species was present on-site. As conditions exist on the Project Site today, there is very little typical habitat left, but there is still a moderate potential for this species to be present. There are approximately 130 acres of previously ungraded land remaining on site at this time. Because this animal is highly mobile and unlikely to remain in the path of equipment, if San Diego black-tailed jackrabbit were to be present on-site, it would be expected to escape any direct harm that could occur during site preparation. Approximately 123.25 acres would be retained as natural open space. Therefore, impacts to San Diego black-tailed jackrabbit and its habitat would be considered less than significant. Notwithstanding, implementation of **Mitigation Measure MM 5.3-4** would further reduce adverse effects to this species by providing an on-site biological monitor during initial grading to assure that these jackrabbits are kept away from construction activities.

San Diego desert woodrat— Limited suitable habitat for this species remains on the Project Site as it currently exists. However, there is still a moderate potential for desert woodrats to utilize habitats within drier areas of scrub on the Project Site, and within the 123.25 acres of natural open space that will be retained. If present, the loss of individuals of this species from the Project Site or off-site parcels could

contribute to the reduction of a local population. As such, it would be considered a potentially significant impact. Implementation of **Mitigation Measure MM 5.3-4** which involves live-trapping and relocation of woodrats off-site and on-site biological monitoring during initial grading would reduce impacts to San Diego desert woodrat to a less than significant level.

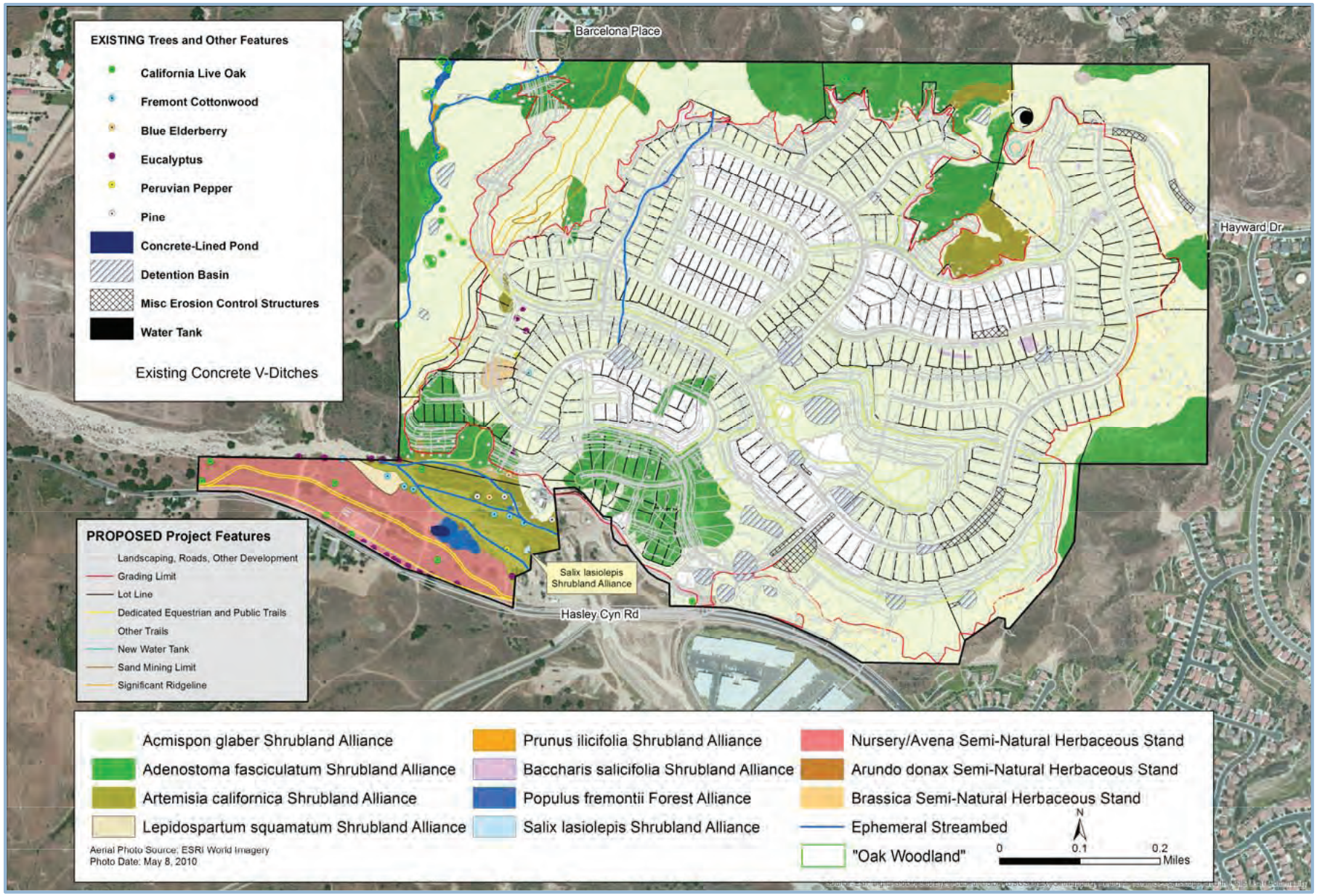
Threshold 5.3-2: **Would the project have a substantial adverse effect on any sensitive natural communities (e.g., riparian habitat, coastal sage scrub, oak woodlands, non-jurisdictional wetlands) identified in local or regional plans, policies, and regulations or by the CDFW or USFWS? These communities include Significant Ecological Areas (SEAs) identified in the General Plan, SEA Buffer Areas, and Sensitive Environmental Resource Areas (SERAs) identified in the Coastal Zone Plan.**

For the purposes of this impact analysis, a sensitive natural community is one regulated or identified as such by CDFW or USFWS and/or which meets one or more of the following criteria:

- Habitat of Rare, Threatened or Endangered species.
- Riparian areas and wetlands subject to state and/or federal regulations.
- Riparian woodlands, sycamore-alder riparian woodlands, southern valley oak woodlands, and California walnut woodlands.
- A vegetation alliance or association that has been assigned a G1, G2, or G3 rarity code on the Department of Fish and Wildlife Biogeographic Data Branch Vegetation Classification and Mapping Program List of California Vegetation Alliances, dated December 28, 2009.

  Impacts to on-site vegetation types for the Project are shown in **Figure 5.3-4, Vegetation Community and Jurisdictional Resource Impacts,** and a summary of Project impacts to vegetation types is given in **Table 5.3-3, Project Impacts to On-Site Vegetation**.
- Significant Ecological Areas (SEAs) identified in the adopted SEA map layers in the General Plan.
- SEA Buffers identified in the adopted SEA map layers in the General Plan.
- Sensitive Environmental Resource Areas (SERAs) identified in the Coastal Zone Plan

Each of the habitats or designated protected areas occurring on the Project Site are discussed below along with a description of potential impacts to these communities (construction and operational) that could occur as a result of Project implementation. Discussions of impacts to sensitive vegetation communities follow.



SOURCE: E Read and Associates, Inc., February 2014

FIGURE **5.3-4**

Vegetation Community and Jurisdictional Resource Impacts

1154.001•01/15

Table 5.3-3
Project Impacts to On-Site Vegetation

Vegetation type	On-site area [acres]	Global / State Rarity Rank	Total area impacts [acres]	Total impact [percent]
Upland				
Acmispon glaber (deerweed) shrubland alliance	327.43	G5/S5	275.11	84%
Adenostoma fasciculatum (Chamise) shrubland alliance	58.38	G5/S5	28.08	48%
Artemisia californica (CA sagebrush) shrubland alliance	14.66	G5/S5	3.94	27%
Lepidospartum squamatum (scalebroom) shrubland alliance	0.80	**G3/S3**	0.00	0%
Prunus ilicifolia (holly-leaf cherry) shrubland alliance	0.36	*G1/S1.1a*	0.00	0%
Brassica (black mustard) Semi-natural herbaceous stand (**non-native**)	1.12	none	0.86	77%
Nursery/*Avena* (wild oats) Semi-natural herbaceous stand (**non-native**)	16.45	none	0.00	0%
Total Upland	**419.20**	**111.21**	**307.99**	**73%**
Riparian				
Populous fremontii (cottonwood) forest alliance	1.23	*G3/S3.2b*	0.00	0%
Salix lasiolepis (arroyo willow) shrubland alliance	0.04	*G3/S2.1c*	0.00	0%
Baccharis salicifolia (mulefat) shrubland alliance	1.50	G5/S4	1.47	98%
Arundo donax (giant cane) Semi-natural herbaceous stand (**non-native**)	0.05	none	0.00	0%
Total Riparian	**3.18**	**1.71**	**1.47**	**46%**
Aquatic and Emergent Marsh				
Concrete-lined Pond/emergent marsh	0.16	none	0.16	100%
Total Aquatic and Emergent Marsh	**0.16**	**0.00**	**0.16**	**100%**
Other Features				
Cleared	0.34			
Developed	0.78			
Detention basin	6.90			
Miscellaneous erosion control structures	2.79			
Water tank	0.13			
Total Other Features	**10.94**			

Vegetation type	On-site area [acres]	Global / State Rarity Rank	Total area impacts [acres]	Total impact [percent]

Global/state Conservation Status Rank

G3: Vulnerable*; At moderate risk of extinction or elimination due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.*

S2: Imperiled; *At high risk of extirpation in the jurisdiction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.*

S3: Vulnerable*; At moderate risk of extirpation in the jurisdiction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.*

a Global and state Rarity Rank for Mainland Cherry Forest. Existing association on-site does not fully meet this habitat description, but rank included since similar characteristics are present.

b Global and state Rarity Rank for Cottonwood Willow Riparian Forest. Existing association on-site does not fully meet this habitat description, but rank included since similar characteristics are present.

c Global and state Rarity Rank for Southern Willow Scrub. Existing association on-site does not fully meet this habitat description, but rank included since similar characteristics are present.

Lepidospartum squamatum Shrubland Alliance

This scalebroom alliance is considered sensitive as it has been assigned a global G3 ranking. Approximately 0.80 acre of this habitat occurs near the southwestern corner of the Project Site, between an existing commercial plant nursery site and Hasley Canyon Creek. This habitat is situated outside of the boundary of proposed grading and development for the Project, within Open Space Lot 514. Therefore, the Project as proposed would not impact this habitat.

***Prunus ilicifolia* Shrubland Alliance**

The remaining holly-leaf cherries on the Project Site are situated along the edge of the western most drainage. They are relatively shrubby and do not meet the characteristics of a 'woodland', so are therefore referred to as a shrubland. The holly-leaf cherry woodland is considered a sensitive habitat, so since the shrubs on the Project Site maintain some similarities with the "Mainland Cherry Forest" association, they are considered herein for analysis. All of the holly-leaf cherry shrubs on site occur outside of the boundary of proposed grading and development for the Project. Therefore, the Project as proposed would not impact this habitat. .

Populus fremontii Forest Alliance

This cottonwood forest habitat occurs in two locations on the Project Site in the extreme northwest corner associated with the western fork of un-named Tributary #1, and just south of Hasley Canyon Creek in the southwest part of the property, near the concrete-lined pond (refer to **Figure 5.3-3, Jurisdictional Features**) that total approximately 1.25 acres. Both locations are outside of the boundary of proposed grading and development for the Project. As such, no impacts to *Populus fremontii* Forest Alliance would occur.

***Salix lasiolepis* Shrubland Alliance**

Also referred to as arroyo willow thickets by Sawyer et al. (2009), this vegetation occurs as a small stand adjacent to an earth berm, downstream of an artificial pond in the Hasley Canyon floodplain. The arroyo willow alliance is situated beyond the grading limits as well as the required fuel modification limits for future residences. No impacts to this habitat would occur with Project implementation.

Oak Woodland

As discussed, the oak woodlands on-site all occur in the northwestern portion of the Project Site, beyond the grading and fuel modification limits of the Project. Analysis of oak woodlands is described in more detail under Threshold 5.3-5.

The Project Site is not located in the Coastal Zone and therefore, does not include any SERAs. Additionally, no portion of the Project Site is designated or proposed as and SEA or SEA buffer. Therefore, implementation of the Project would not result in impacts to any of the sensitive natural resource areas.

Non-Wetland Jurisdictional Resources

While application of delineation protocols and criteria described under Methodology of this section is normally straightforward, some factors at the Project Site make the situation more complex. Approximately 300 acres of the Project Site was previously disturbed as part of the Prior Entitlements and the 1960s golf course. As such, this site has a long history of disturbance that has obscured physical indicators of jurisdiction in some areas (e.g., "ordinary high water mark," "top of bank"), while producing "false positive" indicators (e.g., erosion gullies, detention ponds) in other areas. Limited resolution and available dates of historic aerial photographs, and puzzling omissions from USGS topographic maps, add to the problem of sorting out natural vs. human-created features.

As indicated above, the delineation of jurisdictional resources identified three drainages that meet regulatory jurisdiction requirements. **Table 5.3-4, On-Site Jurisdictional Areas** provides information regarding the total jurisdictional areas on-site as well as Project-associated impacts to those resources.

Table 5.3-4
On-Site Jurisdictional Areas

Jurisdiction	Hasley Canyon Creek	Un-named Tributary # 1	Un-named Tributary # 2	Total
Federal				
Non-wetland waters				
Inside grading limits	0.00 acre	0.01 acre	0.28 acre	0.29 acre
Outside grading limits	8.80 acres	0.61 acre	0.00 acre	9.41 acres
Total	8.80 acres	0.62 acre	0.28 acre	9.70 acres
State				
Non-wetland waters				
Inside grading limits	0.00 acre	0.14 acre	1.81 acres	1.95 acres
Outside grading limits	9.40 acres	1.58 acres	0.00 acre	10.98 acres
Total	**9.40 acres**	**1.72 acres**	**1.81 acres**	**12.93 acres**

The Project would alter 0.29 acre of federal non-wetland waters and 1.95 acres of state non-wetland waters. These impacts would require federal and state permits.

The Final EIR for the Prior Entitlements had identified impacts to 425 linear feet or approximately 0.15 acre of fill to "Waters of the United States" and 0.2 acre of impact to state jurisdictional waters for un-named Tributary #1 and found un-named Tributary #2 (to be non-jurisdictional at either the federal or state level.

The combined impacts from the previously approved project and the current project would then be 0.44 acre of federal jurisdictional areas and 2.15 acres of state jurisdictional areas. Therefore, impacts to non-wetland jurisdictional features would be considered a significant impact. Implementation of **Mitigation Measure MM 5.3-5,** by imposing habitat restoration and expansion of un-named Tributary #1 would reduce impacts to jurisdictional features from both the impacts of work performed under the Prior Entitlements and the Project to a less than significant level.

Threshold 5.3-3: Would the project have a substantial adverse effect on federally protected wetlands (including marshes, vernal pools, and coastal wetlands) or waters of the United States, as defined by Section 404 of the federal Clean Water Act or California Fish and Game Code § 1600, et seq. through direct removal, filling, hydrological interruption, or other means?

The Project would not have any impact on federally protected wetlands as defined by Section 404 of the federal Clean Water Act (including, but not limited to, marsh, vernal pool or coastal wetlands), as no such features exist on the Project Site. Therefore, no mitigation measures are required.

Threshold 5.3-4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

As discussed, the Project Site has been heavily disturbed and is surrounded on three sides with existing development. This condition is likely to dissuade many larger wildlife species from utilizing the Project Site for access to other open space areas as they would be blocked in all directions except the direction from which they entered the Project Site. This is not to suggest wildlife do not or would not occur, but the use of the Project Site as an ingress or egress to other adjacent open space is impractical for most species as they would have to go through residential neighborhoods, an industrial complex and cross busy roads to do so. Currently, the nearby Interstate (I-5) blocks most east-west movement in the Project vicinity and existing development north and south of the Project Site prohibits most movement in that direction.

The South Coast Missing Linkages Project identifies the most important areas of open space connection for local and regional wildlife movement. The nearest identified linkage to the Project Site is the San Gabriel – Castaic Connection. The Project Site and adjacent off-site parcels do not lie within the linkage design for this connection. The Hasley Canyon Creek along the southern boundary of the Project Site provides east-west movement opportunities for wildlife, but proposed development would not block this corridor. Although development of the Project Site would reduce the use of local open space for wildlife, it would not be expected to substantially alter wildlife movement in the area. Therefore, impacts to wildlife habitat connectivity would be less than significant and no mitigation measures are required.

Threshold 5.3-5: **Would the project convert oak woodlands (as defined by the state, oak woodlands are oak stands with greater than 10 percent canopy cover with trunks at least 5 inches in diameter measured at 4.5 feet above mean natural grade) or otherwise contain oak or other unique native trees (junipers, Joshua trees, southern California walnut, etc.)?**

California Public Resources Code Section 21083.4 (Oak Woodlands Protection) provides protection to oak stands with at least a 5-inch diameter trunk (measured at 4.5 feet above natural grade) and with greater than 10 percent canopy cover. As discussed, the oaks on site meeting this definition all occur in the northwestern portion of the Project Site, beyond the grading and fuel modification limits of the Project. Therefore, no Project impacts to state-protected oak woodlands would occur and no mitigation measures are required. **Mitigation Measures MM 5.3-6** through **MM 5.3-8** serve to protect all oaks on site.

Threshold 5.3-6: **Would the project conflict with any local policies or ordinances protecting biological resources, including Wildflower reserve Areas (L.A. County Code, Title 12, Ch. 12.36) and the Los Angeles County Oak Tree Ordinance (L.A. County Code, Title 22, Ch. 22.56, Part 16) the Significant Ecological Areas (SEAs) (L.A. County Code, Title 22, § 22.56.215), and Sensitive Environmental Resource Areas (SERAs) (L.A. County Code, Title 22, Ch. 22.44, Part 6); or?**

The Project Site is not located in or adjacent to an area designated as a Wildflower Reserve Area or any other special area protected for sensitive biological resources.

Construction of the Project would result in the loss of one County-protected oak, which is not a heritage oak tree. This tree is identified as Oak Tree #18 in the tree survey (**Appendix 5.3-4**). **Figure 5.3-5, Oak Tree Impacts,** illustrates the location of this tree on the Project Site. An oak tree permit for impacts to the single California live oak resulting from implementation of the Project is part of the Project application.

No other impacts are anticipated to occur to the remaining protected oak trees as they occur beyond the grading and fuel modification limits. In combination with the required conditions of the oak tree permit, **Mitigation Measures MM 5.3-6** through **MM 5.3-8** which include replacement of lost trees, protective fencing, and avoidance of areas within oak driplines would further protect oak trees. Therefore, conflicts with the Oak Tree Ordinance will not result from the implementation of the Project and impacts would be less than significant.

5.3.4 CUMULATIVE IMPACTS

In general, cumulative biological impacts tend to center around connectivity of habitat and migration routes and continuing loss of natural habitats. The Project Site does not lie within the linkage design for the San Gabriel – Castaic Connection. Though Hasley Canyon Creek provides some east-west connectivity, the Project does not include any elements that would block this corridor. Therefore, neither local nor regional wildlife movement patterns are expected to be substantially disrupted by Project implementation. Further, there would be no substantial loss of any sensitive habitat types.

The Project Site has been previously graded and remains highly disturbed. Much of the remaining native vegetation would not be significantly altered with the exception of the western tributary (un-named Tributary #1) that would ultimately be improved as part of **Mitigation Measure MM 5.3-5.**

The alteration of natural vegetation would be cumulatively significant due to the overall loss of habitat. However, in this particular situation, since nearly all of the proposed development area has already been graded and compacted in association with prior use of the site, very little natural habitat is being affected by the Project. Therefore, cumulative impacts resulting from the Project would be considered less than significant as these open areas have already been significantly altered.

SOURCE: Land Design Consultants, Inc., May 2013

FIGURE **5.3-5**

Oak Tree Impacts

1154.001•02/15

5.3.5 MITIGATION MEASURES

MM 5.3-1 Prior to issuance of a grading permit, the Applicant shall provide a detailed western spadefoot habitat enhancement plan. The plan shall include breeding habitat as well as suitable upland refugia. The location for the enhanced habitat shall be selected in consultation with CDFW and a qualified biologist familiar with western spadefoot habitat requirements. In addition to being as far from existing and proposed development as feasible, the enhanced habitat shall be located in an area where open scrub and/or native woodland can survive naturally (i.e., without long-term irrigation). Plans are currently being designed that would place the breeding pool and associated upland habitat near the southeastern portion of the proposed riparian habitat restoration of un-named Tributary #1. At a minimum, the plan shall include the following elements and be prepared in consultation with, and ultimately approved by CDFW:

- One or more seasonal breeding pools that are specifically designed to hold water long enough for a complete breeding cycle of western spadefoot, but not long enough to allow infiltration of predators (e.g., bullfrogs, African clawed frogs, fish, etc.). Based on designed approved for other EIRs within the Santa Clarita Valley, the pool would be between 50 and 60 feet in length and 30 to 40 feet in width, and a depth of between 3 and 4 feet.

- Analysis of surrounding soils. If necessary, clean sand may be introduced to increase the suitability of upland burrowing habitat for adult toads.

- Upland portions of the habitat enhancement area shall include a detailed plant palette and planting plan conducive to western spadefoot requirements.

- A five-year monitoring plan that includes monitoring methods, annual success criteria, contingency actions should success criteria not be met, and reporting requirements.

MM 5.3-2 During the appropriate season prior to any construction or site preparation activities that would disturb vegetation and/or soils, focused surveys shall be conducted for all potentially occurring special-status reptiles. The surveys shall be timed to coincide with each species' peak activity period, which is typically warm late spring through early fall for most species. Legless lizards are usually more easily detectable after rain events, when they move closer to the surface. As such, surveys for legless lizard should be conducted during late winter through spring after rain events. If this timing is not feasible and with consultation with and approval by CDFW, the best quality habitat areas within the development footprint should be thoroughly saturated (e.g., water truck) then raked by qualified biologists the following early morning or late afternoon. If any of

these animals are detected, they shall be captured and relocated to suitable nearby habitat areas approved by CDFW.

MM 5.3-3 To avoid impacts to nesting birds during construction, a qualified biologist (approved by CDFW and LACDRP) shall be retained to conduct nesting bird surveys within suitable nesting habitat prior to initiation of construction activities. Specifically, if activities associated with construction or grading are planned during the bird nesting/breeding season, generally January through March for early nesting birds (e.g., raptors or hummingbirds) and from mid-March through September for most bird species, the Applicant shall have a qualified biologist conduct surveys for active nests. Pre-construction nesting bird surveys shall be conducted within 30 days prior to initiation of ground-disturbing activities to determine the presence/absence of active nests. The surveys shall continue on a weekly basis until construction commences, with the last survey being conducted no more than three days before the start of clearance/construction work. Surveys shall include examination of trees, shrubs, and the ground, for nesting birds, as several bird species known to the area are shrub or ground nesters. If ground-disturbing activities are delayed, additional pre-construction surveys shall be conducted so that no more than three days will have elapsed between the survey and ground-disturbing activities.

If active nests are located during pre-construction surveys, clearing and construction activities within 300 feet of the nest (500 feet for raptors) shall be postponed or halted until the nest is vacated and juveniles have fledged, as determined by the biologist, and there is no evidence of a second attempt at nesting. Exceptions to these limits may be made, but only if authorized by CDFW. Limits to avoid an active nest shall be established in the field with high visibility flagging, fencing, or other appropriate barriers and construction personnel shall be instructed on the sensitivity of nest areas. The biologist shall serve as a construction monitor during those periods when construction activities will occur near active nest areas to ensure that no inadvertent impacts on these nests will occur. The results of the survey, and any avoidance measures taken, shall be submitted to LACDRP within 30 days of completion of the pre-construction surveys and/or construction monitoring to document compliance with applicable state and federal laws pertaining to the protection of native birds.

MM 5.3-4 Within 30 days prior to ground disturbance activities for construction, a qualified biologist shall conduct a survey within the proposed construction disturbance zone and within a 100-foot buffer of the disturbance zone to determine the areas of best habitat for

San Diego desert woodrat and San Diego black-tailed jackrabbit. If any stick nests or other signs of rats are detected, a qualified biologist, approved by CDFW, shall conduct five-consecutive nights of live-trapping for desert woodrats within suitable habitat remaining on-site. Should any be captured, they will be relocated to suitable habitat outside of the proposed development envelope in an area approved by CDFW.

If during the trapping effort for San Diego desert woodrats nests with young are discovered within the disturbance zone or within 100 feet of the disturbance zone, a fence shall be erected around the nest site adequate to provide the woodrat sufficient foraging habitat at the discretion of the qualified biologist. The fence shall be erected to provide a minimum 100-foot buffer around the active nest. At the discretion of the monitoring biologist and with concurrence of CDFW, clearing and construction within the fenced area shall be postponed or halted if appropriate until young have left the nest. The biologist shall serve as a construction monitor during those periods when disturbance activities will occur near active nest areas to ensure that no inadvertent impacts on these nests will occur. If San Diego desert woodrats are observed within the grading footprint outside of the breeding period, individuals shall be relocated, if feasible, to a suitable location on the Project Site (outside of the disturbance boundary) by a qualified biologist in possession of a scientific collecting permit and following prior consultation with CDFW.

In the event black-tailed jackrabbits are observed on-site, the monitoring biologist shall be on-site during all initial site disturbance activities until all grading operations have been completed. The biologist will ensure any existing jackrabbits are able to escape the Project Site and any moving equipment.

MM 5.3-5 To minimize impacts to "Waters of the State," a Streambed Alteration Agreement shall be executed with the CDFW pursuant to Section 1603 of the California Fish and Game Code prior to jurisdictional feature disturbance. In addition, to minimize impacts to "Waters of the US" the USACE shall be contacted to determine the need for a Section 404 permit, pursuant to the federal Clean Water Act. Mitigation measures identified through these two permitting processes as a result of coordination with each agency will reduce impacts to jurisdictional drainage features to a less than significant level. Pursuant to Section 401 of the federal Clean Water Act, the Regional Water Quality Control Board will also be notified and a permit will be obtained if applicable.

Mitigation in the form of restoring and expanding un-named Tributary #1 is being prepared to be included in the Streambed Alteration Agreement and/or 404 permit applications. Since the affected un-named Tributary #2 currently does not support any riparian vegetation and is little more than an erosional ditch, a similar condition is not necessarily desired as natural conversion to a riparian habitat could take many years. Likewise, the previously impacted jurisdictional features were not described as supporting high quality habitats. As such, the proposed option for mitigation is restoring and expanding the western drainage (un-named Tributary #1) to a condition that would reduce the degree of erosion that occurs now. This includes terracing and re-contouring the near vertical existing banks and restoring vegetation including mainland holly-leaf cherry and California live oaks. The restoration plan includes engineered hydrological design to reduce erosion from offside drainage from the north. **Figure 5.3-4** illustrates the current proposed design for the western drainage. The overall mitigation also includes a planting plan/palette for the terraced/re-contoured banks. Additionally, the plan will include a five-year monitoring plan including monitoring methods, success criteria, and contingency actions should any of the success criteria not be met. It is the intention of the restoration project to convert the approximately 1.72 acres of disturbed and poorly functioning jurisdictional habitat that currently exists within this drainage to at least 4.30 total acres of high quality jurisdictional riparian habitat as well as additional transitional upland habitat. The transitional habitat would serve as a buffer between the riparian habitat and any development. This restoration plan is intended to mitigate for the total 2.15 acres of impacts resulting from both the currently proposed project, and the previously approved project impacts that were not mitigated as part of the incomplete construction of the prior project.

MM 5.3-6 **Replacement trees:** Any oak tree that dies or is removed as a result of Project implementation shall be replaced by a tree of the same species at a ratio determined by the County of Los Angeles, but a minimum ratio of 2:1. This includes the removals of 24 trees permitted by the Prior Entitlements. With one removal required for the Project, a total of 25 oak trees will be mitigated for, requiring a total of at least 50 replacement trees.

All replacement trees shall be at least a 15-gallon specimen in size and be 2 inches or more in diameter, as measured from approximately 4 feet above the base. Free-form trees with multiple stems are permissible; the combined diameter of the two largest stems of such trees shall measure a minimum of 2 inch in diameter, as measured approximately 2 feet above the base. Replacement trees shall consist exclusively of indigenous California

live oak trees and be grown from a seed source collected in Los Angeles or Ventura Counties.

All replacement trees shall be planted on site. It is anticipated that most of these trees will be able to be placed along un-named Tributary #1 as part of the restoration outlined in **MM 5.3-5**. If additional areas are needed, remaining replacement trees will be planted in the natural open space areas and/or within common landscaped areas within the development.

MM 5.3-7 **Protective fencing:** A plan shall be developed for protecting the remaining trees included in the Los Angeles County Oak Tree Ordinance on the Project Site during development. This plan shall be approved by the County of Los Angeles and Los Angeles County Fire Department.

Equipment damage to limbs, trunks, and roots of all remaining trees shall be avoided during Project construction and development to avoid even slight trunk injuries, which can lead to long-term pathogenic maladies.

Protective fencing not less than 4 feet in height shall be placed at the limits of the protected zone of any individual protected tree or oak woodland within 100 feet of the grading limits, and shall be inspected by the Fire Department or County-approved arborist prior to commencement of any activity on the Project Site, and shall remain in place until construction is completed.

MM 5.3-8 **Equipment storage:** No storage of equipment, supplies, vehicles, or debris shall be permitted within the protected zone of an oak tree.

No dumping of construction wastewater, paint, stucco, concrete, or any other cleanup waste shall occur within the protected zone of an oak tree.

No temporary structures shall be placed within the protected zone of any remaining oak tree.

5.3.6 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of **Mitigation Measures MM 5.3-1** through **MM 5.3-8** above, potential impacts associated with biological resources would be less than significant.

5.4 CULTURAL RESOURCES

INTRODUCTION

This section of the Draft EIR evaluates the Project's potential impacts on cultural resources, including historic, archaeological, and paleontological resources. This analysis is based on the *Intensive Phase I Archaeological Survey of the Los Valles Study Area, Los Angeles County California,* prepared by W&S Consultants, and included in **Appendix 5.4** (Phase I Survey), which includes results of a pedestrian survey for cultural resources on the Project Site undertaken in July 2013.

5.4.1 ENVIRONMENTAL SETTING

Ethnographic Background

The Upper Santa Clara Valley region, including the Project Site, appears to have been inhabited during the ethnographic past by an ethnolinguistic group known as the Tataviam. Based on a few existing word lists, descriptions provided by early travelers, mission place names, and the recollections of other aboriginal informants, the Tataviam are generally accepted as the aboriginal inhabitants of this region. Their language is believed to be a member of the Takic branch of the Uto-Aztecan linguistic family and related to other Takic languages in the Los Angeles County region, such as Gabrielino/Fernandeño of the Los Angeles Basin proper, and Kitanemuk of the Antelope Valley.

The Tataviam are thought to have inhabited the upper Santa Clara River drainage from about Piru eastwards to just beyond the Vasquez Rocks/Agua Dulce area; southwards as far as Newhall and the crests of the San Gabriel and Santa Susana Mountains; and northwards to include the middle reaches of Piru Creek, the Liebre Mountains, and the southwestern-most fringe of the Antelope Valley. Their northern boundary most likely ran along the northern foothills of the Liebre Mountains (i.e., the southern edge of the Antelope Valley), and then crossed to the southern slopes of the Sawmill Mountains and the Sierra Pelona, extending as far east as Soledad Pass. Ethnographically, the Tataviam do not appear to have controlled the Leona Valley or areas to the north, with the Elizabeth Lake area proper a zone of uncertainty.

Known Tataviam villages during the historic period include: *pi?irukung* and *?akavaya*, both near modern Piru; *tsavayu(?u)ng*, San Francisquito; *etseng*, *kuvung* and *huyung*, on Piru Creek above Piru; *tochonanga*, near Newhall; *kwarung*, near Elizabeth Lake; and *tsawayung*, near Castaic Junction. A mixed Chumash-

Tataviam population lived at *kamulus*, near modern Rancho Camulos.[1] Because the name *kamulus* is unquestionably Chumash and not Tataviam, however, this identifier has been viewed as problematic; that is, as not reflecting the original (Tataviam) name for this village. Regardless of original name, the Spanish missionary Señan, writing in 1804, indicated that the Chumash inhabitants of the village of *sécpey* had migrated to *kamulos*, accounting for this admixture. *Sécpey* is now known as Sespe, near the modern town of Fillmore.

The putative historical Tataviam village of *tsawayung*, also known as *chaguayabit* or *tacuyamam*, has generated interest, due to its reported location at Castaic Junction and its association with Asistencia de San Francisco. This Tataviam place name is controversial on two counts. First, the exact location of it was never precisely identified in the historical records; although it has been widely presumed to be at or immediately adjacent to the Asistencia, no archaeological or other evidence of such has yet been forthcoming. Second, it was not the site of a major village where ceremonies were conducted, as many later authors have also assumed. However, there are a significant number of entries in the San Fernando Mission registrar, noting births, baptism, marriages, and deaths from persons originally inhabiting this locale, and suggesting that it was once a village of some size. The best interpretation of its original location, based on a variety of lines of evidence, places it approximately 0.5 mile east of the intersection of Rye Canyon Road and Interstate-5 (I-5), approximately 5.5 miles from the Project Site.[2]

Culturally speaking, the Tataviam were similar to their Fernandeño and Chumash neighbors, to the south and west, respectively. They were hunters-gatherers, with subsistence emphasizing yucca, acorns, juniper berries, sage seeds, and berries of islay (*Prunus ilicifolia*). Game was also hunted, and small animals such as rabbits/hares and rodents probably represented more significant contributions of meat protein than larger game, such as deer.

Almost nothing is known of Tataviam social and political organization. Based on analogies with surrounding groups, however, it can be suggested that they were organized in a series of tribelets, similar to the *naciones* described by Earle (1990) for the Antelope Valley, and found to be characteristic of much of California aboriginal socio-political organization. The tribelet represented an autonomous land-holding unit, minimally controlled by a head chief or big-man. They usually included one large, 'capital' village, sometimes occupied year-around, and a series of smaller, seasonally inhabited hamlets. Whether the

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1 There is no formal agreement on the way these words should be spelled--the question mark is used to inform the reader of this lack of certainty.

2 The Project Site is approximately 4 miles from the intersection of I-5 and Rye Canyon Road. The Tataviam Village is believed to have existed 1.5 miles to the east of this intersection. Both distances were combined to provide an estimated distance from the Project Site to the Tataviam Village site.

Tataviam may have had exogamous (i.e., marrying outside of their social unit) clans and moieties (one of two units into which a tribe is divided based on unilineal descent), like the Cahuilla and Serrano to the east, is unknown. However, it is estimated that the Tataviam population was less than 1,000 people at the time of Euro-American contact, and that only two or three of the largest villages throughout their territory were inhabited at any given time.

Although the Tataviam were one of the earliest groups contacted by Spanish missionaries, with a number of their villages described by members of the Portolá expedition of 1769, a general lack of information on this group exists because, by 1810, all Tataviam had been baptized at Mission San Fernando and were quickly absorbed by other groups through intermarriage. The last speaker of Tataviam died in 1916.

Archaeological Background

Archaeologically speaking, more information is available on the Upper Santa Clara River area, although here, too, less is known than for many of the surrounding regions of Southern California. In general terms, the prehistory of this inland area appears to parallel that of the Santa Barbara Channel/Southern California coastal zone, with William Wallace's (1955) cultural historical framework appropriate as a chronological system of reference.

Correspondingly, the earliest evidence for human occupation of this region corresponds to Wallace's "Early Millingstone Period" (or, alternatively, the Early Horizon), dated from about 7,000 to 4,000 years before present (BP). This represents a period during which subsistence and adaptation are said to have emphasized the collecting and processing of hard seeds, with inland artifact assemblages, correspondingly, dominated by bedrock mortars and millingstones known as *manos* and *metates*. Evidence for an Early Millingstone occupation of the Upper Santa Clara Valley region is, admittedly, very limited, and has been found at only two sites. Both of these are located near Vasquez Rocks, with temporal attribution based on the presence of a small number of *Olivella* barrel beads. Such bead types have subsequently proven unreliable temporal indicators, throwing doubt on human inhabitation of this region before about 4,000 years ago. Further, recent excavations at one of these putative early locales, the Escondido Canyon Site, failed to uncover evidence for occupation prior to about 2,700 years BP.

The second temporal unit in Wallace's chronology is the "Intermediate Period" (or Middle Horizon), dated from 3,500 to 1,500 years BP. It is marked by a shift to the mortar and pestle, with an increased emphasis on hunting and hunting tools in artifact assemblages. Population appears to have increased during this period, with more temporary camps founded. Evidence for Intermediate Period occupation of the Upper Santa Clara Valley region is substantial, in that it has been found at a number of sites and has been based on radiocarbon, obsidian hydration, and typological dating. The Agua Dulce village complex,

for example, includes occupation extending back to the Intermediate Period, at which time population of the village may have been 50 or more people. Furthermore, the Intermediate Period appears to represent a time during which a substantial exploitation of mid-altitude environments first began, with considerable use, for example, of portions of the nearby Hathaway Ranch (located northwest of the Project Site) beginning at this time.

Assuming that the Upper Santa Clara River region was first significantly occupied during the Intermediate Period, as existing evidence now suggests, a parallel can be drawn with the inland Ventura County region, where a similar pattern has been identified, as well as, possibly, the Antelope Valley and western Mojave Desert. In all of these areas a major expansion in settlement, the establishment of large site complexes, and an increase in the range of environments exploited, appear to have occurred sometime roughly around 3,000 years ago. Although most efforts to explain this expansion have focused on very local circumstances and events, it is increasingly clear that this was a major Southern California-wide occurrence, and therefore that explanation of it must be sought at a larger level of analysis.

There is a continuity in the inland regions between the Intermediate Period and subsequent times, labeled the "Late Prehistoric Period," lasting from 1,500 years BP to historic contact, at about 200 years BP. Site complexes first occupied in the Intermediate Period continued to be inhabited, although they increased in size, with more specialized and diversified sites added to the kinds of sites present. In fact, the principal distinction between Intermediate and Late Prehistoric sites in the inland regions is a change in certain diagnostic artifact types (notably, projectile points, with a shift from spear points to bow and arrow points). This change in fact may not signify consequential changes in culture, adaptation, or subsistence, although the trends begun in the Intermediate Period accelerate over time during the Late Prehistoric Period. For example, a large number of Late Prehistoric Period sites are known from the Upper Santa Clara River/Agua Dulce region, with the Agua Dulce village complex estimated to have grown to a population of 200 to 300 people around AD 1500 to 1600. As previously discussed, sometime during this period the Tataviam can be hypothesized to have occupied this region, although it is possible that they may have appeared somewhat earlier. However, the important point is that, during the Late Prehistoric Period, the patterns of lifeways[3] recorded for the ethnographic period were fully in operation.

During the historic period, the aboriginal population appears to have dropped considerably. This, without doubt, can be attributed to the effects of missionization and its attendant relocation of the aboriginal population to centralized locales, along with the depredations of introduced Old World diseases. The Upper Santa Clara River region appears to be one of those inland zones, like the Antelope

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3 Lifeways are generally defined as the customs and practices of a culture.

Valley to the north, which quickly and completely lost its aboriginal population. In particular, the aboriginal population from the Upper Santa Clara Valley was moved into Mission San Fernando, in the San Fernando Valley, and the area was effectively depopulated.

Historical Background

As noted previously, Euro-American mention of the upper Santa Clara River Valley region first occurred in the chronicles of the Portolá expedition of 1769, which passed through the San Fernando Valley to Newhall, then to the Castaic Junction area, and then down the Santa Clara River, to Ventura, on its way to Monterey). Although the Upper Santa Clara Valley region was traversed by a number of Spanish explorers in subsequent years, it initially remained isolated due to rugged topography, even though Portolá had suggested it as a locale for a mission. With the establishment of Missions San Buenaventura in 1782, and San Fernando in 1797, late-18th century historical events largely occurred in areas to the west and south of the Upper Santa Clara Valley proper.

As the missions increased in size and their herds grew, it became necessary for many of them to establish mission ranchos, or *estancias,* to allow their cattle to graze some distance from the mission vineyards and fields. With this geographical expansion of mission influence and activities, the Upper Santa Clara Valley region became important in a number of events central to the development of Southern California. San Francisco Xavier served as the *estancia* for Mission San Fernando. It comprised the upper reaches of the Santa Clara Valley down to Piru, essentially what would become the Newhall Ranch, and was established in 1804, a few years after the founding of the mission itself.

The upper reaches of the Santa Clara Valley also figured in three other important episodes in Southern California history, two of which are landmarks in the economic history of the state. The first of these is the discovery of gold. Although the history of gold discovery and exploitation in California is often linked with James Marshall's 1848 discovery of gold in John Sutter's Coloma millrace, it is a well-known fact that gold was found earlier in California 1842, in Placerita Canyon, by Francisco Lopez, Manuel Cota, and Domingo Bermudez. But it is by no means clear that even this well-documented incident represents the first true discovery of gold in the state. Instead, a variety of lines of historical evidence suggest that gold may have been mined in the Santa Clara Valley region one to three decades earlier.

The second historical event in the region was the discovery of oil. The first major discovery of oil was made in 1865, when Ygnacio del Valle sold the majority of his Rancho San Francisco holdings to Thomas Bard. Seven weeks later, the first oil well came in on the south side of the Santa Clara River, on property acquired by Bard. This led to discoveries of oil on Rancho San Francisco and, ultimately throughout the Santa Clara Valley region. The discovery was instrumental in the regional oil boom that ensued.

The third local event of historical importance was the collapse of Los Angeles Department of Water and Power's St. Francis Dam and the resulting flood of the Santa Clara River Valley on March 12 and 13, 1928. With the failure of the dam close to midnight on March 12, water raged down San Francisquito Canyon to Castaic Junction, which it effectively leveled, and then on to Fillmore, Santa Paula, and ultimately to the Pacific Ocean. The flood caused at least 336 known deaths, 101 individuals went missing and were presumed dead, 909 homes were destroyed, and countless acres of orchards were flattened.

Cultural Resources within the Project Site and Project Vicinity

Cultural Resources Records Search

An archival records search for the 430.4-acre Project Site was completed by the California State University, Fullerton, Anthropology South Central Coast Information Center (SCCIC) staff to determine whether any prehistoric or historical sites were known on the Project Site and/or whether all or portions of it had been previously systematically surveyed by archaeologists.[4] Eleven archaeological studies have been conducted on or within a 0.125-mile radius of the Project Site. Of these studies, three of them took place on the Project Site. None of eleven studies identified any archaeological resources on the Project Site or within a 0.125-mile radius of the Project Site.

An examination of the 1903 and 1941 US Geological Survey (USGS) Santa Susana 15 foot topographic quadrangles also showed no evidence of structures or early development on the Project Site. This lack of evidence of early development on the Project Site diminishes the likelihood that cultural resources exist on the property. In summary, the records search indicates that the Project Site has no known archaeological sites and a low sensitivity for archaeological and/or historic resources.

Pedestrian Survey

An intensive Phase I Survey of the Project Site was conducted in July 2013. Field procedures involved spacing the crew at approximately 10 to 15 meter intervals and then walking the property in transects. The ground surface was examined during these transects to identify evidence of prehistoric sites. Such evidence might include surface artifacts, dark organically rich midden soils, fire-cracked rock resulting from earth ovens and roasting pits, and shell and bone that might represent remnants of dietary remains. Alternatively, historical remains in the form of metal, glass, and ceramic were also considered possible finds within the Project Site.

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4 Archival records review was comprised of the following listings: CA Points of Historical Interest, CA Historical Landmarks, CA Register of Historical Places, NRHP, CA State Historic Resources Inventory, and relevant USGS 7.5 Quadrangles- no mention of NHMLAC in the Cultural Resources Report.

During the pedestrian survey, special attention was paid to geomorphological conditions that affect the preservation of archaeological remains. Road or bank-cuts that expose subsurface stratigraphy, for example, along with stable geomorphic and depositional environments were carefully examined for evidence of cultural remains. Furthermore, rodent backdirt piles were carefully examined in as much as they can reveal the presence of buried archaeological deposits.

Field conditions during the Phase I Survey were good. There was a light density of groundcover but much of the Project Site showed evidence of previous ground surface disturbance consisting of extensive grading and off-road vehicle use. One of the ridgelines on the Project Site had been nearly entirely removed. Although the Project Site had been graded extensively, there is no record of past discovery of artifacts on the Project Site. Flat portions of the Project Site comprise either the alluvial flood plain of Hasley Canyon Creek, which contained a now-abandoned golf course, and/or areas of surficial grading and active oil drilling. The upland portions of the Project Site are generally razorback ridges with widespread grading in the eastern half of the Project Site. Combined with limited natural water sources on the Project Site, conditions were considered marginal for the existence or preservation of archaeological remains.

No archaeological artifacts or sites of any kind were found within the Project Site during the pedestrian survey.

Paleontological Resources

Paleontological resources include fossil remains, fossil localities, and formations that have produced fossil material. Paleontological resources are limited, nonrenewable, sensitive scientific resources, including fossils preserved either as impressions of soft (fleshy) or hard (skeletal) parts, mineralized remains of skeletons, tracks, or burrows, or other trace fossils, coprolites (fossilized excrement), seeds or pollen, and other microfossils from terrestrial, aquatic, or aerial organisms. Paleontological resources are not evenly distributed; the potential for fossil occurrence depends on the rock type exposed at the surface in a given area. Sedimentary rocks contain the bulk of fossils, although metamorphic rocks occasionally also contain fossils.

As discussed in **Section 5.6, Geology and Soils,** the area adjacent to Hasley Canyon Creek and the lower tributary canyon areas, which include the Project Site, are situated upon surface deposits of Quaternary Alluvium, a sedimentary rock. The bedrock present beneath the Project Site consists of Plio-Pleistocene, nonmarine sediments of the Saugus Formation. The Saugus formation consists of shallow marine, brackish-water beds that grade into thick, non-marine sandstone, conglomerate, and siltstone beds. This

younger Quaternary Alluvium has a low potential for yielding significant fossils.[5] However, the younger Quaternary deposits are most likely underlain by older Quaternary or Tertiary deposits at a relatively shallow depth, which could contain vertebrate fossils. Older Quaternary deposits located in the Project vicinity near Saugus and Castaic Creeks (east of the Project Site) have produced vertebrate fossil specimens of camel (*Camelidae*), horse (*Equus*), and dog (*Canidae*). Deposits located near Val Verde (southwest of the Project Site) have produced fossil specimens of alligator lizard (*Gerrhonotus*), rabbit (*Leporidae*), pocket mouse (*Perognathus*), pocket gopher (*Thomomys*), and horse (*Equus*).[6]

Existing Conditions

Project Site

The 430.4-acre Project Site is located in unincorporated Los Angeles County, in the northwesterly portion of the Santa Clarita Valley. This portion of the valley is surrounded by the Los Padres and Angeles National Forest areas to the north; Agua Dulce and the Angeles National Forest to the east; a major ridgeline of the Santa Susana Mountains, which separates Santa Clarita Valley from the San Fernando and Simi Valleys to the south; and the County of Ventura to the west.

The Project Site is mostly a south-facing slope, trending downward to Hasley Canyon Creek, which drains to Castaic Creek. Elevations on the Project Site range from approximately 1,220 feet in the southern portion of the Project Site (near the main entrance to the Project Site) to approximately 1,640 feet in the north-central portion of the Project Site (near the water tank location). While the eastern ridgeline has been substantially graded such that only two noncontiguous portions of the secondary portion of the ridgeline remains, the western ridgeline remains largely intact. The Project Site consists of a portion of the alluvial bottom of the canyon, the heavily dissected ridges and hills forming the northern side of the canyon, and intervening arroyos. Most of the canyon sides are steep and ongoing colluvial and alluvial activity have created poor conditions for archaeological preservation. Bedrock present beneath the Project Site consists of Plio-Pleistocene, nonmarine sediments of the Saugus Formation.[7]

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5 Natural History Museum of Los Angeles County: Contributions in Science, Number 511, Squires, Groves, and Smith: Pico Formation Paleontology, November 30, 2006, website: http://www.nhm.org/site/sites/default/files/pdf/contrib_science/CS511.pdf.

6 Natural History Museum of Los Angele County, Samuel A. McLeod, Ph.D., Vertebrate Paleontology, correspondence to Planning Consultants Research, December 28, 2009, re: Paleontological Records Search for the proposed Golden Oaks Ranch Project, Los Angeles County. Website: http://planning.lacounty.gov/assets/upl/case/tr_071216_deir-volume7.pdf.

7 Geologic and Geotechnical Report, Vesting Tentative Tract 52584, Castaic, California, page 4, prepared by Allan E. Seward, Engineering Geology, Inc., January 15, 1999.

Past mass grading activities under the Prior Entitlements resulted in the movement of 12 million cubic yards of soil (cut and fill) including landform grading to lay out golf course fairways, home pads and roadways, along with the partial installation of infrastructure related to underground utilities (i.e., storm drains and sewers), as well as the installation of a 750,000-gallon water tank. Further, portions of the westerly ridgeline were used for sand mining with fill material mined from the ridgeline used elsewhere on the Project Site to support infrastructure installation. Prior to the grading performed under the Prior Entitlements on the Project Site, 145 acres of the western portion of the Project Site was used as a golf course and in the 1970s and 1980s portions of the Project Site were used for oil extraction operations which included drilling and excavation.

Thus the existing condition on the Project Site is highly disturbed with limited vegetation present along the graded portions of the Project Site. Although portions of the westerly ridgeline have been cleared and graded and mined for fill material, the portion of the Project Site adjacent to the existing terminus of Barcelona Road has not been graded; however the portion of the Project Site adjacent to Hayward Drive has been substantially graded and a dirt roadway is visible.

Regulatory Framework

Federal

National Register of Historic Places

First authorized by the Historic Sites Act of 1935, the National Register of Historic Places (NRHP) was established by the National Historic Preservation Act of 1966 as "an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from destruction or impairment."[8] The NRHP recognizes properties that are significant at the national, state, and local levels.

To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria:

A. *Associated with events that have made a significant contribution to the broad patterns of our history; or*

B. *Associated with the lives of persons significant in our past; or*

8 Code of Federal Regulations (CFR), 36 Section 60.2.

C. *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. *Have yielded, or may be likely to yield, information important in prehistory or history.*

According to the NRHP guidelines, the "essential physical features" of a property must be present for it to convey its significance. Further, in order to qualify for the NRHP, a resource must retain its integrity or "the ability of a property to convey its significance."

The seven aspects of integrity are: location (the place where the historic property was constructed or the place where the historic event occurred); design (the combination of elements that create the form, plan, space, structure, and style of a property); setting (the physical environment of a historic property); materials (the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property); workmanship (the physical evidence of the crafts of a particular culture or people during any given period of history or prehistory); feeling (a property's expression of the aesthetic or historic sense of a particular period of time); and association (the direct link between an important historic event or person and a historic property).

The relevant aspects of integrity depend upon the NRHP criteria applied to a property. For example, a property nominated under Criterion A (events) would be likely to convey its significance primarily through integrity of location, setting, and association. A property nominated solely under Criterion C (design) would usually rely primarily upon integrity of design, materials, and workmanship. The California Register of Historic Resources (CRHR) procedures include similar language with regard to integrity.

The minimum age criterion for the NRHP and the CRHR is 50 years. A property less than 50 years old may be eligible for listing on the NRHP if it can be regarded as "exceptional," as defined by the NRHP procedures, or in terms of the CRHR, "if it can be demonstrated that sufficient time has passed to understand its historical importance."[9]

State

California Office of Historic Preservation

The California Office of Historic Preservation (OHP) is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration, and

9 California Register of Historic Resources, Chapter 11, Title 14, Section 4842(d)(2)

protection of California's irreplaceable archaeological and historical resources under the direction of State Historic Preservation Officer (SHPO) and the State Historical Resources Commission.

OHP's responsibilities include:

A. *Identifying, evaluating, and registering historic properties;*

B. *Ensuring compliance with federal and state regulatory obligations;*

C. *Encouraging the adoption of economic incentive programs designed to benefit property owners, and*

D. *Encouraging economic revitalization by promoting a historic preservation ethic through preservation education and public awareness and, most significantly, by demonstrating leadership and stewardship for historic preservation in California.*[10]

California Register of Historical Resources

The CRHR was established to be a comprehensive listing of California's historic resources, including those of national, state, and local significance. Created by Assembly Bill 2881, which was signed into law on September 27, 1992, the CRHR is "an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change."[11] The criteria for eligibility for the CRHR are based upon NRHP criteria. A resource must meet one or more of the following criteria for listing on the CRHR:

A. *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; or*

B. *Associated with the lives of persons important to local, California, or national history; or*

C. *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*

D. *Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.*

Additionally, a resource must retain historic architectural integrity in terms of location, design, setting, materials, workmanship, feeling, and association.

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10 California Office of Historic Preservation Website, Mission and Responsibilities, accessed January 14, 2015.

11 California Public Resources Code Section 5024.1.

California Senate Bill 297

This bill addresses the disposition of Native American burials in archaeological sites and protects such remains from disturbance, vandalism, or inadvertent destruction; establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project; and establishes the Native American Heritage Commission to resolve disputes regarding the disposition of such remains. It has been incorporated into Section 15064.5(e) of the *State CEQA Guidelines*.

California Senate Bill 18

Government Code Section 65352.3 (Senate Bill 18) requires local governments to consult with California Native American tribes identified by the California Native American Heritage Commission prior to the adoption or amendment of a general plan, area plan, or specific plan for the purpose of protecting traditional tribal cultural places. The State Office of Planning and Research's technical advice series strongly recommends that agencies solicit the concerns of Native Americans and other interested persons and corporate entities, including, but not limited to, museums, historical commissions, associates, and societies as part of the process of cultural resources inventory.

California Environmental Quality Act

Under CEQA, a "project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment." (*State CEQA Guidelines* 15064.5(b)) This statutory standard involves a two-part inquiry. The first involves a determination of whether the project involves a historical resource. If it does, the second part involves determining whether the project may involve a "substantial adverse change in the significance" of the historical resource. To address these issues, guidelines that implement the 1992 statutory amendments relating to historical resources were adopted in final form on October 26, 1998 with the addition of *State CEQA Guidelines* Section 15064.5. The *State CEQA Guidelines* specify that for purposes of CEQA compliance, the term "historical resources" includes the following:

- *A resource listed in, or determined to be eligible by the state Historical Resources Commission, for listing in the California Register of Historical Resources.*

- *A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code, or identified as significant in a historical resource survey meeting the requirements in Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.*

- *Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources.*

- *The fact that a resource is not listed, or determined to be eligible for listing, in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be a historical resource, as defined in Public Resources Code Sections 5020.1(j) or 5024.1.*

With respect to archaeological resources and/or sites, *State CEQA Guidelines* section 15064.5(c) provides in relevant part:

(1) When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in [CEQA Guidelines 15064] subsection (a)

(2) If a lead agency determines that the archeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code

(3) If an archaeological site does not meet the criteria defined in subsection (a), but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of section 21083.2

(4) If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment

Public Resources Code section 21083.2(g) defines a "unique archaeological resource" as follows:

(1) As used in this section 'unique archaeological resource' means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

(a) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

(b) Has a special and particular quality such as being the oldest of its type or the best available example of its type.

(c) Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Section 21083.2(h) indicates:

> *As used in this section, 'nonunique archeological resource' means an archeological artifact, object, or site which does not meet the criteria in subdivision (g). A nonunique archeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects.*

There are currently no separate statutory requirements to address potential impacts to paleontological resources.

Local

County of Los Angeles Historical Landmarks and Records Commission

Historic resources located within unincorporated areas of Los Angeles County fall within the jurisdiction of the County's Historical Landmarks and Records Commission (Commission). The Commission is responsible for considering and recommending, to the Los Angeles County Board of Supervisors (BOS), local historical landmarks deemed worthy of registration either as "California Historical Landmarks" Or "Points of Historical Interest," and may consider and comment for the BOS on applications relating to the National Register of Historic Places. The Commission was established by BOS Order pursuant to Chapter 3.30 of the Los Angeles County Code. The Commission criteria for designation, including significance and access and provision for maintenance, are specified in state law, including the Public Resources Code, or in regulations and interpretations of the State Historical Resources Commission.

County General Plan

The County maintains many Historical Landmarks and Points of Historical Interest in its jurisdiction, including the remnants of vast ranchos, routes of early explorers, historic railroad lines, and the homes of historical figures who shaped local history. The California Register includes 506 historic resources throughout the County. While the majority of these resources are located in cities, 29 are located in unincorporated areas of the County.

Over 1,000 fossil localities have been recorded and in excess of a million specimens have been collected in Los Angeles County. Numerous areas of the County have yielded fossils, 11 significant general fossil localities have been identified in the vicinity of Rancho la Brea.

Section 5.10, Land Use and Planning, of this Draft EIR provides a list of the Los Angeles County General Plan policies intended to protect cultural resources. Refer to **Table 5.10-1** for a list of the General Plan policies pertaining to cultural resources and the consistency analysis for each policy.

Santa Clarita Valley Area Plan

Refer to **Section 5.10, Land Use and Planning, Table 5.10-2** of this Draft EIR for a list of the Santa Clarita Valley Area Plan (SCVAP 2012) policies related to cultural resources and the consistency analysis for each policy.

5.4.2 ENVIRONMENTAL IMPACTS

Methodology

The impact assessment methodology used in this analysis consists of a review of all recorded archaeological sites on, and within 0.125 mile of, the Project Site, a review of all previously documented cultural resource reports on file, record searches of several databases (including the California State Fullerton Anthropology SCCIC, California Points of Historical Interest, California Historical Landmarks, California Register of Historical Places, NRHP, and California State Historic Resources Inventory), and relevant USGS 7.5 Quadrangles. A pedestrian survey was conducted to document the existing conditions. These record searches and pedestrian surveys, in addition to an evaluation of previous grading on the Project Site, and a review of the geological conditions of the Project Site were used to determine the potential for disturbing unknown cultural resources.

As discussed in **Section 4.0, Project Description**, the Project assumes construction of the planned channel improvements prior to the completion of grading for the Project. If the planned channel improvements are not completed, two Retention Basins would be constructed as an interim condition. Once the planned channel improvements are completed, the Retention Basins will be removed and the Project will be completed. For purposes of the analysis of impacts to cultural resources, there would be no material difference in impacts with or without the Interim Controls. However, as construction of the Interim Controls (i.e., hydro modification) followed by full buildout of the Project will require excavation of the two Retention Basins, the two step buildout of the Project is analyzed for potential cultural resources impacts, as this sequence includes the greatest amount of earth movement and potential for disturbance to buried resources.

Project Design Elements/Project Design Features

Project Design Elements

A complete description of the Project and associated development characteristics is provided in **Section 4.0, Project Description,** of this Draft EIR.

As discussed in **Section 5.6, Geology and Soils,** the Project would involve grading activities for building pads, roadways, sand mine removal, and soil stabilization, including grading of a portion of the western secondary ridgeline for the extension of Barcelona Road, with overall excavation depths of approximately 1 to 15 feet. The Project would also involve excavation of trenches (for underground utilities). While the design specifications have not yet been determined for all of the supporting infrastructure (including the water tank), grading and trenching associated with infrastructure is expected to occur at a depth of up to two feet in accordance with County requirements. Due to previous grading associated with the abandoned golf course, the abandoned oil wells, and the associated facilities, areas of minor artificial fill are present in and around the Project Site. Grading on the Project Site will also remove the fill and loose material remaining from the previous mining operation located on the westerly ridgeline. That fill material (approximately 6,000 cubic yards) will be incorporated into fill during Project grading elsewhere on-site.

In 2002, the County approved Vesting Tentative Tract Map (VTTM) No. 52584 and Conditional Use Permit (CUP)/Oak Tree Permit (OTP) Nos. 98-034-(5) (herein referred to as the Prior Entitlements) which allowed the development of 209 single-family lots and a private 243-acre golf course on the Project Site. As a result of these approvals, from 2006 through 2008, a prior owner of the Project Site carried out substantial construction activity to develop the Prior Entitlements. This construction activity, which was never completed, included significant landform grading (in excess of 12 million combined cubic yards) and infrastructure installation—including partial installation of electrical, storm drains, sewers, graded roadways, golf course fairways, and home pads and. The electrical, sewer, and storm drains were trenched and installed within the confines of the graded portions of the Project Site. As part of this construction, a 750,000-gallon water tank water tank was built in the northeast portion of the Project Site, but it is not in use. A drain outlet is located east of the water tank along Hayward Drive. The majority of the grading and site preparation focused on the 243 acres associated with the proposed golf course. Home pads, roadways, and fairways were rough graded, but no fine grading or home construction was commenced. Only minor grading occurred on the western portion of the Project Site. As a continuation of this work, the Applicant has previously completed construction of a water well and a related structure that were dedicated to Los Angeles County Waterworks District No. 36 (LACWWD 36) in 2011. No other vertical structures were constructed in connection with the Prior Entitlements. All of the roads on the Project Site remain unpaved. No electrical or natural gas infrastructure exists on the Project Site; however, above ground electrical poles are located along Hasley Canyon Road.

As a result of past use on the Project Site, including the 1960s golf course, past oil drilling and grading and partial infrastructure installation associated with the Prior Entitlements, the majority of the Project Site has been disturbed. While the exact acreage is difficult to estimate, as access roadways, and uses

overlapped resulting in some areas being graded more than once, it is estimated that approximately 300 acres (of the 430.4 acre Project Site) were graded or disturbed (i.e., through roadway access, etc.) as a direct result of past use on the Project Site. In general, only the western most portion of the Project Site (west of the ridgeline) has not been disturbed due to past use and remains in a natural state.

Project Design Features

No specific Project Design Features (PDFs) are proposed relevant to cultural resources.

Significance Thresholds

The potential for the Project to result in impacts associated with cultural resources is based on the CEQA significance thresholds specified by the Los Angeles County Department of Regional Planning. These significance thresholds are based in part on Appendix G of the *State CEQA Guidelines* and are as follows:

Threshold 5.4-1 **Would the project cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines § 15064.5?**

Threshold 5.4-2 **Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5?**

Threshold 5.4-3 **Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or contain rock formations indicating potential paleontological resources?**

Threshold 5.4-4 **Would the project disturb any human remains, including those interred outside of formal cemeteries?**

With the exception of the 750,000 gallon water tank constructed as part of the Prior Entitlements, no structures are presently located on the Project Site. As such, no historical resources are located on the Project Site. Therefore, no further analysis of **Threshold 5.4-1** is necessary.

Impact Analysis

Threshold 5.4-2: **Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5?**

The Phase I Survey conducted on the Project Site did not find any artifacts or identify any archaeological sites. Prior records searches found that no such sites have been identified on the Project Site or within a 0.125-mile radius of the Project Site. Prior to the grading performed under the Prior Entitlements on the

Project Site, 145 acres of the western portion of the Project Site was used as a golf course, in the 1970s and 1980s the Project Site was used for oil extraction operations which included drilling and excavation. Work undertaken on the Project Site associated with the Prior Entitlements (as described above and in **Section 3.0, Environmental Setting)** included substantial grading (in excess of 12 million cubic yards) and trenching for utility lines. Further, sand mining occurred along portions of the westerly ridgeline which was used as fill elsewhere on the Project Site. There are no records indicating that any archeological resources were uncovered on the Project Site during any of these past activities, including the 12 million cubic yards of earthmoving activities. While most of the activity focused on the eastern 243 acres of the Project Site, site clearing, grubbing and sand mining did occur on the western ridgeline. Clearing for roadways occurred throughout the Project Site (including over the westerly ridgeline) and is still visible. The primary portions of the easterly ridgeline were entirely removed and only two noncontiguous portions of the secondary portions of the ridgeline remain.

Construction of the Project would include the grading of an additional 7.6 million cubic yards of soil (combined cut and fill). However, approximately 189.29 acres would remain as open space, including 123.25 acres of natural open space. The remaining open space areas include transitional slopes and the 6.44 acre mitigation area. For purposes of this analysis, it is assumed that some limited disturbance would occur in these areas during the construction phase. Disturbance could include planting, slope stabilization, and similar activities. In general construction activity would be focused on the remaining 241 acres of the Project Site.

Trenching to a depth of at least up to two feet (in accordance with Los Angeles County requirements) would be required for placement of water, natural gas, and electric utility lines. Although grading within the Project Site could occur at depths of up to 15 feet (as described in **Section 5.6, Geology and Soils,** and in the supporting Geological and Geotechnical Report included in **Appendix 5.6-9**), it is unlikely trenching to such minimal depths would uncover any previously buried resources as infrastructure improvement areas would be located in areas on the Project Site that have been previously disturbed. To ensure that archeological impacts are minimized, **Mitigation Measure MM 5.4-1** is proposed to provide guidance and limit grading activities on the Project Site if an archaeological resource is discovered. This measure would ensure that proper procedures are followed in case archaeological resources are discovered. Therefore, with implementation of **Mitigation Measure MM 5.4-1,** impacts to archaeological resources would be less than significant.

Off-site Improvement Areas

The Project includes certain off-site improvements as described in **Section 4.0, Project Description**. These improvements are located within existing roadway right-of-ways. Improvements that require restriping

would not result in the potential to disturb cultural resources as no trenching would occur. The Project also includes an upgrade to an existing water line. To connect to existing piping, the Project will also include installation of (1) approximately 20 feet of underground pipe in Sedona Way, approximately 50 feet west of the Old Road, to connect existing underground piping, and (2) approximately 25 feet of above ground pipe, a water flow meter, and an electrical panel inside an existing fenced Castaic Lake Water Agency (CLWA) facility located behind the sidewalk on the south side of Sedona Way, approximately 70 feet west of the Old Road. Trenching for the water line could occur at depths of up to eight feet. However, as this water line is an upgrade to an existing water line, the area has been previously trenched and disturbed. Additional off-site improvements include minor grading, installation of certain utility connections from roadways conjoining the Project Site, and restriping on Hasley Canyon Road. As all of the off-site areas have been previously disturbed and have been trenched for the existing utilities, it is unlikely that any buried resources (archeological, paleontological, or Native American remains) would be discovered during construction of the off-site improvements. Nonetheless, if any archaeological resources, paleontological resources, and/or human remains are discovered on the Project Site the inclusion of **Mitigation Measures MM 5.4-1** through **MM 5.4-3** would restrict grading activities within 25 feet of the find and ensure impacts would remain less than significant.

Threshold 5.4-3: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or contain rock formations indicating potential paleontological resources?

As previously discussed**,** the Project Site is situated upon surface deposits of Quaternary Alluvium. The younger Quaternary Alluvium has a low potential for yielding significant fossils. However, the younger Quaternary deposits are most likely underlain by older Quaternary or Tertiary deposits at a relatively shallow depth, which could contain vertebrate fossils. As previously discussed, older Quaternary deposits located in the Project vicinity have produced vertebrate fossil specimens.

However, similar to the discussion above regarding archeological artifacts, although the Project Site has undergone extensive disturbance, there is no record of any past discovery of fossils on the Project Site. Further the pedestrian survey conducted for the Phase I Survey did not identify any paleontological resources (including unique geologic feature or rock formations) within the Project Site. Thus the likelihood of uncovering such resources is considered low. Nonetheless, the potential for unearthing unknown paleontological resources does exist during grading activities. **Mitigation Measure MM 5.4-2**, below, would reduce impacts to paleontological resources by halting all ground-disturbing activities within 25 feet of the find and requiring a qualified paleontologist to evaluate the significance of the discovery before grading activities can resume. Therefore, with implementation of **Mitigation Measure MM 5.4-2**, impacts would be less than significant.

Threshold 5.4-4: Would the project disturb any human remains, including those interred outside of formal cemeteries?

The Phase I Survey and records search conducted for the Project Site did not identify any locations potentially containing human remains or Native American burial sites within the Project Site. In addition, as previous golf course and oil extraction operations and extensive grading activities under the Prior Entitlements (as described above) did not result in the discovery of any human remains or burial sites, the likelihood of uncovering such remains and/or sites is considered low. Nonetheless, as the Project would include grading to depths of up to 15 feet in areas of the Project Site, the potential does exist to unearth previously unknown buried human remains. Therefore, impacts would be potentially significant. If human remains are uncovered, **Mitigation Measure MM 5.4-3** would require all ground-disturbing activities within 25 feet of the remains to cease and the County coroner to be notified. Further, if the remains are determined to be of Native American descent, the California Native American Heritage Commission shall be notified within 24 hours. Therefore, impacts would be less than significant.

5.4.3 CUMULATIVE IMPACTS

Impacts upon cultural and paleontological resources tend to be site-specific and are assessed on a site-by-site basis. As discussed above, the Project Site and surrounding area may contain actual or potential cultural or paleontological resources, although the likelihood is low. Where these resources may exist, implementation of the Project would represent an incremental adverse cumulative impact to cultural or paleontological resources. However, the Project's potential impact to cultural and paleontological resources would be less than significant with the implementation of the recommended mitigation measures. In addition, Related Projects would also be required to implement appropriate mitigation measures. Therefore, the Project would not contribute to any potential cumulative impacts, and cumulative impacts to cultural and paleontological resources would be less than significant.

5.4.4 MITIGATION MEASURES

MM 5.4-1: In the event archaeological resources are encountered during Project construction, all ground-disturbing activities within 25 feet of the find shall cease and the Applicant shall retain a qualified archaeologist to evaluate the significance of the find. If the find is determined to be an archaeological resource, the archaeologist shall record all recovered archaeological resources on the appropriate California Department of Parks and Recreation Site Forms to be filed with the California Historical Resources Information System-South Central Coastal Information Center (SCCIC), evaluate the significance of the find, and if significant, determine and implement the appropriate mitigation in

accordance with the US Secretary of the Interior and California Office of Historic Preservation guidelines, including but not limited to a Phase III data recovery and associated documentation. The archaeologist shall prepare a final report about the find to be filed with the Applicant, the County of Los Angeles Department of Regional Planning, and the California Historical Resources Information System-SCCIC, as required by the California Office of Historic Preservation. The report shall include documentation of the resources recovered, a full evaluation of the eligibility with respect to the California Register of Historical Resources, and treatment of the resources recovered. In the event of a find, archaeological and Native American monitoring shall be provided thereafter for any ground-disturbing activities in the area of the find.

MM 5.4-2: In the event paleontological resources are encountered during Project construction, all ground-disturbing activities within 25 feet of the find shall cease and the Applicant shall retain a qualified paleontologist to evaluate the significance of the find and determine the appropriate treatment in accordance with the Society of Vertebrate Paleontology guidelines for identification, evaluation, disclosure, avoidance or recovery, and curation, as appropriate. All significant fossils shall be stabilized and prepared to a point of identification and permanent preservation. The paleontologist shall prepare a final report on the monitoring. If fossils are identified, the report shall contain an appropriate description of the fossils, treatment, and curation. A copy of the report shall be filed with the Applicant, County of Los Angeles Department of Regional Planning, and the Natural History Museum of Los Angeles, and shall accompany any curated fossils. In the event of a find, paleontological monitoring shall be provided thereafter for any ground-disturbing activities in the area of the find.

MM 5.4-3: In the event human remains are encountered during construction activities, all ground-disturbing activities within 25 feet of the human remains shall cease and the County coroner shall be notified. In the event the remains are determined to be of Native American descent, the County coroner shall notify the California Native American Heritage Commission within 24 hours. The Native American Heritage Commission shall identify the person(s) thought to be the Most Likely Descendant of the deceased Native American, who shall have 48 hours from notification by the Native American Heritage Commission to inspect the site of the discovery of Native American remains and to recommend to the Applicant or landowner a means for the treatment and disposition of the human remains and any associated grave goods. The Applicant or landowner shall reinter the remains and associated grave goods with appropriate dignity on the property

in a location not subject to further disturbance. In the event Native American remains are found, Native American monitoring shall be provided thereafter for any ground-disturbing activities in the area of the remains.

5.4.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of **Mitigation Measures MM 5.4-1** through **MM 5.4-3,** potential impacts to cultural resources during would be less than significant.

5.5 ENERGY

INTRODUCTION

This section of the Draft EIR evaluates the Project's potential impacts on energy resources. This section evaluates the estimated consumption of petroleum based fuels, electricity, and natural gas and determines whether the Project would comply with applicable regulations or involve inefficient, wasteful and unnecessary use of energy resources. Analysis of whether the current and planned electrical and natural gas supplies and distribution systems are adequate to meet the Project's forecasted energy consumption can be found in **Section 5.15.4, Electricity and Natural Gas**.

5.5.1 ENVIRONMENTAL SETTING

Existing Conditions

The Project Site is within the Southern California Edison (SCE) service area; natural gas would be provided to the site by the Southern California Gas Company (SCGC). The Project Site is currently vacant with no current vehicle usage, existing electrical or natural gas use or infrastructure.

For a discussion regarding local utility resources, refer to **Section 5.15.4, Electricity and Natural Gas**.

New technology, state mandates, and economic growth or decline continue to play key roles in energy consumption in California. The US Energy Information Administration (EIA) collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment. The projections in the EIA's *Annual Energy Outlook 2014* (AEO2014) focus on the factors that shape the US energy system over the long term. Under the assumption that current laws and regulations remain unchanged throughout the projections, the AEO2014 Reference case provides the basis for examination and discussion of energy production, consumption, technology, and market trends and the direction they may take in the future. It also serves as a starting point for analysis of potential changes in energy policies. The EIA tracks national energy consumption in four broad sectors: industrial, transportation, residential, and commercial. The industrial sector has long been the country's largest energy user, currently representing about 33 percent of the total. Next in importance is the transportation sector (tracking energy use by vehicles that transport people/goods on ground, air or water), followed by the residential and commercial sectors.[1]

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1 US Energy Information Administration, Annual Energy Outlook 2014, http://www.eia.gov/forecasts/aeo/.

Renewable energy plays an important role in California's cleaner energy future. California policy encourages the development of renewable energy resources to reduce reliance on petroleum-based fuels; to diversify energy portfolios; to reduce greenhouse gas emissions; and to assist creation of "green" jobs within the state of California. The California Energy Commission is the state's primary energy policy and planning agency responsible for implementing these goals. Further discussion regarding this agency and its activities is provided below.

Electricity

The SCE service area is 50,000 square miles and includes 180 cities across 11 counties, which serve over 14 million people in central, coastal, and Southern California. In 2012, SCE delivered approximately 15.01 billion kWh of renewable power – or about 19.9 percent of all the electricity the utility delivered that year.[2] Moving forward, new technology, state mandates and economic growth or decline will play a key role in determining state resident's energy consumption types and rates.

Natural Gas

The SCGC service area encompasses 20,000 square miles and provides natural gas to 20.9 million consumers in more than 500 communities.[3] While overall the state's natural gas demand is expected to decrease, within the SCGC service area, gas demand for all market sectors is expected to increase at an annual rate of 0.12 percent between 2011 and 2030.[4] This increase in the Southern California area could be attributed to a number of factors including increased development and more densely populated communities within the service area. SCGC had access to 3,875 million cubic feet per day (MMcf/d) of natural gas from transmission lines and 135.1 billion cubic feet (Bcf) of storage capacity in 2012.

Petroleum Based Fuel

In 2012, 14.49 billion gallons of gasoline (non-diesel) and 3.30 billion gallons of diesel fuel were sold statewide.[5] While projected gasoline sales for Los Angeles County (County) were expected to be approximately 3,500 million gallons, the number of gallons consumed in the County was 3,451 million

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2 Southern California Edison, Cleaner Power, https://www.sce.com/wps/portal/home/about-us/environment/renewable-power/.

3 Southern California Gas Company. *Company Profile.* http://www.socalgas.com/about-us/company-info.shtml. 2015.

4 Southern California Gas Company. *Company Profile.* http://www.socalgas.com/about-us/company-info.shtml. 2015.

5 California Energy Almanac, Retail Fuel Report and Data for California, http://energyalmanac.ca.gov/gasoline/piira_retail_survey.html, accessed September 10, 2015.

gallons.[6] Similar to the number of gasoline gallons consumed, the number of diesel gallons consumed was lower than the California Energy Commission's (CEC) projection. Statewide, 244 million gallons of diesel fuel was consumed in 2012, while the CEC had projected that almost 250 million gallons of diesel fuel would be consumed statewide.[7]

Regulatory Framework

Federal

Energy Policy and Conservation Act

Enacted in 1975, this legislation established fuel economy standards for new light-duty vehicles sold in the US. The law placed responsibility on the National Highway Traffic and Safety Administration (a part of the US Department of Transportation) for establishing and regularly updating vehicle standards. The US Environmental Protection Agency (US EPA) administers the Corporate Average Fuel Economy (CAFE) program, which determines vehicle manufacturers' compliance with existing fuel economy standards. Since the inception of the CAFE program, the average fuel economy for new light-duty vehicles (autos, pickups, vans, and SUVs) steadily increased from 13.1 mpg for the 1975 model year to 27.5 mpg for the 2012 model year and is proposed to increase to 54.5 by 2025.[8]

Energy Star Program

In 1992, the US EPA introduced Energy Star as a voluntary labeling program designed to identify and promote energy-efficient products to reduce greenhouse gas emissions. The program applies to major household appliances, lighting, computers, and building components such as windows, doors, roofs, and heating and cooling systems. Under this program, appliances that meet specifications for maximum energy use established under the program are certified to display the Energy Star label. In 1996, US EPA joined with the Energy Department to expand the program, which now also includes qualifying commercial and industrial buildings, and homes.

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6 California Energy Almanac, Retail Gasoline Sales by County, http://energyalmanac.ca.gov/gasoline/retail_fuel_outlet_survey/retail_gasoline_sales_by_county.html, accessed September 10, 2015.

7 California Energy Almanac, Retail Diesel Sales by County, http://energyalmanac.ca.gov/gasoline/retail_fuel_outlet_survey/retail_diesel_sales_by_county.html, accessed September 10, 2015.

8 http://www.epa.gov/otaq/climate/regs-light-duty.htm.

Income Tax Credits

Federal income tax credits are available to individuals for installation of qualified energy conservation features in the home such as insulation, replacement windows, and certain high-efficiency heating and cooling equipment. Additional tax credits are available for qualified solar water heating and photovoltaic systems, and also for qualified fuel cell and microturbine systems. Tax credits are also available to buyers of designated fuel-efficient vehicles such as electric and alternative fuel. Builders of homes that incorporate energy-efficient materials, as well as manufacturers of certain products designed to meet Energy Star standards, also qualify for tax credits.

State

California Energy Commission

The California Energy Commission (CEC) was created as the state's principal energy planning organization in 1974, in order to meet the energy challenges facing the state in response to the 1973 oil embargo. The CEC is charged with seven basic responsibilities when designing state energy policy:

- Forecasting future energy needs
- Promoting energy efficiency and conservation by setting the state's appliance and building energy efficiency standards
- Supporting energy research that advances energy science and technology through research, development and demonstration projects
- Developing renewable energy resources
- Advancing alternative and renewable transportation fuels and technologies
- Certifying thermal power plants 50 megawatts and larger
- Planning for and directing state response to energy emergencies

Title 24, Part 6, of the California Code of Regulations contains the CEC's Energy Efficiency Standards for Residential and Nonresidential Buildings. Title 24 was first established in 1978, in response to a legislative mandate to reduce California's energy consumption. Since that time, Title 24 has been updated periodically to allow for consideration and possible incorporation of new energy efficiency technologies and methods.

On April 23, 2008, the CEC adopted the 2008 standards, which must be followed by projects that submit an application for a building permit on or after January 1, 2010. The CEC adopted the 2008 standards for

a number of reasons: (1) to provide California with an adequate, reasonably priced, and environmentally sound supply of energy; (2) to respond to Assembly Bill 32 (AB 32; the Global Warming Solutions Act of 2006), which requires California to reduce its carbon footprint to 1990 levels by 2020; (3) to pursue the statewide policy that energy efficiency is the resource of choice for meeting California's energy needs; (4) to act on the findings of California's Integrated Energy Policy Report, which indicate that the 2008 Standards are the most cost-effective means to achieve energy efficiency, reduce the energy demand associated with water supply, and reduce greenhouse gas emissions; (5) to meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures in the update of all state building codes; and (6) to meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards.[9] In 2013, updates were made to the 2008 Title 24 standards (effective January 1, 2014). The updated 2013 Title 24 standards will be applicable to the Project.

The California Green Building Standards Code, which is Part 11 of the Title 24 Building Standards Code, is commonly referred to as the CALGreen Code. The 2008 edition, the first edition of the CALGreen Code, contained only voluntary standards. The 2013 CALGreen Code is a code with mandatory requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools, and hospitals) throughout California beginning on January 1, 2014. The 2013 CALGreen Code contains requirements for construction site selection, stormwater control during construction, construction solid waste reduction, indoor water use reduction, building material selection, natural resource conservation, site irrigation conservation, and more. Additionally, this code encourages buildings to achieve exemplary performance in the area of energy efficiency. For the purposes of energy efficiency standards, the CEC believes a green building should achieve at least a 15 percent reduction in energy usage when compared to California's mandatory energy efficiency standards.

As indicated above, in addition to Title 24, AB 32 is anticipated to result in the future regulation of energy resources in California. (See **Section 5.7, Greenhouse Gas Emissions,** for additional information on AB 32.) In order to achieve these emission reductions, it is generally accepted that California will need to improve its overall energy efficiency, which includes the use of more renewable energy resources. Pursuant to AB 32, the California Air Resources Board (CARB) will work with other state agencies (including the CEC), to implement feasible programs and regulations that reduce emissions and improve energy efficiency.[10]

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9 See http://www.energy.ca.gov/title24/2008standards/index.html, 2013.

10 See http://www.arb.ca.gov/cc/ghgsectors/ghgsectors.htm#electric, September 13, 2013 (highlights targeted improvements for the energy sector).

Additional operative energy conservation programs and policies within California are highlighted briefly below:

- Senate Bill 107: This legislation, which addresses California's Renewables Portfolio Standard (RPS), requires retail sellers of electricity to procure 20 percent of retail sales from renewable energy by 2010.
- Assembly Bill 1613: This legislation, also known as the Waste Heat and Carbon Emissions Reduction Act, was designed to encourage the development of new combined heat and power systems in California with a generating capacity of up to 20 MW.
- Senate Bill 1: This legislation enacted the Governor's Million Solar Roofs program and has an overall objective of installing 3,000 MW of solar photovoltaic systems.
- Senate Bill 1389: This legislation requires the California Energy Commission to prepare a biennial integrated energy policy report that contains an assessment of major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety.
- Executive Order S-14-08: This order, issued by Governor Schwarzenegger, established accelerated RPS targets—specifically 33 percent by 2020.
- Executive Order S-21-09: This order, also issued by Governor Schwarzenegger, requires CARB to adopt regulations, by July 31, 2010, increasing California's RPS to 33 percent by 2020.

Local

County of Los Angeles Green Building Standards Code

In November 2013 the Los Angeles County Board of Supervisors adopted the Los Angeles County Green Building Standards Code (Title 31). Title 31 will improve public health, safety, and general welfare by enhancing the design and construction of buildings through sustainable building concepts that reduce negative environmental impacts. This includes a reduction in energy, water, and other natural resources, and minimizing solid waste.

County General Plan

Section 5.10, Land Use and Planning, of this Draft EIR provides a consistency analysis of the Los Angeles County Draft General Plan policies pertaining to energy. Refer to **Table 5.10-1** for a list of the energy policies and the consistency analysis for each policy.

Santa Clarita Valley Area Plan

Refer to **Section 5.10, Land Use and Planning**, of this Draft EIR for a listing of the Santa Clarita Valley Area Plan (SCVAP 2012) policies that pertain to energy. As discussed in the policy consistency analysis provided therein, the Project would be consistent with the applicable SCVAP 2012 policies related to energy.

5.5.2 ENVIRONMENTAL IMPACTS

Methodology

The Proposed Project is evaluated according to the standards of significance shown below by utilizing information on existing utility and service systems provided by the SCE, California Energy Demand Forecast 2014–2024, SCGC, and 2012 California Gas Report. Energy impact analysis was determined by evaluating demand and the energy conserving features of the Project to determine whether the Project would involve the wasteful, inefficient, and unnecessary use of energy resources.

As discussed in **Section 4.0, Project Description**, the Project assumes construction of the planned channel improvements prior to the completion of grading for the Project. If the planned channel improvements are not completed, two retention basins would be constructed as an interim condition. Once the planned channel improvements are completed, the retention basins will be removed and the Project will be completed. For purposes of the analysis related to energy, full buildout of the Project represents the most impactful scenario as it includes a greater number of homes and therefore, the largest potential demand on services and the greatest number of vehicle trips.

Project Design Elements/Project Design Features

Project Design Elements

The Project includes construction and occupancy of 497 single-family residences, 189.29-acres of privately owned open space, a 7.45-acre public park, approximately 28.28 acres for recreational use including a 4.5-acre vineyard and a 3.9-acre orchard, a multi-use trail which would be dedicated to the County for public use, roadway and utility infrastructure, as well as offsite improvements.

Construction of the Project has the potential to last from five to seven years, with approximately two years needed for mass and rough grading of the Project Site as well as construction and installation of the backbone infrastructure. Construction of the 497 single-family residences is projected to occur over 3 to 5 years. During construction of the Project, energy would be consumed in three general forms: (1) petroleum-based fuels used to power off-road construction vehicles and equipment on the Project Site,

construction worker travel to and from the Project Site, as well as delivery truck trips; (2) electricity (generated off-grid by generators, propane or diesel powered generators) associated with providing temporary power for lighting and electronic equipment; and (3) energy used in the production of construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

In addition, the Project is estimated to include 2,721 new trees (including 491 citrus). Carefully positioned trees can reduce a household's energy consumption for heating and cooling by up to 25 percent. Computer models devised by the US Department of Energy predict that the proper placement of only three trees can save an average household between $100 and $250 in energy costs annually.[11]

Project Design Features

Sustainability features include project design features (PDFs) that are proposed to minimize the use of natural resources and maximize energy efficiency within the Project.

As previously discussed, the Project will comply with the Los Angeles County Green Building Program, which consists of the County's Green Building Standards Code and third-party certifications as required in Table 22.52.2130-1; Low Impact Development Ordinance, and Drought Tolerant and Native Landscaping Ordinances; all Mandatory Measures of the 2013 California Green Building Standards Code; the Los Angeles County's Healthy Design Ordinance; the SCVAP 2012 and applicable Castaic Area Community Design Standards. The Project will also meet or exceed all 2013 CALGreen Residential Mandatory measures in Chapter 4, Divisions 4.1 through 4.5 and Chapter 7 as applicable; 2013 CALGreen Tier 1 Prerequisite Measures and required minimum Tier 1 Elective Measures for Residential Uses.

The following PDFs related to energy would be implemented as part of the Project:

Planning & Design

- Nearby freeway access and adjacency to services and jobs helps to avoid vehicle trips (VT) and vehicle miles traveled (VMT).
- The Project will maintain approximately 123.25 acres as natural open space.

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11 US Department of Energy, Energy Saver, Landscaping, http://energy.gov/public-services/homes/landscaping. Accessed February 2015.

- 4.5 miles of trails will be constructed throughout the Project with approximately 3,000 linear feet of public multi-purpose trails to provide a complete system and access to the local and regional trail system. Enhanced trailheads provide gathering points and connectivity to the local regional trail system. Trail standards will be in accordance with CDS and other applicable requirements.[12]

- Contour grading, curvilinear street design, terraced drains, terraced slopes, and related project design features have been incorporated as project best management practices.[13]

- To minimize Project site grading, existing pads will be used to the extent feasible. The Project Site plan emphasizes the protection of open space and undisturbed connections to these adjoining areas by retaining in a natural condition approximately 123.25 acres of land primarily located adjacent to existing offsite open space areas located to the north and northeast, contiguous to existing undeveloped ridgelines, and along the westerly ridgeline and areas further to the west on the Project Site in areas contiguous with undeveloped land to the west.[14] The Barcelona Road extension would cross the secondary portion of the westerly ridgeline, but would not cross the primary portion of the ridgeline. A variance is being requested to authorize construction in portions of the easterly ridgeline that have already been substantially graded and in the remaining, disconnected portions of the secondary ridgeline.

- The entry to the Project Site is within a quarter mile of a bus stop, and extension of pedestrian, biking and multi-purpose trails provide additional alternatives to auto travel, and reduce VMTs (vehicle miles traveled) and VT's (vehicle trips).

- Project streets are designed to be safe and integrate a network of roadways and connector trails for a walkable community. Sidewalks, on-street parking, tree canopies, curbs, and gutters, narrower intersections with smaller radii are some of the Project's healthy walkable street features. A public park and seven secondary parks provide opportunities for outdoor activity. Vineyards and orchards can be accessed by foot.

- Approximately 8.4 acres of vineyards and other productive agricultural uses will be provided onsite. Incorporation of innovative agricultural practices that conserve resources and promote sustainability, such as drip irrigation, hydroponics, and composting will be explored.[15]

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12 Trails, Castaic Area Community Standards District (CSD).

13 Hillsides, Castaic Area Community Standards District (CSD).

14 Significant Ridgeline Protection, Castaic Area Community Standards District (CSD).

15 LA County General Plan Policy C/NR 9.2.

- Project construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples include swales, water collection and disposal systems, french drains, water retention gardens, and other water measures to keep surface water away from building and aid in groundwater recharge.[16] (Refer also to **Section 5.9.1, Hydrology and Section 5.9.2, Water Quality**.)

- The Project will comply with the prerequisite topsoil protection requirements in CALGreen Section A4.106.2.3.

- The Project will comply with the most recent versions of state and local stormwater management and/or erosion control ordinances, and implement best management practices (BMPs) to prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMPs.[17] (Refer also to **Section 5.9.1, Hydrology and Section 5.9.2, Water Quality**.)

- Mitigation and restoration of the western drainage, unnamed Tributary # 1, includes terracing and re-contouring the near vertical existing banks and restoring vegetation including mainland holly-leaf cherry and California live oaks which will be coordinated with both the United States Army Corps of Engineers (USACE) and the California Department of Fish and Wildlife (CDFW). Habitat restoration for western spadefoot toads (a California Species of Special Concern) will be selected in consultation with CDFW, but is anticipated to be located west of the westerly ridgeline, in close proximity to the restored western drainage. (Refer also to **Section 5.3, Biological Resources**.)

- Comply with the prerequisite permeable paving requirements in CALGreen Section A4.106.4.

- Buildings will be oriented to optimize solar access, passive and active design techniques and cross breezes through the buildings.[18]

    - Passive Solar techniques and other passive techniques are to be incorporated into the Clubhouse and Residential Units to help reduce the energy loads.[19] Care will be given in the landscape design to avoid shading roofs with a 110 – 270 degree roof orientation.

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16 4.106.3 Grading and paving, CALGreen 2013.

17 5.106.1 Storm water pollution prevention, 5.106.1.2 Best management practices (BMP).

18 LA County General Plan Policy LU 10.3.

19 LA County General Plan Policy LU10.1

- Solar Photovoltaics (PV) systems are to be installed in the common areas and Clubhouse structure to help offset Project energy use.[20]

- Bicycle Parking. For five percent of visitor parking spaces, permanently anchored bicycle racks will be provided within 200 feet of the visitors' entrance of the Clubhouse.

- Electric Vehicle (EV) Charging

  - Clubhouse. The Project will install at least one electric vehicle charging station at the Clubhouse, and comply with CALGreen Sections 4.106.4.1, 4.106.4.2.2 through and 4.106.4.2.5, to facilitate future installation and use of EV chargers. Electrical vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.

  - Residential Dwelling Units. For each dwelling unit, the Project will install a listed raceway to accommodate a dedicated 208/240-volt branch circuit and comply with CALGreen Section 4.106.4.1 and Section 4.106.4.2.2. The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box, or other EV charger. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. Compliance will include the Prerequisite electric vehicle (EV) charging requirements in Section A4.106.8.

- The site plan has been designed to avoid specimen oak tree and protect all but one of them in their current locations.[21]

- Los Valles will comply with the County of Los Angeles Rural Outdoor Lighting Ordinance[22] and consider incorporating adaptive networked bi-level outdoor lighting to further support dark sky principles[23] and enhanced resource conservation. (Refer also to **Section 5.1, Aesthetics**).

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20 LA County General Plan, Conservation and Natural Resources Element, Policy PS/F 6.7.

21 Castaic Area Town Council supports the removal of one oak tree and the issuance of an Oak Tree Permit, approval letter, dated January 6, 2015.

22 Los Angeles County Rural Outdoor Lighting District Ordinance (Title 22 [Planning and Zoning], Division 1 [Planning and Zoning], Chapter 22.44 [Supplemental Districts], Part 9 [Rural Outdoor Lighting District]), as amended and adopted on November 13, 2012 by the Los Angeles County Board of Supervisors under Ordinance 2012-0047.

23 International Dark Sky Association, www.darksky.org.

- Tree canopy cover, light colored paving, and roofing materials will be used to reduce heat island effect.
- Comply with cool roof requirements in CALGreen Section A4.106.5.1.

Energy Efficiency

- All residential dwellings shall be designed and constructed to be a minimum of 15 percent better than the 2013 Energy Code.[24]
    - 2013 CALGreen Tier 1. All new residential dwelling units shall comply with the energy efficiency requirements in Section A4.203.1.1 and Section A4.203.2.1.[25]
    - Solar Ready Roofs. A minimum of 250 square feet of non-shaded roof will be reserved on each home for a solar zone within a 110 – 270 degree orientation.
- The Clubhouse will be designed and constructed to meet zero net electric[26] by incorporating passive solar techniques, high efficiency technologies, ENERGY STAR appliances, solid state LED adaptive lighting; coupled with solar PV to offset electrical loads.
    - CALGreen Energy Efficiency Tier 2. Comply with CALGreen Tier 2 for the Clubhouse which equates to 70 percent of the energy budget of 2013 Title 24 Part 6 (a.k.a. 30% better than 2013 Energy Code).
    - Solar Ready Roofs. A sufficient solar zone area will be designed as part of the Clubhouse building and shade structures to maximize solar generation, while at the same time, maintaining aesthetic appeal with orientation between 110 – 270 degrees.
- 2013 CALGreen Tier 1. All residential constructed low-rise buildings will comply with the energy efficiency requirements in Section A4.203.1.1 and A4.203.1.2.1.

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24 California Building Standards Code, Title 24, Part 6.

25 2013 CALGreen Residential Tier 1 Prerequisite.

26 Zero net energy (ZNE) electric means the building will be designed and constructed to generate as much energy from renewable sources, such as solar photovoltaic (PV) panels as us uses over 12 months.

Water Efficiency & Conservation

- Outdoor Water Use. The project will comply with the state Model Water Efficient Landscape Ordinance[27], and CALGreen 4.304.1 Outdoor potable water use in landscape areas. The Project will go beyond the conservation and efficient use of water by utilizing a watershed approach.
    - Water Budget. A water budget shall be developed for landscape irrigation.[28]
    - Water Efficient Landscape Irrigation
        - Irrigation Efficiency. Automatic irrigation systems controllers installed at time of final inspection shall be weather or soil moisture-based.[29].
        - Landscape Irrigation Design. Provide water efficient landscape irrigation design that reduces the use of potable water; does not exceed 55 percent of ETo[30] times the landscape area.[31]
    - Drought Tolerant Landscaping. The landscape pallet shall be consistent with the County's Drought Tolerant Landscaping Ordinance (see the County's Drought Tolerant Landscaping Ordinance Sections 4.4 Landscaping, 4.4.1 Landscape Plan and 4.4.2 Fuel Modification Plan for details).
    - Fuel Modification Plan. A Fuel Modification plan will be developed that is consistent with the County's required landscape pallet and water efficient irrigation.
    - 2013 CALGreen Tier 1. Comply with the landscape irrigation water budget requirements in Section A4.304.3.
- 2013 CALGreen Tier 1. Comply with the Tier 1 potable water use reduction for landscape irrigation design in Section A4.304.4.

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27 California Code of Regulations Title 23, Waters Division 2. Department of Water Resources Chapter 2.7, Model Water Efficient Landscape Ordinance.

28 2013 CALGreen Residential Tier 1 Prerequisite, A4.304.3.

29 Emergency Regulations Effective June 1, 2015, HCD. (Supersedes 2013 CALGreen Residential Mandatory Requirement, 4.304.1.)

30 Evapotranspiration (ETo) is the process by which water is transferred from the land to the atmosphere by evaporation from the soil and other surfaces and by transpiration from plants.

31 2013 CALGreen Residential Tier 1 Prerequisite, A4.304.4.

- Indoor Water Use
    - Plumbing Fixtures. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) installed shall comply with the prescriptive requirements in Sections 4.303.1 through 4.303.2.[32]
    - Plumbing Fixture Installations. Plumbing fixtures and fittings required in Section 4.303.1 shall be installed in accordance with the California Plumbing Code, and shall meet the applicable reference standards.
    - 2013 CALGreen Tier 1. Comply with at least two elective measures selected from Division A4.3.

Material Conservation & Resource Efficiency

- Enhanced Durability and Reduced Maintenance. Comply with mandatory requirements including rodent proofing.[33]
- Construction Waste Management. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste, A4.408.1.
- Cement Reduction. Comply with the 20-percent cement reduction requirements in Section A4.403.2
- Recycled Content. Comply with the 10-percent recycled content requirements in Section A4.405.3.1
- 2013 CALGreen Tier 1. Comply with at least two elective measures selected from Division 4.4.
- Building Maintenance & Operation. At the time of final inspection, prepare an Operations & Maintenance Manual in which meets the requirements in CALGreen Section 4.410.1

Environmental Quality

- Pollutant Control

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32 2013 CALGreen Residential Mandatory Requirement, 4.303.1.

33 2013 CALGreen Residential Mandatory Requirement 4.406.1

- Duct Openings. Duct openings and other related air distribution component openings shall be covered during construction.[34]

- Adhesives Sealants & Caulks. Adhesives, sealants, and caulks shall be compliant with local or regional air pollution control or air quality management district rules where applicable or South Coast Air Quality Management District (SCAQMD) Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2 as applicable.[35]

- Paints & Coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure as shown in Table 4.504.3, unless more stringent local limits apply.[36]

- Aerosol Paints & Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Section 94522(c)(2) and (d)(2) of California Code of Regulations, Title 17, commencing with Section 94520.[37]

- Verification. Documentation shall be provided to verify that compliant VOC limit finish materials have been used.[38]

- Resilient Flooring. 80 percent of floor area receiving resilient flooring shall comply with specified VOC criteria.[39]

- Composite Wood Products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used in the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et. Seq.) as shown in Table 4.504.5.

- Resilient Flooring. Comply with the 90-percent resilient flooring systems requirements in Section A4.504.2

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34 2013 CALGreen Residential Mandatory Requirement 4.504.1

35 2013 CALGreen Residential Mandatory Requirement 4.504.2.1

36 2013 CALGreen Residential Mandatory Requirement 4.504.2.2

37 2013 CALGreen Residential Mandatory Requirement 4.504.2.3

38 2013 CALGreen Residential Mandatory Requirement 4.504.2.4

39 2013 CALGreen Residential Mandatory Requirement 4.504.4

- Thermal Insulation. Comply with the thermal insulation requirements for Tier 1 in Section A4.504.3.
- 2013 CALGreen Tier 1. Comply with at least one elective measures selected from Division 4.5.
- Interior Moisture Control
  - Concrete Slab Foundations – Capillary Break. Vapor retarder and capillary break shall be installed at slab-on-grade if applicable.[40]
  - Moisture Content of Building Materials. Moisture content of building materials used in wall and floor framing is checked before enclosure.[41]
- Duct Systems. Duct systems shall be sized, designed and equipment selected using the following methods[42]:
  - Establish heat loss and heat gain values according to ANSI/ACCA 2 Manual J-2004 or equivalent.
  - Size duct systems according to ANSI/ACCA 1 Manual D-2009 or equivalent.
  - Select heating and cooling equipment according to ANSI/ACCA 3 Manual S-2004 or equivalent.

Note: The Residential Occupancies Application checklist contained in Section A4.602 may be used to show which elective measures are selected for compliance.

Innovation

- The Applicant, in conjunction with the formation of a Homeowners Association (HOA), will develop Solar Energy CC&Rs to protect solar access throughout the community in perpetuity.
- Each builder shall be required to build and demonstrate at least one model at each model complex, a Zero Net Energy (ZNE-TDV[43]) option to potential homebuyers. This is to be consistent with 2013 Title 24, Part 6, Tier 2; 30 percent better than the 2013 energy code and install

40 2013 CALGreen Residential Mandatory Requirement 4.505.2
41 2013 CALGreen Residential Mandatory Requirement 4.505.3
42 2013 CALGreen Residential Mandatory Requirement 4.507.2
43 Zero Net Energy – Time Dependent Valuation.

enough solar photovoltaic (PV) panels to offset 100 percent of the energy load over 12 months. [Note: This ZNE-TDV Tier is expected to be part of the 2016 CALGreen Residential Voluntary Measures; Division A4.2 Energy Efficiency.]

- Each builder shall be required to demonstrate recycling stations in every model.
- Each builder will be required to have Electric Vehicle Chargers installed and functional in at least one of the models within each of the model complexes, and offer this as an option for every potential homebuyer.
- LED Street Lighting. The Project will utilize solid-state LED high efficacy street lighting throughout the Project's private streets, as approved by the County, for significant energy savings, maintenance and operations enhancements.
- Los Valles Community Recycling Program. The Applicant, in conjunction with the HOA, will develop a community-wide recycling program and design readily available recycling area(s) within the community clubhouse identified for the depositing, storage and collection of non-hazardous materials for recycling to include a minimum of paper, corrugated cardboard, glass, plastics, and metals or meet a lawfully enacted local recycling ordinance if more restrictive. Onsite landscaping clippings will be utilized as mulch within the community common area landscaping and agricultural vineyards and orchards as appropriate and to design recycling stations within into all residential units to include a minimum of paper, corrugated cardboard, glass, plastics, and metals or meet a lawfully enacted County recycling ordinance if more restrictive.
- Community Outdoor Kitchen. A simple outdoor kitchen will be provided for the Los Valles community with places designed for community gatherings. Some possible uses for the outdoor kitchen could be cooking demonstrations, jam making, canning preserves, and winemaking.
- Homeowner Sustainability Stewardship Program. The Applicant, in conjunction with the HOA, will develop a Homeowner Sustainability Stewardship Educational Program (Educational Program) which will be made available to all new homebuyers to help educate and build Los Valles Land Stewards for the long-term. This Educational Program can be in the form of electric media rather than printed materials to minimize resource waste.
- Outdoor potable water use in landscape areas. The Project will go beyond the conservation and efficient use of water by utilizing a watershed approach and recognizing the underlying groundwater aquifers in the Project design.

Significance Thresholds

The potential for the Project to result in impacts associated with energy is based on the California Environmental Quality Act (CEQA) significance thresholds specified by the Los Angeles County Department of Regional Planning. These significance thresholds are based in part on Appendices G and F of the *State CEQA Guidelines* and are as follows:

Threshold 5.5-1 Would the project conflict with Los Angeles County Green Building Standards Code (LA County Code Title 31)?

Threshold 5.5-2 Would the project involve the inefficient use of energy resources (see Appendix F of the CEQA Guidelines)?

Appendix F of the *State CEQA Guidelines* defines conserving energy as:

- *Decreasing overall per capita energy consumption*
- *Decreasing reliance on natural gas and oil, and*
- *Increasing reliance on renewable energy sources*

Neither Appendix F of the *State CEQA Guidelines* nor Public Resources Code Section 21100(b)(3)) offer a threshold of significance that might be used to evaluate the potential significance of energy consumption of a proposed project. Rather, the emphasis is on reducing "the wasteful, inefficient, and unnecessary consumption of energy." To clarify, a project's energy usage would be considered "wasteful, inefficient, and unnecessary" if the project were to violate state and federal energy standards, including Title 24 of the California Code of Regulations. In addition, feasible opportunities to conserve energy or to use alternative fuels or energy systems should be considered.

Impact Analysis

Threshold 5.5-1 **Would the project conflict with Los Angeles County Green Building Standards Code (LA County Code Title 31)?**

Threshold 5.5-2 **Would the project involve the inefficient use of energy resources (see Appendix F of the CEQA Guidelines)?**

Construction

During Project construction, energy would be consumed in three general forms: (1) petroleum-based fuels used to power off-road construction vehicles and equipment on the Project Site, construction worker

travel to and from the Project Site, as well as delivery truck trips; (2) electricity (generated off-grid) associated with providing temporary power for lighting and electronic equipment; and (3) energy used in the production of construction materials, such as asphalt, steel, concrete, pipes, and manufactured or processed materials such as lumber and glass.

Project construction would require grading, utility installation, foundation construction, building construction, paving, and landscaping installation. All construction would be typical for the region and building type.

Based on calculations in **Appendix 5.2-1, CalEEMod Model Output – Proposed Project**, and using standard fuel consumption estimates, as shown in **Tables 5.5-1** and **5.5-2**, a total of approximately 408,001 gallons of diesel fuel, and 344,810 gallons of gasoline would be consumed over the five -year Project construction horizon, or approximately 81,600 gallons of diesel fuel, and 68,962 gallons of gasoline per year (based on a five-year buildout). In 2012, California consumed a total of 12.24 billion gallons of gasoline and 3.30 billion gallons of diesel fuel.[44] Thus the Project's annual consumption of petroleum based fuel during construction would represent less than 0.0006 percent of the statewide gasoline consumption and 0.0025 percent of the statewide diesel consumption.

The Project would utilize construction contractors who demonstrate compliance with applicable CARB regulations governing the accelerated retrofitting, repowering, or replacement of heavy duty diesel on- and off-road equipment. As discussed in **Section 5.2, Air Quality**, CARB has adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. This measure prohibits diesel-fueled commercial vehicles greater than 10,000 pounds from idling for more than 5 minutes at any given time.

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44 California Energy Commission, Energy Almanac, Retail Fuel Report and Data for California, http://energyalmanac.ca.gov/gasoline/piira_retail_survey.html. Accessed February 2015.

Table 5.5-1
Off-Road Construction Equipment Diesel Fuel Consumption

Phase	Equipment Type	Units	Hours	Horse Power	Load Factor	Ave Daily Factor	Number of Days	Fuel Usage/ HP/hr	Diesel Usage (in gallons)
Grading	Excavators	1	8	162	0.38	0.6	434	0.05	6,412
	Rubber-Tired Dozers	6	8	255	0.4	0.6	434	0.05	63,746
	Scrapers	12	8	361	0.48	0.6	434	0.05	216,586
	Tractors/Loaders/ Backhoes	2	8	97	0.37	0.6	434	0.05	7,477
Trenching	Generator Sets	1	8	226	0.29	0.6	152	0.05	2,391
	Tractors/Loaders/ Backhoes	3	7	97	0.37	0.6	152	0.05	3,437
	Welders	1	8	46	0.45	0.6	152	0.05	755
Building	Cranes	1	7	226	0.29	0.6	849	0.05	11,685
	Forklifts	3	8	89	0.20	0.6	849	0.05	10,881
	Generator Sets	1	8	84	0.74	0.6	849	0.05	12,666
	Tractors/Loaders/ Backhoes	3	7	97	0.37	0.6	849	0.05	19,196
	Welders	1	8	46	0.45	0.6	849	0.05	4,218
Paving	Pavers	2	8	125	0.42	0.6	695	0.05	17,514
	Paving Equipment	2	8	130	0.36	0.6	695	0.05	15,612
	Rollers	2	8	80	0.38	0.6	695	0.05	10,141
Coatings	Air Compressors	1	6	78	0.48	0.6	784	0.05	5,284
								Project Total	**408,001**

Source: CalEEMod Model Output & Impact Sciences 2015

Table 5.5-2
Construction Worker Gasoline Consumption

Phase	Number of Daily Trips	Number of Days	Average Round-Trip Commute Distance (in miles)[a]	Fuel Usage (mpg)[b]	Gasoline Usage (in gallons)
Grading	53	434	29.4	18.6	36,358
Trenching	13	152	29.4	18.6	3,123
Building	182	849	29.4	18.6	244,238
Paving	15	695	29.4	18.6	16,478
Coatings	36	784	29.4	18.6	44,612
				Project Total	**344,809**

Source: Impact Sciences 2015
Notes:
mpg – miles per gallon
a Data Source: California Department of Housing and Community Development, Journey-to-Work Travel Time and Distance Characteristics for the US, and Selected US and California Metropolitan Areas: 1985, 1995, http://www.hcd.ca.gov/hpd/hrc/rtr/ex48.pdf
b This is a conservatively estimated total, based on the fact that it assumes no electric, hybrid, or other alternate fuel use vehicles in the fleet mix.

Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption. Further, all grading (cut and fill) would be balanced on-site, eliminating the need for any haul trucks to remove or supply soil to the Project Site. Construction materials could include recycled materials and products originating from nearby sources to the extent feasible in order to comply with the County's Green Building Standards, CALGreen and to reduce costs of transportation. Also, contractors and owners have a strong financial incentive to avoid wasteful, inefficient, and unnecessary consumption of energy during construction.

During construction of the Project, electricity would be required to serve construction trailers, power tools, tool sheds, work and storage areas, and other facilities associated with development activities. Electricity would be expected to be supplied by gasoline, propane, or diesel-powered generators, rather than drawing power from the local electrical grid. Electricity consumption that would be required during construction would be limited and temporary, and would cease upon the completion of construction. Further, the use of electricity would vary depending on site-specific operations and the amount and type of construction occurring at any given time. Overall, as construction activities associated with the Project would not draw power from the local electrical grid, it would not have an adverse impact on available electricity supplies.

There is growing recognition among developers and retailers that sustainable construction is not any more expensive than "business as usual" construction methods, and further, that there are long-term significant cost-savings potential in utilizing green building practices and materials. While it is difficult to measure the energy used in the production of construction materials such as asphalt, steel, and concrete, it is reasonable to assume that the production of building materials such as concrete, steel, etc., would employ all reasonable energy conservation practices in the interest of minimizing the cost of doing business. In addition, the Project would feature a sustainable design to comply with CALGreen which would also result in the use of sustainable materials and recycled content that would reduce energy consumption during Project construction.

Therefore, the Project would not involve the inefficient, wasteful, and unnecessary use of energy resources in its construction phase and impacts would be less than significant.

Operation

As detailed in **Section 5.15.4, Electricity and Natural Gas**, and shown in **Table 5.5-3, Estimated Electricity Usage at Project Buildout**, the Project's electricity demands would be 2,885,620 kilowatt-hours (kWh) per year. At buildout, the Project's electricity consumption would be 0.003 percent of the conservatively estimated electricity delivery capacity.

Table 5.5-3
Estimated Electricity Usage at Project Buildout

Source	Quantity	Generation Factor	Annual Consumption (kWh)	Annual Consumption (GWh)
Residential	497 du	5,626.50 kWh/du/y	2,796,371	2.8
Community Center	8,500 sf	10.50[1] kWh/sf/y	89,250	0.1
		Total	**2,885,620**	**2.9**

Source: South Coast Air Quality Monitoring District (SCAQMD) CEQA Air Quality Handbook, 1993 & Impact Sciences 2015
Notes:
KWh/y = Kilowatt hour per year; GWh = Gigawatt Hour; du = dwelling unit; sf = square feet.
[1] *A miscellaneous electricity generation factor was used as a proxy for the recreational buildings.*

Table 5.5-4, Estimated Natural Gas Usage at Buildout, below, presents the projected natural gas demand for the Project. As demonstrated in **Table 5.5-4**, the Project's natural gas demands would be 110,245.88 cubic feet per day (cf/d) or 40 million cubic feet per year (MMcf/y).

Table 5.5-4
Total Natural Gas Usage at Buildout

Source	Quantity	Generation Factor	Daily Consumption (cf)
Residential	497 du	6,665 cf/du/m	108,904.27
Community Center	8,500 sf	4.8 cf/sf/m [1]	1,341.37
Gas BBQs	6	0.04 cf/sf/day [2]	0.24
		Total	**110,245.88**

Source: South Coast Air Quality Monitoring District (SCAQMD) CEQA Air Quality Handbook, 1993 & Impact Sciences 2015
Notes:
For a more accurate number, daily consumption was determined by calculating the yearly consumption using the monthly generation factor and dividing by the number of days in a year (365).
cf = cubic feet; du = dwelling unit; sf = square feet
[1] *The hotel/motel generation factor was used for the community center as there would potentially be similar uses including showers, washers for towels, restrooms, heating/cooling, and a pool.*
[2] *One gas BBQ is assumed for each of the secondary park sites; the generation factor is from Southern California Gas Company, Environmental Specialist/Land Planner, James Chuang, written correspondence July 29, 2013.*

The Project would represent 1.5 percent of the conservatively estimated total natural gas supply delivered for the service area.

The Project would result in the consumption of petroleum-fuel related to vehicular travel (quantified as vehicle miles travelled (VMT) to and from the Project Site. **Table 5.5-5, Estimated Petroleum-based Fuel Usage at Buildout**, below, presents the projected consumption of approximately 107,024 gallons of diesel and 725,607 gallons of gasoline per year, or a total of 832,631 gallons of petroleum-based fuels per year based on an annual estimate of 16,182,606 VMT.[45] This is a conservatively estimated total, based on the fact that it assumes no electric, hybrid, or other alternate fuel use vehicles in the fleet mix. It should be noted, that based on the project design features above, electric vehicle charging will be provided and all homes will be electric vehicle ready.

In 2012, California consumed a total of 12.24 billion gallons of gasoline and 3.30 billion gallons of diesel fuel.[46] Based on the fuel usage amounts presented above, residents of the Project would use approximately 725,607 gallons of gasoline and 107,024 gallons of diesel. This would represent less than 0.006 percent of the statewide annual gasoline consumption and 0.003 percent of the statewide annual diesel consumption.

45 Based on calculations in **Appendix 5.2-1, CalEEMod Model Output – Proposed Project**

46 California Energy Commission, Energy Almanac, Retail Fuel Report and Data for California, *http://energyalmanac.ca.gov/gasoline/piira_retail_survey.html. Accessed February 2015.*

Table 5.5-5
Estimated Petroleum-based Fuel Usage at Project Buildout

Source	Fleet Mix[a]	Generation Factor[b, c]	Annual Consumption (in gallons)
Mobile			
Diesel (gallons)	16.6	16,182,606/25.1 mpg	107,024
Gasoline (gallons)	83.4	16,182,606/18.6 mpg	725,607
		Total	**832,631**

Source: Impact Sciences 2015
Notes:
mpg = miles per gallon
a Data Source: FHWA OHPI, Highway Statistics, Fuel Consumption by State and Type http://www.fhwa.dot.gov/policyinformation/pubs/hf/pl11028/chapter5.cfm
b Data Source: California Department of Transportation, 2007 California Motor Vehicle Stock, Travel and Fuel Forecast, http://www.energy.ca.gov/2008publications/CALTRANS-1000-2008-036/CALTRANS-1000-2008-036.PDF
c Diesel-powered vehicles typically get 30-35% more miles per gallon than comparable vehicles powered by gasoline. US Department of Energy, Fuel Economy Guide, http://www.fueleconomy.gov/feg/pdfs/guides/FEG2013.pdf

The Project will meet all of the requirements of the Los Angeles County Code Title 31 (Green Building Standards Code) and will install energy star appliances and incorporate other sustainable development principles as described above.

The use of energy provided by alternative (i.e., renewable) resources, off-site and on-site, to meet the Project's operational demands is constrained by the energy portfolio mix managed by SCE, the service provider for the Project Site, and limitations on the availability or feasibility of on-site energy generation. As previously discussed, about 19.9 percent of all the electricity delivered by SCE in 2012 came from renewable sources, as shown in **Table 5.5-6, SCE Energy Delivery from Renewable Resources**.

With respect to on-site renewable energy sources, because of the Project's location, there are no local sources of energy from the following sources: biodiesel, biomass hydroelectric and small hydro, digester gas, fuel cells, landfill gas, municipal solid waste, ocean thermal, ocean wave, and tidal current technologies, or multi-fuel facilities using renewable fuels. However, the Project includes site orientation and building orientation for solar.

Table 5.5-6
SCE Energy Delivery from Renewable Resources

Resource Type	Capacity (MW)	Delivered in 2012 (GWh)	Percentage of Renewable Portfolio
Wind	2,315	6,241	41%
Geothermal	932	6,522	44%
Solar	433	1,038	7%
Small Hydro	227	638	4%
Biomass	129	614	4%
Total	4,036	15,098	100%

Source: Southern California Edison https://www.sce.com/wps/portal/home/about-us/reliability/renewable-energy/ & Impact Sciences 2015

As demonstrated by SCE, solar and wind power represent variable-energy, or intermittent, resources that are generally used to augment, but not replace, natural gas-fired energy power generation, since reliability of energy availability and transmission is necessary to meet demand, which is constant.

Wind-powered energy is not viable on the Project Site due to the lack of sufficient wind in the Los Angeles basin. The CEC has studied the state's high wind resource potential.[47] Based on a map of California's wind resource potential, the Project Site is not identified as an area with wind resource potential. Wind resource areas with winds above 12 mph within Los Angeles County are located in relatively remote areas in the northwestern portion of the County. Additionally, there are no viable sites within the Project Site for placement and operation of a wind turbine.

Similarly, solar energy is highly variable in the Los Angeles area. The CEC has identified areas within the state with high potential for viable solar, wind, and geothermal energy production. The CEC rated California's solar potential by county using insolation values available to typical photovoltaic system configurations, as provided by the National Renewable Energy Laboratory. Although Los Angeles County has a relatively high photovoltaic potential of 3,912,346 megawatt-hours (MWh)/day, inland counties such as Inyo (10,047,177 MWh/day), Riverside (7,811,694 MWh/day), and San Bernardino (25,338,276 MWh/day) are more suitable for large-scale solar power generation.[48] Notwithstanding the need for large-scale electrical generation, the CEC also sponsors the 'Go Solar California!' program to encourage individuals to consider solar power on a smaller scale by holding workshops which explain the fundamentals of solar electricity and the current incentives that are offered through the California

47 California Energy Commission. "California Wind Resource Potential," http://www.energy.ca.gov/maps/renewable/ Wind_Potential.pdf, accessed February 2015.

48 California Energy Commission, "California Solar Resources," April 2005, http://www.energy.ca.gov/2005publications/CEC-500-2005- 072/CEC-500-2005-072-D.PDF, accessed August 2014.

Solar Initiative (CSI) program.[49] In addition, clubhouse and residential rooftops would be solar ready as described in the PDFs. As such, the Project is oriented to allow for solar.

As previously discussed, in accordance with the Los Angeles County General Plan, Land Use and Planning Policies 10.1 and 10.4, it is anticipated that the Project would utilize the sustainable PDFs discussed above. Further, the Project would incorporate features that would help reduce reliance on automobile travel (i.e., vehicle miles traveled), including a network of pedestrian trails which will connect to local schools and the adjacent residential developments, local active and passive recreation facilities, and nearby access to transit options (i.e., bus and Metrolink service) in accordance with Los Angeles County Healthy Design Guidelines (LACC Section 21.16.015 et seq.).

Off-site Electricity Use

In addition, electricity is used to convey, treat, and distribute water and wastewater. The amount of electricity required to convey, treat, and distribute water depends on the volume of water as well as the sources of the water. As discussed in **Section 5.15.1, Water Supply**, the Project Site is served by Los Angeles County Waterworks District No. 36 (LACWWD 36) which in turn provides water imported from the State Water Project water that is treated at Castaic Lake Water Agency's Earl Schmidt Filtration Plant and Rio Vista Water Treatment Plant. The LACWWD 36 also utilizes groundwater from the Saugus formation beneath the District service area. In general, the water supply in LACWWD 36 is made up of 50 percent imported water and 50 percent groundwater. Stetson Engineers provided water usage estimates for the Project. The water usage was conservatively assumed to be equal to the "dry year" estimate, which has a higher water demand compared to "normal year" water usage (refer to **Section 5.15-1, Water Supply**). The Project would incorporate numerous features to reduce water usage, including conservation and efficient use of water by utilizing a watershed approach and recognizing the underlying groundwater aquifers in the Project design. All water use for the Project would be in compliance with the County's Green Building Standards Code and the County's Drought Tolerant Landscaping ordinance.

As shown in **Table 5.5-7, Total Off-Site Electricity Usage Associated with Water Usage**, the Project is estimated to use approximately 2,523,967.08 KWhr/yr annually for water uses. These calculations used CalEEMod default assumptions for average embodied energy[50] for Southern California, which are based on analyses by the CEC. CalEEMod defaults for the embodied energy were also used for wastewater

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49 California Energy Commission, "Go Solar, California!" http://www.gosolarcalifornia.ca.gov/, accessed February 2015.

50 Embodied energy refers to the amount of energy that was used in delivering water to the specific use.

treatment. As shown, at buildout, the Project's off-site electricity consumption associated with water usage would be 0.003 percent of the conservatively estimated electricity delivery capacity.

Table 5.5-7
Total Off-Site Electricity Usage Associated with Water Usage

Use	Indoor Water Use (Mgal/yr)	Outdoor Water Use (Mgal/yr)	Generation Factor (kWhr/Mgal)	Annual Consumption
Residential				
Supply Water	93.00	58.00	9,728	1,468,928.00
Treat Water	93.00	58.00	111	16,761.00
Distribute Water	93.00	58.00	1,272	192,072.00
Wastewater Treatment	93.00	0	1,911	177,723.00
Open Space/Recreation				
Supply Water	0.14	60	9,728	585,041.92
Treat Water	0.14	60	111	6,675.54
Distribute Water	0.14	60	1,272	76,498.08
Wastewater Treatment	0.14	0	1,911	267.54
			Total	**2,523,967.08**

Source: CalEEMod 2012, Appendix D, Table 9.2 Water and Wastewater Electricity Intensity, Los Angeles - South Coast values & Impact Sciences 2015
Notes:
kWhr = kilowatt hour; Mgal = million gallons; yr = year

Although the Project would create additional demands on electricity and natural gas supplies and distribution infrastructure, these demands are within the service capabilities of SCE and SCGC. The Project would exceed Title 24 requirements and meet all of the requirements of the County's Green Building Standards Code. Additionally, the Project would incorporate all of the PDFs described above related to Project design. Therefore, development of the Project would not cause wasteful, inefficient, and unnecessary consumption of energy and would be consistent with the intent of Appendix F of the *State CEQA Guidelines* and impacts would be less than significant.

5.5.3 CUMULATIVE IMPACTS

The consequences of inefficient energy use can cause adverse environmental effects, including but not limited to, an unnecessary increase in the use of fossil fuels such as coal, natural gas, and oil, and the resulting potential increases in greenhouse gas emissions and air quality impacts. A project's energy use typically would be very small in comparison to state or global energy use and, consequently, they would, in isolation, have no significant direct impact. The Project's energy use would not be considered to be substantial when compared to statewide energy use. The County and state have mandated goals and

objectives to maximize energy efficiency (e.g., the County's Green Building Standards Code and the 2013 CALGreen Code), which contain requirements for construction site selection, storm water control during construction, construction solid waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation and more. The Project would fully comply with these requirements.

Given the Project's consistency with state and County energy reduction goals and objectives, the contribution to a cumulative inefficient, wasteful and unnecessary use of energy resources would be less than significant and would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing energy use. Similarly, Related Projects would also be anticipated to incorporate energy conservation features and comply with these same energy reduction goals and objectives as required by the various local governing codes and regulations (e.g., the 2013 CALGreen Code, Title 24 and the County's Green Building Standards Code). Therefore, cumulative impacts associated with energy consumption and regulatory compliance would be less than significant.

5.5.4 MITIGATION MEASURES

No mitigation measures are required.

5.5.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project-level and cumulative impacts related to energy would be less than significant.

5.6 GEOLOGY AND SOILS

INTRODUCTION

This section of the Draft EIR evaluates the Project's potential impacts with regard to geology and soils. This analysis is based on geotechnical reports conducted on the Project Site between 1998 and 2013 that were performed for both the Project and the Prior Entitlement (See **Section 4.0, Project Description**). **Appendix 5.6-1** includes the Geology and Soils section prepared by Allan E. Seward Engineering Geology, Inc. for Taylor and Company for the project previously approved on this site in 2002. Geotechnical reports prepared by Allan E. Seward Engineering Geology, Inc. in support of the Prior Entitlements, dated from January 1999 through November 2008 (referred to as previous geological studies) are included in **Appendix 5.6-2** through **Appendix 5.6-8**. The Geologic and Geotechnical Report (Project Geotechnical Report), prepared by Allan E. Seward Engineering Geology, Inc., for the Project (dated June 2013) is included in **Appendix 5.6-9.**

5.6.1 ENVIRONMENTAL SETTING

Existing Conditions

The Project Site consists of 430.4 acres located northeast of the intersection of Del Valle Road and Hasley Canyon Road in the Transverse Range, in the southeastern foothills of the Sierra Madre Mountains, in Hasley Canyon, within the community of Castaic, in unincorporated Los Angeles County. The topography of the Project Site generally consists of steep ridgelines that run in a north and northeast direction. The Project Site is comprised of a mostly a south-facing slope, trending downward to Hasley Canyon Creek, which drains to Castaic Creek, which ultimately drains to the Santa Clara River. The property on the southern side of the westerly ridgeline supports sandstone outcrops and cliffs. There are no other unique land formations found on the Project Site. Existing elevations on the Project Site range from approximately 1,400 feet in the southern portion of the Project Site to approximately 1,700 feet in the north-central portion of the Project Site.

Substantial areas of the eastern and western portions of the Project Site have been modified due to past activity (See **Figure 3.0-4, Areas of Previous Disturbance on the Project Site**). As described in **Section 3.0, Environmental Setting,** approximately 145 acres of the western portion of the Project Site were graded and in use as a golf course from 1960s to about 1983. Additional grading occurred on the Project Site to accommodate the use of the Project Site for oil drilling activities. As a result of past use on the Project Site, including the 1960s golf course, past oil drilling and grading and partial infrastructure installation associated with the Prior Entitlements, the majority of the Project Site has been disturbed.

While the exact acreage is difficult to estimate, as access roadways and uses overlapped resulting in some areas being graded more than once, it is estimated that approximately 300 acres were graded or disturbed (i.e., through roadway access, etc.) as a direct result of past use on the Project Site. In general, only the western most portion of the Project Site (west of the ridgeline) has not been disturbed due to past use and remains in a natural state. Previous grading operations included removal of vegetation and debris, excavation of surface soils, artificial fill, and alluvial deposits; and replacing excavated materials as compacted fill. Additional earthwork included the removal of six out of the eight identified landslides on the Project Site (identified as Qls-1, Qls-2, Qls-3, Qls-4, Qls-7, and Qls-8), and the construction of cut slopes and grading pads in accordance with the previous project grading plan and the previous geotechnical studies. Field and observation testing, including periodic testing of earthworks at the Project Site have been conducted by the Project geotechnical consultant, and a total of 42,898 feet of subdrains and backdrains have been installed on the Project Site.

Extensive grading of the westerly significant ridgeline (which traverses the Project Site from north to south and is located east of the connection with Barcelona Road) was also authorized by the Prior Entitlements for construction of the residential lots authorized by the Prior Entitlements. Minor grading (i.e., dozer road and brushing of the natural slopes) of this ridgeline occurred during the rough grading operations. Since this ridge was in an area of significant cut and the bedrock section is predominately composed of granular material, the storm drain/sewer contractor excavated this area for bedding material for the storm drain and sewer lines at the time this grading was carried out. The excavation of the bedrock for bedding material resulted in significant amounts of dump fill.

As stated above, the Project Site is located in the Transverse Ranges geologic province of Southern California in the easternmost portion of the Ventura Basin. The active San Gabriel Fault is located approximately 1.9 miles north of the Project Site and separates the Soledad Basin from the Ventura Basin. Both the Ventura and Soledad Basins have been tectonically downwarped in the geologic past to produce a large-scale synclinal structure, which has developed a thick accumulation of Cenozoic, continentally derived, sediments.

Bedrock

Saugus Formation (TQs)[1]

Bedrock present beneath the Project Site consists of Plio-Pleistocene, nonmarine sediments of the Saugus Formation. These sediments include light gray to pale reddish brown and pale yellowish brown siltstone, massive sandstone, pebble, and conglomerate and reddish brown to dark gray mudstone. Siltstone and mudstone units of the Saugus Formation are potentially very expansive.

Terrace Deposits (Qt)

Incised alluvial terrace deposits are present in many of the on-site canyons (see Geologic Maps). These deposits generally occur low on the canyon margins and typically consist of light to reddish brown to yellowish brown slightly silty pebbly sandstone and conglomerate. The terrace deposits are generally absent of visible layering of the sediments and locally contain small voids near the ground surface in the weathered zone due to disintegration of plant material root systems. Large boulders up to three feet in diameter are present in some of the terrace deposits.

Surficial Deposits

Quaternary Alluvium (Qal)

Quaternary alluvium is present along the margin of Hasley Canyon Creek and in the lower tributary canyon areas of the Project Site, as illustrated on the Geologic Maps. Based upon boring data, the alluvium typically consists of interbeds of sands and silty sands with occasional gravels and occasional silts at depth. Due to grading associated with the abandoned Golf Course and existing oil wells and the associated facilities, areas of minor artificial fill are present in and around the Quaternary alluvium.

Slopewash (Qsw)

Slopewash is a non-bedded, heterogeneous accumulation of soil and weathered bedrock deposited by gravity on all but the steepest slopes. The maximum thickness of soil and slopewash encountered in exploratory excavations on the Project Site was approximately 17 feet within boring B-18 located in the vicinity of proposed "A" Street (as identified on the VTTM and shown in **Figure 4.0-2, Revised Vesting Tentative Tract Map**) in the southwest portion of the Project Site. Slopewash has been noted on geologic logs but has not been differentiated on the Geologic/Geotechnical Maps.

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1 (TQs) - USGS abbreviation for soil type.

Surficial Soils

Ungraded areas of the Project Site are mantled by surface soils consisting of moderate- to yellowish brown and yellowish gray silty sand with scattered pebbles. This unit is noted on Geologic Logs, but is not shown on the Geologic and Geotechnical Maps. Soil developed in the alluvial flats has been disturbed by grading activities.

Mass Movement Deposits

Landslides (Qls)

Originally eight landslides were mapped on the Project Site. Six of the landslides have been completely removed during the grading associated with the Prior Entitlements. As shown in **Figure 5.6-2, Project Site Landslide Map,** two landslides remain on the Project Site and are located near proposed Los Valles Drive (For proposed Los Valles Drive See **Figure 4.0-3, Conceptual Site Plan**). The landslides involve bedrock of the Saugus Formation and terrace deposits, and most failed along clay-rich bedding that is inclined at a shallower angle than the angle of the existing slope.

Surficial Failures (Qsf)

Shallow failures and debris flows involving the surficial soils, slopewash, and weathered bedrock have been mapped as surficial failures on the Project Site.

Existing Fill

Artificial Fill (af)

Fill materials have been mapped on the Project Site. The fill is the result of excavations from prior construction activities associated with the abandoned golf course, access roads, and drill pads for the abandoned oil wells and associated drilling facilities. These fills are designated as non-certified artificial fill due to the lack of documentation of compaction testing. Locations where the artificial fill is greater than three feet in thickness are illustrated on the Geologic/Geotechnical Map.

Compacted Fill (Cf)

Compacted fill was placed at the Project Site during the previous rough grading operations. These are areas where unsuitable materials were removed and the field-tested minimum density of the fill is at least 90 percent (93 percent for fills deeper than 40 feet) of Maximum Dry Density (per ASTM Test Method D1557). Compacted fill (Cf) is illustrated on the Geologic/Geotechnical Map.

Non-Structural Compacted Fill (Cf_{NS})

Non-structural compacted fill (Cf_{NS}) was placed during the previous rough grading operations. These are areas where minimal removal of unsuitable materials (generally a depth of three feet or less) was performed and a lesser compaction of at least 85 percent of Maximum Dry Density was accepted. Non-structural compacted fill (Cf_{NS}) is illustrated on the Geologic/Geotechnical Map.

Seismicity

The Project Site is within the Transverse Ranges Geomorphic Province of Southern California. The Transverse Ranges consist of a series of west-trending mountains and intervening valleys, which is contrary to the northwest geomorphic trend that is typical of most of California and reflects the underlying structural (geologic) trend. These ranges are largely the result of north-south compression which has resulted in east-west-trending folds and thrust faults. Associated faults in the vicinity of the Project Site include the Santa Susana, San Fernando, Del Valle, and Holser reverse/thrust faults. The January 17, 1994 Northridge (magnitude 6.8) Earthquake occurred on a south-dipping thrust fault which uplifted the Santa Susana Mountains at least 70 cm.[2]

The Southern California region is traversed by the San Andreas Fault, which is a transform boundary between the Pacific Plate and the North American Plate. The San Andreas Fault is part of the San Andreas system of northwest-striking, right-lateral faults. The faults of this system are generally historically active, as evidenced by the June 28, 1992 Landers (magnitude 7.6) Earthquake.

The Southern California region is seismically active and commonly experiences strong ground shaking resulting from earthquakes along active faults. Earthquakes along these faults are part of a continuous, naturally occurring process which has contributed to the characteristic landscape of the region.

Three common types of geologic hazards may be produced during a seismic event (earthquake). These include ground rupture, ground motion, and ground failure.

Ground Rupture

Review of the published geologic maps referenced in **Appendix 5.6-9** and the Los Angeles County General Plan Safety Element indicates that no active or potentially active faults have previously been recognized on the Project Site. It was determined that the bedrock of the Saugus Formation has been

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2 Jones, L., et al. "The magnitude-6.7 Northridge, California, earthquake of 17-January-1994." Science 266.5184 (1994): 389-397.

deformed on the Project Site. The San Gabriel Fault is located 1.9 miles north of the Project Site, and the Holser Fault is located 0.6 mile south of the Project Site. No active faults are known to traverse the Project Site.

Although new faults may develop during a seismic event, significant ground rupture is generally expected to occur along pre-existing fault breaks. Ground rupture cannot be prevented; therefore, minimizing ground rupture hazard involves identifying major faults which exhibit evidence for potential ground rupture in the near future and avoiding construction over their surface traces. Recognition and mapping of these pre-existing, active fault breaks is accomplished by review of published literature, field mapping, evaluation of aerial photo-lineaments, and by excavating appropriate trenches.

In photo-interpretations of aerial photographs, project geotechnical consultants identified four fairly strong lineaments on the Project Site, two of which trend northwest and two of which trend east-west. Lineaments are straight alignments of tonal difference on the aerial photographs, which can be the result of faulting. No distinct lineament was observed along the mapped fold axis of the syncline. A syncline refers to the structure of the bedrock and is used to describe a downward fold in the bedding that forms a trough. The center of the trough on the surface is the fold axis. In addition, no distinct topographic features associated with faulting such as offset drainage, steep scarps along the toe of slopes, or displaced parts of a ridge shutting into the adjacent ravine or canyon were observed along any of the photo lineaments. These features were also not observed elsewhere on the Project Site.

A possible fault is shown on a published geologic map covering the Project Site.[3] This fault surface trace is mapped on the Project Site parallel to the fold axis of the syncline. Weber caveats that the fault trace was based on a topographic lineament that is suggestive of a fault, but was not verified by field means. No faulting is shown on the more recent published geologic maps covering the Project Site.[4] These published geologic maps indicate that there are variations in interpretations of the bedrock structure, such as inclination of the bedding, location of the fold axis, and faulting at the Project Site. Owing to the inconsistency in published interpretations of the site geologic structure and possible presence of faulting,

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3 Weber, F.H., Jr., 1982, Geology and geomorphology along the San Gabriel fault zone, Los Angeles and Ventura counties, California: Calif. Div. Mines and Geology Open File report 82-2LA.

4 Yeats, R.S., McDougal, J.W., and Stitt, L.T., 1985, Cenozoic structure of the Val Verde 7.5minute Quadrangle and south half of the Whitaker Peak 7.5 minute Quadrangle, California: U.S. Geological Survey Open File Report 85-587, 32 p.; Barrows, A.G., 1986, Landslide hazards in the east ½ of the Val Verde Quadrangle, Los Angeles County, California: California Division of Mines and Geology Open File Report 86-9LA.; Dibblee, T.W., Jr., 1993, Geologic map of the Val Verde Quadrangle, Los Angeles and Ventura Counties, California: Dibblee Geological Foundation #DF-50. and Yerkes R.F. and R.H. Campbell (1995). Preliminary geologic map of the Val Verde 7.5′ quadrangle, southern California, *U.S. Geol. Surv. Open-File Rept. 95-504, 9* pp.

a detailed subsurface investigation was completed by the project geotechnical consultant to delineate the bedrock structure and evaluate any evidence for faulting.

In order to evaluate the observed photo lineaments and possible faulting mapped by Weber, the geotechnical consultant conducted a detailed subsurface investigation in January 1999. The investigation included a total of 220 trenches excavated to a maximum depth of approximately 17 feet including 5,924.5 lineal feet of fault trenches. Because the upper 3 to 7 feet of material exposed in the excavations was commonly soil, slopewash or highly weathered bedrock, a dozer to was used to remove the upper 3- to 7-feet of material prior to trenching. This allowed the field geologist to observe relatively unweathered bedrock at depth while providing stability for the excavation. Based on the results of the subsurface investigation a fault zone is present on the Project Site (labeled as Zone of Tectonic Deformation), which consists of a series of faults trending roughly east-west to south-east on the southern portion of the Project Site.

Based on the structural trend and orientation of the observed faulting, the geotechnical consultant opined that they are structurally associated with the Holser fault which is located approximately 0.6 mile to the south. The Alquist-Priolo Special Studies Zones Map does not consider the Holser fault as active. The geotechnical consultants concluded that the faults trace on the Project Site have not produced surface ground rupture during the Holocene (approximately the last 11,000 years). The California Geological Survey (CGS) Special Publication 42 defines an active fault as one which has had surface displacement within Holocene time. Accordingly, the faults observed on the Project Site are not considered active as defined by California regulations.

Ground Motion

Ground motion is generated during an earthquake as two blocks of the earth's crust slip past each other. The intensity of ground motion at a specific site is controlled primarily by the magnitude of the earthquake and the distance from the epicenter or ground rupture area. Ground motion generally increases with increasing magnitude and is generally greatest near the epicenter or rupture area, and decreases (attenuates) with increasing distance. However, the ground motion measured at a given site is modified by a number of factors including focal depth, proximity to projected or actual fault rupture, fault mechanism, duration of shaking, local geologic structure, source direction of earthquake, underlying earth material characteristics, and topography. All of these factors make it difficult to accurately predict potential ground motions at a given site in the geologically and topographically complex Southern California area.

Earthquake magnitude is a quantitative measure of the strength of an earthquake or the strain energy released by it, as determined by seismographic or geologic observations. It does not vary with distance or the underlying earth material. This differs from intensity, which is a qualitative measure of the effects a given earthquake has on people, structures, loose objects, and the ground at a specific location. Intensity generally increases with increasing magnitude and in areas underlain by unconsolidated materials, and decreases with distance from the epicenter.

In the past, potential ground motions were evaluated using the maximum credible earthquake magnitude for critical facilities and the maximum probable earthquake magnitude for standard developments based on California Department of Mines and Geology (CDMG) Note 43. However, current CDMG guidelines, Building Code requirements, and County policies now use revised terminology. CDMG guidelines suggest that a maximum magnitude be estimated for each significant fault based on a maximum rupture size-to-magnitude relationship for use in deterministic analyses.

Review of the 2013 Los Angeles County Building Code (LACBC), which adopts portions of the 2012 International Building Code (IBC), indicates that ground motions with a 10 percent chance of exceedance in 50 years should be utilized as a minimum to evaluate standard occupancy developments. The earthquake which generates this level of ground motion is defined in Section 1651 of the Code as the Design Basis Earthquake. The LACBC defines the Maximum Capable Earthquake as the maximum level of ground shaking which may ever be expected at the building site within the known geologic framework. This intensity may be taken as the level of earthquake ground motion that has a 10 percent probability of being exceeded in a 100-year period. This level of ground motion is also designated as the upper-bound earthquake and is commonly used in the evaluation of school and hospital facilities.

A deterministic seismic hazard analysis has been completed for the Project Site utilizing the computer program EQFAULT (Version 2.2) by Thomas F. Blake. The maximum deterministic ground acceleration estimated for alluvium at the Project Site is 0.54 g (force per unit mass), which would be generated by a 7.0 magnitude event on the San Gabriel Fault.

The Project Site is located in Southern California, which is in a geologically and seismically active region where large magnitude, potentially destructive earthquakes are common. Therefore, it is reasonable to assume that moderate or large magnitude earthquakes will affect the Project Site during the life of a given structure. The current standards for construction provided in the LACBC are designed to safeguard against major failures and loss of life, but are not intended to limit damage, maintain functions, or provide for easy repair. Conformance to these recommendations does not guarantee that significant structural damage will not occur in the event of a maximum level of earthquake ground motion.

However, it is reasonable to expect that a well-planned and -constructed structure will not collapse in a major earthquake and that protection of life is reasonably provided.

Ground Failure

Ground failure is a general term describing seismically induced secondary permanent ground deformation caused by strong ground motion. This includes liquefaction, lateral spreading, seismic settlement of poorly consolidated materials (dynamic densification), differential materials response, slope failures, sympathetic movement on weak bedding planes or non-causative faults, shattered ridge effects and ground lurching.

Differential materials response refers to the different responses various materials display when subjected to seismic waves. Where materials with different densities or strengths are in contact, differential response to the seismic energy may cause distress along the contact. The combination of dynamic compaction and differential settlement along with differential materials response is a source of future potential hazard along cut/fill and bedrock/alluvium contacts.

Earthquake-induced slope failures include activation and reactivation of landslides, rock falls, debris flows, and surficial failures. Landslides and surficial failures which may have an adverse impact on the Project were analyzed in the Project geotechnical Report. The stability of the proposed cut, fill slopes, and natural slopes were evaluated. Twenty-two cross sections representing the critical three-dimensional geometry of the subsurface conditions were selected for stability analyses, based upon critical conditions for stability (i.e., potential adverse bedding and slope height and slope inclination). Temporary cut conditions during construction were also analyzed for buttress backcut slopes where applicable. As discussed above, the Project Site contains evidence of prior landslides, and is therefore considered subject to potential landslide hazard.

The Project Site is located in an area subject to identified geotechnical hazards related to ground failure. **Figure 5.6-1, Landslide and Liquefaction Hazard in the Project Vicinity**, illustrates the project's location on the California Geological Survey's Seismic Hazard Zones map for the Val Verde Quadrangle, in which the Project Site is located. **Figure 5.6-2, Project Site Landslide Map**, illustrates the locations of remaining observed landslides within the Project Site. Refer to **Appendix 5.6-9** for large-scale maps.

Regulatory Framework

State

California Geological Survey

The CGS is responsible for enforcing the Alquist-Priolo Earthquake Fault Zoning Act and enforcing the Seismic Hazards Mapping Act. Both are described below.

Alquist-Priolo Earthquake Fault Zoning Act

The purpose of Alquist-Priolo Earthquake Fault Zoning Act (formerly called the Alquist-Priolo Special Studies Zones Act)[5] is to prohibit the location of most structures for human occupancy across the traces of active surface faults, which are faults that have ruptured the ground surface in the past 11,000 years, and to mitigate the hazard of fault rupture. The act addresses only the hazard of surface fault rupture and is not directed toward other earthquake hazards. Under the act, the State Geologist (Chief of the CGS), is required to delineate "earthquake fault zones" (EFZs) along known active faults in California. The boundary of an EFZ is generally approximately 500 feet from major active faults, and 200 to 300 feet from well-defined minor faults. Cities and counties affected by the EFZs must withhold development permits for certain construction projects proposed within the zones until geologic investigations demonstrate that the sites are not significantly threatened by surface displacement from future faulting. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault. The CGS Special Publication 42 defines an active fault as one which has "had surface displacement within Holocene time (about the last 11,000 years)."

Seismic Hazards Mapping Act

Under the California Geological Survey (CGS)'s Seismic Hazards Mapping Act,[6] which was passed in 1990, seismic hazard zones are to be identified and mapped to assist local governments for planning and development purposes. The Seismic Hazards Mapping Act differs from the Alquist-Priolo Earthquake Fault Zoning Act in that it addresses non-surface fault rupture earthquake hazards, including strong ground shaking, liquefaction, landslides, other types of ground failure, and other hazards caused by

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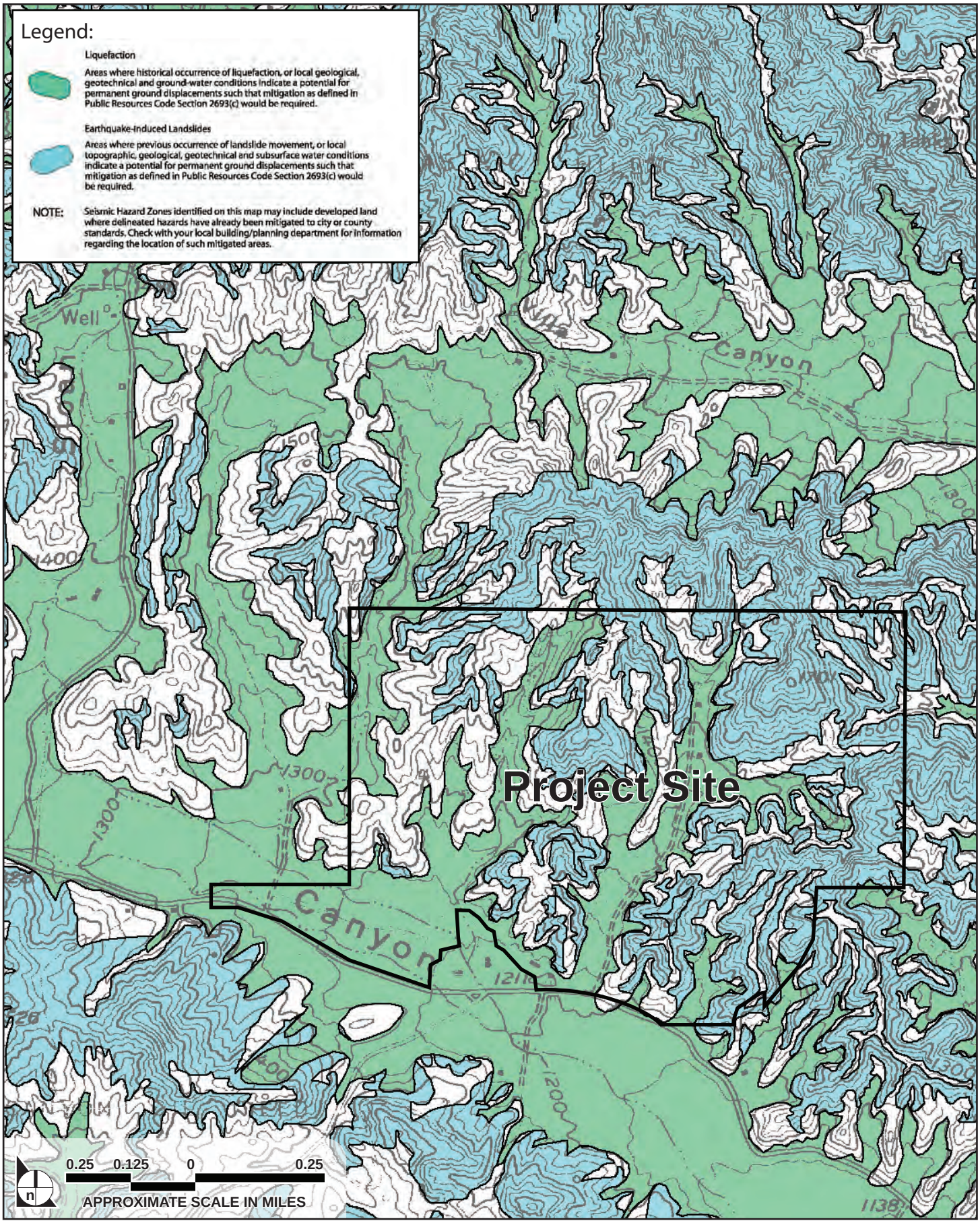
5 California Public Resources Code, Sec. 2621 et seq. The Alquist-Priolo Special Studies Zones Act was signed into law in 1972. In 1994, it was renamed the Alquist-Priolo Earthquake Fault Zoning Act. The act has been amended 10 times.

6 California Public Resources Code, Sec. 2690 et seq.

earthquakes. The CGS provides guidance for evaluating and addressing earthquake-related hazards for projects within designated zones of required investigations.[7]

[7] California Geological Survey, "Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California," 1997.

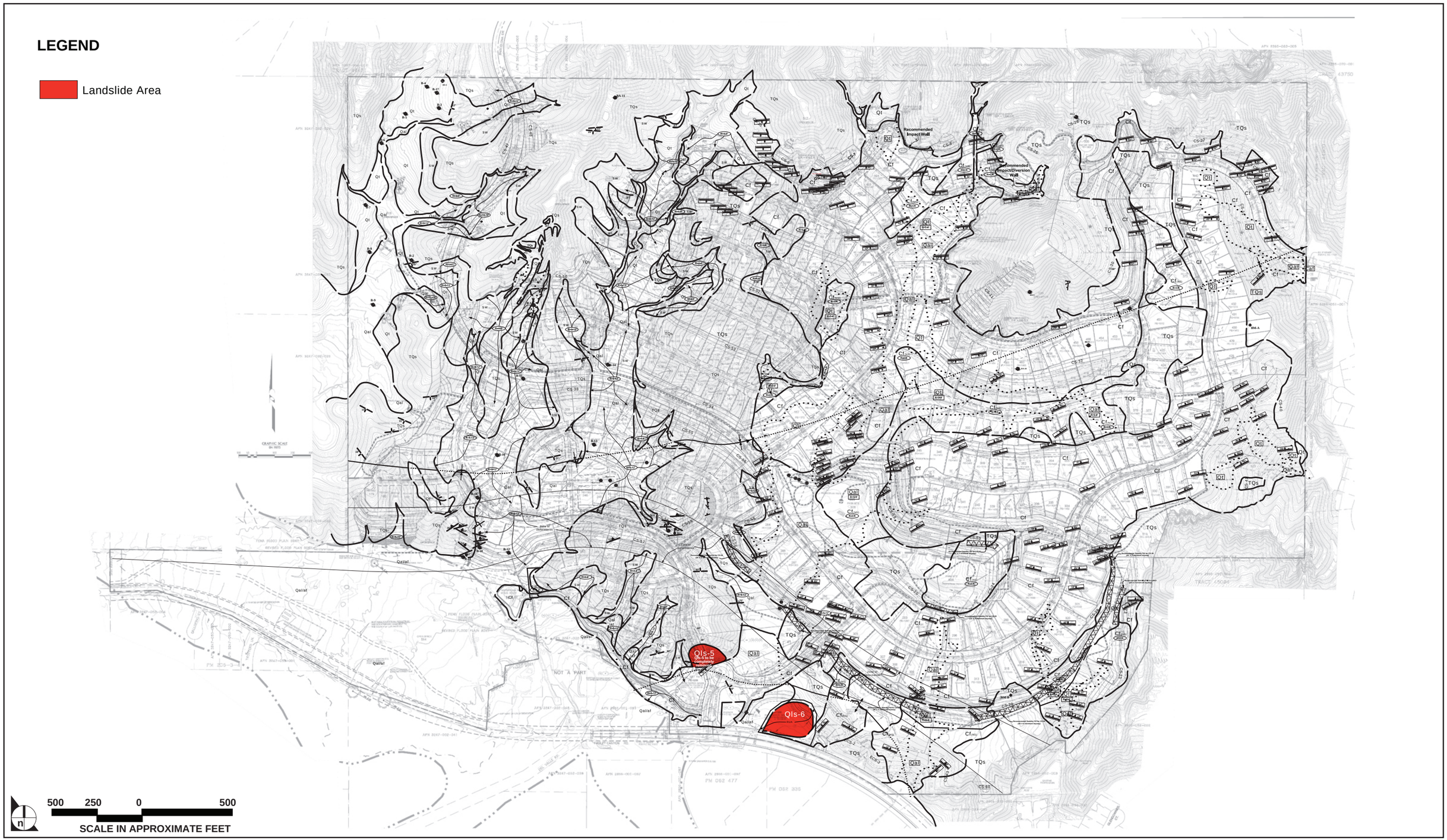


SOURCE: USGS, December 2002

FIGURE **5.6-1**

Landslide and Liquefaction Hazard in the Project Vicinity

1154.001•02/15



SOURCE: Land Design Consultants, Inc., April 1998

FIGURE **5.6.2**

Project Site Landslide Map

1154.001•09/15

California Building Code

The State of California provides a minimum standard for building design through the California Building Code (CBC). The 2013 edition of the CBC is based on the 2012 International Building Code (IBC) as published by the International Code Council, together with other amendments provided in local/municipal codes, and is adopted on a jurisdiction-by-jurisdiction basis, subject to further modification based on local conditions. Construction activities are subject to occupational safety standards for excavation, shoring, and trenching as specified in the California Occupational Safety and Health Administration (Cal-OSHA) regulations[8] and in Section A33 of the CBC.

Standard residential, commercial, and light industrial construction is governed by the CBC, to which cities and counties add amendments. The CBC, which is included in Title 24 of the California Administrative Code, is a compilation of three types of building standards from three different origins:

- Those adopted by state agencies without change from building standards contained in national model codes (e.g., the IBC)
- Those adopted and adapted from the national model code standards to meet California conditions (e.g., most of California is in Seismic Design Categories D and E)
- Those authorized by the California legislature that constitute extensive additions not covered by the model codes that have been adopted to address particular California concerns (e.g., the specification of Certified Engineering Geologist rather than engineering geologist)

In addition, the CBC regulates excavation, foundations, and retaining walls; contains specific requirements pertaining to site demolition, excavation, and construction to protect people and property from hazards associated with excavation cave-ins and falling debris or construction materials; and regulates grading activities, including drainage and erosion control.

Local

County General Plan

Section 5.10, Land Use and Planning, of this Draft EIR provides a consistency analysis of the Los Angeles County General Plan policies pertaining to geotechnical hazards. Refer to **Table 5.10-1** for a list of the geotechnical hazard policies included in the General Plan and the consistency analysis for each policy.

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8 California Code of Regulations, Title 24, Part 8, "California Historical Building Code."

Santa Clarita Valley Area Plan

Section 5.10, Land Use and Planning, of this Draft EIR provides a consistency analysis of the Santa Clarita Valley Area Plan (SCVAP 2012) policies that pertain to geotechnical hazards. Refer to **Table 5.10-2** for a list of the policies included in the SCVAP 2012 that pertain to geotechnical hazards and the consistency analysis for each policy.

Los Angeles County Code

The Los Angeles County Code of Ordinances, Title 26, Building Code (LACBC) contains provisions for structural safety, including the adoption by reference of the California Building Code. Chapter 16, Structural Design, of the County Code provides additional standards for earthquake loads that apply to all construction within the County.

5.6.2 ENVIRONMENTAL IMPACTS

Methodology

To evaluate potential hazards relative to geology and soils, preliminary geotechnical investigations were prepared by Allen E. Seward Engineering Geology, Inc., and are included in **Appendices 5.6-2** through **5.6-9**. The previous geotechnical studies and the Project Geotechnical Report include field investigation, including subsurface exploration, and laboratory testing to determine the characteristics of the subsurface conditions at the Project Site. Existing landslides and proposed natural and cut slopes with adverse geologic bedding conditions on the Project Site and are susceptible to earthquake-induced landsliding and were evaluated under static and pseudostatic loading conditions in the Project Geotechnical Report.

As discussed in **Section 4.0, Project Description**, the Project assumes construction of the planned channel improvements prior to the completion of grading for the Project. If the planned channel improvements are not completed, two retention basins would be constructed as an interim condition. Once the planned channel improvements are completed, the retention basins will be removed and the Project will be completed. For purposes of the analysis of impacts to geologic resources, there would be no material difference in impacts with or without the interim controls. Therefore, full buildout of the Project is analyzed for potential geological impacts, as full buildout includes the greatest amount of homes and potential for the largest number of people to be affected.

Project Design Elements

A complete description of the Project and associated development characteristics is provided in **Section 4.0, Project Description,** of this Draft EIR.

The proposed grading concept for the Project is included in **Appendix 5.6-9.** Grading activities will include the cutting of necessary areas and filling of canyon areas to create building pads for the single-family residences. Cut and fill slopes are proposed on the Project Site between pad areas and adjacent to natural areas. The previous maximum cut slope (CS-15) height was approximately 150 feet, but has been eliminated. The maximum fill-slope height is approximately 180 feet and located adjacent to Hayward Drive, which was constructed during rough grading associated with the Prior Entitlements. The maximum proposed cut slope (CS-6) height is approximately 90 feet and the maximum proposed fill slope height is approximately 90 feet in the vicinity of Lots 179 through 183. The maximum proposed vertical cut from existing grade is approximately 120 feet in the vicinity of Lot 129. The maximum proposed fill (thickness) over existing grades is approximately 55 feet in the vicinity of Lot 191.

Grading activities associated with the Prior Entitlements included the use of compact fill and non-structural fill. Compact fill was used in areas where a substantial amount of unsuitable materials were removed, while non-structural fill was used where minimal removal of unsuitable materials (generally 3 feet or less) were removed.[9] The existing non-structural compacted fills would not be able to support the single-family residences. Further evaluation of removal depths will be evaluated at the grading plan stage and removal of unsuitable materials will be required as part of that plan and replaced with compact fill that can support the single-family homes.

All earthwork activities associated with the grading of soil would occur in accordance with County requirements, as specified in the LACBC, as appropriate, and through the grading plan review and approval process.

The Applicant will also be responsible for the following Plan Check requirements in accordance with County procedures.

- The Applicant will follow the standard plan check protocols and provide a final grading plan based on final Project designs to the Los Angeles County Department of Planning for review and approval. The grading plan will comply with all County requirements for stability under static and pseudostatic loading conditions to mitigate earthquake-induced landslides.

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9 The non-structural compact fill was limited to the fill areas that were designated as a golf course on the VTTM approved in connection with the Prior Entitlements.

- The Applicant will comply with the recommendations outlined in the Project Geotechnical Report prepared for the Project and approved by the County, which will be consistent with the recommendations set forth in the Allan E. Seward Engineering Geology, Inc., *Geologic and Geotechnical Report*, June 7, 2013 as modified or amended with the approval of the County (Final Geotechnical Report).

- During construction and operation of the Project, appropriate erosion control and drainage devices would be implemented as specified in the Project's Stormwater Pollution Prevention Plan (SWPPP), Standard Urban Stormwater Mitigation Plan (SUSMP) and the PDFs included in **Section 5.9.1, Hydrology,** and **Section 5.9.2, Water Quality**.

- The Applicant shall submit grading plans for review and approval by the County Department of Building and Safety. These plans shall demonstrate that areas where expansive soils are present have been addressed through one of the following techniques:

  – Expansive materials at the Project Site shall be evaluated by the Project's Geotechnical Engineer during the grading plan stage of development. In addition, testing shall be performed during grading operations in order to identify potentially expansive soils at proposed grades.

  – If the expansion potential of some of the site materials is deemed significant, the expansion potential shall be addressed by mixing the expansive soil with soil with low expansion potential, by controlling water content and density of fill soils, by specifying the embedment and reinforcement of structures, or by removing and replacing the expansive soils with a compacted fill with a low to very low expansion potential.

Based on the recommendations included in the Project Geotechnical Report it is anticipated that improvements and stabilization measures will be required to be implemented prior to issuance of the first grading permit on the Project Site, under the supervision of a County-approved geologist; however, final improvements and stabilization measures will be determined based on the recommendations in the Final Geotechnical Report and as required to meet County standards and will be approved by the County. The preliminary list of recommended improvements and stabilization measures is provided in the Project Geotechnical Report in **Appendix 5.6-9**.

Significance Thresholds

The potential for the Project to result in impacts associated with geology and soils is based on the CEQA significance thresholds specified by the Los Angeles County Department of Regional Planning. These significance thresholds are based in part on Appendix G of the *State CEQA Guidelines* and are as follows:

Threshold 5.6-1 **Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**

i. Rupture of a known earthquake fault, 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 active fault trace? Refer to Division of Mines and Geology Special Publications 42.

ii. Strong seismic ground shaking?

iii. Seismic-related ground failure, including liquefaction and lateral spreading?

iv. Landslides?

Threshold 5.6-2 **Would the project result in substantial soil erosion or the loss of topsoil?**

Threshold 5.6-3 **Would the project 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?**

Threshold 5.6-4 **Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.**

Threshold 5.6-5 **Would the project have soils incapable of adequately supporting the use of onsite wastewater treatment systems where sewers are not available for the disposal of wastewater?**

Threshold 5.6-6 **Would the project conflict with the Hillside Management Area Ordinance (L.A. County Code Title 22, § 22.56.215) or hillside design standards in the County General Plan Conservation and Open Space Element?**

The Project would not include the use of septic tanks or alternative wastewater disposal systems. As such, no further analysis of **Threshold 5.6-5** is necessary.

Impact Analysis

Threshold 5.6-1 **Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**

(i) rupture of a known earthquake fault, 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 active fault trace? Refer to Division of Mines and Geology Special Publications 42.

(ii) strong seismic ground shaking?

Surface Fault Rupture

The Project Site is located within the Val Verde 7.5-minute quadrangle, for which there are no identified Alquist-Priolo Earthquake Fault Zones. There are no active or potentially active faults known to exist on the Project Site. The San Gabriel Fault is located 1.9 miles north of the Project Site, and the Holser Fault is located 0.6 mile south of the Project Site. As the Project would be designed and constructed to comply with all relevant LACBC requirements and no active or potentially active faults are known to exist on the Project Site, the risk of surface rupture would be less than significant.

Seismic Ground Shaking

The Project Site is located in Southern California; an area subject to strong seismic ground shaking. Since 1999, geologic investigations performed on the Project Site have not documented any evidence of activity along the Holser Fault (approximately 0.6 mile south of the Project Site). It is likely that strong seismic ground shaking will occur over the course of the Project's lifetime and impacts could be potentially significant. The Project will be required to comply with the LACBC which has adopted by reference the CBC, as well as recommended stabilization measures set forth in the Final Geotechnical Report. Compliance with these documents would reduce impacts to a less than significant level.

Threshold 5.6-1 (iii) Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: seismic-related ground failure, including liquefaction and lateral spreading?

Liquefaction is a phenomenon whereby a saturated granular soil temporarily loses its strength because of the buildup of pore water pressure during seismic excitation. The loss of strength may cause structures founded on these soils to experience subsidence and/or lateral movement. Thus, for liquefaction to occur loose to medium granular soils need to be below the ground water.

More important than the identification of zones of potential liquefaction are the settlements caused by seismic excitation. Detailed liquefaction and seismically-induced settlement analyses were performed for the site based upon a perched ground water level of minus 26 feet at Rotary Wash Boring RW-1. The potential seismically-induced settlements in subsurface soils at the Project Site are very small. The maximum cumulative calculated settlement is 0.1 inch (augmented to 0.5 inch), and differential settlements are expected to be not greater than 0.5 inch in a distance of 30 feet. Furthermore, some

recompaction has been recommended and certified compacted fill will be added throughout the site, thus diminishing the likelihood of liquefaction to occur. No lateral spreading due to liquefaction is expected at this site because significant liquefaction is not anticipated.

The results of the liquefaction assessment indicate that significant liquefaction is not expected at the Project Site and the estimated earthquake-induced maximum differential settlement within the upper 23 feet in a distance of 30 feet is no greater than 0.5 inch. Therefore, impacts related to liquefaction and lateral spreading would be less than significant.

Threshold 5.6-1 (iv) Would the project expose people or structures to potential substantial adverse effects, including loss, injury or death involving landslides?

The Project Site is located in an area that is subject to landslides. **Figure 5.6-1, Landslide and Liquefaction Hazard in the Project Vicinity**, illustrates the Project's location on the California Geological Survey's Seismic Hazard Zones map for the Val Verde Quadrangle, in which the Project Site is located. The Project is located in a seismically active area, and the potential exists for future landslides to pose a hazard to future residents of the proposed residential development.

As discussed previously, prior geotechnical studies identified eight landslides on the Project Site. As part of the grading performed as part of the Prior Entitlements six of the eight landslides (Qls-1, Qls-2, Qls-3, Qls-4, Qls-7, and Qls-8) were removed in accordance with procedures specified in the previous geotechnical report for the Prior Entitlements. As shown in **Figure 5.6-2**, **Project Site Landslide Map,** two landslides (Qls-5 and Qls-6) remain on the Project Site. Project grading activities will remove one the landslides (QLS-5), while a previous slope stability analysis conducted on the second landslide (Qls-6) determined that the landslide satisfies the County's safety requirement for gross slope stability. Further, although no structures would be constructed on the landslide, the Project Geotechnical Report has identified the area as a restricted area and incorporated a building setback which encompasses the remaining portions of the landslide to ensure no structures are built on or directly adjacent to the landslide. Thus, with implementation of the stabilization recommendations in the Final Geotechnical Report and compliance with standard plan checking requirements (as described above), impacts from the remaining landslide would be less than significant.

Threshold 5.6-2 Would the project result in substantial soil erosion or the loss of topsoil?

Based on soil surveys conducted for the Project, the existing soils on the Project Site are susceptible to some erosion.

Construction

Construction activity associated with large-scale grading can result in wind, gravity, and water driven erosion of soils. The Project would require 7.6 million cubic yards of cut and fill material (balanced on site) which could result in a substantial loss of topsoil on the Project Site.

The Project would be subject to compliance with a National Pollutant Discharge Elimination System (NPDES) permit, including the implementation of Best Management Practices (BMPs), some of which are specifically implemented to reduce soil erosion or loss of topsoil, including the preparation of a Stormwater Pollution Prevention Plan (SWPPP) which would further control erosion or the loss of topsoil on the Project Site. Additional BMPs include practices such as installing sandbag barriers, temporary desilting basins near inlets, gravel driveways, dust controls, employee training, and other general good housekeeping practices that help prevent erosion and water quality contamination (See **Section 5.9.1, Hydrology** and **Section 5.9.2, Water Quality**). These measures would ensure that erosion and sedimentation are minimized and would ensure that potential impacts during construction would be less than significant.

Operation

Once constructed, the Project Site would be landscaped with native vegetation, hardscape areas, and exclude exposed or loose soil. A SUSMP would include BMPs, developed in accordance with the County's Low Impact Development (LID) 2014 Standards Manual (See **Section 5.9.1, Hydrology** and **Section 5.9.2, Water Quality**). In addition, the Project would comply with the existing provisions in Appendix J of the County's municipal code for planting and irrigation of constructed slopes in conjunction with drainage recommendations provided in the Final Geotechnical Report. Thus impacts from soil erosion or the loss of topsoil during the operation of the Project would be less than significant.

Threshold 5.6-3 **Would the project 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?**

Groundwater encountered at the Project Site was limited to a perched condition in rotary-wash boring RW-1 at a depth of 26 feet. Ground water data from wells in the immediate area indicates that the historic high ground water table is approximately 40 to 50 feet below the existing ground surface.

As described in **Threshold 5.6-1**, a detailed liquefaction study and seismically induced settlement analyses were performed at the location of rotary-wash boring RW-1 using a conservative ground water depth of 26 feet. The results of the liquefaction assessment indicate that significant liquefaction is not

expected at the Project Site and that estimated earthquake-induced maximum differential settlement over a distance of 30 feet is no greater than 0.5 inch.

Hydrocompaction or hydro-compression refers to a sudden reduction in the volume, or compression, of a soil under constant load due to water incursion. The potential for hydro-compression of alluvial soils that will remain beneath compacted fills after completion of the Project was evaluated based on laboratory testing of 18 samples collected from one rotary-wash boring (RW-1), three hollow-stem auger borings (HS-1, HS-4, and HS-5) and 11 test pits (T-202 to T-205, T-208 to T-210, T-212, T-215, T-217, and T-218) at depths ranging from 3 to 10 feet. The soil samples were loaded to a vertical pressure approximately equal to the anticipated future overburden pressure and then inundated with water. The compression of the samples due to water incursion ranged from negligible to 1.8 percent, indicating up to about 2 inches of potential settlement of alluvial soils due to hydro-compression.

As discussed in the Existing Conditions subsection above, the westerly ridgeline was previously proposed to be graded for construction of residential lots. Excavation of the bedrock resulted in substantial amounts of dump fill, which remains on the Project Site. Aside from approximately 100 linear feet of the secondary portion of the westerly ridgeline, the Project does not include grading of this western ridgeline. However, without proper stabilization the potential exists for a debris flow hazard for the proposed lots. Grading on the Project Site will remove the fill and loose material remaining from the previous mining operation located on the westerly ridgeline. That fill material (approximately 6,000 cubic yards) will be incorporated into fill during Project grading elsewhere on-site. In addition, the existing sand mine site will be shaped so as to direct runoff toward a debris basin in the event any exposed materials are loosened by heavy rains after grading.

No impacts related to subsidence, high groundwater levels, or liquefaction are expected to occur. However, the Project Site is subject to hydro-compression of shallow alluvial soils in the central portions of the broader swale/slope wash areas.

The recommended removal depths of 6 to 15 feet in alluvial areas shall remove the shallow soils that are susceptible to hydro-compression. Settlement due to hydro-compression is not expected to be significant beneath the recommended removal depths.

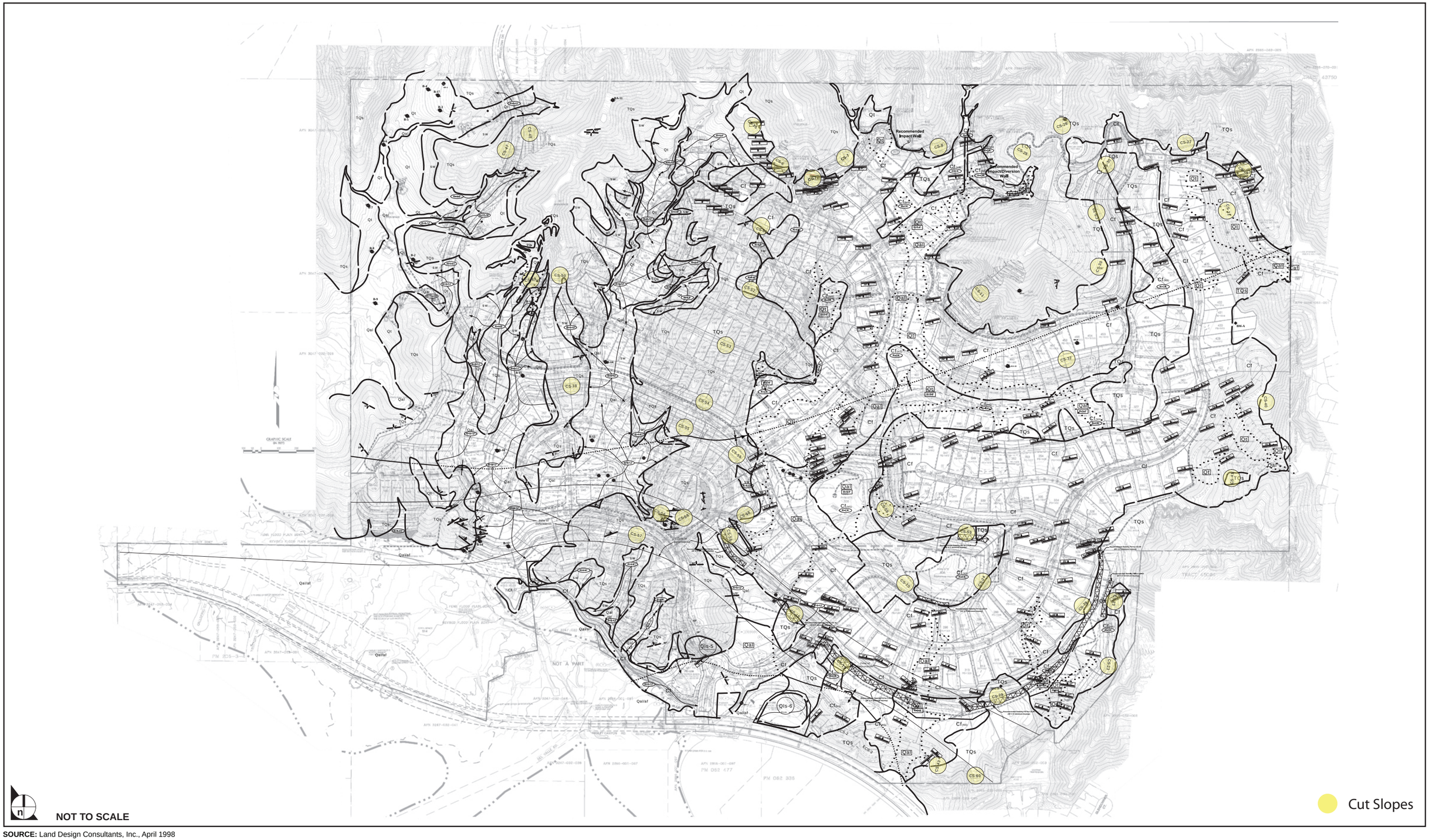
The Project would require site grading for building pads, roadways, landslide removal, and soil stabilization. Proposed grading will consist of cutting areas and filling of canyon areas to produce a series of pad areas, which generally rise in grade toward the north. Cut and fill slopes are proposed between pad areas and adjacent to open areas. Project-related grading would require the movement of approximately 7.6 million combined cubic yards of cut and fill balanced on-site.

Mass grading would consist of rough grading operations for major roads and infrastructure, drainage patterns and building pads for the various land uses within the Project Site. Remedial grading and custom grading may also be required depending upon future site-specific soils and geological investigations. Upon completion of the grading operations, additional work would be needed for fine grading for development pads. Graded slopes would be landscaped and irrigated pursuant to County grading and erosion control requirements.

A total of 36 cut slopes are identified in the Project Geotechnical Report. Most of these slopes would be 2:1 slopes, or 50 percent slopes. One slope would be a 4:1 (25 percent) slope. **Figure 5.6-3, Project Cut Slopes**, shows the location of these slopes within the Project Site.

The Project Geotechnical Report analyzes the stability of these slopes, the majority of which are determined to be stable without stabilization. However, some slopes would require stabilization in order to ensure that future residents of the proposed residential development are not exposed to geological hazards as a result of unstable slopes. **Table 5.6-1, Cut Slope Stability**, summarizes each identified cut slope greater than 25 feet in height and its stability.

As shown in **Table 5.6-1**, 14 of the 36 cut slopes were determined to be unstable. Compliance with the Final Geotechnical Report would ensure that the resulting slopes are stable. The remaining 22 slopes were determined to be stable and would not present a geologic hazard to residential development within the Project Site. Implementation of the stabilization improvements included in the Final Geotechnical Report, as well as the standard plan checking requirements which would ensure stabilization of proposed cut slopes that are potentially unstable. Impacts would be less than significant.



SOURCE: Land Design Consultants, Inc., April 1998

FIGURE **5.6.3**

Project Cut Slopes

1154.001•02/15

Table 5.6-1
Cut Slope Stability

Slope Number	Height (feet)	Gradient	Stable in Current Condition?
CS-6	97	2;1	Yes
CS-7	**72**	**2:1**	**No**
CS-8	72	2:1	Yes
CS-11	186	2:1	Yes
CS-16	**55**	**2:1**	**No**
CS-19	**52**	**3:1**	**No**
CS-20	**34**	**2:1**	**No**
CS-23	**55**	**2:1**	**No**
CS-24	**75**	**2:1**	**No**
CS-25	80	2:1	Yes
CS-26	30	2:1	Yes
CS-27	37	2:1	Yes
CS-28	41	2:1	Yes
CS-29	**55**	**2:1**	**No**
CS-30	**165**	**2:1**	**No**
CS-31	**25**	**2:1**	**No**
CS-32	30	2:1	Yes
CS-35	40	2:1 and 4:1	Yes
CS-38	45	2:1	Yes
CS-40	40	2:1	Yes
CS-41	25	2:1	Yes
CS-43	40	2:1	Yes
CS-47	30	2:1	Yes
CS-48	70	2:1	Yes
CS-49	30	2:1	Yes
CS-50	55	2:1	Yes
CS-51	29	2:1	Yes
CS-52	30	2:1	Yes
CS-53	29	2:1	Yes
CS-54	30	2:1	Yes
CS-55	**46**	**2:1**	**No**
CS-56	**47**	**2:1**	**No**
CS-57	**48**	**2:1**	**No**
CS-58	**40**	**2:1**	**No**
CS-59	**100**	**2:1**	**No**
CS-60	30	2:1	Yes

Source: Allen E. Seward Engineering Geology, Inc. 2004 & 2013.
Notes: Bolded slope numbers require stabilization.

Threshold 5.6-4 **Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**

Based on soils surveys conducted for the Project, some of the bedrock soils of the Saugus Formation are considered potentially expansive. Compacted fill materials generated from the bedrock soils may also be potentially expansive. Medium to highly expansive rock materials were identified by swell tests. Depending on the location within the Project Site and the depth from foundations to expansive soils, residential construction within the Project Site could pose risk to residents within the Project Site. Recommendations for foundations placed on these materials, unless replaced by non to- low-expansive soils to at least 4 feet below footing/slab bottoms, are included in the Project Geotechnical Report and will be adhered to during construction in accordance with the Final Geotechnical Report. With compliance with the recommendations for footing depths and reinforcement in the Final Geotechnical Report, impacts would be less than significant.

Threshold 5.6-6 **Would the project conflict with the Hillside Management Area Ordinance (L.A. County Code, Title 22, § 22.56.215) or hillside design standards in the County General Plan Conservation and Open Space Element?**

As designated by the SCVAP, the Project Site is located within the Hillside Management land use category. As noted, the Project carries an "urban" H2-Residential 2 land use designation under the SCVAP. As such, the Project is subject to the County's hillside management criteria for urban hillside management areas. County policies and ordinances related to hillside development are intended to regulate development in hillside areas, in order to protect the scenic quality and integrity of hillside areas from over-development and erosion. In the County, special standards apply to land with average slopes of 25 percent or more. Standards for hillside development are intended to ensure that development in hillside areas maintains the natural topography, resources, and amenities of these areas. As demonstrated in the analysis under **Thresholds 5.6-1** through **5.6-4**, the Project would comply with all required County standards and requirements related to grading and construction on hillsides and would ensure consistency with policies related to slope stability and soils.

The Los Angeles County adopted General Plan hillside design standards are included in **Table 5.10-1,** as well as a discussion of the Project's consistency with the Hillside Management Ordinance in **Section 5.10, Land Use.**

As discussed above, the Project has been designed to conform to all applicable regulations and requirements of the Los Angeles County Code. The Project will be required to comply with

recommended stabilization measures set forth in the soils report provided by a licensed geologist and geotechnical engineer. All grading operations will be conducted in strict conformance with the Los Angeles County Grading Ordinance and with all storm water prevention and protection requirements. The design of the residential development and the types of improvements proposed will not cause public health problems, since storm drainage, fire protection, flood control and geological and soils factors will be addressed before construction on the Project.

5.6.3 CUMULATIVE IMPACTS

Due to the site-specific nature of geological conditions, geotechnical impacts are typically assessed on a project-by project basis. Related projects would be subject to varying risks associated with geotechnical hazards. The Related Projects are all located in Southern California, a seismically active region, and would therefore be subject to hazards during seismic events, including ground shaking, rupture, liquefaction, and subsidence. However, as with the Project, Related Projects in the area would be subject to regulations pertaining to geology and soils, including CBC and LACBC requirements, that would require structures of all Related Projects be constructed to meet minimum seismic safety standards. In addition, Related Project impacts would be addressed through imposition of recommendations specific to each project. Therefore, with regulatory compliance, cumulative impacts would be less than significant.

5.6.4 MITIGATION MEASURES

No mitigation measures are required; impact will be reduced through compliance with the stabilization recommendations in the Final Geotechnical Report and through standard plan check requirements.

5.6.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Impact related to geotechnical hazards would be less than significant.

5.7 GREENHOUSE GAS EMISSIONS

INTRODUCTION

This section of the Draft EIR describes the current state of the regulations and programs addressing greenhouse gas (GHG) emissions and global climate change in California. This section also identifies plans and policies developed by federal, state, and local authorities to reduce GHG emissions. Additionally, this section identifies and discusses inventories of GHG emissions associated with implementation of the Project, evaluates the Project's potential global climate change impacts, and identifies mitigation measures to reduce potential impacts. GHG emission calculations (conducted by ENVIRON in May 2014) for the Project are contained within **Appendices 5.7-1** and **5.7-2** of this Draft EIR.

5.7.1 ENVIRONMENTAL SETTING

Climate Change and Greenhouse Gas Background

Global climate change refers to changes in average climatic conditions on Earth as a whole, including changes in temperature, wind patterns, precipitation, and storms. Global warming, which is a part of climate change, is the observed increase in the average temperature of the Earth's surface and atmosphere. One identified cause of global warming is an increase of GHG emissions in the atmosphere. GHGs are those compounds in the Earth's atmosphere that play a critical role in determining the Earth's surface temperature. Specifically, GHGs allow the sun's rays to enter the Earth's atmosphere, but trap the energy that radiates back from the Earth to space, resulting in a warming of the atmosphere. The increase in net earthward movement of this radiation is known as the "greenhouse effect."

The natural process through which heat is retained in the troposphere[1] is called the greenhouse effect. The greenhouse effect traps heat in the troposphere through a three-fold process as follows: (1) short-wave radiation in the form of visible light emitted by the Sun is absorbed by the Earth as heat; (2) long-wave radiation re-emitted by the Earth; and (3) GHGs in the atmosphere absorbing or trapping the long-wave radiation and re-emitting it back towards the Earth and into space. This third process is the focus of current climate change actions.

While water vapor and carbon dioxide (CO_2) are the most abundant GHG, other trace GHGs have a greater ability to absorb and re-radiate long-wave radiation. To gauge the potency of GHGs, scientists have established a Global Warming Potential (GWP) for each GHG based on its ability to absorb and

1 The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

re-emit long-wave radiation over a specific period. The GWP of a gas is determined using CO_2 as the reference gas with a GWP of 1 over 100 years. For example, a gas with a GWP of 10 is 10 times more potent than CO_2 over 100 years. The use of GWP allows GHG emissions to be reported using CO_2 as a baseline. The sum of each GHG multiplied by its associated GWP is referred to as carbon dioxide equivalents (CO_2e). This essentially means that 1 metric ton of a GHG with a GWP of 10 has the same climate change impacts as 10 metric tons of CO_2.

State law defines GHGs to include the following compounds:[2]

- **Carbon Dioxide (CO_2).** CO_2 is primarily generated from fossil fuel combustion from stationary and mobile sources. CO_2 is the reference gas (GWP of 1) for determining the GWPs of other GHGs.
- **Methane (CH_4).** CH_4 is emitted from biogenic sources (i.e., resulting from the activity of living organisms), incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. The GWP of methane is 21.
- **Nitrous Oxide (N_2O).** N_2O produced by human-related sources including agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The GWP of nitrous oxide is 310.
- **Hydrofluorocarbons (HFCs).** HFCs are typically used as refrigerants in both stationary refrigeration and mobile air conditioning. The GWPs of HFCs ranges from 140 for HFC-152a to 11,700 for HFC-23.
- **Perfluorocarbons (PFCs).** PFCs are compounds consisting of carbon and fluorine. They are primarily created as a byproduct of aluminum production and semiconductor manufacturing. The GWPs of PFCs range from 5,700 to 11,900.
- **Sulfur Hexafluoride (SF_6)**. SF_6 is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride has a GWP of 23,900. It is not prevalent in the atmosphere (four parts per trillion [ppt] in 1990 versus 365 parts per million [ppm] of CO_2).[3]

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2 All Global Warming Potentials are given as 100-year values. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. *Climate Change 1995: The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK: Cambridge University Press, 1996.

3 US Environmental Protection Agency, "High GWP Gases and Climate Change," http://www.epa.gov/highgwp/scientific.html#sf6.

- **Nitrogen Trifluoride (NF3).** NF3 is a colorless, odorless, toxic, nonflammable gas. It is a chemical that is used in some high-tech industrial processes including the manufacturing of semiconductors and Liquid Crystal Display (LCD) panels, several solar panels and chemical lasers.[4]

The primary GHGs of concern relative to the Project are CO_2, CH_4, and N_2O. These three GHGs are generally emitted from combustion activities, such as the use of fossil fuels (during construction and operation of the Project) and the decomposition of solid waste in landfills. HFCs are associated with refrigeration and air conditioning and are accounted for in this analysis with respect to motor vehicle air conditioning system leakage. The other GHGs listed above are related to specific industrial uses and not anticipated to be emitted in measurable or substantial quantities by the Project.

The primary effect of global climate change has been a rise in the average global tropospheric temperature of 0.2° Celsius per decade, determined from meteorological measurements worldwide between 1990 and 2005.[5] Climate change modeling using 2000 emission rates shows that further warming is likely to occur, which would induce further changes in the global climate system during the current century.[6] Changes to the global climate system, ecosystems, and to California could include:

- declining sea ice and mountain snowpack levels, thereby increasing sea levels and sea surface evaporation rates with a corresponding increase in tropospheric water vapor due to the atmosphere's ability to hold more water vapor at higher temperatures;[7]
- rising average global sea levels primarily due to thermal expansion and the melting of glaciers, ice caps, and the Greenland and Antarctic ice sheets;[8]
- changing weather patterns, including changes to precipitation, ocean salinity, and wind patterns, and more energetic aspects of extreme weather including droughts, heavy precipitation, heat waves, extreme cold, and the intensity of tropical cyclones;[9]

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4 World Resources Institute, "Nitrogen Trifluoride Now Required in GHG Protocol Greenhouse Gas Emissions Inventories," http://www.wri.org/blog/2013/05/nitrogen-trifluoride-now-required-ghg-protocol-greenhouse-gas-emissions-inventories, accessed January 19, 2015.

5 Intergovernmental Panel on Climate Change, "Climate Change 2007: The Physical Science Basis, Summary for Policymakers," http://ipcc-wg1.ucar.edu/wg1/docs/WG1AR4_SPM_PlenaryApproved.pdf. 2007.

6 "Climate Change 2007: The Physical Science Basis, Summary for Policymakers," 2007.

7 "Climate Change 2007: The Physical Science Basis, Summary for Policymakers," 2007.

8 Intergovernmental Panel on Climate Change, "Climate Change 2007: The Physical Science Basis, Summary for Policymakers," http://ipcc-wg1.ucar.edu/wg1/docs/WG1AR4_SPM_PlenaryApproved.pdf. 2007.

9 "Climate Change 2007: The Physical Science Basis, Summary for Policymakers," 2007.

- declining Sierra snowpack levels, which account for approximately half of the surface water storage in California, by 70 percent to as much as 90 percent over the next 100 years;[10]
- increasing the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas located in the Southern California area and the San Joaquin Valley by the end of the 21st century;[11]
- increasing the potential for erosion of California's coastlines and sea water intrusion into the Sacramento and San Joaquin Delta and associated levee systems due to the rise in sea level;[12]
- increasing pest infestation making California more susceptible to forest fires;[13] and
- increasing the demand for electricity by 1 to 3 percent by 2020 due to rising temperatures resulting in hundreds of millions of dollars in extra expenditures.[14]

In June 2010, CARB released a report, *Climate Change Impact on Air Quality in California*, which studied how climate change will influence air quality in California through changes to meteorology and emissions.[15] The report analyzed the effect of temperature and other meteorological changes consistent with future predicted meteorological conditions from Global Climate Models (GCMs) on ozone and particulate matter concentrations with a focus on the South Coast Air Basin and the San Joaquin Valley Air Basin. According to the modeling results, by 2050, temperature and other meteorological changes predicted to occur due to a changing climate could increase the number of days with conditions likely to encourage ozone concentrations greater than 90 parts per billion (equal to the state 1-hour average ozone ambient air quality standard) anywhere from six to 30 days per year under various GCM scenarios.[16] This climate-change increase is referred to as a climate penalty. The results of the report indicate that warmer future temperatures would require air quality management districts and air pollution control districts to implement additional emissions control regulations in affected air basins in California to offset the climate penalty, particularly for ozone.

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10 California Environmental Protection Agency, Climate Action Team, *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, 2006.

11 *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, 2006.

12 *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, 2006.

13 *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, 2006.

14 *Climate Action Team Report to Governor Schwarzenegger and the Legislature*, 2006.

15 Kleeman, M. J., Chen, S., and Harley, R.A., *Climate Change Impact on Air Quality in California: Report to the California Air Resources Board*, 2010.

16 Kleeman, M. J., Chen, S., and Harley, R.A., *Climate Change Impact on Air Quality in California: Report to the California Air Resources Board*, 2010. 95.

In 2009, the California Natural Resources Agency (CNRA) published the *California Climate Adaptation Strategy*[17] as a response to the Governor's Executive Order S-13-2008. The CNRA report lists specific recommendations for state and local agencies to best adapt to the anticipated risks posed by a changing climate. In accordance with the *California Climate Adaptation Strategy*, the California Energy Commission (CEC) was directed to develop a web site on climate change scenarios and impacts that would be beneficial for local decision makers.[18] The website, known as Cal-Adapt, became operational in 2011.[19] According to the Cal-Adapt website, the region could result in an average increase in temperature of approximately 6 to 10 percent (about 3.5 to 5.8° Fahrenheit) by 2070–2090, compared to the baseline 1961-1990 period. According to the Cal-Adapt website, this represents a projection of potential future climate scenarios. The data are comprised of the average values from a variety of scenarios and models and are meant to illustrate how the climate may change based on a variety of different potential social and economic factors.

Existing Conditions

State of California Greenhouse Gas Emissions Inventory

The California Air Resources Board (CARB) compiles GHG inventories for the State of California. Based on the 2012 GHG inventory data (the latest year for which data are available), California emitted 459 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) (million $MTCO_2e$) including emissions resulting from imported electrical power. In 2010 California's total statewide GHG emissions rank second in the United States (Texas is number one) with emissions of 453 $MMTCO_2e$; however based on per capita, California maintains the 45th lowest emissions with 12.1 $MMTCO_2e$ /person in 2010.[20]

The primary contributors to GHG emissions in California are transportation, electric power production from both in-state and out-of-state sources, industry, agriculture and forestry, and other sources, which include commercial and residential activities. **Table 5.7-1, 2000 and 2012 GHG Emissions in California**, provides a summary of GHG emissions reported in California in 2000 and 2012 separated by categories defined by the United Nations Intergovernmental Panel on Climate Change (IPCC).

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17 California Natural Resources Agency, Climate Action Team, *2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008*, 2009.

18 California Natural Resources Agency, Climate Action Team, *2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008*, 2009. 9.

19 The Cal-Adapt website address is: http://cal-adapt.org.

20 California Air Resources Board, "California Greenhouse Gas Emission Inventory 2000-2012," http://www.arb.ca.gov/cc/inventory/pubs/reports/ghg_inventory_00-12_report.pdf, accessed January 21, 2015.

Table 5.7-1
2000 and 2012 GHG Emissions in California

Source Category	2000 ($MMTCO_2e$)	Percent of Total	2012 ($MMTCO_2e$)	Percent of Total
ENERGY	**407.8**	**87.5%**	**361.68**	**78.8%**
Energy Industries	159.08	34.1%	144.72	31.5%
Manufacturing Industries & Construction	22.71	4.9%	19.89	4.3%
Transport	175.01	37.6%	166.56	36.3%
Other Sectors (Residential/Commercial/Institutional)	45.06	9.7%	45.25	9.9%
Solid Fuels	0.08	0.02%	0.02	0.004%
Fugitive Emissions from Oil & Natural Gas	4.62	0.9%	4.39	0.9%
Fugitive Emissions from Geothermal Energy Production	1.13	0.2%	0.83	0.2%
Pollution Control Devices	0.11	0.02%	0.02	0.004%
INDUSTRIAL PROCESSES & PRODUCT USE	**19.97**	**4.3%**	**31.95**	**6.9%**
Mineral Industry	5.51	1.2%	4.69	1%
Chemical Industry	0.05	0.01%	0.05	0.01%
Non-Energy Products from Fuels & Solvent Use	2.46	0.5%	1.64	0.4%
Electronics Industry	0.70	0.1%	0.45	0.09%
Substitutes for Ozone Depleting Substances	7.00	1.5%	17.73	3.9%
Other Product Manufacture and Use	0.95	0.2%	0.85	0.2%
Other	3.31	0.7%	6.54	1.4%
AGRICULTURE, FORESTRY, & OTHER LAND USE	**28.70**	**6.2%**	**34.14**	**7.4%**
Livestock	19.66	4.2%	23.92	5.2%
Aggregate Sources & Non-CO_2 Sources on Land	9.05	1.9%	10.22	2.2%
WASTE	**9.84**	**2.1%**	**10.91**	**2.4%**
Solid Waste Disposal	7.11	1.5%	7.97	1.7%
Biological Treatment of Solid Waste	0.24	0.05%	0.52	0.11%
Wastewater Treatment & Discharge	2.49	0.6%	2.42	0.5%
TOTAL EMISSIONS[2]	**466**	**-**	**459**	**-**

Sources:
[1] *California Air Resources Board, "California Greenhouse Gas 2000–2012 Inventory by IPCC Category – Summary,"http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_by_ipcc_00-12_sum_2014-03-24.pdf." 2015.*

Between 2000 and 2012, the population of California grew by approximately 4 million (from approximately 34 to 38 million).[21] This represents an increase of approximately 12 percent from 2000 population levels. In addition, the California economy, measured as gross domestic product, grew

21 California DOF, E-7 California Population Estimates, with Components of Change and Crude Rates, July 1 1900-2014, http://www.dof.ca.gov/research/demographic/reports/estimates/e-7/view.php, accessed January 21, 2015.

from $1.47 trillion in 2000 to $1.75 trillion in 2012 representing an increase of approximately 19 percent.[22] Despite the population and economic growth, the California Energy Commission (CEC) attributes the slow rate of growth in GHG emissions (an increase of 12 percent) to the success of California's renewable energy programs and its commitment to clean air and clean energy.[23]

Global Ambient CO_2, CH_4, and N_2O Concentrations

Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of carbon dioxide, methane, and nitrous oxide from before the start of the industrialization, around 1750, to over 650,000 years ago. For that period, it was found that carbon dioxide concentrations ranged from 180 ppm to 300 ppm. For the period from around 1750 to the present, global carbon dioxide concentrations increased from a pre-industrialization period concentration of 280 ppm to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range.[24] Recent values continue this upward trend. Global methane and nitrous oxide concentrations show similar increases for the same period (see **Table 5.7-2, Comparison of Global Pre-Industrial and Current GHG Concentrations**).

Table 5.7-2
Comparison of Global Pre-Industrial and Current GHG Concentrations

Greenhouse Gas	Natural Range for Last 650,000 Years[1] (ppm)	Year 1750 Concentrations (Early Industrial Period)[1] (ppm)	Year 2005 Concentrations[1] ($MMTCO_2e$)	Year 2012 Concentrations[2,3] ($MMTCO_2e$)
Carbon Dioxide (CO_2)	180 to 300	280	425.3	388.7
Methane (CH_4)	0.320 to 0.790	0.715	34.7	38.1
Nitrous Oxide (N_2O)	0.180 to 0.260	0.270	14.7	13.4

Sources:
[1] *California Air Resources Board, 2014 California Greenhouse Gas Emission Inventory 2000-2012, accessed January 21, 2015. Intergovernmental Panel on Climate Change, Climate Change 2007: The Physical Science Basis, (2007) 3, 100.*
[2] *Dr. Pieter Tans, National Oceanic and Atmospheric Administration (NOAA)/Earth System Research Laboratory (ESRL), "Trends in Atmospheric Carbon Dioxide," http://www.esrl.noaa.gov/gmd/ccgg/trends. 2011.*
[3] *Carbon Dioxide Information Analysis Center, "Recent Greenhouse Gas Concentrations," http://cdiac.ornl.gov/pns/current_ghg.html. 2011. The first value for CH_4 and N_2O represents Mace Head, Ireland, a mid-latitude Northern-Hemisphere site, and the second value represents Cape Grim, Tasmania, a mid-latitude Southern-Hemisphere site.*

22 California Air Resources Board, 2014 California GHG Emission Inventory, http://www.arb.ca.gov/cc/inventory/data/misc/ghg_inventory_trends_00-12_2014-05-13.pdf, accessed January 21, 2015.

23 California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*, 2006.

24 California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*, 2006.

Regulatory Framework

Federal

Federal Clean Air Act

The U.S. Supreme Court ruled in *Massachusetts v. Environmental Protection Agency*, 127 S.Ct. 1438 (2007), that carbon dioxide and other GHGs are pollutants under the federal Clean Air Act, which the US EPA must regulate if it determines they pose an endangerment to public health or welfare. On April 17, 2009, the US EPA issued a proposed finding that GHGs contribute to air pollution that may endanger public health or welfare. On April 24, 2009, the proposed rule was published in the Federal Register under Docket ID No. EPA-HQ-OAR-2009-0171. The 60-day public comment period on the proposed rule ended June 23, 2009.

Federal Corporate Average Fuel Economy Standards

On September 15, 2009, the US EPA and the Department of Transportation's (DOT) National Highway Traffic Safety Administration (NHTSA) issued a joint proposal to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles that will reduce GHG emissions and improve fuel economy. In 2012, passenger cars and light-duty trucks would have to meet an average emissions standard of 295 grams of CO_2 per mile and 30.1 miles per gallon.[25] By 2016, the vehicles would have to meet an average standard of 250 grams of CO_2 per mile and 35.5 miles per gallon.[26] The final standards were adopted by the US EPA and DOT on April 1, 2010.

On December 7, 2009, the US EPA Administrator signed two distinct findings regarding GHGs under section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.

- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

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25 US Environmental Protection Agency, "EPA and NHTSA Propose Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks," http://epa.gov/otaq/climate /regulations/420f09047a.htm. 2009.

26 US EPA, "EPA and NHTSA Propose Historic National Program," 2009.

While these findings do not impose additional requirements on industry or other entities, this action was a prerequisite to finalizing the US EPA's proposed GHG emissions standards for light-duty vehicles, as discussed above.

State

The State of California has enacted regulations that target reductions in GHG emissions. The major regulations, policies, and legislation are provided below in approximate chronological order.

Title 24 Building Standards Code

The CEC first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."[27] The CALGreen Code is not intended to substitute for or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). Part 11 of the Title 24 Building Standards Code became effective on January 1, 2011. Unless otherwise noted in the regulation, all newly constructed buildings in California, including the Project are subject to the requirements of the CALGreen Code.

Renewables Portfolio Standard

In 2002, Senate Bill 1078 (SB 1078, Sher) established California's Renewables Portfolio Standard (RPS) which requires investor-owned utilities, such as Pacific Gas and Electric, Southern California Edison, and

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[27] California Building Standards Commission, 2008 California Green Building Standards Code, 2009. 3.

San Diego Gas and Electric, to increase energy production from renewable sources by 1 percent per year, up to a minimum of 20 percent of total energy generation by 2017. SB 107 (Simitian), signed by the Governor on September 26, 2008, accelerated the Renewable Portfolio Standard (RPS) by requiring investor-owned utilities to meet the 20 percent target by 2010.

On September 15, 2009, the Governor issued Executive Order S-21-0911 requiring CARB, under its Assembly Bill 32 (AB 32) authority, to adopt regulations to meet a 33 percent RPS target by 2020. The CARB regulations would use a phased-in or tiered requirement to increase the amount of electricity from eligible renewable sources over an eight-year period beginning in 2012. CARB adopted the regulation in September 2010. In March 2011, the Legislature passed SB X1-2, which was signed into law by the Governor. SB X1-2 requires utilities to procure renewable energy products equal to 33 percent of retail sales by December 31, 2020 and also established interim targets: 20 percent by December 31, 2013 and 25 percent by December 31, 2016. SB X1-2 also includes publicly owned utilities in California.

Assembly Bill 1493

Assembly Bill 1493 (AB 1493, Pavley) was enacted on July 22, 2002 to reduce CO_2 emissions from the transportation sector. Under AB 1493, CARB set GHG emission standards for passenger vehicles, light-duty trucks, and other vehicles whose primary use is noncommercial personal transportation. The standards were adopted in September 2004 and were to be phased in during the 2009 through 2016 model years. However, before the regulation could go into effect, the US EPA had to grant California a waiver under the federal Clean Air Act (CAA), which ordinarily preempts state regulation of motor vehicle emission standards. The US EPA did not issue the waiver until June 30, 2009.

On September 15, 2009, the US EPA and the NHTSA issued a joint proposal to establish a national program consisting of new standards for model year 2012 through 2016 light-duty vehicles. The proposed standards would be phased in and would require passenger cars and light-duty trucks to comply with a declining CO_2 emissions standard. In 2012, passenger cars and light-duty trucks would have to meet an average emissions standard of 295 grams of CO_2 per mile and 30.1 miles per gallon.[28] By 2016, the vehicles would have to meet an average standard of 250 grams of CO_2 per mile and 35.5 miles per gallon.[29] These standards were formally adopted by the US EPA and DOT on April 1, 2010. In light of the US EPA and NHTSA standards, California—and states adopting California emissions standards—have

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28 US Environmental Protection Agency, "EPA and NHTSA Propose Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks," http://epa.gov/otaq/climate /regulations/420f09047a.htm. 2009.

29 US EPA, "EPA and NHTSA Propose Historic Nation Program," 2009.

agreed to defer to the proposed national standard through model year 2016. The 2016 endpoint of the federal and state standards is similar, although the federal standard ramps up slightly more slowly than required under the state standard. The state standards (called the Pavley standards) require additional reductions in CO_2 emissions beyond 2016 (referred to as Pavley Phase II standards), which have not yet been adopted.

Executive Order S-3-05 and the Climate Action Team

In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: GHG emissions should be reduced to 2000 levels by 2010, 1990 levels by 2020, and 80 percent below 1990 levels by 2050. The Secretary of California Environmental Protection Agency (Cal EPA) is required to coordinate efforts of various agencies in order to collectively and efficiently reduce GHGs. Some of the agency representatives involved in the GHG reduction plan include the Secretary of the Business, Transportation, and Housing Agency, the Secretary of the Department of Food and Agriculture, the Secretary of the Resources Agency, the Chairperson of CARB, the Chairperson of the CEC, and the President of the Public Utilities Commission. Representatives from these agencies comprise the Climate Action Team.

Assembly Bill 32

To further the goals established in Executive Order S-3-05, the Legislature enacted Assembly Bill 32 (AB 32, Nuñez and Pavley), the California Global Warming Solutions Act of 2006, which was signed into law on September 27, 2006. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries with penalties for noncompliance. AB 32 requires the state to undertake several actions – the major requirements are discussed below.

CARB Early Action Measures

CARB is responsible for carrying out and developing the programs and requirements necessary to achieve the goals of AB 32—the reduction of California's GHG emissions to 1990 levels by 2020. The first action under AB 32 resulted in CARB's adoption of a report listing three specific early action greenhouse gas emission reduction measures on June 21, 2007. On October 25, 2007, CARB approved an additional six early action GHG reduction measures under AB 32. CARB has adopted regulations for all early action measures. The original three adopted early action regulations meeting the narrow legal definition of "discrete early action GHG reduction measures" include:

- a low-carbon fuel standard to reduce the "carbon intensity" of California fuels;

- reduction of refrigerant losses from motor vehicle air conditioning system maintenance to restrict the sale of "do-it-yourself" automotive refrigerants; and
- increased methane capture from landfills to require broader use of state-of-the-art methane capture technologies.

The additional six early action regulations adopted on October 25, 2007, also meeting the narrow legal definition of "discrete early action GHG reduction measures," include:

- reduction of aerodynamic drag, and thereby fuel consumption, from existing trucks and trailers through retrofit technology;
- reduction of auxiliary engine emissions of docked ships by requiring port electrification;
- reduction of perfluorocarbons from the semiconductor industry;
- reduction of propellants in consumer products (e.g., aerosols, tire inflators, and dust removal products);
- require that all tune-up, smog check and oil change mechanics ensure proper tire inflation as part of overall service in order to maintain fuel efficiency; and
- restriction on the use of sulfur hexafluoride (SF_6) from non-electricity sectors if viable alternatives are available.

State of California 1990 Greenhouse Gas Inventory

As required under AB 32, on December 6, 2007, CARB approved the 1990 greenhouse gas emissions inventory, thereby establishing the emissions limit for 2020. The 2020 emissions limit was set at 427 $MMTCO_2e$. The inventory revealed that in 1990 transportation, with 35 percent of the state's total emissions, was the largest single sector generating carbon dioxide, followed by industrial emissions, 24 percent; imported electricity, 14 percent; in-state electricity generation, 11 percent; residential use, 7 percent; agriculture, 5 percent; commercial uses, 3 percent; and forestry emissions (excluding sinks) less than 1 percent. These figures represent the 1990 values. AB 32 does not require individual sectors to meet their individual 1990 GHG emissions inventory; the total statewide emissions are required to meet the 1990 threshold by 2020.

Climate Change Scoping Plan

As indicated above, AB 32 requires CARB to adopt a scoping plan indicating how reductions in significant GHG sources will be achieved through regulations, market mechanisms, and other actions. CARB released the Climate Change Scoping Plan (Scoping Plan) in October 2008, which contained an outline of the proposed state strategies to achieve the 2020 GHG emission limits. The CARB Governing

Board approved the Scoping Plan on December 11, 2008. The Scoping Plan indicates how emissions reductions will be achieved from significant sources of GHGs via regulations, market mechanism, and other actions. The Scoping Plan identifies 18 recommended strategies the state should implement to achieve AB 32. CARB has identified ongoing programs and has adopted regulations for a number of individual measures to reduce GHG emissions in accordance with the Scoping Plan strategies.

Key elements of the Scoping Plan include the following recommendations:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards
- Achieving a statewide renewables energy mix of 33 percent
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets
- Adopting and implementing measures pursuant to existing state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the state's long-term commitment to AB 32 implementation

Under the Scoping Plan, approximately 85 percent of the state's emissions are subject to a cap-and-trade program where covered sectors are placed under a declining emissions cap. The emissions cap incorporates a margin of safety whereby the 2020 emissions limit will still be achieved even in the event that uncapped sectors do not fully meet their anticipated emission reductions. Emissions reductions will be achieved through regulatory requirements and the option to reduce emissions further or purchase allowances to cover compliance obligations. It is expected that emission reductions from the cap-and-trade program will account for a significant portion of the reductions required by AB 32.

In the Supplemental Functional Equivalent Document (FED), CARB released revised estimates of the expected 2020 emission reductions in consideration of the economic recession and the availability of updated information from development of measure specific regulations. Incorporation of revised estimates in consideration of the economic recession reduced the projected 2020 emissions from 596

metric tonnes of CO_2 equivalent ($MTCO_2e$) to 545 $MTCO_2e$.[30] Under this scenario, achieving the 1990 emissions level would require a reduction of GHG emissions of 118 $MTCO_2e$, or 21.7 percent (down from 28.5 percent), to achieve in 2020 emissions levels in the no-action scenario (NAT). The 2020 AB 32 baseline was also updated to account for measures incorporated into the inventory, including Pavley (vehicle model-years 2009 - 2016) and the RPS (12 to 20 percent). Inclusion of these measures further reduced the 2020 baseline to 507 $MTCO_2e$. As a result, based on both the economic recession and the availability of updated information from development of measure-specific regulations, achieving the 1990 emission level would now require a reduction of GHG emissions of 80 $MTCO_2e$ or a reduction by approximately 16 percent (down from 28.5 percent) to achieve in 2020 emissions levels in the NAT condition.[31, 32]

On February 10, 2014, CARB released a discussion draft first update to the Scoping Plan. The discussion draft recalculates 1990 GHG emissions using the IPCC Fourth Assessment Report (AR4) released in 2007. Using the AR4 global warming potentials GWPs, the 427 $MTCO_2e$ 1990 emissions level and 2020 GHG emissions limit would be slightly higher, at 431 $MTCO_2e$.[33] Based on the revised estimates of expected 2020 emissions identified in the draft first update to the Scoping Plan, achieving the 1990 emission level would require a reduction of 76 $MTCO_2e$ (down from 169 $MTCO_2e$) or a reduction by approximately 15 percent (down from 28.5 percent) to achieve in 2020 emissions levels in the "business as usual" or NAT condition.[34, 35, 36,37]

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30 California Air Resources Board, *Status of Scoping Plan Recommended Measures*, July 25, 2011. Available at http://www.arb.ca.gov/cc/scopingplan/status_of_scoping_plan_measures.pdf. Accessed August 22, 2013.

31 California Air Resources Board, *Status of Scoping Plan Recommended Measures*, July 25, 2011. Available at http://www.arb.ca.gov/cc/scopingplan/status_of_scoping_plan_measures.pdf. Accessed August 22, 2013.

32 California Air Resources Board, *Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document* Available at http://www.arb.ca.gov/cc/scopingplan/document/final_supplement_to_sp_fed.pdf. Accessed September 16, 2013.

33 California Air Resources Board, *Climate Change Scoping Plan First Update, Discussion Draft for Public Review and Comment*, February 2014 Available at http://www.arb.ca.gov/cc/scopingplan/2013_update/draft_proposed_first_update.pdf. Accessed: March, 2014.

34 California Air Resources Board, *Status of Scoping Plan Recommended Measures*, July 25, 2011. Available at http://www.arb.ca.gov/cc/scopingplan/status_of_scoping_plan_measures.pdf. Accessed: March, 2014.

35 California Air Resources Board, *Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document* Available at http://www.arb.ca.gov/cc/scopingplan/document/final_supplement_to_sp_fed.pdf. Accessed: March, 2014.

36 California Air Resources Board, *Climate Change Scoping Plan First Update, Discussion Draft for Public Review and Comment*, October 2013 Available at http://www.arb.ca.gov/cc/scopingplan/2013_update/discussion_draft.pdf. Accessed March, 2014.

37 For purposes of this analysis 21.7 percent reduction is used as the estimated value. The 21.7 percent is the CARB estimated value consistent with the original scoping plan accounting for the economic recession and is consistent with the BAU analysis presented in the GHG Technical Appendix.

Executive Order S-1-07

On January 18, 2007, California set a new Low Carbon Fuel Standard (LCFS) for transportation fuels sold within the state. Executive Order S-1-07 sets a declining standard for GHG emissions measured in CO_2-equivalent grams per unit of fuel energy sold in California. The target of the LCFS is to reduce the carbon intensity of California passenger vehicle fuels by at least 10 percent by 2020. The LCFS will apply to refiners, blenders, producers, and importers of transportation fuels and will use market-based mechanisms to allow these providers to choose how they reduce emissions during the fuel cycle using the most economically feasible methods. CARB identified the LCFS as an early action item under AB 32 and the final regulation was adopted on April 23, 2009.

Senate Bill 375

The California Legislature passed SB 375 (Steinberg) on September 1, 2008. SB 375 requires CARB, working in consultation with the metropolitan planning organizations (MPOs), to set regional greenhouse gas reduction targets for the automobile and light truck sector for 2020 and 2035. The target must then be incorporated within that region's Regional Transportation Plan (RTP), which is used for long-term transportation planning, in a Sustainable Communities Strategy (SCS). Certain transportation planning and programming activities would then need to be consistent with the SCS; however, SB 375 expressly provides that the SCS does not regulate the use of land, and further provides that local land use plans and policies (e.g., General Plan) are not required to be consistent with either the RTP or SCS.

On August 9, 2010, CARB staff issued the *Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant To Senate Bill 375*.[38] CARB staff proposed draft per capita reduction targets for the four largest MPOs (Bay Area, Sacramento, Southern California, and San Diego) of 7 to 8 percent for 2020 and reduction targets between 13 to 16 percent for 2035. For the Southern California Association of Governments (SCAG), which is the MPO for the region in which the Project is located, CARB established a draft per capita reduction target of 8 percent for 2020 and 13 percent for 2035. Of note, the proposed reduction targets explicitly exclude emission reductions expected from the AB 1493 and the low carbon fuel standard regulations. CARB adopted the final targets (the same targets as the proposed draft targets) on September 23, 2010.

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38 California Air Resources Board (CARB), *Staff Report: Proposed Regional Greenhouse Gas Emission Reduction Targets For Automobiles And Light Trucks Pursuant To Senate Bill 375*, 2010.

Regional

South Coast Air Quality Management District

In April 2008, the South Coast Air Quality Management District (SCAQMD), in order to provide guidance to local lead agencies on determining the significance of GHG emissions identified in CEQA documents, convened a GHG CEQA Significance Threshold Working Group.[39] The goal of the working group is to develop and reach consensus on an acceptable CEQA significance thresholds for GHG emissions that may be utilized on an interim basis until CARB (or some other state agency) develops guidance on assessing the significance of GHG emissions under CEQA.

Initially, SCAQMD staff presented the working group with a significance threshold that could be applied to various types of projects – residential; non-residential; industrial; etc. However, the threshold is still under development. In December 2008, staff presented the SCAQMD Governing Board with a significance threshold for stationary source projects where it is the lead agency. This threshold uses a tiered approach to determine a project's significance, with 10,000 $MTCO_2e$ as a screening numerical threshold.

At present time, the SCAQMD has not adopted thresholds for residential or commercial or projects such as the one analyzed in this study. The SCAQMD is considering a tiered approach to determine the significance of residential and commercial projects and the most recent draft approach that was published in September 2010 is as follows:

- **Tier 1:** Is the project exempt from further analysis under existing statutory or categorical exemptions? If yes, there is a presumption of less than significant impacts with respect to climate change.
- **Tier 2:** Is the project's GHG emissions within the GHG budgets in an approved regional plan? (The plan must be consistent with *State CEQA Guidelines* Sections 15064(h)(3), 15125(d), or 15152(s).) If yes, there is a presumption of less than significant impacts with respect to climate change.
- **Tier 3:** Is the project's incremental increase in GHG emissions below or mitigated to less than the significance screening level (10,000 $MTCO_2e$ per year for industrial projects; 3,500 $MTCO_2e$ for residential projects; 1,400 $MTCO_2e$ for commercial projects; 3,000 $MTCO_2e$ for mixed-use or all land use projects)? If yes, there is a presumption of less than significant impacts with respect to climate change.

[39] For more information see: http://www.aqmd.gov/ceqa/handbook/GHG/GHG.html.

- **Tier 4:** Does the project meet one of the following performance standards? If yes, there is a presumption of less than significant impacts with respect to climate change.
  - **Option #1:** Achieve some percentage reduction in GHG emissions from a base case scenario, including land use sector reductions from AB 32 (e.g., 29 percent reduction as recommended by the San Joaquin Valley Air Pollution Control District).
  - **Option #2:** For individual projects, achieve a project-level efficiency target of 4.8 $MTCO_2e$ per service population by 2020 or a target of 3.0 $MTCO_2e$ per service population by 2035. For plans, achieve a plan-level efficiency target of 6.6 MTCO2e per service population by 2020 or a target of 4.1 $MTCO_2e$ per service population by 2035.
- **Tier 5:** Projects should obtain GHG emission offsets to reduce significant impacts. Offsets in combination with any mitigation measures should achieve the target thresholds for any of the above Tiers. Otherwise, project impacts would remain significant.

The SCAQMD has not announced when staff is expecting to present a finalized version of these thresholds to the Governing Board. The SCAQMD has also adopted Rules 2700, 2701, and 2702 that establishes a GHG reduction program within the SCAQMD; however, GHG emission reduction protocols pursuant to these rules have only been established for boilers and process heaters, forestry, and manure management reduction projects.

Local

County of Los Angeles Green Building Standards Code

In November 2013 the Los Angeles County Board of Supervisors adopted the Los Angeles County Green Building Standards Code (Title 31). Title 31 will improve public health, safety, and general welfare by enhancing the design and construction of buildings through sustainable building concepts that reduce negative environmental impacts. This includes a reduction in energy, water, and other natural resources, and minimizing solid waste.

County General Plan

The County's General Plan is primarily a policy document that sets goals concerning the community and gives direction to growth and development. In addition, it outlines the programs that were developed to accomplish the goals and policies of the General Plan. Currently there are no GHG policies included in the County General Plan.

Unincorporated Los Angeles County Community Climate Action Plan 2020

The County of Los Angeles has adopted a Community Climate Action Plan (CCAP),[40] a component of the General Plan, which sets a target to reduce GHG emissions from community activities in the unincorporated areas of Los Angeles County by at least 11 percent below 2010 levels by 2020. The CCAP describes the County's plan for achieving this goal, including specific strategy areas for each of the major emissions sectors, and provides details on the 2010 and projected 2020 emissions in the unincorporated areas. The actions in the CCAP are priority actions and intended for near-term implementation, such that the County can achieve its GHG reduction goal for 2020 for the unincorporated areas of Los Angeles County.

The CCAP includes 26 local actions to reduced GHG emissions and are grouped into the following five strategy areas:

- Green Building and Energy;
- Land Use and Transportation;
- Water Conservation and Wastewater;
- Waste Reduction, Reuse, and Recycling; and
- Land Conservation and Tree Planting.

The County considers many of the local actions to be cost effective, particularly in the green building and energy strategy area. In addition to reducing GHG emissions, all local actions have many co-benefits, such as improved public health, improved air quality, energy savings, increased mobility, and enhanced community well-being.

The CCAP is a resource for the unincorporated areas of the County. Public agencies and private developers can also use the CCAP to comply with project-level review requirements pursuant to CEQA. CEQA Guidelines specify that CEQA project evaluation of GHG emissions can "tier off" a programmatic analysis of GHG emissions, provided that the programmatic analysis (or climate action plan) does the following (CEQA Guidelines Section 15183.5):

- Quantify greenhouse gas emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area.

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40 County of Los Angeles, Final Unincorporated Los Angeles County Community Climate Action Plan 2020, (August 2015).

- Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable.
- Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.
- Specify measures or a group of measures, including performance standards that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level.
- Monitor the plan's progress.
- Adopt the GHG Reduction Strategy in a public process following environmental review.

The CCAP meets CEQA Guidelines Section 15183.5 listed above by: (1) quantifying all primary sectors of GHG emissions within the unincorporated areas for 2010 and 2020; (2) including a reduction target of at least 11 percent below 2010 levels, which is consistent with the recommendations in the AB 32 Scoping Plan for municipalities to support the overall AB 32 reduction targets; (3) analyzing community emissions for the unincorporated areas as a whole and including predicted growth expected by 2020; (4) including specific measures to achieve the overall reduction target; (5) including periodic monitoring of plan progress; and (6) submitting the CCAP to be adopted in a public process following compliance with CEQA.

As the CCAP has been adopted, project-specific environmental documents that incorporate applicable CCAP actions may "tier off" the EIR certified for the County General Plan and CCAP to meet project-level CEQA evaluation requirements for GHG emissions. Projects that demonstrate consistency with applicable CCAP actions can be determined to have a less than significant cumulative impact on GHG emissions and climate change (notwithstanding substantial evidence that warrants a more detailed review of project-level GHG emissions).

Santa Clarita Valley Area Plan

Section 5.10, Land Use and Planning, of this Draft EIR provides a consistency analysis of the Santa Clarita Valley Area Plan (SCVAP 2012) policies that pertain to GHG. Refer to **Table 5.10-2** for a list of the SCVAP 2012 GHG policies and the consistency analysis for each policy.

5.7.2 ENVIRONMENTAL IMPACTS

Methodology

The evaluation of potential impacts to GHG emissions that may result from the construction and long-term operations of the Project has been conducted as described below.

Existing Project Site Greenhouse Gas Emissions

The Project Site currently is undeveloped and generates no appreciable man-made emissions. A minimal number of truck trips are generated through routine SWPPP maintenance activities. However, these emissions were not included in the baseline for the analysis. Thus, all development for the Project would be considered new emissions.

Project Consistency with CCAP

The significance of the Project's GHG emissions is evaluated by determining the consistency of the Project with applicable GHG reduction strategies and local actions in the County of Los Angeles CCAP. As discussed previously, the CCAP meets CEQA Guidelines Section 15183.5, which means that project-specific environmental documents that incorporate applicable CCAP actions may "tier off" the EIR certified for the County General Plan and CCAP to meet project-level CEQA evaluation requirements for GHG emissions.

Project Consistency with Los Angeles Green Building Standards

In response to the mandates set forth in CAL Green, the Los Angeles County Board of Supervisors adopted the Los Angeles County Green Building Standards (Title 31) which incorporates CAL Green into the Code. Title 31 (also known as the Green Building Standards Code) was adopted in November 2013 and incorporates the California Green Building Standards Code by reference. The significance of the Project's GHG emissions is also evaluated by determining the consistency of the Project with applicable GHG reduction strategies in the Los Angeles Green Building Standards Code.

Project-Related Emissions

In order to provide context for the Project's annual GHG emissions and to provide a quantitative metric for describing the level of GHG reductions incorporated into the Project, the Project's GHG emissions are compared to a BAU scenario (herein referred to as the NAT scenario), as defined by CARB in the Scoping Plan. As discussed above, CARB approved an update to the Scoping Plan. This update included lower statewide growth projections and, thus, a lower reduction as compared to the CARB 2020 NAT projection

that is necessary to achieve AB 32's goals. Based on current state-wide growth projections, CARB has indicated that achieving AB 32's goals would require approximately a 21.7 percent reduction as compared to the CARB 2020 NAT projection (down from 28.5 percent).[41, 42] This uses the estimate (i.e., 21.7 percent) to compare the Project's GHG emissions to the statewide goals. The statewide goal is an average for the reduction from a variety of emission source categories and sectors. At this time, CARB has not provided a specific breakdown to estimate reduction from a CARB 2020 NAT projection specific for "land use development" as a sector. For informational purposes, the statewide goal is used for this comparison.

The comparison utilized the California Emission Estimator Model version 2013.2.2 (CalEEMod®)[43] to assist in quantifying the GHG emissions for the Project. CalEEMod® is a statewide program designed to calculate both criteria and GHG emissions from development projects in California. This model was developed under the auspices of the SCAQMD and received input from other California air districts, and is currently supported by several lead agencies for use in quantifying the emissions associated with development projects undergoing environmental review. CalEEMod® utilizes widely accepted models for emission estimates combined with appropriate default data that can be used if site-specific information is not available. These models and default estimates use sources such as the USEPA AP-42 emission factors,[44] CARB's on-road and off-road equipment emission models such as the Emission Factor model (EMFAC) and the Emissions Inventory Program model (OFFROAD), and studies commissioned by California agencies such as the CEC and CalRecycle. Additional methodological details are included below and in the GHG Technical Report provided in Appendix 5.7-1.

Project Design Elements/Project Design Features

Project Design Elements

A complete description of the Project and associated development characteristics is provided in **Section 4.0 Project Description**, of this Draft EIR.

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41 CARB, 2011. Attachment D, Final Supplement to the AB 32 Scoping Plan Functional Equivalent Document. August 19. Available at: http://www.CARB.ca.gov/cc/scopingplan/document/final_supplement_to_sp_fed.pdf. Accessed March, 2014.

42 CARB, 2011. Status of Scoping Plan Measures. Available at: http://www.CARB.ca.gov/cc/scopingplan/sp_measures_implementation_timeline.pdf. Accessed: March, 2014.

43 SCAQMD, 2013, California Emissions Estimator Model. Available at: http://www.CalEEMod.com/. Accessed: February, 2014.

44 The USEPA maintains a compilation of Air pollutant Emission Factors and process information for several air pollution source categories. The data is based on source test data, material balance studies, and engineering estimates. Available at: http://epa.gov/ttnchie1/ap42/.

Construction of the Project has the potential to last 5 to 7 years starting in 2015. For the purposes of the analysis, construction is conservatively estimated to occur from 2015 to 2020. Grading would move approximately 7.6 million cubic yards of cut and fill which would be balanced on the Project Site. Vehicle trips to and from the Project Site would be the largest source of GHG emissions. The Project Site is located near the I-5 freeway, services, and jobs which would help to avoid vehicle trips and vehicle miles travelled (VMT). Further, project design features (PDFs) provided in detail in **Section 5.5 Energy** would help to increase energy efficiency and meet the 2013 Title 24 standards.

Project Design Features

The following project design features (PDFs) would reduce the amount of GHG emissions generated during construction of the Project:

- To minimize grading on the Project Site, existing pads will be used to the extent feasible. The site plan for the Project emphasizes the protection of open space and undisturbed connections to these adjoining areas by retaining in a natural condition approximately 123.25 acres of land primarily located adjacent to existing offsite open space areas located to the north and northeast, contiguous to existing undeveloped ridgelines, and along the westerly ridgeline and areas further to the west on the Project Site in areas contiguous with undeveloped land to the west

- Pollutant Control

    - Duct Openings. Duct openings and other related air distribution component openings shall be covered during construction.[45]

    - Adhesives Sealants & Caulks. Adhesives, sealants and caulks shall be compliant with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits.[46]

    - Paints & Coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure.

    - Aerosol Paints & Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use

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45 2013 CALGreen Residential Mandatory Requirement 4.504.1

46 2013 CALGreen Residential Mandatory Requirement 4.504.2.1

of certain toxic compounds and ozone depleting substances, in Section 94522(c)(2) and (d)(2) of California Code of Regulations, Title 17, commencing with Section 94520.[47]

- Verification. Documentation shall be provided to verify that compliant VOC limit finish materials have been used.[48]
- Resilient Flooring. 80 percent of floor area receiving resilient flooring shall comply with specified VOC criteria.[49]
- Composite Wood Products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used in the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et. Seq.).

- Resilient Flooring. Comply with the 90-percent resilient flooring systems requirements in Section A4.504.2
- Thermal Insulation. Comply with the thermal insulation requirements for Tier 1 in Section A4.504.3.

The following PDFs discussed in **Section 4.0 Project Description,** and in **Section 5.4 Energy,** would reduce the amount of GHG emissions generated during operation of the Project:

- Nearby freeway access and adjacency to services and jobs helps to avoid vehicle trips and vehicle miles traveled.
- A bus stop is located within a ¼ mile of the Project Site. Trails provide additional alternatives to auto travel.
- Project streets are designed to be safe and integrate a network of roadways and connector trails for a walkable community. Sidewalks, on-street parking, tree canopies, curbs and gutters, narrower intersections with smaller radii are some of the Project's healthy walkable street features. A public park and seven secondary parks provide opportunities for outdoor activity. Vineyards and orchards can be accessed by foot and provide local food.

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47 2013 CALGreen Residential Mandatory Requirement 4.504.2.3

48 2013 CALGreen Residential Mandatory Requirement 4.504.2.4

49 2013 CALGreen Residential Mandatory Requirement 4.504.4.

- Buildings will be oriented to optimize solar access, passive and active design techniques and cross breezes through the buildings.[50]

- Solar Photovoltaics (PV) systems are to be installed in the common areas and Clubhouse structure to help offset Project energy use.

- Bicycle Parking would be provided for five percent of visitor parking spaces, including permanently anchored bicycle racks that would be provided within 200 feet of the visitors' entrance of the Clubhouse.

- Electric Vehicle (EV) Charging

    - Clubhouse. The Project will install at least one electric vehicle charging station at the Clubhouse, and comply with CALGreen Sections 4.106.4.1, 4.106.4.2.2 through and 4.106.4.2.5, to facilitate future installation and use of EV chargers. Electrical vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.

    - Residential Dwelling Units. For each dwelling unit, the Project will install a listed raceway to accommodate a dedicated 208/240-volt branch circuit and comply with CALGreen Section 4.106.4.1 and Section 4.106.4.2.2. The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box, or other EV charger. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. Compliance will include the Prerequisite electric vehicle (EV) charging requirements in Section A4.106.8.

- Tree canopy cover, light colored paving, and roofing materials will be used to reduce heat island effect.

- All residential dwellings shall be designed and constructed to be a minimum of 15 percent better than the 2013 Energy Code.

- The Clubhouse will be designed and constructed to meet zero net electric[51] by incorporating passive solar techniques, high efficiency technologies, ENERGY STAR appliances, solid state LED adaptive lighting; coupled with solar PV to offset electrical loads.

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50 LA County General Plan Policy LU 10.3.

- The Project will go beyond the conservation and efficient use of water by utilizing a watershed approach and recognizing the underlying groundwater aquifers in the Project design.

- The Project Applicant will develop Solar Energy CC&Rs to protect solar access throughout the community in perpetuity.

- Each builder shall be required to build and demonstrate at least one model at each model complex, a Zero Net Energy (ZNE-TDV[52]) option to potential homebuyers. This is to be consistent with 2013 Title 24, Part 6, Tier 2; 30 percent better than the 2013 energy code and install enough solar photovoltaic (PV) panels to offset 100 percent of the energy load over 12 months. [Note: This ZNE-TDV Tier is expected to be part of the 2016 CALGreen Residential Voluntary Measures; Division A4.2 Energy Efficiency.]

Significance Thresholds

The potential for the Project to result in impacts associated with GHG is based on the CEQA significance thresholds specified by the Los Angeles County Department of Regional Planning. These significance thresholds are based in part on Appendix G of the *State CEQA Guidelines* and the SCAQMD draft guidance documents and are as follows:

- Would the project generate greenhouse gas (GHGs) emissions, either directly or indirectly, that may have a significant impact on the environment (i.e., on global climate change)?

- Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Each of these is discussed below.

Direct or Indirect Project GHG Emissions

In its January 2008 CEQA and Climate Change white paper, CAPCOA identified a number of potential approaches for determining the significance of GHG emissions in CEQA documents. CAPCOA suggests making significance determinations on a case-by-case basis when no significance thresholds have been formally adopted by a lead agency.

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51 Zero net energy (ZNE) electric means the building will be designed and constructed to generate as much energy from renewable sources, such as solar photovoltaic (PV) panels as us uses over 12 months.

52 Zero Net Energy – Time Dependent Valuation.

Although GHG emissions can be quantified, CARB, SCAQMD and the County have yet to adopt project-level numerical significance thresholds for GHG emissions that would be applicable to the Project. Assessing the significance of a project's contribution to cumulative global climate change involves: (1) developing pertinent inventories of GHG emissions, and (2) considering project consistency with applicable emission reduction strategies and goals, such as those set forth in the County of Los Angeles CCAP. As discussed previously, the CCAP meets CEQA Guidelines Section 15183.5, which means that project-specific environmental documents that incorporate applicable CCAP actions may "tier off" the EIR certified for the County General Plan and CCAP to meet project-level CEQA evaluation requirements for GHG emissions.

Based on the foregoing, a project that generates GHG emissions, either directly or indirectly, would have a significant impact if the project:

Threshold 5.7-1 **Results in GHG emissions that are not consistent with the County of Los Angeles *Community Climate Action* Plan.**

Consistency with Applicable Greenhouse Gas Reduction Strategies

As part of AB 32, the County and State recommend general policies and measures to minimize and reduce GHG emissions from land use development project. Thus, if the Project is designed in accordance and not in conflict with these policies and measures, it would result in a less than significant impact since it would be consistent with the County's strategies and local actions on reducing GHG emissions (County of Los Angeles CCAP). Therefore, a significant impact would occur if the Project would:

Threshold 5.7-2 **Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.**

Impact Analysis

Threshold 5.7-1: **Would the Project result in GHG emissions that are not consistent with the County of Los Angeles *Community Climate Action Plan*?**

Impacts regarding the annual increase in GHG emissions would be less than significant. The Project would generate GHG emissions due to construction and operational activities; however, the net increase in annual GHG emissions, direct and indirect, would be consistent with the Los Angeles County CCAP.

The Project's significance with respect to GHG emissions is evaluated based on its consistency with applicable GHG reduction strategies in the County of Los Angeles CCAP. There are 26 local actions included in the CCAP. The local actions are grouped into five strategy areas: green building and energy;

land use and transportation; water conservation and wastewater; waste reduction, reuse, and recycling; and land conservation and tree planting. The CCAP recognizes that like most California communities, a significant portion of the County's emissions are from on-road transportation sources. Developing realistic ways to reduce vehicle trips and VMT is a priority in the CCAP. A consistency analysis with the CCAP for the unincorporated areas is provided in **Table 5.7-3**. In accordance with CEQA Guidelines Section 15183.5, which specifies that CEQA project evaluation of GHG emissions can "tier off" a programmatic analysis of GHG emissions, such as the Los Angeles County CCAP, the Project would result in less than significant GHG emissions.

Table 5.7-3
Evaluation of Consistency of the Proposed Project
with the Final Unincorporated Los Angeles County Community Climate Action Plan 2020

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Green Building and Energy					
BE-1. Green Building Development	1) Promote and incentivize at least Tier 1 voluntary standards within CALGREEN for all new residential and nonresidential buildings. 2) Develop a heat island reduction plan and facilitate green building development by removing regulatory and procedural barriers.	X			1) **Consistent.** Based on the Community Climate Action Plan (CCAP), implementation of the Tier 1 standards contained in the California Green Building Code (Cal. Code Regs., title. 24, part 11) will "result in approximately 15% less energy use than the 2013 Title 24 standard for residential development and 10% less energy use than the 2013 Title 24 standard for commercial development." (CCAP, p. C-2.) The Project will comply with the Los Angeles County Green Building Program, which consists of the County's Green Building Standards Code and third-party certifications as required in Table 22.52.2130-1; Low Impact Development Ordinance, and Drought Tolerant and Native Landscaping Ordinances; all Mandatory Measures of the 2013 California Green Building Standards Code; the Los Angeles County's Healthy Design Ordinance; the SCVAP 2012 and applicable Castaic Area Community Design Standards. The Project will also

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Green Building and Energy (continued)					
					meet or exceed all 2013 CALGreen Residential Mandatory measures in Chapter 4, Divisions 4.1 through 4.5 and Chapter 7 as applicable; 2013 CALGreen Tier 1 Prerequisite Measures and required minimum Tier 1 Elective Measures for Residential Uses. 2) **Consistent.** Tree canopy cover, light coloured paving, and roofing materials will be used to reduce heat island effect.
BE-2. Energy Efficiency Programs	1) Conduct energy efficiency retrofits for at least 25% of existing commercial buildings over 50,000 square feet and at least 5% of existing single-family residential buildings. 2) Promote innovative, low-interest financing for energy efficiency projects for existing development. Create energy conservation campaigns and partner with utilities and other entities on energy efficiency.			X	1) **Not Applicable.** This emissions reduction strategy is applicable to existing buildings. The Project proposes to construct new buildings in accordance with the then-applicable Title 24 building energy efficiency standards. Therefore, energy efficiency retrofits are not appropriate or applicable. 2) **Not Applicable.** This emissions reduction strategy pertains to existing development. As the Project proposes to construct new buildings, this strategy is not applicable.
BE-3. Solar Installations	1) Promote and incentivize solar installations for new and existing homes, commercial buildings, carports and parking areas, water heaters, and warehouses.	X			1) **Consistent.** The project includes the following measures related to solar:

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Green Building and Energy (continued)					
					• Site and Building Orientation to Optimize Solar. Buildings will be oriented to optimize passive solar access (such as daylighting). • Solar Photovoltaics (PV) systems are to be installed in the common areas and clubhouse structure to help offset Project energy use. • Solar Energy CC&Rs. Applicant will develop solar energy CC&Rs to protect solar access throughout the community in perpetuity.
BE-4. Alternative Renewable Energy Programs	1) Implement pilot projects for wind, geothermal, and other currently viable forms of alternative renewable energy.			X	**1) Not Applicable.** The implementation approaches for this emissions reduction strategy are primarily dependent on the ability of the County's ISD to: (i) develop an Alternative Energy Development Plan that identifies the allowable and appropriate alternative energy facility types in the County, and (ii) adopt the Renewable Energy Ordinance via an amendment to Title 22 (Planning and Zoning) of the County's Municipal Code to support new renewable energy technologies. (CCAP, p. C-5.) The County's Board of Supervisors held a public hearing on the Renewable Energy Ordinance on July 14, 2015; during the hearing, the Board indicated its intent to

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Green Building and Energy (continued)					
					approve the Ordinance with a ban on utility-scale wind projects. (See http://planning.lacounty.gov/energy.) However, as discussed above, the project includes several features to promote solar as an alternate energy source for homes on the Project Site.
BE-5. Wastewater Treatment Plant Biogas	1) Encourage renewable bio-gas projects.			X	1) **Not Applicable.** The Project is a proposed residential community. Implementation of this emission reduction strategy will be achieved through the Los Angeles County ISD's partnerships with the operators of wastewater treatment facilities. (CCAP, p. C-5.)
BE-6. Encourage Energy Efficiency Retrofits of Wastewater Equipment	1) Encourage the upgrade and replacement of wastewater treatment and pumping equipment.			X	1) **Not Applicable.** The Project is a proposed residential community. Implementation of this emission reduction strategy will be achieved through the Los Angeles County ISD's partnerships with the operators of wastewater treatment facilities. (CCAP, p. C-6.)
BE-7. Landfill Biogas	1) Partner with the owners and operators of landfills with at least 250,000 tons of waste-in-place to identify incentives to capture and clean landfill gas			X	1) **Not Applicable**. The Project is a proposed residential community. Implementation of this emission

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Green Building and Energy (continued)					
	to beneficially use the biogas to generate electricity, produce biofuels, or otherwise offset natural gas or other fossil fuels.				reduction strategy will be achieved through the Los Angeles County ISD's partnerships with the operators of landfills. (CCAP, p. C-6.)
Land Use and Transportation					
LUT-1. Bicycle Programs and Supporting Facilities	1) Construct and improve bicycle infrastructure to increase biking. Increase bicycle parking and "end-of- trip" facilities offered through the unincorporated County. 2) Construct and improve bicycle infrastructure to increase bicyclist access to transit and transit stations/hubs.	X			1) **Consistent.** For five percent of visitor parking spaces, permanently anchored bicycle racks will be provided within 200 feet of the visitors' entrance of the Clubhouse. The Project also includes a multi-use trail that would improve bicycle facilities in the County. 2) **Consistent.** As described above, the Project includes bicycle parking, as the Project is located within ¼ mile of an existing bus stop, the Project would be consistent with the policy.
LUT-2. Pedestrian Network	1) Construct and improve pedestrian infrastructure to increase walking and pedestrian access to transit and transit stations/hubs. Construct 15,000 linear feet of pedestrian improvements per year.	X			1) **Consistent.** Streets within Los Valles are designed to be safe and integrate a network of roadways and connector trails throughout the Project for a safe walkable healthy community. Sidewalks, on-street parking, tree canopies, curbs and gutters, narrower intersections with smaller radii are some of the Project's healthy walkable street features.

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Land Use and Transportation (continued)					
					Numerous parks throughout the community provide opportunities for outdoor activity. The project site is located within ¼ mile of a bus stop and includes the following pedestrian improvements: • The existing tunnels on the Project Site that were part of the partially constructed golf course will be repurposed as pedestrian tunnels. • Approximately 4.5 miles of internal pedestrian trails would connect the different areas of the Project community and provide access to the various amenities and open space areas within the Project Site. • An approximately 3,000 linear foot public multi-use trail is proposed on the Project Site. This public multi-use trail could be used for hiking, mountain-biking, and equestrian use and will be developed and dedicated to the County of Los Angeles Department of Parks and Recreation.

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Land Use and Transportation (continued)					
					• Access from Hasley Canyon Road to each of the secondary access points (Hayward Drive and Barcelona Road) would remain un-gated and available for public pedestrian use. The Project includes the installation of five access-controlled gates within the Project Site; however pedestrian access would not be restricted. The Project includes three pedestrian access lots (also called HOA fee access lots) that would provide pedestrian access between cul-de-sacs and nearby streets and/or pedestrian trails.
LUT-3. Transit Expansion	1) Work with Los Angeles County Metropolitan Transportation Authority (LA Metro) on a transit program that prioritizes transit by creating bus priority lanes, improving transit facilities, reducing transit-passenger time, and providing bicycle parking near transit stations. Construct and improve bicycle, pedestrian and transit infrastructure to increase bicyclist and pedestrian access to transit and transit stations/hubs.	X			1) **Consistent.** The Project is a proposed residential community. As described above, permanent bicycle parking will be provided within 200 feet of the visitors' entrance of the Clubhouse. Implementation of bus priority lanes, improving transit facilities, reducing transit-passenger time, and providing bicycle parking near transit stations is the responsibility of and directed to the County of Los Angeles.

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Land Use and Transportation (continued)					
LUT-4. Travel Demand Management	1) Encourage ride- and bike-sharing programs and employer-sponsored vanpools and shuttles. Encourage market-based bike sharing programs that support bicycle use around and between transit stations/hubs. Implement marketing strategies to publicize these programs and reduce commute trips.	X			1) **Consistent.** The Project will include bicycle infrastructure in the form of bicycle racks at the community center. In addition, the multi-use trail could be used for biking. The infill location of the site, with nearby freeway access and adjacency to services and jobs helps to avoid vehicle trips (VT) and vehicle miles traveled (VMT), resulting in reduced environmental impacts
LUT-5. Car-Sharing Program	1) Implement a car-sharing program to allow people to have on-demand access to a shared fleet of vehicles on an as-needed basis.		X		**1) Consistent.** The project does not include car sharing but includes other features to reduce VMT on the project site including, promoting walkability through high quality design and the creation of pedestrian trails. Further, EV charging will be available for all homes and at the clubhouse.
LUT-6. Land Use Design and Density	1) Promote sustainability in land use design, including diversity of urban and suburban developments.	X			**1) Consistent.** The Project includes the following sustainable features related to land use: • Location. Nearby freeway access and adjacency to services and jobs helps to avoid vehicle trips (VT) and vehicle miles traveled (VMT). • Open Space. The Project will maintain approximately 225.02

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Land Use and Transportation (continued)					
					acres of recreation and open space, including, a public park (7.45 acres), a recreation area (28.28 acres), and open space (189.29 acres). • Trail System. Approximately 4.5 miles of trails will be constructed throughout the Project with approximately 3,000 linear feet of public multi-purpose trails to provide a complete system and access to the local and regional trail system. Enhanced trailheads provide gathering points and connectivity to the local regional trail system. Trail standards will be in accordance with the Castaic Area CSD and other applicable requirements. • Hillside Management. Contour grading, curvilinear street design, terraced drains, terraced slopes, and related project design features have been incorporated as project best management practices. • Link to Transit. A bus stop is located within a quarter mile of the Project Site. Trails provide additional alternatives to auto travel.

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Land Use and Transportation (continued)					
					• Healthy Communities. Project streets are designed to be safe and integrate a network of roadways and connector trails for a walkable community. Sidewalks, on-street parking, tree canopies, curbs and gutters, and narrower intersections with smaller radii are some of the Project's healthy walkable street features. A public park and six secondary parks provide opportunities for outdoor activity. Vineyards and orchards can be accessed by foot and may provide local food.
LUT-7. Transportation Signal Synchronization Program	1) Improve the network of traffic signals on the major streets throughout Los Angeles (LA) County.	X			1) **Consistent.** The Project would comply with all County requirements regarding street design and access. Further, **Mitigation Measure MM 5.14-1** would require that upon issuance of certificate of occupancy for the 450th until and for up to four successive years, thereafter, a peak hour warrant analysis shall be conducted annually per Los Angeles County Department of Public Works standards to determine if a traffic signal is warrant.

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Land Use and Transportation (continued)					
LUT-8. Electric Vehicle Infrastructure	1) Install 500 electric vehicle (EV) charging facilities at County-owned public venues (e.g., hospitals, beaches, stand-alone parking facilities, cultural institutions, and other facilities) and ensure that at least one-third of these charging stations will be available for visitor use.	X			1) **Consistent.** One EV charging station will be provided at the clubhouse. All residential units will have capability for electric charging.
LUT-9. Idling Reduction Goal	1) Encourage idling limits of 3 minutes for heavy-duty construction equipment, as feasible within manufacturer's specifications.		X		1) **Consistency Pending.** The entity responsible for implementation of this emissions reduction strategy is Los Angeles County's Department of Regional Planning (DRP). Based on the CCAP, the implementation approaches for this strategy include the development of: (i) an idling ordinance or policy that outlines goals for reduced equipment idling, and (ii) an outreach and education program. (CCAP, p. C-12.) To date, the County has not adopted an idling ordinance. However, the Project will comply with the parameters of any County-adopted ordinance to the extent required by law. In the meantime, the Project's construction equipment will comply with the idling limits established by state law (i.e., five (5) minutes) under the auspices of the California Air Resources Board.

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Land Use and Transportation (continued)					
LUT-10. Efficient Goods Movement	1) Support regional efforts to maximize the efficiency of the goods movement system throughout the unincorporated areas.			X	1) **Not Applicable.** The Project is a proposed residential community, and not a component of the goods movement system; therefore, this strategy is not applicable. This emission reduction strategy would primarily be implemented by Los Angeles County's Department of Public Works (DPW) by supporting efforts to evaluate zero and/or near-zero emission freight corridors and working with appropriate agencies and partners to identify and replace at-grade railroad crossings to reduce freight delay and vehicle idling (CCAP, p. C-13).
LUT-11. Sustainable Pavements Program	1) Reduce energy consumption and waste generation associated with pavement maintenance and rehabilitation.	X			1) **Consistent.** The project will **c**omply with the prerequisite permeable paving requirements in CALGreen Section A4.106.4.
LUT-12. Electrify Construction and Landscaping Equipment	1) Utilize electric equipment wherever feasible for construction projects. 2) Reduce the use of gas-powered landscaping equipment.	X			1) **Consistent.** Any required construction and/or security lighting would rely on electricity from power poles instead of diesel generators. The Project is committed to using electricity from power poles, instead of diesel generators, to power construction equipment, as feasible. For example, while large-scale electric construction equipment does not

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Land Use and Transportation (continued)					
					exist, smaller, hand-held construction-related tools are available in an electric configuration. 2) **Consistent.** The Applicant, in conjunction with the HOA, will develop a Homeowner Sustainability Stewardship Educational Program (Educational Program) which will be made available to all new homebuyers to help educate and build Los Valles Land Stewards for the long-term.
Water Conservation and Wastewater					
WAW-1. Per Capita Water Use Reduction Goal	1) Meet the State established per capita water use reduction goal as identified by Senate Bill (SB) X7-7 for 2020.				1) **Consistent.** The Project includes numerous design features that will help the State of California meet requirements to achieve a 20-percent reduction in urban per-capita water use by 2020 in accordance with SBX7-7. This includes; The project will comply with the state Model Water Efficient Landscape Ordinance, and CALGreen 4.304.1 Outdoor potable water use in landscape areas. The Project will go beyond the conservation and efficient use of water by utilizing a watershed approach.

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Water Conservation and Wastewater (continued)					
		X			o Water Budget. A water budget shall be developed for landscape irrigation. o Water Efficient Landscape Irrigation ▪ Irrigation Efficiency. Automatic irrigation systems controllers installed at time of final inspection shall be weather or soil moisture-based.. ▪ Landscape Irrigation Design. Provide water efficient landscape irrigation design that reduces the use of potable water; does not exceed 55 percent of ETo times the landscape area. o Drought Tolerant Landscaping. The landscape pallet shall be consistent with the County's Drought Tolerant Landscaping Ordinance (see the County's Drought Tolerant Landscaping Ordinance Sections 4.4 Landscaping, 4.4.1 Landscape Plan and 4.4.2 Fuel Modification Plan for details). o Fuel Modification Plan. A Fuel

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Water Conservation and Wastewater (continued)					
					Modification plan will be developed that is consistent with the County's required landscape pallet and water efficient irrigation. o 2013 CALGreen Tier 1. Comply with the landscape irrigation water budget requirements in Section A4.304.3. • 2013 CALGreen Tier 1. Comply with the Tier 1 potable water use reduction for landscape irrigation design in Section A4.304.4. • Indoor Water Use o Plumbing Fixtures. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) installed shall comply with the prescriptive requirements in Sections 4.303.1 through 4.303.2. o Plumbing Fixture Installations. Plumbing fixtures and fittings required in Section 4.303.1 shall be installed in accordance with the California Plumbing Code, and shall meet the applicable reference standards.

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Water Conservation and Wastewater (continued)					
					2013 CALGreen Tier 1. Comply with at least two elective measures selected from Division A4.3.
WAW-2. Recycled Water Use, Water Supply Improvement Programs, and Storm Water Runoff	1) Promote the use of wastewater and gray water to be used for agricultural, industrial, and irrigation purposes. Manage storm water, reduce potential treatment, and protect local groundwater supplies.	X			1) **Consistent.** The Project will use reclaimed water for outdoor irrigation, prior to portable water, should a supply be available. Treatment control facilities will be distributed throughout the Project Site at strategic locations to capture stormwater quality flows and, if interim controls are necessary, to meet regulatory hydromodification requirements. During construction and operation of the Project, the Project will comply with adopted regulatory requirements that are designed by the Los Angeles Regional Water Quality Control Board to assure that regional development does not adversely affect groundwater, including SUSMP requirements; General Permit and General Dewatering Permit requirements; and benchmark Basin Plan water quality objectives, California Toxic Rules criteria, and TMDLs.

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Waste Reduction, Reuse, and Recycling					
SW-1. Waste Diversion Goal	1) For the County's unincorporated areas, adopt a waste diversion goal to comply with all state mandates to divert at least 75% of waste from landfill disposal by 2020.	X			1) **Consistent.** The project includes the following features related to waste reduction: • Construction Waste Management. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste, A4.408.1. • Cement Reduction. Comply with the 20-percent cement reduction requirements in Section A4.403.2 • Recycled Content. Comply with the 10-percent recycled content requirements in Section A4.405.3.1 • 2013 CALGreen Tier 1. Comply with at least two elective measures selected from Division 4.4. • Building Maintenance & Operation. At the time of final inspection, prepare an Operations & Maintenance Manual in which meets the requirements in CALGreen Section 4.410.1 In addition, the Project will include a recycling program. The Applicant, in conjunction with the HOA, will develop a community-wide recycling program and design readily available recycling area(s)

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Waste Reduction, Reuse, and Recycling (continued)					
					within the community clubhouse identified for the depositing, storage and collection of non-hazardous materials for recycling to include a minimum of paper, corrugated cardboard, glass, plastics, and metals or meet a lawfully enacted local recycling ordinance if more restrictive. Onsite landscaping clippings will be utilized as mulch within the community common area landscaping and agricultural vineyards and orchards as appropriate and to design recycling stations within into all residential units to include a minimum of paper, corrugated cardboard, glass, plastics, and metals or meet a lawfully enacted County recycling ordinance if more restrictive.
Land Conservation and Tree Planting					
LC-1. Develop Urban Forests	1) Support and expand urban forest programs within the unincorporated areas.	X			1) **Consistent.** The Project is a proposed residential community. The implementation of this emissions reduction strategy is primarily dependent on the Los Angeles County Fire Department's (LACoFD) efforts to: (a) conduct a tree inventory to identify tree-deficient neighborhoods and target those areas for tree distribution and planting, (b) support implementation of the tree

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Land Conservation and Tree Planting (continued)					
					planting requirements for new developments, consistent with the County's Green Building Ordinance, and (c) prioritize drought-tolerant, native, and non-flammable trees to support water conservation efforts, etc. (CCAP, p. C-18.) The Project will further the implementation of this strategy by planting more than 2,000 new trees on the Project Site.
LC-2. Create New Vegetated Open Space	1) Restore and revegetate previously disturbed land and/or unused urban and suburban areas.	X			1) **Consistent.** The majority of the Project Site was mass graded as part of grading activities that occurred in 2006-2008. To minimize Project site grading, existing pads will be used to the extent feasible. The Project Site plan emphasizes the protection of open space and undisturbed connections to these adjoining areas by retaining in a natural condition approximately 123.25 acres of land primarily located adjacent to existing offsite open space areas located to the north and northeast, contiguous to existing undeveloped ridgelines, and along the westerly ridgeline and areas further to the west on the Project Site in areas contiguous with undeveloped land to the west. The Barcelona Road

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	
Land Conservation and Tree Planting (continued)					
					extension would cross the secondary portion of the westerly ridgeline, but would not cross the primary portion of the ridgeline. A variance is being requested to authorize construction in portions of the easterly ridgeline that have already been substantially graded and in the remaining, disconnected portions of the secondary ridgeline.
LC-3. Promote the Sale of Locally Grown Foods and/or Products	1) Establish local farmers markets and support locally grown food.	X			**1) Consistent.** Approximately 8.4 acres of vineyards or other productive agricultural uses will be provided on the Project Site. Incorporation of innovative agricultural practices that conserve resources and promote sustainability, such as drip irrigation, hydroponics, and composting will be explored. **Community Outdoor Kitchen.** A simple outdoor kitchen will be provided for the Los Valles community with places designed for community gatherings. Some possible uses for the outdoor kitchen could be cooking demonstrations, jam making, canning preserves, and winemaking.
LC-4. Protect Conservation Areas	1) Encourage the protection of existing land conservation areas.	X			1) **Consistent**. The Project will maintain approximately 123.25 acres as natural open space.

Measure	Goal	Measure Applicability			Consistency Status
		Applicable	Consistency Pending	Not Applicable	

Source: Impact Sciences December 2015

Abbreviations:
CCAP: Community Climate Action Plan
CEC: California Energy Commission

Los Angeles (LA) County Agencies:
DPW: Department of Public Works
DRP: Department of Regional Planning
ISD: Internal Services Department
LACoFD: LA County Fire Department

As demonstrated in Table 5.7-3, the Project is consistent with the CCAP as it would implement many of the policies the County has outlined as important to reducing GHG emissions in the unincorporated areas. The Project includes numerous features (described in this section and in **Section 4.0 Project Description**) that aim to both increase efficiency and reduce GHG emission. The following measures would increase building efficiency:

- Buildings will be oriented to optimize solar access, passive and active design techniques and cross breezes through the buildings.[53]
- Solar Photovoltaics (PV) systems are to be installed in the common areas and Clubhouse structure to help offset Project energy use.
- Tree canopy cover, light colored paving, and roofing materials will be used to reduce heat island effect.
- All residential dwellings shall be designed and constructed to be a minimum of 15 percent better than the 2013 Energy Code.
- The Clubhouse will be designed and constructed to meet zero net electric[54] by incorporating passive solar techniques, high efficiency technologies, ENERGY STAR appliances, solid state LED adaptive lighting; coupled with solar PV to offset electrical loads.
- The Project will go beyond the conservation and efficient use of water by utilizing a watershed approach and recognizing the underlying groundwater aquifers in the Project design.
- The Project Applicant will develop Solar Energy CC&Rs to protect solar access throughout the community in perpetuity.
- Each builder shall be required to build and demonstrate at least one model at each model complex, a Zero Net Energy (ZNE-TDV[55]) option to potential homebuyers. This is to be consistent with 2013 Title 24, Part 6, Tier 2; 30 percent better than the 2013 energy code and install enough solar photovoltaic (PV) panels to offset 100 percent of the energy load over 12 months. [Note: This ZNE-TDV Tier is expected to be part of the 2016 CALGreen Residential Voluntary Measures; Division A4.2 Energy Efficiency.]

Further, project design features (PDFs) provided in detail in **Section 5.5 Energy** would help to increase energy efficiency and meet the 2013 Title 24 standards.

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53 LA County General Plan Policy LU 10.3.

54 Zero net energy (ZNE) electric means the building will be designed and constructed to generate as much energy from renewable sources, such as solar photovoltaic (PV) panels as us uses over 12 months.

55 Zero Net Energy – Time Dependent Valuation.

As discussed above vehicle trips to and from the Project Site would be the largest source of GHG emissions. The Project Site is located near the I-5 freeway, services, and jobs which would help to avoid vehicle trips and VMT. The Project includes the following measures to reduce VMT:

- Nearby freeway access and adjacency to services and jobs helps to avoid vehicle trips and vehicle miles travelled.
- A bus stop is located within a ¼ mile of the Project Site. Trails provide additional alternatives to auto travel.
- Project streets are designed to be safe and integrate a network of roadways and connector trails for a walkable community. Sidewalks, on-street parking, tree canopies, curbs and gutters, narrower intersections with smaller radii are some of the Project's healthy walkable street features. A public park and seven secondary parks provide opportunities for outdoor activity. Vineyards and orchards can be accessed by foot and provide local food.
- Bicycle Parking would be provided for five percent of visitor parking spaces, including permanently anchored bicycle racks that would be provided within 200 feet of the visitors' entrance of the Clubhouse.
- Electric Vehicle (EV) Charging
    - Clubhouse. The Project will install at least one electric vehicle charging station at the Clubhouse, and comply with CALGreen Sections 4.106.4.1, 4.106.4.2.2 through and 4.106.4.2.5, to facilitate future installation and use of EV chargers. Electrical vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.
    - Residential Dwelling Units. For each dwelling unit, the Project will install a listed raceway to accommodate a dedicated 208/240-volt branch circuit and comply with CALGreen Section 4.106.4.1 and Section 4.106.4.2.2. The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box, or other EV charger. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. Compliance will include the Prerequisite electric vehicle (EV) charging requirements in Section A4.106.8.

Further, the Project is consistent with the County's Healthy Design Ordinance, which the County recognizes as one means for reducing VMT.

The Project includes numerous features that increase building efficiency and reduce VMT, and as the Project is consistent with local plans aimed at reducing GHG emissions (specifically the Los Angeles County CCAP, the Healthy Design Ordinance and SCAG's SCS), the Project would not generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. Impact would be less than significant.

Quantification of Project Emissions

Construction Related Emissions

The construction activities required to facilitate buildout of the Project would include the use of heavy-duty construction equipment. The vast majority of construction equipment (e.g., backhoes, cranes, rubber-tired loaders, scrapers, and haul trucks) rely on fossil fuels, primarily diesel, as an energy source. The combustion of fossil fuels in construction equipment results in GHG emissions of CO_2 and much smaller amounts of CH_4 and N_2O. Emissions of GHG would also result from the combustion of fossil fuels from haul trucks and vendor trucks delivering materials, and construction worker vehicles commuting, to and from the Project Site. Typically, light-duty and medium-duty automobiles and trucks would be used for worker trips and heavy-duty trucks would be used for vendor trips. The vast majority of motor vehicles used for worker trips rely on gasoline as an energy source while motor vehicles used for vendor trips rely on diesel as an energy source. The combustion of gasoline and diesel in motor vehicles results in GHG emissions of CO_2 and smaller amounts of CH_4 and N_2O.

The Project would result in short-term emissions of GHGs during construction, that is, the emissions would occur only during active construction and would cease after the Project is built. The other primary GHGs (hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) are typically associated with specific industrial sources and would not be emitted by the Project during construction. The construction emissions of GHGs were estimated using the CalEEMod model.

Construction activity was modeled based on the construction schedule provided by the Applicant, and equipment types and activity levels provided as defaults in CalEEMod. **Table 5.7-4, Estimated Construction Greenhouse Gas Emissions**, lists the estimated GHG emissions associated with construction of the Project for all construction phases (including construction of off-site improvements). The SCAQMD recommends annualizing construction-related GHG emissions over a project's lifetime, defined as a 30-year period, in order to include these emissions as part of the annual total operational emissions. Therefore, construction-related GHG emissions have been annualized over this period and included in the annual operational emissions discussed in the next section.

Table 5.7-4
Estimated Construction Greenhouse Gas Emissions (Metric Tons CO_2e/year)

Construction Activity	Off-Road Equipment Emissions	On-Road Vehicle Emissions			Total Emissions
		Hauling	Vendor	Worker	
On-Site					
Grading	4,494	1,174	0	128	5,796
Trenching	100	0	0	9	109
Paving	704	0	0	33	2,175
Building Construction	998	0	440	737	234
Architectural Coating	100	0	0	134	5,796
Off-Site Pipeline					
Grading/Trenching	59	0	0	10	69
		One-Time Total GHG Emissions			**9,120**
		Annualized over Project Lifetime*			**304**

Source: Impact Sciences, Inc. (2015). Emission calculations are provided in ***Appendix 5.7-1***
Totals in table may not appear to add exactly due to rounding.
** Project lifetime is defined as 30 years.*

Operational Related Emissions

The Project would be operational by 2023, although as mentioned above, operational emissions were conservatively analyzed for the year 2020. Once operational, the Project would result in GHG emissions, primarily CO_2, CH_4, and N_2O, as a result of fuel combustion from building heating systems and motor vehicles. Building and motor vehicle air conditioning systems may use HFCs (and hydrochlorofluorocarbons (HCFCs) and chlorofluorocarbons (CFCs) to the extent that they have not been completely phased out at later dates); however, these emissions are not quantified since they would only occur through accidental leaks. It is not possible to estimate the frequency of accidental leaks without some level of speculation.

Direct emissions of CO_2 emitted from operation of the Project include area source emissions and mobile source emissions. These sources are described below, as well as details of the methodology used to calculate emissions from each source. Also included is a discussion of the proposed vegetation planting and associated carbon sequestration.

Area Sources

Area sources in CalEEMod consist of direct sources of air and GHG emissions, which include emissions from hearths (natural gas fireplaces[56]) and landscape maintenance equipment. GHG emissions due to natural gas combustion in buildings other than from fireplaces are not included in area source emissions since they are included in the emissions associated with building energy use (discussed below).

56 Wood-burning fireplaces and stoves are largely prohibited in the South Coast Air District as of March 9, 2009. Rule 445.

The GHG emissions for the Project and CARB 2020 NAT scenario were calculated using CalEEMod defaults based upon the land uses that would be part of these developments, except as noted below.

- All cooking stoves and fireplaces were assumed to be natural gas burning, based on SCAQMD Rule 445.

Energy Use

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO_2 and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. Table 7 in **Appendix 5.7-1** lists the emission factors for electricity used in this analysis and the calculation methodology. Climate Zone 9 was selected based on the CEC forecast climate zone map shown in the CalEEMod User's Guide. Project emissions were calculated using a Southern California Edison (SCE) emission factor that accounts for the 33 percent RPS required by 2020, as discussed in the appendix**.** The adjusted SCE emission factor is based on the mix of renewable and non-renewable sources in SCE's energy supply. With this data, the SCE emission factor is adjusted to represent what the emissions from SCE would be in 2020 assuming that the 33 percent RPS is met.

Energy use in buildings is divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as in plug-in appliances. In California, Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting.[57] Non-building energy use, or "plug-in" energy use, can be further subdivided by specific end-use (refrigeration, cooking, office equipment, etc.).

CalEEMod was used to calculate the non-residential energy use by calculating baseline energy usage from systems covered by Title 24. To calculate the building energy input for the Project (e.g., electricity and natural gas), ENVIRON utilized default values provided in CalEEMod, which are based on the California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey (RASS).[58] The Project's energy use also reflects the Project's design feature requirement to construct buildings that are consistent with the 2013 Title 24 Part 6 Building Code, which is reflected in the model as 25 percent more energy efficient than the 2008 Title 24 Part 6 Building Code.[59]

The Project's energy use is calculated assuming that all major appliances (e.g., refrigerators, dishwashers, clothes washers, and fans) installed in the residential homes would be Energy Star appliances, and "high efficacy" Energy

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57 Title 24, Part 6, of the California Code of Regulations: California's Energy Efficiency Standards for Residential and Nonresidential Buildings. http://www.energy.ca.gov/title24/.

58 A detailed explanation how the RASS and CEUS data was processed for use in CalEEMod is available in CalEEMod User's Guide Appendix E pages 27-32.

59 The Title 24 2013 Building Energy Efficiency Standards are pending. Available at: http://www.energy.ca.gov/title24/2013standards/rulemaking/documents/2013_Building_Energy_Efficiency_Standards_FAQ.pdf. Accessed: February, 2014.

Star lighting fixtures and lights would be installed. The Energy Star energy reduction estimates for the appliances are based on the CalEEMod defaults for Energy Star appliances. The "high efficacy" lighting reduction is assumed to be 75 percent based on Energy Star ratings.[60, 61] CalEEMod converts the resulting energy use quantities to GHG emissions by multiplying by the utility emission factors obtained by incorporating information on local electricity production and the 33 percent RPS for the Project.

The CARB 2020 NAT scenario assumes 2005 Title 24 standards to estimate the energy intensity values, no Energy Star commitments, and default emission factors for each utility for the local electricity production. For the CARB 2020 NAT scenario, the CalEEMod default CO_2 intensity factor is used, which does not account for the 33 percent RPS.

Water Supply, Treatment and Distribution

Indirect GHG emissions result from the production of electricity used to convey, treat, and distribute water and wastewater. The amount of electricity required to convey, treat, and distribute water depends on the volume of water as well as the sources of the water. Additional emissions from wastewater treatment include CH_4 and N_2O, which are emitted directly from the wastewater. Stetson Engineers provided water usage estimates for the Project. The water usage was conservatively assumed to be equal to the "dry year" estimate, which has a higher annual water demand compared to "normal year" water usage.[62]

The water demand estimate for the CARB 2020 NAT scenario were estimated based on the Project's water demand estimates and the assumption that the CALGreen water efficiency measures were not in place. CALGreen requires that indoor potable water use would be reduced by 20 percent through the use of water saving fixtures and or flow restrictors.[63] Thus, the CARB 2020 NAT scenario water usage was estimated by dividing the Project's water demand estimate by 0.80.

In addition, ENVIRON used CalEEMod default assumptions for average embodied energy[64] for Southern California, which are based on analyses by the California Energy Commission. ENVIRON assumed CalEEMod defaults for the embodied energy for wastewater treatment. The CARB 2020 NAT scenario wastewater treatment included the same assumptions as the Project (i.e., default CalEEMod assumptions). The GHG emissions associated with energy use from water supply, treatment and distribution for the Project analysis is based on the utility emission factors and the 33 percent RPS for the Project. The CARB 2020 NAT scenario is based on the CalEEMod default CO_2 intensity factor, which does not account for the 33 percent RPS.

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60 US Department of Energy, 2013. Lighting Choices to Save You Money. Available at: http://energy.gov/energysaver/articles/lighting-choices-save-you-money. Accessed: February, 2014.

61 Energy Star. Residential Light Fixtures. Available at: http://www.energystar.gov/index.cfm?c=fixtures.pr_ light_fixtures. Accessed: February, 2014.

62 Stetson Engineers, 2014. Water Supply Assessment for Los Valles. February 6.

63 CSBC, 2010. 2010 California Green Building Standards. 4.303.1. Available at: http://www.documents.dgs.ca.gov/bsc/calgreen/2010_ca_green_bldg.pdf. Accessed: March, 2014.

64 Embodied energy refers to the amount of energy that was used in delivering water to the specific land use.

Solid Waste

Municipal solid waste (MSW) is the amount of material that is disposed of by landfilling, recycling, or composting. CalEEMod calculates the indirect GHG emissions associated with waste that is disposed of at a landfill. The model uses annual waste disposal rates from CalRecycle data for individual land uses. The emission estimates for this Project were based on CalEEMod default factors. CalEEMod uses the overall California Waste Stream composition to generate the necessary types of different waste disposed into landfills. The model quantifies the GHG emissions associated with the decomposition of the solid waste, which generates methane based on the total amount of degradable organic carbon. The program quantifies the CO_2 emissions associated with the combustion of methane, if applicable. Default landfill gas concentrations were used as reported in Section 2.4 of the US EPA AP-42. The IPCC has a similar method to calculate GHG emissions from MSW in its 2006 Guidelines for National Greenhouse Gas Inventories.

The analysis assumes that additional solid waste generated during operation of the Project would be diverted from landfills by a variety of means, such as reducing the amount of solid waste generated, recycling, and/or composting to meet the statewide goal of 75 percent waste diversion.[65] The remainder of the waste not diverted would be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. The CalEEMod solid waste module determines the GHG emissions associated with the disposal of solid waste into landfills, in quantities that are based upon land use type according to waste disposal studies conducted by CalRecycle. For this module, CalEEMod default waste generation rates were used since site-specific information was not available. GHG emissions associated with non-landfill diverted solid waste streams are not considered, because it is generally assumed that these diversions do not result in any appreciable amounts of GHG emissions when operated effectively.[66] These solid waste diversion alternatives may result in differences in life-cycle emissions of GHGs, but it is not appropriate to combine life-cycle emissions for only one category of emissions.[67] As mentioned previously, biogenic CO_2 emissions were not included when CARB analyzed the GHG emissions inventory under AB 32. Therefore, they are not included in the Project's emissions inventory.

The CARB 2020 NAT scenario assumes a solid waste diversion from the landfills consistent with what was occurring prior to the passing of AB 32. Conservatively, this was assumed as 54 percent,[68] the waste diversion rate reported for the unincorporated regions of Los Angeles County in the year 2006.

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65 CalRecycle, 2013. California's 75 Percent Initiative. Available at: http://www.calrecycle.ca.gov/75percent/. Accessed: March, 2014.

66 CARB. 2010. Local Government Operations Protocol. Chapter 9.4.

67 This inventory represents scope 1 and 2 emission categories. A life-cycle analysis of waste diversion would be a scope 3 inventory. CARB's Local Government Operations Protocol Version 1.1 (May 2010) clearly states that scope 3 emissions should not be combined with scope 1 and 2 emissions.

68 CalRecycle. 2006. Santa Clarita Jurisdiction Diversion / Disposal Rate Detail, Available at: http://www.calrecycle.ca.gov/LGCentral/reports/diversionprogram/JurisdictionDiversionDetail.aspx?JurisdictionID=468&Year=2006. Accessed: March, 2014.

Mobile Source Emissions

GHG emissions would be generated as a result of motor trips associated with Project operation. The emissions associated with on-road mobile sources include running and starting exhaust emissions. The assumptions used in determining these values are described below. All of the other emissions are dependent on vehicle miles traveled (VMT). ENVIRON estimated traffic emissions using the trip rates specified in the Traffic Study[69] and CalEEMod methodology.

The analysis includes the benefit of reductions from the regulatory programs such as Pavley, LCFS, and Advance Clean Cars. AB 1493 (the Pavley Standard) required CARB to adopt regulations by January 1, 2005, to reduce GHG emissions from non-commercial passenger vehicles and light-duty trucks of model year 2009 and thereafter. The CalEEMod model includes emission reductions for non-commercial passenger vehicles and light-duty trucks of model year 2017 – 2025. Executive Order S-01-07 (January 18, 2007) requires a 10 percent or greater reduction in the average fuel carbon intensity for transportation fuels in California regulated by CARB. The regulation went into effect on April 15, 2010, and requires a reduction in the carbon intensity of transportation fuels used in California by at least 10 percent by 2020. It imposes fuel requirements on fuel that is sold in California, which would decrease GHG emissions, by reducing the full fuel-cycle, and the carbon intensity of the transportation fuel pool in California. Reductions due to Low Carbon Fuel Standards were further applied to CO_2 emission factors after adjustments from Pavley I for scenario years 2011 and after. This is also included in the CalEEMod model. The Advanced Clean Cars program, introduced in 2012, combines the control of smog, soot causing pollutants and greenhouse gas emissions into a single coordinated package of requirements for model years 2015 through 2025. This regulation has not been incorporated into CalEEMod, and thus an estimate of the GHG emission reductions from the Advanced Clean Cars program was developed separately. The emission factors were adjusted for the Advanced Clean Cars regulation based on the CARB's LEV III database model (LEV3 Tool), which was used to estimate the statewide Advanced Clean Cars emissions reduction factors for 2020.[70] The Advanced Clean Cars emission reduction factors were incorporated into the analysis by multiplying the CalEEMod emission factors by the Advanced Clean Cars emission reduction factors for the Project's emissions inventory.

The CARB 2020 NAT scenario assumes that the Pavley, LCFS regulations, and Advanced Clean Car Program are not in place.

Vegetation

Permanent vegetation changes that occur as a result of project development constitute a one-time change in the carbon sequestration capacity of a Project Site. In this case, undeveloped land would be converted to different land uses with landscaped areas with trees. This would result in an overall carbon reduction, or sequestration, once the

69 Linscott Law & Greenspan Engineers, 2014. Traffic Impact Study. January 16.

70 Available at: http://www.arb.ca.gov/msei/categories.htm#onroad_motor_vehicles. Accessed: March, 2014.

vegetation reaches a steady state of growth (i.e., new vegetation replaces dying vegetation). Consequently, vegetation growth results in a reduction of GHG emissions.

CalEEMod was used to calculate GHG sequestration associated with the planting of new trees at the Project Site, as according to the IPCC protocol for vegetation. The overall change in sequestered CO_2e can be estimated with this equation.[71]

$$\text{Overall Change in Sequestered } CO_2 = \sum_i ((SeqCO_2)_i \times area_i) - \sum_j ((SeqCO_2)_j \times area_j)$$

Where:

$SeqCO_2$ = mass of sequestered CO2 per unit area [MT CO_2e/acre]
area = area of land for specific land use type [acre]
i = index for final land use type
j = index for initial land use type

The overall change in sequestered CO_2 is the summation of sequestered CO_2 from initial land use type multiplied by area of land for initial land use type subtracted by the summation of sequestered CO_2 from final land use type multiplied by area of land for final land use type. There is reduction in GHG emissions associated with preservation of land. The increase in vegetation results in carbon sequestration. A specific list of species of trees to be planted is not known at this time. However, the general landscape plan for the Project describes a citrus grove and agricultural vineyard. In addition, the existing vegetation being removed and new vegetation added as part of the Project is accounted for. Only one oak tree, which is protected by the County of Los Angeles Oak Tree Ordinance (CLAOTO), would be removed during the construction phase. The oak tree was identified during the Project surveys that included an evaluation of all trees with trunk diameters of 5 inches or more, measuring at breast height as required under Public Resources Code Section 21083.4(a). As a conservative approach, this analysis assumes 30 trees would be removed from the Project Site. Using this conservative estimate, the Project is estimated to include 2,721 net new trees, including 491 citrus trees, which are a feature of the Project. These citrus trees are not included in the CARB 2020 NAT scenario. The greater number of trees under the Project results in higher CO_2 sequestration.

A summary of the operational emissions of the Project in comparison to CARB 2020 NAT scenario is provided below in **Table 5.7-5, Estimated Operational GHG Emissions**. Detailed emission calculations are provided in **Appendix 5.7-1**.

71 SCAQMD, 2013, California Emissions Estimator Model User's Guide, Appendix A, pages 45-48. Version 2011.2.2. Available at: http://www.CalEEMod.com/. Accessed: February, 2014.

Table 5.7-5
Estimated Project Operational GHG Emissions

Source	GHG Emissions: 2020 Project (Metric Tons CO_2e/year)	GHG Emissions: CARB 2020 NAT (Metric Tons CO_2e/year)	Percent Change from NAT
Area	116	116	0%
Energy Use	1,308	**1,972**	-34%
Water Use	691	1,007	-31%
Waste Disposed	72	132	-46%
Mobile	6,382	8,215	-22%
Subtotal	**8,570**	**11,442**	**-25%**
Construction annualized	304	304	0%
Vegetation annualized	-381	-371	3%
Total	**8,494**	**11,375**	**-25%**

*Source: ENVIRON (2014). Emission calculations are provided in **Appendix 5.7**-1*
Note: Totals in table may not appear to add exactly due to rounding.

As described above, the determination of impacts is based on a comparison of the Project's GHG emissions inventory to the GHG emissions that would occur from the same level of development at the Project Site that would be built without the project design features commitments made by the Project and without the regulations that have been promulgated to comply with AB 32 (i.e., the CARB 2020 NAT scenario). The CARB 2020 NAT scenario represents the GHG emission inventory if projects continued to be built according to standards at the time AB 32 was enacted, and was the scenario that the CARB used to estimate the percentage reduction in GHG emissions required to return the state's GHG emissions to 1990 levels by 2020.

Table 5.7-5 shows total GHG emissions for construction and operation of the Project and the CARB 2020 NAT scenario. For the Project, the estimated GHG emissions are 8,494 $MTCO_2e$ per year and for the CARB 2020 NAT scenario, the estimated GHG emissions are 11,375 $MTCO_2e$ per year. The Project was estimated to result in a 25 percent reduction from the associated CARB 2020 NAT scenario as shown above in **Table 5.7-5**. The Project takes into account the Project's commitments and changes due to implementation of the RPS of 33 percent, the Pavley regulation mandating higher fuel efficiency standards for light-duty vehicles, LCFS, and the Advanced Clean Cars program.

Threshold 5.7-2: Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Due to the complex physical, chemical, and atmospheric mechanisms involved in global climate change, there is no basis for concluding that the Project's GHG emissions would actually cause a measurable increase in global GHG emissions necessary to influence global climate change. Newer construction materials and practices, current energy efficiency requirements, and newer appliances tend to emit lower levels of air pollutant emissions,

including GHGs, as compared to those built years ago; however, the net effect is difficult to quantify. Thus, the estimated net increase in emissions resulting from implementation of the Project presented above may be an over- or underestimation. The GHG emissions of the Project alone would not likely cause a direct physical change in the environment.

According to CAPCOA, "GHG impacts are exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective."[72] It is global GHG emissions in their aggregate that contribute to climate change, not any single source of GHG emissions alone. However, given 1) the lack of evidence indicating that those emissions would cause a measurable increase in global GHG emissions necessary to exacerbate global climate change and 2) the fact that the Project incorporates physical and operational Project characteristics and Project Design Features that would reduce potential GHG emissions to a less-than-significant level, the Project is considered not to conflict with the GHG reduction goals of AB 32.

As discussed previously, the Project incorporates numerous design features that would reduce GHG emissions by increasing energy-efficiency beyond requirements, reducing indoor and outdoor water demand, and use of energy-efficient appliances and equipment. The Project would also incorporate characteristics that would reduce transportation-related GHG emissions by locating Project-related residential uses near complementary commercial uses and within one-quarter mile of transit, thereby encouraging alternative forms of transportation and pedestrian activity.

As discussed above, the County's Green Building Standards Code (Title 31) incorporates by reference CAL Green. Title 31 provides the County with local control and regulation of the CAL Green Code, and requires that new buildings be environmentally responsible by reducing water consumption, employing building commissioning to increase building system efficiencies, diverting construction waste from landfills, and installing low pollutant-emitting finish materials.

Chapter 12.84 of the Los Angeles County Municipal Code includes the Low Impact Development (LID) Standards. The purpose of LID is to lessen the adverse impacts of stormwater runoff from development and urban runoff on natural drainage systems, receiving waters and other water bodies. In order to comply with LID Standards projects are required to incorporate properly designed, technically appropriate BMPs and other LID strategies. LID is a land-use planning approach that incorporates "green infrastructure" concepts such as zero runoff, rainfall harvesting, groundwater recharge, biofiltration, native landscapes, green streets, and other measures to promote water quality protection in new development. The goal of LID is to protect a community's natural, pre-development water flow in order to minimize ecological impacts from urbanization. Currently, all new

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72 California Air Pollution Control Officer's Association, CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act, January 2008.

development and redevelopment under the jurisdiction of the County is required to meet LID requirements, and LID is therefore applicable to the Project.[73]

Consistency with GHG reduction strategies is an important priority, and reasonable reduction efforts should be taken. As discussed previously in Table 5.7-5, the Project is consistent with the applicable GHG reductions strategies and local actions in the Los Angeles County CCAP. Additionally, the Project is consistent with GHG reduction measures from other applicable plans. **Table 5.7-6**, **Consistency with Applicable Greenhouse Gas Reduction Strategies**, contains a list of GHG-reducing strategies potentially applicable to the Project. The Project-level analysis describes the consistency of the Project with these strategies.

[73] Los Angeles County Department of Public Works, Low Impact Development Standards Manual, February 2014. http://dpw.lacounty.gov/ldd/lib/fp/Hydrology/Low%20Impact%20Development%20Standards%20Manual.pdf.

Table 5.7-6
Consistency with Applicable Greenhouse Gas Reduction Strategies

Source	Category / Description	Consistency Analysis
AB 1493 (Pavley Regulations)	Reduces greenhouse gas emissions in new passenger vehicles from 2012 through 2016. Also reduces gasoline consumption to a rate of 31 percent of 1990 gasoline consumption (and associated GHG emissions) by 2020.	**Consistent.** The Project would be consistent with this regulation and would not conflict with implementation of the vehicle emissions standards.
SB 1368	Establishes an emissions performance standard for power plants within the State of California.	**Consistent.** The Project would be consistent with this regulation and would not conflict with implementation of the emissions standards for power plants.
Low Carbon Fuel Standard	Establishes protocols for measuring life-cycle carbon intensity of transportation fuels and helps to establish use of alternative fuels.	**Consistent.** The Project would be consistent with this regulation and would not conflict with implementation of the transportation fuel standards.
California Green Building Standards Code Requirements	All bathroom exhaust fans shall be ENERGY STAR compliant.	**Consistent.** The Project would utilize energy efficiency appliances and equipment and would exceed the energy standards in ASHRAE 90.1-2007, Appendix G and the Title 24 Building Standards Code.
	HVAC Systems will be designed to meet ASHRAE standards.	**Consistent.** The Project would utilize energy-efficient appliances and equipment and would exceed the energy standards in ASHRAE 90.1-2007, Appendix G and the Title 24 Building Standards Code.
	Air filtration systems are required to meet a minimum of MERV 8 or higher.	**Consistent.** The Project would meet or exceed this requirement as part of its compliance with the County's requirements, the CALGreen Code Residential Mandatory Requirements plus one elective measure from Division 4.5.
	Refrigerants used in newly installed HVAC systems shall not contain any CFCs.	**Consistent.** The Project would meet this requirement as part of its compliance with the County's requirements, the CALGreen Code.
	Parking spaces shall be designed for carpool or alternative fueled vehicles. Up to eight percent of total parking spaces will be designed for such vehicles.	**Consistent.** The Project would meet this requirement as part of its compliance with the County's requirements, the CALGreen Code.
	Long-term and short-term bike parking shall be provided for up to five percent of vehicle trips.	**Consistent.** Permanently anchored bicycle racks will be provided within 200 feet of the visitors' entrance of the Clubhouse and readily visible to passers-by for five percent of new visitor motorized vehicle parking spaces being added, with a minimum of one-two-bike capability
	Stormwater Pollution Prevention Plan (SWPPP) required.	**Consistent.** The Project would meet this requirement.
	Indoor water usage must be reduced by 20% compared to current California Building Code Standards for maximum flow.	**Consistent.** The Project would meet this requirement as part of its compliance with the County's requirements and the CALGreen Code,
	All irrigation controllers must be installed with weather sensing or soil moisture sensors.	**Consistent.** The Project would meet this requirement as part of its compliance with the County's requirements, the CALGreen Code.
	Wastewater usage shall be reduced by 20 percent compared to current California Building Standards.	**Consistent.** The Project would exceed this requirement as part of its compliance with the County's requirements, the CALGreen Code.
	Requires a minimum of 50% recycle or reuse of non-hazardous construction and demolition debris.	**Consistent.** The Project would exceed this requirement and recycle or reuse 65 percent of non-hazardous construction and demolition debris.
	Requires documentation of types of waste recycled, diverted or reused.	**Consistent.** The Project would meet this requirement as part of its compliance with the County's requirements and the CALGreen Code.

Source	Category / Description	Consistency Analysis
	Requires use of low VOC coatings consistent with AQMD Rule 1168.	**Consistent.** The Project would be consistent with this regulation and would meet or exceed the low VOC coating requirements.
	100 percent of vegetation, rocks, soils from land clearing shall be recycled or stockpiled on-site.	**Consistent.** The Project would exceed this requirement as part of its compliance with the City's requirements, the CALGreen Code. The Project would recycle or reuse 65 percent of total non-hazardous construction and demolition debris (including 100 percent of non-hazardous vegetation, rocks, and soils).
Climate Action Team	Reduce diesel-fueled commercial motor vehicle idling.	**Consistent.** The Project would be consistent with the CARB Air Toxics Control Measure (ATCM) to limit heavy duty diesel motor vehicle idling to no more than five minutes at any given time (see Subsection 4.B.2.b(2)(c), in Section 5.3, Air Quality, of this Draft EIR).
	Achieve California's 50 percent waste diversion mandate (Integrated Waste Management Act of 1989) to reduce GHG emissions associated with virgin material extraction.	**Consistent.** The Project would exceed this requirement as part of its compliance with the County's requirements and the CALGreen Code, and recycle or reuse 65 percent of non-hazardous construction and demolition debris. The Project would provide areas for the collection of recyclable materials on the Project Site.
	Plant five million trees in urban areas by 2020 to effect climate change emission reductions.	**Consistent.** The Project would provide appropriate landscaping on the Project Site, including vegetation and trees capable of sequestering carbon.
	Implement efficient water management practices and incentives, as saving water saves energy and GHG emissions.	**Consistent.** The Project would, as part of its compliance with the County's requirements and the CALGreen Code, reduce indoor water usage through efficient water fixtures.
	Reduce GHG emissions from electricity by reducing energy demand. The California Energy Commission updates appliance energy efficiency standards that apply to electrical devices or equipment sold in California. Recent policies have established specific goals for updating the standards; new standards are currently in development.	**Consistent.** The Project would utilize energy-efficient appliances and equipment and would exceed the energy standards in ASHRAE 90.1-2007, Appendix G and the Title 24 Building Standards Code.
	Apply strategies that integrate transportation and land-use decisions, including but not limited to promoting jobs/housing proximity, high-density residential/ commercial development along transit corridors, and implementing intelligent transportation systems.	**Consistent.** The Project would incorporate physical and operational Project characteristics that would reduce vehicle trips and VMT and encourage alternative modes of transportation for residents.
	Reduce energy use in private buildings.	**Consistent.** The Project would utilize energy efficiency appliances and equipment and would exceed the energy standards in, Appendix G and the Title 24 Building Standards Code.
Los Angeles County Green Building Ordinance (Title 31 – Green Buildings Standards Code)	Install a smart irrigation controller and require 65 percent of the landscaped area to use drought-tolerant plant species.	**Consistent.** The Project would meet this requirement as part of its compliance with the County's requirements and the CALGreen Code,
	Achieve 65 percent waste diversion for construction waste.	**Consistent.** The Project would meet this requirement as part of its compliance with the County's requirements and the CALGreen Code, The Project would provide areas for the collection of recyclable materials on the Project Site.
	Minimum of one 15-gallon tree must be planned for every 10,000 feet of developed area.	**Consistent.** The Project would meet this requirement as part of its compliance with the County's requirements.
	Install high efficiency toilets	**Consistent.** The Project would meet this requirement as part of its compliance with the County's requirements and the CALGreen Code,.

Source	Category / Description	Consistency Analysis
Los Angeles County Low Impact Development (LID) Standards	All Designated Projects (required) must retain 100 percent of Stormwater Design Volume on-site through infiltration, evapotranspiration, stormwater runoff harvest, or a combination thereof.	**Consistent.** The Project would implement stormwater BMPs consistent with the County's requirements.

Source: Impact Sciences, 2015.

Since the Project would implement Project Design Features and would incorporate water conservation, energy conservation, tree planting, and other features consistent with the County's Green Building Standards Code, and would be consistent with the applicable greenhouse gas reduction strategies in Table 5.7-6, the Project would not conflict with any applicable plan, policy, or regulation to reduce GHG emissions and impacts would be less than significant.

Consistency with Executive Orders S-3-05 and B-30-15

At the State level, Executive Orders S-3-05 and B-30-15 are orders from the State's Executive Branch for the purpose of reducing statewide GHG emissions. Executive Orders S-3-05's goal to reduce GHG emissions to 1990 levels by 2020 was codified by the Legislature as the 2006 Global Warming Solutions Act (AB 32). As analyzed above, the Project is consistent with AB 32. Therefore, the Project does not conflict with this component of the Executive Orders.

The Executive Orders also establish the goals to reduce GHG emissions to 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. These goals have not yet been codified. However, studies have shown that, in order to meet the 2030 and 2050 targets, aggressive technologies in the transportation and energy sectors, including electrification and the decarbonization of fuel, will be required. In its Scoping Plan, CARB acknowledged that the "measures needed to meet the 2050 are too far in the future to define in detail."[74] In the First Update, however, CARB generally described the type of activities required to achieve the 2050 target: "energy demand reduction through efficiency and activity changes; large-scale electrification of on-road vehicles, buildings, and industrial machinery; decarbonizing electricity and fuel supplies; and rapid market penetration of efficiency and clean energy technologies that requires significant efforts to deploy and scale markets for the cleanest technologies immediately."[75] Due to the technological shifts required and the unknown parameters of the regulatory framework in 2030 and 2050, quantitatively analyzing the Project's impacts further relative to the 2030 and 2050 goals currently is speculative for purposes of CEQA. Moreover, ARB has not calculated and released the BAU emissions projections for 2030 or 2050, which are necessary data points for quantitatively analyzing a CEQA project's consistency with these targets.

Although the Project's emissions levels in 2030 and 2050 cannot yet be reliably quantified, Statewide efforts are underway to facilitate the State's achievement of those goals and it is reasonable to expect the Project's emissions level (8,494 metric tonnes of CO_2e per year) to decline as the regulatory initiatives identified by CARB in the First Update are implemented, and other technological innovations occur.

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74 California Air Resources Board, Climate Change Scoping Plan, December 2008, page 117.

75 California Air Resources Board, First Update to the Climate Change Scoping Plan, May 2014, page 32.

Stated differently, the Project's emissions total at build-out represents the maximum emissions inventory for the Project as California's emissions sources are being regulated (and foreseeably expected to continue to be regulated in the future) in furtherance of the State's environmental policy objectives. As such, given the reasonably anticipated decline in Project emissions once fully constructed and operational, the Project is consistent with the Executive Orders' goals.

The Scoping Plan recognizes that AB 32 establishes an emissions reduction trajectory that will allow California to achieve the more stringent 2050 target: "These [GHG emission reduction] measures also put the State on a path to meet the long-term 2050 goal of reducing California's greenhouse gas emissions to 80 percent below 1990 levels. This trajectory is consistent with the reductions that are needed globally to stabilize the climate."[76] Also, CARB's First Update provides that it "lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050," and many of the emission reduction strategies recommended by CARB would serve to reduce the Project's post-2020 emissions level to the extent applicable by law: [77,78]

- **Energy Sector:** Continued improvements in California's appliance and building energy efficiency programs and initiatives, such as the State's zero net energy building goals, would serve to reduce the Project's emissions level.[79] Additionally, further additions to California's renewable resource portfolio would favorably influence the Project's emissions level.[80]

- **Transportation Sector:** Anticipated deployment of improved vehicle efficiency, zero emission technologies, lower carbon fuels, and improvement of existing transportation systems all will serve to reduce the Project's emissions level.[81]

- **Water Sector:** The Project's emissions level will be reduced as a result of further enhancements to water conservation technologies.[82]

- **Waste Management Sector:** Plans to further improve recycling, reuse and reduction of solid waste will beneficially reduce the Project's emissions level.[83]

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76 CARB, Climate Change Scoping Plan, op. cit, page 15.

77 CARB, First Update to the Climate Change Scoping Plan, op. cit.,page 4. See also id. at pp. 32–33 (recent studies show that achieving the 2050 goal will require that the "electricity sector will have to be essentially zero carbon; and that electricity or hydrogen will have to power much of the transportation sector, including almost all passenger vehicles.")

78 CARB, First Update to the Climate Change Scoping Plan, op. cit., Table 6: Summary of Recommended Actions by Sector, pages 94-99.

79 Ibid., pages 37-39,and 85.

80 Ibid., pages 40-41.

81 Ibid., pages 55-56.

82 Ibid., page. 65.

The Scoping Plan identifies a cap-and-trade program as one of the strategies for California to reduce GHG emissions. According to CARB, a cap-and-trade program will help put California on the path to meet its goal of reducing GHG emissions to 1990 levels by the year 2020 and ultimately achieving an 80 percent reduction from 1990 levels by 2050. Under cap-and-trade, an overall limit on GHG emissions from capped sectors is established, and facilities subject to the cap will be able to trade permits to emit GHGs within the overall limit.

CARB adopted a California Cap-and-Trade Program pursuant to its authority under AB 32. The Cap-and-Trade Program is designed to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020. The statewide cap for GHG emissions from the capped sectors (e.g., fuels, electricity generation, petroleum refining, and cement production) commenced in 2013 and will decline over time, achieving GHG emission reductions throughout the program's duration. The Cap-and-Trade Program provides a firm cap, ensuring that the 2020 statewide emission limit will not be exceeded. An inherent feature of the Cap-and-Trade program is that it does not guarantee GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are only guaranteed on an accumulative basis. The Cap-and-Trade Program will achieve aggregate, rather than site-specific or project-level, GHG emissions reductions. Also, due to the regulatory architecture adopted by CARB in AB 32, the reductions attributed to the Cap-and-Trade Program can change over time depending on the State's emissions forecasts and the effectiveness of direct regulatory measures.

As of January 1, 2015, the Cap-and-Trade Program covered approximately 85 percent of California's GHG emissions.

While the 2020 cap would remain in effect post-2020,[84] the Cap-and-Trade Program is not currently scheduled to extend beyond 2020 in terms of additional GHG emissions reductions. However, ARB has expressed its intention to extend the Cap-and-Trade Program beyond 2020 in conjunction with setting a mid-term target. The "recommended action" in the First Update to the Scoping Plan for the Cap-and-Trade Program is: "Develop a plan for a post-2020 Cap-and-Trade Program, including cost containment,

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83 Ibid.,page 69.

84 California Health & Safety Code § 38551(a) ("The Statewide greenhouse gas emissions limit shall remain in effect unless otherwise amended or repealed.").

to provide market certainty and address a mid-term emissions target."[85] The "expected completion date" for this recommended action is 2017.[86]

In addition to CARB's First Update, in January 2015, during his inaugural address, Governor Jerry Brown expressed a commitment to achieve "three ambitious goals" that he would like to see accomplished by 2030 to reduce the State's GHG emissions: (1) increasing the State's Renewable Portfolio Standard from 33 percent in 2020 to 50 percent in 2030, (2) cutting the petroleum use in cars and trucks in half, and (3) doubling the efficiency of existing buildings and making heating fuels cleaner.[87] These expressions of Executive Branch policy may be manifested in adopted legislative or regulatory action through the State agencies and departments responsible for achieving the State's environmental policy objectives, particularly those relating to global climate change.

Further, recent studies shows that the State's existing and proposed regulatory framework can allow the State to reduce its GHG emissions level to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Even though these studies did not provide an exact regulatory and technological roadmap to achieve the 2030 and 2050 goals, they demonstrated that various combinations of policies could allow the Statewide emissions level to remain very low through 2050, suggesting that the combination of new technologies and other regulations not analysed in the study could allow the State to meet the 2030 and 2050 targets.[88]

For the reasons described above, the Project's post-2020 emissions trajectory is expected to follow a declining trend, consistent with the establishment of the 2030 and 2050 targets.

As described above, the County adopted the CCAP in August 2015 and the Project is consistent with the CCAP. The County of Los Angeles has adopted Title 31 of the Municipal Code, the Green Building Standards Code. The Green Building Standards Code requires new residential projects to reduce use of

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85 CARB, First Update to the Climate Change Scoping Plan, op. cit,.page 98.

86 Ibid.

87 Transcript: Governor Jerry Brown's January 5, 2015, Inaugural Address, www.latimes.com/local/political/la-me-pc-brown-speech-text-20150105-story.html#page=1. Accessed March 2, 2015.

88 Energy and Environmental Economics (E3), "Summary of the California State Agencies' PATHWAYS Project: Long-term Greenhouse Gas Reduction Scenarios," April 2015; Greenblatt, Jeffrey, Energy Policy, "Modeling California Impacts on Greenhouse Gas Emissions," Vol. 78, pages 158-172. The California Air Resources Board, California Energy Commission, California Public Utilities Commission, and the California Independent System Operator engaged E3 to evaluate the feasibility and cost of a range of potential 2030 targets along the way to the state's goal of reducing GHG emissions to 80% below 1990 levels by 2050. With input from the agencies, E3 developed scenarios that explore the potential pace at which emission reductions can be achieved as well as the mix of technologies and practices deployed. E3 conducted the analysis using its California PATHWAYS model. Enhanced specifically for this study, the model encompasses the entire California economy with detailed representations of the buildings, industry, transportation, and electricity sectors.

water by instigating Low Impact Development (LID) techniques including reducing turf area, planting drought-tolerant plants, and irrigating appropriately. A minimum of 65 percent of non-hazardous construction solid waste must be diverted. The Project would plant drought-tolerant plants and irrigate appropriately to reduce waste of water as well as divert a minimum of 65 percent of construction waste. The reduction in GHG emissions from following these protocols would be minimal.

The goal of AB 32 is to reduce statewide GHG emissions to 1990 levels by 2020. In order to achieve the state mandate of AB 32, CARB has been tasked with implementing statewide regulatory measures to reduce GHG emissions from all sectors. Other state agencies and offices have offered guidance documents and recommended measures for reducing GHG emissions from land use developments. The potentially applicable regulatory schemes that may be used to address general compliance with this threshold include the following:

- California Air Resources Board, AB 32 Climate Change Scoping Plan, (2008)
- California Air Pollution Control Officer's Association, CEQA and Climate Change, (2008)
- California Climate Action Team, 2006 Climate Action Team Report to the Governor and Legislature and 2007 Updated Macroeconomic Analysis of Climate Change Strategies, (2006, 2007)
- Office of Planning and Research, Technical Advisory, CEQA and Climate Change, (2008)
- Attorney General's Office, Addressing Climate Change at the Project Level, (2010)

In December 2008, CARB adopted the Scoping Plan, which details strategies to meet that goal. The Scoping Plan instructs local governments to establish sustainable community strategies to reduce GHG emissions associated with transportation, energy, and water, as required under Senate Bill 375. Planning efforts that lead to reduced vehicle trips while preserving personal mobility should be undertaken in addition to programs such as employee transit incentives, telework programs, car sharing, parking policies, public education programs and other strategies that enhance and complements land use and transit strategies. The Climate Change Scoping Plan also recommends energy-efficiency measures in buildings such as maximizing the use of energy-efficient appliances and solar water heating as well as complying with green building standards that result in decreased energy consumption compared to Title 24 building codes. In addition, the Scoping Plan encourages the use of renewable sources of energy to provide clean energy and reduce fossil-fuel based energy. The Project would construct buildings to comply with energy efficiency standards, install energy efficient lighting, and appliances where applicable, numerous other efficiency features are provided above. This would be in compliance with the Scoping Plan.

The other guidance documents provided by the California Air Pollution Control Officer's Association (CAPCOA), California Climate Action Team (CCAT), OPR, and the Attorney General's Office provide a range of project design standards and mitigation measures to reduce GHG emissions. These include design standards and measures that reduce dependency on automobiles and vehicle miles traveled, reduce dependency on fossil-fuel based sources of energy, require the use of energy and water efficient appliances, require water efficient landscaping, and require reductions in waste generation and disposal. As mentioned above, drought-tolerant plants would be a part of the landscape plan and the watering system would be automated to reduce waste of water. The layout of the Project would encourage pedestrian, bicycle, and equestrian use along trails and streets in the vicinity. This would be in compliance with the design standards and measures described above.

As detailed above, the Project would minimize energy and water use in compliance with the County of Los Angeles Green Building Standards Code and meet the AB 32 emission reduction targets and consequently conforms to the requirements of AB 32. Therefore, the Project would not conflict with any applicable plan, policy, or regulation adopted to regulate GHG and the impact would be less than significant.

5.7.3 CUMULATIVE IMPACTS

The emissions of a single project will not cause or exacerbate global climate change. It is possible that a substantial increase in GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change. CEQA requires that lead agencies consider evaluating the cumulative impacts of GHGs from even relatively small (on a global basis) increases in GHG emissions. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and therefore significant. A cumulatively considerable impact is the impact of a project in addition to the related projects. However, in the case of global climate change, the proximity of the project to other GHG-generating activities is not directly relevant to the determination of a cumulative impact. Although the State requires Metropolitan Planning Organizations and other planning agencies to consider how region-wide planning decisions can impact global climate change, currently no established non-speculative method exists to quantitatively assess the cumulative impact of proposed independent private-party development projects.

The qualitative analysis demonstrating that the Project is consistent with the County of Los Angeles CCAP indicates that the Project will not have a cumulatively considerable impact for GHG emissions. While the County of Los Angeles CCAP sets an unincorporated Countywide target for 2020 GHG emissions, which equates to approximately 11 percent below 2010 emissions, the CCAP shows that the reductions are not expected to occur uniformly from all sources or sectors of GHG emissions (refer to

Table 4-1 of the CCAP). The County has estimated GHG reductions from many of the strategies and local actions; however, some of the strategies and local actions are not quantified and not included in the CCAP target pending project implementation and metrics to track emissions reductions. The Project is consistent with the strategies and local actions planned for in the CCAP.

The Project is also consistent with SCAG's SCS. CARB has set targets specific to the transportation sector (land use-related transportation emissions), for example, and under SB 375 SCAG must incorporate these GHG-reduction goals into the Regional Transportation Plan and demonstrate that its Sustainable Communities Strategy or Alternative Planning Strategy is consistent with the Regional Housing Needs Assessment. One of the goals of this process is to ensure that the efforts of State, regional, and local planning agencies accommodate the contemporaneous increase in population and employment with a decrease in overall GHG emissions. For example, adopting zoning designations that reduce density in areas which are expected to experience growth in population and housing needs, is seen as inconsistent with anti-sprawl goals of sustainable planning. Although development under a reduced density scenario results in lower GHG emissions from the use of that land compared to what is currently or hypothetically allowed (by creating fewer units and fewer attributable vehicle trips), total regional GHG emissions will likely fail to decrease at the desired rate or, worse, increase if regional housing and employment needs of an area are met with a larger number of less-intensive development projects. Therefore, it is not simply a cumulative increase in regional development or the resultant GHG emissions that threatens GHG reduction goals. The Project's consistency with SCAG's SCS demonstrates that the Project will not have a cumulatively considerable impact based on the regional plan to address VMT and related GHG emissions.

The land use sector can accommodate growth and still be consistent with Countywide plans to reduce GHG emissions. To that end, the County will continue to develop programs to guide future building and transportation development towards minimized resource consumption and lowered resultant pollution. The County's adopted CCAP, Green Building Standards Code, and LID Ordinance includes mandatory measures. However, some of the strategies and local actions in the CCAP and the Green Building Standards Code also include voluntary options applicable to and chosen by each individual project developer, and their efficacy in reducing GHG emissions can vary. In addition, the emissions models used for project-level evaluations do not fully reflect improvements in technology and other reductions in GHG emissions that are likely to occur in the future pursuant to State regulations, such as the model year 2017-2025 vehicle emission standards, as well as other future federal and/or State regulations. Therefore, it is not possible or meaningful to calculate emissions from each of the identified related projects and compare that with a numeric threshold or reduction target. Nevertheless, the Project is consistent with local plans aimed at reducing GHG emissions (specifically the CCAP for unincorporated areas, the

Healthy Design Ordinance and SCAG's SCS), and thus the Project would not have a cumulatively considerable impact on the environment.

5.7.4 MITIGATION MEASURES

As discussed above, impacts related to GHG emissions would be less than significant, and no mitigation measures are recommended or required.

5.7.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Project impacts and cumulative impacts related to greenhouse gas emissions would be less than significant.

5.8 HAZARDS AND HAZARDOUS MATERIALS

INTRODUCTION

This section of the Draft EIR evaluates the Project's potential impacts related to hazards and hazardous materials. It discusses whether the Project would create a significant hazard to the public or the environment due to hazardous conditions and/or hazardous materials. This analysis is based on various reports and tests including Los Angeles County Fire Department (LACFD) No Further Action Letters, health risk assessments, site summary reports, soil sampling test reports, and remediation work plans that were performed for a project that was previously approved on the Project Site which are provided in **Appendices 5.8-1 through 5.8-31** to this Draft EIR.

5.8.1 ENVIRONMENTAL SETTING

Hazardous Materials Definition

Section 25501(m) of the California Health and Safety Code defines a "hazardous material" as:

> *A material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous Materials" include, but are not limited to, hazardous substances, hazardous wastes, and any materials which a handler or the unified program agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or environment.*

"Hazardous waste" is any hazardous material that is abandoned, discarded, or recycled, as defined by Sections 25117 and 25124 of the California Health and Safety Code. In addition, hazardous waste may occasionally be generated by actions that change the composition of previously nonhazardous materials. The criteria used to characterize a material as hazardous include ignitability, toxicity, corrosivity, reactivity, radioactivity, or bioactivity.

Background and Existing Conditions

Commencing in the 1970s and 1980s, the Project Site was the location for oil production at 10 wells installed on the western portion of the Project Site. The wells were closed and properly abandoned in 2003. In addition to the oil drilling operations, approximately 145 acres of the western portion of the Project Site was used as a golf course from 1963 until the early 1980s. The former golf course pro shop building was later used as an office and maintenance shop by the oil company, Alabama Essential Oil (AEO). In addition, two or three mobile homes used by the golf course were on-site in the early 1980s. These structures are no longer present on the Project Site.

California Environmental Geologists & Engineers Inc., (CEGE) conducted Environmental Site Assessments (ESAs) in August 1997, November 1997, and July 2003 (The most recent ESA completed in July 2003 is included in **Appendix 5.8-6**). The purpose of the ESAs was to determine the potential for hazardous material impacts to the soil or groundwater at the Project Site as a result of prior use of the site for oil field operations.[1]

Oil Wells

The Project Site is within the Hasley Canyon Oil Field.[2] A review of the 2003 Munger Map book and the California Department of Conservation Division of Oil, Gas and Geothermal Resources (DOGGR) web page map indicated that 10 abandoned oil wells are present within the Project Site, concentrated in three pads, the AEO Lease – Burns Crist pad, the SADD Lease – North Pad and the SADD Lease South Pad. Oil well records on file with the DOGGR were obtained for each well. Each of these wells were abandoned in accordance with state law requirements in 2003 and sealed under the direction of the DOGGR and each was subsequently certified as "No Further Action" by the LACFD. **Table 5.8-1, List of Closed Oil Wells on the Project Site**, lists the names and status of the abandoned oil wells on the Project Site. DOGGR has indicated that it will require review of the original abandonment files relative to the proposed new development and possibly require re-abandonment to the latest DOGGR requirements. The locations of the abandoned wells are shown in **Figure 3.0-2, Project Boundary and Environmental Setting**.

Underground Storage Tanks

Underground storage tanks (USTs) are commonly associated with golf courses, but no field indications of any USTs were identified on the Project Site. Further, a search of Los Angeles County records found no files or records indicating the presence of USTs at the following property addresses 28577, 28801, 28801-1/2, 28803, 28831, 28943, 29001, 29030, and 29007-1/2 Hasley Canyon Road, which correspond with the Project Site.[3]

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1 *Environmental Site Assessment - Phase I and Subsurface Assessment for Undeveloped Land Approximately 420 Acres in the Vicinity of Hasley Canyon Road Los Angeles County, California* performed by California Environmental Geologists and Engineers, Job No. EV797-1474, July 2003 (2003 ESA).

2 California Department of Conservation, Division of Oil, Gas & Geothermal Resources Well Finder, website: http://maps.conservation.ca.gov/doggr/index.html. Accessed February 27, 2014.

3 2003 CEGE Assessment Report.

Table 5.8-1
List of Closed Oil Wells on the Project Site

Oil Well	Date Abandoned
Burns Crist #8	5/20/03
Burns Crist #9	5/20/03
Burns Crist #10	5/20/03
Burns Crist #12	5/20/03
SADD-South #4	5/20/03
SADD-South#5	5/20/03
SADD-North#6	5/20/03
SADD-North#7	5/20/03
SADD-North#8	5/20/03
SADD-North#9	5/20/03

Source: California Department of Conservation, Division of Oil, Gas & Geothermal Resources Well Finder

Soil Sampling and Remediation

The 2003 ESA describes subsurface assessment work performed at the Project Site in 2003 including testing of soil vapor, soil, and groundwater sampling. Two primary impacts were identified in soil at the Project Site: total petroleum hydrocarbon (TPH) associated with unrefined crude oil and TPH associated with diluent (a refined petroleum product similar in characteristics to kerosene or diesel that was used as a solvent to help extract oil from the on-site wells.) TPH impacts were found in soil beneath all three drilling pad areas, two on the SADD parcel, and one on the AEO parcel. In the northeast area on the SADD parcel, the TPH impacts persisted to a depth of approximately 90 feet near abandoned SADD oil wells 6, 7, 8, and 9. Groundwater was encountered at a depth of approximately 100 feet beneath this pad area. The release detected on the northern SADD drill pad was a reportable release to a lead enforcement agency, either the Los Angeles Regional Water Quality Control Board (RWQCB) or the LACFD, as a potential threat to groundwater quality. Based on the low concentrations of hydrocarbons detected in the soils within the AEO Lease - Burns/Crist Lease Area, no remedial work was determined to be necessary. The LACFD issued a No Further Action letter for the AEO Lease - Burns/Crist Lease Area on March 29, 2010.

In early 2009, remedial activities were conducted at both the SADD Lease - North Pad and at the SADD Lease - South Pad by Stratus Environmental Inc., to remove and reduce the contaminant mass. The chemicals of concern included TPH and volatile organic compounds (VOCs). A Health Risk Assessment (HRA) by Environmental Resources Management, Inc. dated May 31, 2006 provided confirmation that residual hydrocarbon-impacted soil at the three areas would not pose a significant risk to future

occupants of the site following remediation. On April 21, 2010, the LACFD issued a No Further Action letter confirming the completion of site remediation for both the SADD Lease – North Pad and at the SADD Lease – South Pad Areas and which also confirmed the findings of the HRA.

Methane

Methane (CH_4) is a naturally occurring, odorless, colorless, and extremely flammable gas with a wide distribution in nature. It is the major constituent of natural gas that is used as a fuel, and is an important source of hydrogen and a wide variety of other organic compounds. It is often found in conjunction with petroleum deposits. No long-term health effects are known to occur from exposure to methane. However, at very high concentration, methane can act as an asphyxiate by reducing the relative concentration of oxygen in the air that is inhaled (similar to carbon monoxide). The primary danger posed by methane build-up is the risk of fire or explosion. Soil sampling indicated raised concentrations of methane in the areas proximate to the abandoned oil wells on the Project Site, as further discussed below.

Wildland Fire Hazard Potential

The LACFD designates land in the County in regard to its potential for wildland fire hazards. These designations are made by the County Forester, and are based on multiple criteria, including the following primary characteristics: (1) an area's accessibility, (2) water availability/lack of adequate water supplies, (3) amount and type of vegetative cover, and (4) topography. The two designations used by LACFD are Moderate Fire Hazard Severity Zone (MFHS Zone) (formerly Fire Zone 3) and Very High Fire Hazard Severity Zone (VHFHS Zone) (formerly Fire Zone 4). Areas within the County not designated as either a MFHS Zone or VHFHS Zone are not considered to be subject to wildland fire hazards. The differences between MFHS Zone and VHFHS Zone designations are relatively minor, in that one or more of the four designation criteria listed above (access, water availability, vegetation, and topography) may pose less of a constraint in MFHS Zone than in the VHFHS Zone. Additionally, the VHFHS Zone includes more restrictive building requirements than the MFHS Zone, and is considered to be the most severe fire zone. Portions of a VHFHS Zone may, upon development, meet the criteria of a MFHS Zone, and may be redesignated as a MFHS Zone at the discretion of the County Forester.

The LACFD (in collaboration with the California Department of Forestry and Fire Protection [CalFire]) has designated the Project Site as a VHFHS Zone, based on the four primary designation criteria.[4] Specifically, the VHFHS Zone typically has the following vegetative types or is adjacent to such

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[4] California Department of Forestry and Fire Protection, Los Angeles County FHS Zone Map, ftp://frap.cdf.ca.gov/fhszlocalmaps/los_angeles/santa_clarita.pdf, (2013).

communities: chaparral, coastal sage, annual grasslands, riparian, and oak woodlands. Wildland fires are relatively common occurrences in these plant communities, which are found in the Santa Clarita Valley and surrounding area. These plant communities pose a threat to expanding urban development due to their high combustibility and their dense biomass.

During the spring months, wildland vegetation typically begins to lose its moisture content and, by the summer and fall when Santa Ana wind conditions begin to occur, vegetation moisture levels can become very low, which results in a very high wildfire potential. When chaparral and coastal sage growth is younger, it is more succulent, with little or no dead or dying branches; and the growth provides less horizontal fuel continuity; has higher average fuel moisture content; and, as a result, is usually more fire retardant. As these plant species reach 20-plus years in age, their dead-to-live fuel ratio increases, creating more available fuel to carry fire with very high intensities and energy releases.

Historically, large fires tend to burn in MFHS and VHFHS Zones every 20 to 25 years. The County Forester has indicated that wildland fire events have occurred in the Santa Clarita Valley region as recently as June 2013. In the areas where these plant communities border urban development, the frequency of fire events may be diminished as a result of fire prevention and fire suppression activities. Fire prevention activities include prescribed burns, vegetation thinning/removal, and creation of buffer zones; in contrast, fire suppression involves measures, which control fires once they have started (i.e., fuel breaks, use of firefighting equipment, etc.). Fire prevention for urban development in wildland fire hazard areas generally focuses on restricting the types of building materials used, building design, and incorporating setbacks from areas with flammable vegetation. Development within VHFHS Zone is required to meet the building construction requirements specified in the County Building and Safety Code, as well as the Los Angeles County Hillside Management Area Ordinance. An example of the fuel modification provisions that development in these areas must meet is presented below.

Fuel Modification

Due to the fire hazard potential that exists in the VHFHS Zone, development within these areas is subject to various governmental codes, guidelines, and programs aimed at reducing the potential fire hazard risks to an acceptable level. The County of Los Angeles has prepared *Fuel Modification Plan Guidelines*, which set forth guidelines and landscape criteria for all new construction to implement ordinances relating to fuel modification planning to help reduce the threat of fires in high hazard areas. Per Section 1117.2.1 of the County of Los Angeles Fire Code:

> *A fuel modification plan, a landscape plan, and an irrigation plan shall be submitted with any subdivision of land or prior to any new construction, remodeling, modification or reconstruction where such activities increase the square footage of the existing structure by at least 50 percent*

within a 12-month period and where the structure or subdivision is located within areas designated as a Very High Fire Hazard Severity Zone in the Los Angeles County Building Code.

A fuel modification plan identifies specific zones within a property that are subject to fuel modification. A fuel modification zone is a strip of land where combustible native or ornamental vegetation must be modified and/or partially or totally replaced with drought tolerant, fire resistant plants and other low-risk landscape materials.

Regulatory Framework

Federal

US Environmental Protection Agency

The United States Environmental Protection Agency (US EPA) has as its mission the protection of human health and the environment. The organization takes action to reduce risks associated with exposure to chemicals in commerce, indoor and outdoor environments, and products and food. The EPA continues to oversee the introduction and use of pesticides, improve their Integrated Risk Information System (IRIS) program, reduce radon risks, identify and address children's health risks in schools and homes, and improve chemical management practices. Oversight of chemical storage and manufacturing in coordination with their interagency partners remains a key focus of the organization, as well as efforts to reduce urban air toxics.

A variety of laws and regulations governing the management and control of hazardous substances has been established at the federal level to protect the environment. These regulations fall under the jurisdiction of the US EPA and include the following principal laws:

The Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, generally referred to as Superfund) was enacted by Congress on December 11, 1980. CERCLA provides broad federal authority to respond directly to releases (or threatened releases) of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List (NPL) sites, which is the list of hazardous waste sites eligible for long-term remedial action financed

under the federal Superfund program. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986. CERCLA specifically excludes regulation of petroleum.

The Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) was enacted in 1974 as the first step in regulating the potential health and environmental problems associated with solid hazardous and non-hazardous waste disposal. The RCRA gives the US EPA the authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste by "large-quantity generators" (1,000 kilograms/month or more). Under RCRA regulations, hazardous wastes must be tracked from the time of generation to the point of disposal. At a minimum, each generator of hazardous waste must register and obtain a hazardous waste activity identification number. If hazardous wastes are stored for more than 90 days, treated, or disposed at a facility, any treatment, storage, or disposal unit must be permitted under RCRA. Additionally, all hazardous waste transporters are required to be permitted and must have an identification number. RCRA allows individual states to develop their own program for the regulation of hazardous waste as long as it is at least as stringent as RCRA. In California, the US EPA has delegated RCRA enforcement to the State of California.

The Toxic Substances Control Act

The Toxic Substances Control Act (TSCA), enacted in 1976, regulates and controls harmful chemicals and toxic substances in commercial use, including polychlorinated biphenyls (PCBs), asbestos, radon and lead-based paint, but excluding pesticides, food and drugs.

The Federal Insecticide, Fungicide, and Rodenticide Act

The Act (as amended) controls the manufacture, use, and disposal of pesticides and herbicides.

The Hazardous and Solid Waste Act

The Hazardous and Solid Waste Act (HSWA) includes the 1984 amendments to RCRA to address gaps in the area of highly toxic wastes.

Title 29 Code of Federal Regulations, Park 1910

Title 29 contains the Occupational Safety and Health Administration (OSHA) requirements for workers at hazardous waste sites including emergency response, hazard communication, and personal protective equipment.

Department of Transportation

The Secretary of the Department of Transportation receives the authority to regulate the transportation of hazardous materials from the Hazardous Materials Transportation Act (HMTA), as amended and codified in 49 USC 5101 et seq. The Secretary is authorized to issue regulations to implement the requirements of 49 USC The Pipeline and Hazardous Materials Safety Administration (PHMSA) (formerly the Research and Special Provisions Administration [RSPA]) was delegated the responsibility to write the hazardous materials regulations, which are contained in 49 Code of Federal Regulations (CFR) Parts 100–180. Under the HMTA the Secretary

> *may authorize any officer, employee, or agent to enter upon inspect, and examine, at reasonable times and in a reasonable manner, the records and properties of persons to the extent such records and properties relate to: (1) the manufacture, fabrication, marking, maintenance, reconditioning, repair, testing, or distribution of packages or containers for use by any "person" in the transportation of hazardous materials in commerce; or (2) the transportation or shipment by any "person" of hazardous materials in "commerce."*

Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act, which is implemented by OSHA, contains provisions with respect to hazardous materials handling. Federal OSHA requirements, as set forth in Title 29 of the CFR Section 1910, et. seq., are designed to promote worker safety, worker training, and a worker's right–to-know. In California, OSHA has delegated the authority to administer OSHA regulations to the State of California.

Title 49 of the CFR, which contains the regulations set forth by the Hazardous Materials Transportation Act of 1975, specifies additional requirements and regulations with respect to the transport of hazardous materials. Title 49 of the CFR requires that every employee who transports hazardous materials receive training to recognize and identify hazardous materials and become familiar with hazardous materials requirements. Drivers are also required to be trained in operations of their equipment and commodity specific requirements.

State

California Environmental Protection Agency and Department of Toxic Substances Control

The California Environmental Protection Agency (Cal EPA) oversees the California Department of Toxic Substances Control (DTSC), whose mission it is to protect California's people and environment from harmful effects of toxic substances through the restoration of contaminated resources, enforcement,

regulation, and pollution prevention. The DTSC regulates hazardous waste and cleans-up existing contamination.

California Hazardous Waste Regulations

California has developed hazardous waste regulations that are similar to the federal laws, but that are much more stringent in their application. The basic law established in California, similar to RCRA, is the Hazardous Waste Control Law (HWCL). More detailed information concerning the implementation of these requirements is given in Title 22 of California Code of Regulations (CCR), Chapter 230. The HWCL empowers the DTSC to administer the State's hazardous waste program and implement the federal program in California. This law includes UST regulation.

Other relevant state laws include the following:

- Proposition 65, focusing on carcinogenic or teratogenic contaminants and implements the state's community-right-to-know program.
- UST Law, regulating underground storage to prevent groundwater contamination.
- Porter-Cologne Act, adopted in 1969, requiring the maintenance of the highest reasonable quality of the state's waters. It authorizes the RWQCB to supervise cleanup efforts at spill sites that have affected groundwater. Refer to **Section 5.9.1, Hydrology** and **Section 5.9.2, Water Quality** for further information and analysis of this issue.
- The DTSC has the primary responsibility for enforcement and implementation of hazardous waste control laws in the state. However, this responsibility is shared with other state and local government agencies, including the SWRCB, RWQCB, and City and County governments.

California Occupational Safety and Health Administration

The California Occupational Safety and Health Administration (Cal-OSHA) has set forth work requirements for disturbance of Asbestos Containing Construction Materials (ACCMs) including removal operations for all types of ACCMs. In addition, the agency has developed standards for general industry and the construction industry hazardous waste operations and emergency response. Cal-OSHA ensures that employers must have controls to reduce and monitor exposure levels of hazardous materials, an informational program describing any exposure during operations and the inspection of drums and containers prior to removal or opening. Decontamination procedures and emergency response plans must be in place before employees begin working in hazardous waste operations.

California Office of Emergency Services

The California Office of Emergency Services (CAL OES) Hazardous Materials (HazMat) Section under the Fire and Rescue Division coordinates statewide implementation of hazardous materials accident prevention and emergency response programs for all types of hazardous materials incidents and threats. In response to any hazardous materials emergency, the section staff is called upon to provide state and local emergency managers with emergency coordination and technical assistance.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the state hazardous waste management program, which is similar to but more stringent than the federal RCRA program. The Act is implemented by regulations contained in Title 26 of the CCR, which describes the following required aspects for the proper management of hazardous waste: identification and classification; generation and transportation; design and permitting of recycling, treatment, storage, and disposal facilities; treatment standards; operation of facilities and staff training; and closure of facilities and liability requirements. These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with DTSC.

California Vehicle Code

The California Vehicle Code (Title 13 of the CCR) establishes regulations for motor carrier transport of hazardous materials. For example, all motor carrier transporters of hazardous materials are required to have a Hazardous Materials Transportation license issued by the California Highway Patrol. In addition, placards identifying that hazardous materials are being transported must be displayed on the vehicle.

California Health and Safety Code

The transport of hazardous waste materials is further governed by the California Health and Safety Code Section 25163 and Title 22, Chapter 13, of the CCR. Specifically, Section 25163 of the California Health and Safety Code requires transporters of hazardous waste to hold a valid registration issued by the DTSC in his/her possession while transporting hazardous waste. Additionally, Title 22, Chapter 13 of the CCR includes a number of requirements, which include, but are not limited to, the following:

- Transporters shall not transport hazardous waste without first receiving an identification number and a registration certificate from DTSC.

- Registration as a hazardous waste transporter expires annually, on the last day of the month in which the registration was issued.
- To be registered as a hazardous waste transporter, an application must be submitted.
- Hazardous waste shall not be accepted for transport without a Uniform Hazardous Waste Manifest that has been properly completed and signed by generator and transporter.
- Hazardous waste shall be delivered to authorized facilities only.

California Building Code

The County of Los Angeles has adopted the California Building Code, Volume 1, Title 26, Section 110.4 Methane Gas Hazards. The code requires that permits shall not be issued for new buildings or enclosed structures regulated by this Code on, adjacent to, or within 300 feet (91.44 m) of active, abandoned or idle oil or gas well(s) unless designed according to recommendations contained in a report prepared by a registered design professional, such as a licensed civil engineer and/or licensed petroleum engineer, to evaluate whether such wells are being properly operated or maintained, or are abandoned. No permits shall be issued until documentation of proper operation, maintenance, abandonment or re-abandonment is submitted to and approved by the Building Official. The County of Los Angeles Department of Public Works, Environmental Program Division, is responsible for administering compliance with methane mitigation systems.[5]

Local

Los Angeles County Fire Department

The LACFD administers hazardous materials environmental compliance programs within unincorporated County jurisdiction. These programs include hazardous materials disclosure and business plans, UST programs, aboveground storage tank spill prevention control and countermeasures, hazardous waste generator programs, and the California Accidental Release Prevention Program.

Los Angeles County Fire Code

The Los Angeles County Fire Code establishes standards for the distribution, design, construction, and location of fire protection facilities, including systems incorporated into private development projects.

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5 County of Los Angeles Department of Public Works, Solid Waste Information Management System, Methane Mitigation Standards, website: http://dpw.lacounty.gov/epd/swims/docs/pdf/methane/Methane%20Code%20-%20Ordinance%20110.3%20and%20Ordinance%20110.4.pdf, accessed February 27, 2014.

These standards specify fire-flow criteria, minimum distances to fire stations, public and private specifications, and the location criteria and access provisions for fire-fighting vehicles and personnel.

County General Plan

Section 5.10, Land Use and Planning, of this Draft EIR provides a consistency analysis of the Los Angeles County General Plan policies that pertain to hazards. Refer to **Table 5.10-1** for a list of policies related to hazards and the consistency analysis for each policy.

Santa Clarita Valley Area Plan

Section 5.10, Land Use and Planning, of this Draft EIR provides a consistency analysis of the 2012 update to the Santa Clarita Valley Area Plan (SCVAP 2012) policies that pertain to hazards. Refer to **Table 5.10-2** for a list of the policies related to hazards and the consistency analysis for each policy.

Hazardous Materials Database Search

Various federal, state, and local regulatory agencies maintain lists of hazardous materials sites where soil and/or groundwater contamination is known or suspected to have occurred, typically as a result of leaking storage tanks or other spills. These facilities are readily identified through regulatory agency database searches, such as the State Water Board GeoTracker online database, the DTSC Envirostor online database, and several other federal, state, and local regulatory agency databases. **Table 5.8-2, Description of Regulatory Agency Databases**, identifies key database references for hazardous materials.

Table 5.8-2
Description of Regulatory Agency Databases

Acronym	Name and Description of Database
NPL	The National Priorities List (NPL) of Superfund Sites is EPA's database of more than 1,200 sites designated for priority cleanup under the Superfund program. NPL sites may encompass relatively large areas.
RCRIS	The Resource Conservation and Recovery Information System (RCRIS) is an EPA database that includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by Resource Conservation and Recovery Act (RCRA). Identification on this list does not indicate that there has been an impact on the environment.
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) is an EPA database that contains information on potential hazardous waste sites that have been reported to EPA by states, municipalities, private companies, and individuals, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites that are proposed either for or on the NPL, as well as sites that are in the screening and assessment phase for possible inclusion on the NPL.
CORRACTS	Corrective Action Report (CORRACTS) is an EPA database that identifies hazardous waste handlers with RCRA corrective action activity.

Acronym	Name and Description of Database
RAATS	RCRA Administrative Action Tracking System (RAATS) is an EPA database that contains records based on enforcement actions issued under RCRA pertaining to major violators, and includes administrative and civil actions brought by EPA.
PADS	PCB Activity Database System (PADS) is an EPA database that identifies generators, transporters, commercial storers, and/or brokers and disposers of polychlorinated biphenyls (PCBs) who are required to notify EPA of such activities.
Geotracker	Geotracker is the State Water Resources Control Board's Internet-accessible database system used by the State Board, regional boards, and local agencies to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks.
CHMIRS	The California Hazardous Material Incident Report System (CHMIRS) contains information on reported hazardous materials incidents (i.e., accidental releases or spills). The source of this information is the California Office of Emergency Services.
ERNS	The Emergency Response Notification System (ERNS) records and stores information on reported releases of oil and hazardous substances. The source of this database is the US EPA.
CALSITES	List of hazardous waste and substances sites from the DTSC Envirostor database.
CORTESE	The Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with underground storage tanks (USTs) having a reportable release, and all solid waste disposal facilities from which there is known hazardous substance migration. The source of this database is the California Environmental Protection Agency (CAL-EPA).
LUST	The Leaking Underground Storage Tank (LUST) Incident Reports contain an inventory of reported leaking underground storage tank incidents. This information comes from the State Water Resources Control Board Leaking Underground Storage Tank Information System.
UST	The Underground Storage Tank (UST) database lists registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The UST information comes from the State Water Resources Control Board's Hazardous Substance Storage Container Database.
HIST UST	The Hazardous Substance Storage Container Database is a historical listing of UST sites. The data source is the State Water Resources Control Board.
CA FID	The Facility Inventory Database (CA FID) lists active and inactive underground storage tank locations. This database is maintained by the State Water Resources Control Board.
HAZNET	The Hazardous Waste Information System (HAZNET) includes data extracted from the copies of hazardous waste manifests each year by the State Department of Toxic Substances Control.
FINDS	The Facility Index System (FINDS) contains both facility information and "pointers" to other sources of information that contain more detail (e.g., RCRA Info, Permit Compliance System [PCS], Aerometric Information Retrieval System [AIRS]). The source of this information is the US EPA.
FTTS	The Federal Toxics Tracking System (FTTS) tracks administrative cases and pesticide enforcement actions/compliance activities related to the Federal Insecticide, Fungicide, & Rodenticide Act (FIFRA), Toxic Substances Control Act (TSCA), and Emergency Planning and Community Right-to-Know Act (EPCRA). The source of this data is the Environmental Protection Agency (EPA) Office of Prevention, Pesticides, and Toxic Substances.
CA SLIC	The statewide Spills, Leaks, Investigations, and Cleanups (CA SLIC) database includes unauthorized discharges from spills and leaks, other than from underground storage tanks or other regulated sites. The data source is the State Water Resources Control Board.
EMI	Emissions Inventory Data (EMI) is comprised of toxics and criteria pollutant emissions data collected by the state Air Resources Board and local pollution agencies.
SWEEPS	The Statewide Environmental Evaluation and Planning System (SWEEPS) UST list, which is no longer maintained or updated, was under the purview of the State Water Resources Control Board. Other agencies (e.g., as identified above) now maintain UST records.

Source: State Water Board, EPA, DTSC, 2013

A search of the relevant databases performed by CEGE in conjunction with the preparation of the ESA in July 2003 indicated that there were no identified environmental risk sites located within a 0.5-mile radius of the Project Site. A list of the searched databases are included in Appendix III of **Appendix 5.8-6** of this Draft EIR.

5.8.2 ENVIRONMENTAL IMPACTS

Methodology

To evaluate potential impacts, existing and proposed on-site hazards were identified and compared against the established safety standards and regulations to determine if the Project would result in impacts related to hazardous materials. The analysis of the potential impacts regarding hazardous materials management was based on site evaluations, plans and operational information provided by the Applicant. As mentioned above, to identify any recognized environmental concerns, a review of government databases and a review of the ESAs prepared by CEGE and the DTSC and LACFD records was made. For a more detailed description of these investigations and their findings, refer to **Appendices 5.8-1, 5.8-2, 5.8-6, 5.8-7,** and **5.8-15** through **5.8-19** of this Draft EIR.

As discussed in **Section 4.0, Project Description**, the Project assumes construction of the planned channel improvements prior to the completion of grading for the Project. If the planned channel improvements were not completed, two Retention Basins would be constructed as an interim condition. Once the planned channel improvements are completed, the Retention Basins will be removed and the Project will be completed. For purposes of the analysis of impacts to hazards and hazardous materials, there would be no material difference in impacts with or without the Interim Controls. Therefore, full buildout of the Project is analyzed for potential hazardous materials impacts, as full buildout includes a greater number of homes and therefore potential for a larger number of people to be affected.

Project Design Elements/Project Design Features

Project Design Elements

The Project includes construction and occupancy of 497 residences and related amenities, including a neighborhood park and seven smaller park sites, vegetated slopes, common landscaped areas, residential lawns and gardens, and agricultural amenities, including a proposed vineyard and orchard.

During construction, potentially hazardous materials would be stored and used in accordance with local, State, and federal regulations. In addition, hazardous materials used for cleaning purposes, landscaping, and routine maintenance during operation of the Project would be used and stored in accordance with

manufacturers' instructions and handled in compliance with applicable local, State, and federal regulations governing such activities.

The Project would provide a final fuel modification plan that specifies fuel modification zones for building setbacks, irrigation areas, vegetation thinning areas, and fire access roads, subject to review and approval by the LACFD, prior to the issuance of building permits (See **Mitigation Measure MM 5.12.4-5**). One of the primary goals of the fuel modification plan and associated landscaping and irrigation would be to provide adequate defensible space around all potentially combustible structures within a fire environment. The Preliminary Fuel Modification Plan for the Project is provided in **Figure 4.0-7, Preliminary Fuel Modification Plan**. As shown, for purposes of fire safety the Project Site is divided into three zones:

Zone A – Setback Zone: Zone A extends 20 feet beyond the edge of any combustible structure, accessory structure, appendage or projection. Landscaping in Zone A will be irrigated by automatic or manual systems to maintain healthy fire-resistant vegetation.

Zone B – Irrigated Zone: Zone B extends from the outermost edge of Zone A to 100 feet from structures. Landscaping in Zone B will be irrigated by automatic or manual systems to maintain healthy vegetation. However, irrigation systems are not required in this zone if it consists of native plants.

Zone C – Native Brush Thinning Zone: Zone C extends from the outermost edge of Zone B up to 200 feet from structures. Irrigation is not required within this zone.

Selection of plantings within the Fuel Modification Zone will be made referencing the County's Fuel Modification Plant List (included in **Appendix 4.0**).

Project Design Features

The following project design features (PDFs) related to hazards would be implemented as part of the Project:

- All hazardous materials within the Project Site would be acquired, handled, used, stored, transported, and disposed of in accordance with all applicable federal, state, and local requirements.
- In accordance with Section 110.4 of the County of Los Angeles Building Code, the Project development plans shall comply with the required setbacks from oil and gas wells, as determined by the California Department of Conservation Division of Oil, Gas and Geothermal Resources, the County of Los Angeles Department of Public Works, and the Los Angeles County Fire Department. As part of these requirements, buildings or enclosed structures shall not be located in close proximity to an existing well. To be considered not in close proximity to a well, two adjacent sides should be free of structures or property lines for no less than ten feet, with the third side free at a distance to be

determined by County of Los Angeles Fire Department according to recommendations by a licensed Civil Engineer and approved by the County Building Official and Fire Department. Ultimately, the distance shall be sufficient to allow room for equipment required for re-abandonment operations if necessary. Any necessary clearance/approvals shall be sought from the County of Los Angeles Department of Public Works Environmental Programs Division, as required.

- Following construction and prior to the issuance of the first certificate of occupancy, the Applicant would submit an emergency response plan for approval by the County of Los Angeles Fire Department. The emergency response plan would include, but not be limited to, the following: mapping of site access and emergency exits, evacuation routes for vehicles and pedestrians, and locations of the nearest hospitals and fire stations.
- The Project would also comply with applicable fire flow requirements set forth in the Fire Code.

Significance Thresholds

The potential for the Project to result in impacts associated with hazards and hazardous materials is based on the CEQA significance thresholds specified by the Los Angeles County Department of Regional Planning. These significance thresholds are based in part on Appendix G of the *State CEQA Guidelines* and are as follows:

Threshold 5.8-1 **Would the project create a significant hazard to the public or the environment through the routine transport, storage, production, use, or disposal of hazardous materials or use of pressurized tanks on-site?**

Threshold 5.8-2 **Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials or waste into the environment?**

Threshold 5.8-3 **Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of sensitive land uses?**

Threshold 5.8-4 **Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or environment?**

Threshold 5.8-5 **For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

Threshold 5.8-6 **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?**

Threshold 5.8-7 **Would the project impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?**

Threshold 5.8-8 **Would the project expose people or structures to a significant risk of loss, injury, or death involving fires, because the project is located:**

i) within a Very High Fire Hazard Severity Zones (Zone 4)?

ii) within a high fire hazard area with inadequate access?

iii) within an area with inadequate water and pressure to meet fire flow standards?

iv) within proximity to land uses that have the potential for dangerous fire hazard?

The Project Site is not located within an airport land use plan or within two miles of a public or private airport. In addition, the proposed residential structures and associated amenities would be approximately 30 feet in height and therefore would not affect air traffic patterns. No further analysis of **Thresholds 5.8-5** or **5.8-6** is necessary.

The Project would not interfere with or physically impair an adopted emergency response plan or emergency evacuation plan. Roadway linkages included as a component of the Project would improve access to the Project Site for both residences and emergency personnel. Thus, no further analysis of **Threshold 5.8-7** is necessary.

Although the Project Site is located in VHFHS Zone, roadway access to the Project Site exists via Hasley Canyon Road. Further, construction of the Project would improve the overall access to the Project Site. A 750,000-gallon water tank is located on the Project Site and an 850,000-gallon water tank is proposed to meet the requirements for water access and pressure. While oil wells and industrial uses are located in close proximity to the Project Site, all hazardous uses are regulated and permitted by LACFD and must abide by all permit restrictions and applicable measures. Thus, no further analysis of **Threshold 5.8-8 ii)** through **iv)** is necessary.

Impact Analysis

Threshold 5.8-1 **Would the project create a significant hazard to the public or the environment through the routine transport, storage, production, use, or disposal of hazardous materials or use of pressurized tanks on-site?**

Threshold 5.8-2 **Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials or waste into the environment?**

Threshold 5.8-3 **Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of sensitive land uses?**

Construction Impacts

During Project construction, the types of potentially hazardous materials that could be used include paints, coatings, adhesives, building materials, caustic cleaners, fuel and oil for construction equipment, etc. The use, handling, storage, and transport of these materials could increase the potential for hazardous materials releases and, subsequently, the exposure of people and the environment to hazardous materials. However, in accordance with the PDFs above, all potentially hazardous materials would be contained, stored, used, and transported in accordance with manufacturers' instructions and handled in compliance with applicable standards and regulations, which would prevent or minimize the potential for accidental releases. As such, on-site construction would not create a significant hazard to the public or the environment through the routine transport, storage, production, use, or disposal of hazardous materials or use of pressurized tanks and impacts would be less than significant.

As previously discussed, the Project Site has undergone soil testing and excavation to remove contaminated soils resulting from prior uses. The LACFD issued a No Further Action letter confirming the completion of site remediation for the AEO Lease - Burns/Crist Lease Area on March 29, 2010; and issued a No Further Action letter confirming the completion of site remediation for both the SADD Lease - North Pad and at the SADD Lease - South Pad Areas and which also confirmed the findings of the HRA, on April 21, 2010. Extensive site grading (in excess of 12 million cubic yards of combined cut and fill) has been carried out on the Project Site and that work has yielded no evidence of additional soil contamination. If further soil contamination were discovered, in adherence to **Mitigation Measure MM 5.8-2,** all contaminated soil would be disposed of in accordance with local, state, and federal regulations. Therefore, impacts related to risk of upset from prior soil contamination during the construction phase would be less than significant.

The nearest schools to the Project Site are Castaic Elementary School and Castaic Middle School, located to the north, each along Hillcrest Parkway. However, in accordance with the PDFs above, all potentially hazardous materials would be contained, stored, used, and transported in accordance with manufacturers' instructions and handled in compliance with applicable standards and regulations, which are specifically designed to prevent or minimize the potential for accidental releases and other hazardous conditions. Any associated risk would be adequately reduced to a less than significant level through regulatory compliance. Further, none of the construction activities would pose a potentially dangerous safety hazard beyond that associated with the typical use of fuels and oils, and the construction activities would not be expected to emit hazardous emissions (e.g., substantial amounts of sulfur from diesel engines, particulate matter, or carbon monoxide) or utilize acutely hazardous materials due to compliance with regulatory requirements, including proper operation and maintenance of construction equipment. Additionally, no underground or aboveground storage tanks are known to exist within the proposed utility alignments or improvement areas, which are solely located within existing road rights-of-way. Construction on the Project Site would not involve the demolition of any structures and therefore would not present any potential for the release of asbestos containing materials, lead based paints or PCBs. As such, impacts related to release of hazardous materials near a school would be less than significant.

Operational Impacts

During Project operation, hazardous materials would be used for cleaning purposes, landscaping, and routine maintenance. Examples of such materials could include but are not limited to cleaning solvents, fertilizers, pesticides and herbicides for landscaping and orchard and vineyard plantings, and painting supplies. However, all potentially hazardous materials transported, stored, or used on-site for the upkeep of public facilities, parkland and open space areas by the maintenance contractors would be contained, stored, and used in accordance with manufacturers' instructions and handled in compliance with applicable County, state, and federal regulations governing such activities. As such, operational impacts related to accidental release or upset of hazardous materials waste would be less than significant.

As discussed in **Section 5.15.2, Solid Waste**, the residential uses associated with the Project are not uses that typically would result in the handling or use of acutely hazardous materials or the accumulation of hazardous waste. The types of potentially hazardous materials associated with residential operation of the Project would include E-waste,[6] cleaning solvents, materials used for landscaping, and materials used

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6 E-Waste typically includes computers, printers, televisions, VCRs, cell phones, fax machines, stereos, and electronic games. Electronics may contain lead, copper, and other heavy metals or potentially toxic substances.

for maintenance. Examples of such materials include but are not limited to paint, chemicals for weed and pest control, and glass cleaners. The County Department of Public Works publishes information regarding the safe disposal of household hazardous waste (HHW), in addition to sponsoring HHW and E-waste collection events. Further, historically, paint has represented almost one-third of the material collected through local HHW programs, the state passed AB 1343 in 2010, which went into effect in 2012 and requires manufacturers of architectural paint to establish and finance an architectural paint recovery program to reduce the generation of leftover paint, promote its reuse, and properly manage unwanted leftover paint.[7] Hazardous waste impacts related to the accidental release or upset due to the use of hazardous materials or hazardous waste from residential uses would be less than significant as use of hazardous materials would comply with applicable county, state and federally required methods of disposal of E-waste, HHW and paint.

As described above, the 10 oil wells associated with prior oil drilling on the Project Site are no longer active and were properly abandoned. Access to the abandoned oils wells by state regulators would continue to be provided upon completion of the Project as required by DOGGR. In addition, active oil production occurs on land adjacent to the Project Site, near the Hasley Canyon Road entrance to the Project Site. This land is not owned or controlled by the Applicant and no Project construction would occur within this area. The potential exists for unknown abandoned wells to be located on the Project Site. The Applicant would coordinate with the County and DOGGR to ensure that requirements regarding development in proximity to active or abandoned oil wells would be met as ensured via implementation the PDF described above. With implementation of project design features and compliance with applicable procedures, rules and regulations, impacts associated with development in proximity to abandoned wells or with any previously unidentified abandoned oil wells would be less than significant.

As shown in Table 1 of the Site Summary Report prepared by Environmental Resources Management (ERM) dated May 31, 2006 (**Appendix 5.8-11**), soil sampling indicated raised concentrations of methane in the areas proximate to the abandoned oil wells on the Project Site. Methane has the potential to migrate into buildings through physical pathways that include cracks in concrete foundations, unsealed conduits, or utility trenches, and other small openings common in building construction. As such, construction of habitable structures on the Project Site could expose occupants to methane hazards due to the potential build-up of methane gas. This would be a potentially significant impact. Implementation of the applicable PDF above would require all development constructed as part of the Project to comply with the required setbacks from oil and gas wells, as determined by DOGGR and the County of Los Angeles Department of

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7 CalRecycle, Paint Product Management, website: http://www.calrecycle.ca.gov/Paint/, accessed February 26, 2014.

Public Works. Further, **Mitigation Measures MM 5.8-**1 and **MM 5.8-2** require proper venting of abandoned wells and also require residences within 300 feet of abandoned wells to be constructed with vapor barriers. Thus, structures would be designed according to recommendations prepared by a licensed Civil Engineer and approved by the County Building Official. In addition, **Mitigation Measure MM 5.8-3** would ensure proper measures are taken in the event contaminated soils are encountered. Impacts related to the release of methane would be less than significant.

The Project Site is located approximately 0.19 mile to the south of Castaic Middle School. With implementation of PDFs above, and **Mitigation Measures MM 5.8-1** through **MM 5.8-3**, impacts related to release of hazardous materials within 0.25 mile of an existing school would be less than significant.

Off Site Impacts

As discussed in **Section 4.0, Project Description,** and shown in **Figure 4.0-9, Project Off-site Improvements,** certain off-site improvements are associated with the Project. Sensitive uses near these off site areas include residential uses along Commerce Center Drive, Hasley Canyon Road, Sedona Way and the Old Road. These uses are adjacent to the proposed water line, which would be located in the right of way of these roadways. Additional improvements (i.e., restriping and infrastructure pipeline extensions to the Project Site from the conjoining roadways) would occur at the project frontage on Hasley Canyon Road. As discussed above, construction activities can involve the use and handling of limited volumes of common hazardous materials; however, these would be handled, contained, stored, used, and transported in accordance with applicable local, state, and/or federal regulations specifically designed to prevent or minimize the potential for accidental releases and other hazardous conditions. Any associated risk would be adequately reduced to a less than significant level through regulatory compliance. Further, none of the construction activities would pose a potentially dangerous safety hazard beyond that associated with the typical use of fuels and oils, and the construction activities would not be expected to emit hazardous emissions (e.g., substantial amounts of sulfur from diesel engines, particulate matter, or carbon monoxide) or utilize acutely hazardous materials due to compliance with regulatory requirements, including proper operation and maintenance of construction equipment. Construction in the off-site infrastructure improvement areas would not involve the demolition of any structures and therefore would not present any potential for the release of asbestos containing materials, lead based paints or PCBs. However, oil production uses occur throughout the vicinity and associated wells may exist on private properties near the off-site infrastructure improvement areas, but they do not exist within the public rights-of-way within which improvements would be located.

As such, despite the proximity of sensitive uses, construction within the off-site infrastructure improvement areas would not create a significant hazard to the public or the environment through the

routine transport, storage, production, use, or disposal of hazardous materials or use of pressurized tanks.

During operation, the off-site infrastructure improvement areas would not include uses that would result in a corresponding increase in the acquisition, use, handling and storage of hazardous materials. Nonetheless, implementation of hazardous materials management in accordance with all applicable local, state, and federal laws and regulations relating to environmental protection and the management of hazardous materials would ensure that operation of the off-site infrastructure improvements would not result in a significant impact associated with the use, storage, and management of hazardous materials.

Threshold 5.8-4 **Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or environment?**

As described above, various federal, state, and local regulatory agencies maintain lists of hazardous materials sites where soil and/or groundwater contamination is known or suspected to have occurred. A search of the relevant databases indicated that, with the exception of the abandoned oil wells on the Project Site, there were no identified environmental risk sites located within a 0.5-mile radius of the Project Site.

As previously discussed, the Project Site has undergone soil testing and excavation to remove contaminated soils resulting from prior uses. The LACFD issued a No Further Action letter for the AEO Lease – Burns/Crist Lease Area on March 29, 2010; and issued a No Further Action letter confirming the completion of site remediation for both the SADD Lease – North Pad and at the SADD Lease – South Pad Areas on April 21, 2010. Following the issuance of these letters, information regarding the Project Site would be disseminated and recorded on the relevant database lists as 'remediated' by the appropriate agencies. The work plan for Further Site Assessment dated February 2009 (**Appendix 5.8-31**) determined that based on the low concentrations of hydrocarbons detected in the soil within the AEO Lease – Burns/Crist Lease Area, no remedial work was necessary. In 2011, the State Water Resources Control Board Geotracker and the Department of Toxic Substances Control Envirostor databases designated both the SADD Lease – North Pad and at the SADD Lease – South Pad Areas as open but eligible for closure.[8]

Thus, given the low potential for further soil and groundwater contamination from past oil drilling activities at the Project Site and the lack of sites identified as environmental risk sites near the Project Site,

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8 State Water Resources Control Board, Geotracker, http://geotracker.waterboards.ca.gov/ and Department of Toxic Substances Control Envirostor, http://www.envirostor.dtsc.ca.gov/public/, accessed February 17, 2015.

the Project would not create a significant hazard to the public or environment, and impacts would be less than significant.

Threshold 5.8-8 **Would the project expose people or structures to a significant risk of loss, injury, or death involving fires, because the project is located:**

i) within a Very High Fire Hazard Severity Zones (Zone 4)?

The Project would develop 497 residential units and recreational amenities within an area designated as VHFHS. As discussed further in **Section 5.12.4, Fire Service**, of this Draft EIR, given the Project Site's location within a VHFHS Zone, the Project would be required to comply with all applicable Fire Code and County ordinance requirements regarding construction, access, water mains, fire hydrants, fire flows, and brush clearance for this zone. In addition, a final fuel modification plan would be submitted for review and approval to the Forestry Division of LACFD before the issuance of building permits as required by proposed **Mitigation Measure MM 5.12.4-5**.

Vehicular access to and from the Project Site is currently provided from Hasley Canyon Road. Upon completion of the Project, Hasley Canyon Road will remain the primary access point to and from the Project. Proposed road linkages would provide access to the Project Site, including the: (1) northern portion, via the proposed extension of Barcelona Road; and (2) the eastern portion, via the proposed extension of Hayward Drive. This new roadway system would also provide an alternative means of egress for residents to the east and north of the Project Site, increasing accessibility and emergency routes for residents and emergency vehicles in those areas.

The internal circulation system for the Project Site would be consistent with County standards regarding access (i.e., roadway widths, length of single access streets, street parking restrictions, etc.; see **Section 5.14, Transportation/Traffic**, for more information). The Project also would comply with all circulation and access requirements imposed by the County, including by the LACFD. In addition, the Project would implement a Construction Traffic Management Plan during construction to ensure that emergency access to the Project Site and all residences and businesses in the surrounding vicinity is maintained, consistent with LACFD requirements. Refer to the PDF in **Section 5.14, Transportation/Traffic**, for full details regarding the Construction Traffic Management Plan. In addition, appropriate access would be provided to and through the Project Site and the Project's roadway improvements (the two roadway extensions), would improve access and traffic flows throughout the vicinity. As such, the Project would not expose people or structures to a significant risk of loss, injury or death involving fires due to inadequate access and impacts would be less than significant.

An existing 750,000-gallon water tank is located on the Project Site. Due to an increase in fire flow requirements associated with the Project, an additional 850,000-gallon water tank is required. The water tank is proposed to be located in proximity to the existing water tank, on the same lot, and to share common access and a common water main line. The proposed water system for the Project would provide water supplies sufficient to support fire suppression activity in the event of wildland or structural fires and would include water mains, fire hydrants, and fire flows that meet County standards. Given that a long-term source of water must exist for the Project prior to the issuance of building permits, and that a water supply system is proposed that would meet County fire flow requirements, no significant water-related fire hazards would occur. Impacts would be less than significant. Refer also to **Section 5.12.4, Fire Service.**

The plant communities that make up the surrounding undeveloped areas (within and adjacent to the Project Site) are highly combustible and, without mitigation, would present a high fire hazard to development, including the Project, in the area. The Project includes fuel modification zones as required by LACFD. Based on input from LACFD, the required fuel modification zones may extend up to 20 feet into the natural open space in some areas to minimize fire risk. Selection of plantings within the Fuel Modification Zone will be made referencing the County's Fuel Modification Plant List. The Project would be required to meet County codes and requirements relative to providing adequate fire protection services to the Project Site during both the construction and operational stages of the Project. Pursuant to **Mitigation Measure 5.12.4-5**, a preliminary fuel modification plan (See **Figure 4.0-7, Preliminary Fuel Modification Plan,** and **Appendix 5.12.4-3**) and a conceptual landscape plan (See **Figure 4.0-6, Conceptual Landscape Plan,** and **Appendix 5.12.4-4**) have been prepared for the Project. A final fuel modification plan and final landscape and irrigation plan, consistent with the conceptual plan, will be prepared in accordance with County requirements. Consequently, impacts with regard to vegetative cover within a VHFHS zone would be less than significant.

Additional fire protection services would be provided by the closest available district response units. As further described in **Section 5.12.4, Fire Service**, with implementation of **Mitigation Measures MM 5.12.4-1** through **MM 5.12.4-8**, the Project would not have significant impacts with respect to fire services. The Project would be required to meet County codes and requirements relative to providing adequate fire protection services to the Project Site during both the construction and operational stages of the Project. With implementation of all proposed mitigation measures and compliance with applicable jurisdictional requirements, the Project would not diminish the staffing or response times of existing fire stations in the Santa Clarita Valley, nor would it create a special fire protection requirement on the Project Site that would result in a decline in existing service levels in the Valley. Therefore, through compliance

with applicable County Fire Code and LACFD requirements, as well as approval and implementation of the fuel modification plan, impacts relative to the VHFHS Zone would be less than significant.

5.8.3 CUMULATIVE EFFECTS

Development of the Project in combination with the Related Projects has the potential to increase the risks associated with the accidental release of hazardous materials into the environment. As with the Project, each of the Related Projects would require evaluation for potential risks associated with the use, storage, transport, and/or disposal of hazardous materials. Since hazards and hazardous materials issues are largely site-specific, this evaluation would occur on a case-by-case basis, in conjunction with development proposals on these properties. Therefore, with compliance of all applicable local, state, and federal rules and regulations, cumulative impacts with respect to hazardous materials would be less than significant.

Increased vehicle traffic generated at buildout of the Project and the Related Projects could adversely affect the operating condition of the local roadway network. Increased cumulative traffic could slow fire response times in a VHFHS Zone. Implementation of the PDF included in **Section 5.14, Transportation/Traffic,** which requires maintenance of emergency access during construction would ensure adequate traffic flow in the event of an emergency. Related Projects would be required to implement similar measures to those proposed in this Draft EIR.

Similarly, Related Projects would be required to implement fuel modifications in accordance with LACFD requirements. As each project would implement necessary fire hazard reduction measures specific to that site, cumulative impacts would not occur.

5.8.4 MITIGATION MEASURES

MM 5.8-1: Prior to issuance of a building permit, the Applicant shall submit to the Los Angeles County Fire Department, the Division of Oil Gas and Geothermal Resources, and any applicable local or state agencies documentation verifying that all inactive oil wells have been fitted with vent caps unless determined to be unnecessary by Los Angeles County Fire Department.

MM 5.8-2 Prior to issuance of a building permit, the Applicant shall submit to the Los Angeles County Fire Department documentation verifying that vapor barriers are installed on all homes within 300 feet of any abandoned oil wells.

MM 5.8-3 If during grading and excavation previously unidentified soil contamination is observed, by sight or smell, or indicated by testing (by a qualified professional using a portable volatile organic compound analyzer) grading and excavation within the area shall be temporarily halted and redirected around the area at a minimum of 25 feet, until the appropriate evaluation and follow-up measures (as contained in the South Coast Air Quality Management District's Rule 1166) are implemented to make the area suitable for grading activities to resume. The contaminated soil shall be evaluated and excavated/disposed of, treated in-situ (in place), or otherwise managed and disposed of in accordance with all applicable federal, State, and local laws and regulations.

5.8.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of **Mitigation Measures MM 5.8-1** through **MM 5.8-3,** as well as **Mitigation Measures MM 5.12.4-1** through **MM 5.12.4-8** and the proposed **PDFs**, Project impacts associated with fire hazards and hazardous materials would be less than significant.

5.9 HYDROLOGY AND WATER QUALITY

This section describes the existing hydrology and water quality surrounding the Project Site, identifies the regulatory framework with respect to regulations that address hydrology and water quality, and evaluates the significance of the potential changes to hydrologic features and water quality that could result from development of the Project.

5.9.1 Hydrology

INTRODUCTION

This section of the Draft EIR evaluates the potential hydrologic impacts of the Project. The information presented in this section relies on the Hydrology Report for Tract No. 052584 prepared by Land Design Consultants (LDC), Inc., (2013) (Hydrology Report), which is provided in **Appendix 5.9.1-1** of this Draft EIR. In addition to the hydrology report, the following reference documents were used in this analysis. Documents referred to, referenced, or cited in this Draft EIR section are incorporated by reference and are available for public review at the addresses provided in Section 1.0 of this EIR:

- Los Angeles County Department of Public Works, Level of Flood Protection and Drainage Protection Standards, 1986.
- Los Angeles County Department of Public Works *Hydrology Manual* (2006) and *Sedimentation Manual* (June 1993).
- Los Angeles County Department of Public Works. Low Impact Development (LID) Standards Manual (February 2014).
- California Regional Water Quality Control Board, Los Angeles Region, Water Quality Control Plan (Basin Plan) for the Coastal Waters of Los Angeles and Ventura Counties (June 1994, Approved February 1995).
- California Regional Water Quality Control Board, Los Angeles Region, Standard Urban Stormwater Mitigation Plan for Los Angeles County and Cities in Los Angeles County (March 2000).
- California Regional Water Quality Control Board, Los Angeles Region, Order No. R4-2012-0175, National Pollutant Discharge Elimination System (NPDES) Permit No. CAS004001 Waste Discharge Requirements for Municipal Storm Water and Urban Runoff Discharges within the County of Los Angeles, and the Incorporated Cities Therein, Except for the City of Long Beach (Amended November 2012).
- California Stormwater Quality Task Force, Construction Storm Water Sampling and Analysis Guidance Document to Assist Dischargers in Complying with California State Water Resources Control Board Resolution No. 2001-046 (October 2001).
- California Water Resources Control Board, Resolution No. 2001-046: Modification of Water Quality Order 99-08-DWQ: State Water Resources Control Board (SWRCB) NPDES General Permit for Storm Water Discharges Associated with Construction Activity (Adopted April 2001).
- California Water Resources Control Board, Fact Sheet for Water Quality Order 99-08-DWQ: National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity (General Permit).

Explanation of the County Capital Flood Hydrology Definition[1]

In 1931, the Los Angeles County Flood Control District (LACFCD) began development of a comprehensive plan of flood control facilities to collect and convey flows from the mountainous canyons, the alluvial fans, and the urbanized coastal plain.

The major needs in designing the system were the reduction of damage due to high canyon flows, the conveyance of large volumes of water in a major storm, and the ability to meet future flood control needs. The design of the flood protection system for the County is based upon the Los Angeles County Department of Public Works' (LACDPW) 50-year capital flood hydrology. It is important to note that the LACDPW 50-year capital event design flow rate is well in excess of the Federal Emergency Management Agency (FEMA) 100-year flow rate.

LACDPW 50-year capital flood (or Qcap) hydrology is based on a design or theoretical storm event that is derived from 50-year frequency rainfall values and is patterned after actual major extra-tropical storms observed in the Los Angeles region. The 50-year capital frequency design storm is assumed to occur over a period of four days, with the maximum rainfall falling on the fourth day. For the sake of clarity and to minimize confusion, this document uses the term capital flood in place of references to 50-year capital flood.

Analysis of recorded major storms reveals that, during the 24-hour period of maximum rainfall, rainfall intensity typically increases during the first 70 to 90 percent of the period and decreases in the remaining time. Furthermore, approximately 80 percent of the amount of the 24-hour rainfall occurs within the same 70 to 90 percent of the period. In developing the capital flood methodology, the 50-year frequency design storm is assumed to fall on saturated soils. In converting rainfall to runoff, rainfall that is not lost due to the hydrologic processes of interception, evaporation, transpiration, depression storage, infiltration, or percolation is assumed to be surface runoff. The effect of snowfall or snowmelt on rainfall-runoff relationships is a consideration in only a very limited portion of the County (i.e., the higher elevations) where snowfall accumulates in winter.

Another assumption made in developing the capital flood design flow rate is that natural portions of the watershed have been burned by fire. When a watershed burns, the soil infiltration rate decreases due to the loss of vegetation and physical changes in the soil. The LACDPW has run field infiltrometer tests in order to quantify the effect that burning has on the coefficient of runoff. The effect of burning the

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1 Los Angeles County Department of Public Works, *Hydrology Manual*, (Alhambra, California: 2006).

watershed can increase the design runoff rate from 10 percent to 20 percent. The resulting runoff rate from a burned watershed is referred to as Qburn.

The final factor in adjusting the capital flood design flow rate is referred to as a bulking factor. In the area where a watershed is burned, the runoff would carry with it a large layer of eroded topsoil. This sediment, along with the associated burned trees and brush, is referred to as debris. In order to account for these quantities of debris, the design flow rate is artificially increased using a prescribed bulking factor, which is a function of not only soil type, but also the steepness of the terrain and the size of the drainage basin. The bulking factors for larger drainage basins range from about 1.20 to 1.50 or from 20 percent to 50 percent over and above the burned flow rate.

In September 2003, LACDPW revised the hydrologic method that accounts for fire effects on runoff computations. In the previous practice, a completely burned watershed was assumed. That policy was updated to employ a statistical approach that relates historical fire data and vegetation recovery rates to changes in the runoff coefficient of soil. In so doing, a fire factor (FF) was developed to represent the effectively burned percentage of a given watershed. This factor is used to adjust runoff coefficients for the capital flood by indexing between an unburned and completely burned soil coefficient for a given soil.

In summary, the LACDPW's Qcap is based on a theoretical four-day storm event occurring right after the watershed has been burned with the resulting flow rate being increased again by a bulking factor, thereby yielding a peak flow rate that is greater than a 50-year storm over an unburned-unbulked drainage basin. The probability of all of the theoretical assumptions incorporated in the LACDPW's capital flood occurring at the same time is extremely small, and yields greater design flows than the FEMA methodology for calculating the 100-year and 500-year floods. As a result, the LACDPW's methodology is more conservative than the FEMA 100-year flow rate

Storm Drains and Urban Flood Protection

All facilities in developed areas that are not covered under the capital flood protection conditions above must be designed for the urban flood. The urban flood is runoff from a 25-year frequency design storm falling on a saturated watershed.

In developed areas, street flow in an urban flood must be contained within the street, but the runoff may be carried in a drain under the street as well as on the street surface. Under urban flood conditions, street flow is allowed in the upstream area of an urban watershed, to the point where the flow reaches the street

capacity at the property line. At this point, the flow must be split and conveyed both in the street and in a 25-year frequency design storm facility.[2]

Urban Drains

Urban drains typically are designed to carry the runoff from a 10-year frequency storm. The runoff resulting from the 25-year frequency design storm must be carried within the drain and on the street, below the private property line. Like the 50-year frequency design storm, these design storms are four-day storms with the maximum rainfall quantities occurring on the fourth day.[3] Sumps are structures used to capture runoff, and in urban areas must be designed for the capital flood. Drains leaving the sump must have capacity to carry the runoff resulting from a 50-year frequency rainfall event.

Multiple Levels of Flood Protection

The LACDPW has established policies for multiple levels of flood protection. This applies in cases where a drainage system might have to provide more than a single level of flood protection. An example is where a natural canyon is tributary to a proposed urban drain or sump. In this case, the system must protect the developed area from an urban flood, as well as debris and stormwater from the natural canyon. Additional capacity also must be incorporated into the urban drainage system to accommodate the burned and bulked flow from the canyon area and protect the drainage from a capital flood.[4]

Debris Production Zones

The Project Site is located within debris production zones designated by the Hydraulic/Conservation Division of LACDPW. Specific debris production maps are provided in Appendix A of the LACDPW 2006 Hydrology Manual. The LACDPW has constructed and maintains several debris control structures within the Santa Clara River watershed to minimize the chance of channels clogging with debris. Debris control structures, volumes, and transportation rates are provided in the LACDPW Sedimentation Manual.

Hydromodification Control

Under Part VI.D.7, section C.4 of the municipal separate storm sewer systems (MS4) Permit, the County and its co-permittees were required to implement hydrologic control measures to prevent accelerated

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2 LACDPW Hydrology Manual, 2006

3 LACDPW Hydrology Manual, 2006

4 LACDPW Hydrology Manual, 2006

downstream erosion and to protect stream habitat in natural drainage systems. The Hydromodification Control Criteria for projects disturbing 50 acres or more within natural drainage systems will be required to demonstrate one of the following conditions:

1. *The site infiltrates on-site at least the runoff from a 2-year, 24-hour storm event, or*
2. *The runoff flow rate, volume, velocity, and duration for the post-development condition does not exceed the pre-development condition for the 2-year, 24-hours rainfall events. These conditions must be substantiated by hydrologic modeling acceptable to the Regional Water Board Executive Officer, or*
3. *The Erosion Potential (Ep) in the receiving water channel will approximate 1, as determined by a Hydromodification Analysis Study and the equation presented in Attachment J.* [5]

Projects within natural drainage systems are required to meet the Hydromodification Control Criteria as a part of the development plan approval process for building and grading permits. Hydromodification impacts are discussed subsequently within this section of the EIR.

5.9.1.1 ENVIRONMENTAL SETTING

Existing Conditions

Hasley Canyon Creek

The Project Site primarily drains to Hasley Canyon Creek, except for the easternmost portion of the Project Site, which drains towards the Lower Castaic Creek watershed. Hasley Canyon Creek has a Qcap[6] of 5,100 cubic feet per second (cfs) at the confluence with Lower Castaic Creek. Hasley Canyon Creek is a tributary to Lower Castaic Creek, which ultimately drains to the Santa Clara River.[7]

The Hasley Canyon Creek watershed is approximately 8 square miles in area. The watershed primarily drains the Sierra Madre Mountains to the north. The tributary drainage area to the Project Site that drain

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5 Erosion Potential approximation of 1 is derived from the MS4 Discharges within the Coastal Watersheds of Los Angeles County, Order No. R4-2012-0175, Attachment J, Determination of Erosion Potential. The approximation is a metric to predict the likelihood of channel adjustment, based on the pre and post developed conditions, expressed as a ratio.

6 Flowrate values are based on 2005 revised capital flow rates issued by LACDPW. LACDPW 50-year capital flood (or Qcap) hydrology is based on a design, or theoretical storm event that is derived from 50-year frequency rainfall values and is patterned after actual major extra-tropical storms observed in the Los Angeles region. The 50-year capital frequency design storm is assumed to occur over a period of four days, with the maximum rainfall falling on the fourth day. For the sake of clarity this document will only use the term "capital flood."

7 The Project Site is 430.4 acres, however the tributary drainage area that drains to Hasley Canyon Creek is 528 acres. See Table 5.9.1-2. Tributaries A, B, C, E, F, 1, and 2 drain to Hasley Canyon Creek.

to Hasley Canyon Creek represents approximately 0.83 square mile, or 10 percent of the 8-square-mile watershed (528 acres/640 acres per square mile = 0.83 square mile).

This section evaluates the change in the Project Site from current existing conditions with implementation of the Project and the Interim Controls. As the Project Site has been substantially graded in accordance with the Prior Entitlements, the existing condition is the mass graded condition as the site exists today. The change in the Project Site from the natural condition that is the condition of the site pre-development, or grading, is provided for information purposes in **Appendix 5.9.1-2.**

Castaic Creek

Castaic Creek is located east of the Project Site and flows from north to south. The creek has a burned flow (Qburn) of 21,900 cfs at the confluence with Hasley Canyon Creek, and a Qburn of 26,200 cfs at the confluence point of Castaic Creek and the Santa Clara River. Due to the Castaic Creek Reservoir located upstream of the Project Site, Qburn flowrates are utilized within Lower Castaic Creek rather than Qcap flowrates. Debris and sediment upstream of the reservoir are assumed to settle, therefore, flowrates downstream of the reservoir are based only on burn conditions.[8] Refer to **Subsection 5.9.2** for additional discussion of burned watershed conditions.

The entire Castaic Creek watershed is approximately 195 square miles in area. The watershed primarily drains the Angeles National Forest to the north. At the Hasley Canyon Creek and Lower Castaic Creek confluence, the Castaic Creek drainage area is 192 square miles. The tributary drainage areas to the Project Site represents approximately 0.92 square mile, or 0.5 percent of the 192-square mile watershed (589 acres/640 acres per square mile = 0.92 square mile).[9]

Santa Clara River

The Santa Clara River flows from east to west, and is located south of the Project Site. The river has a Qcap of 140,776 cfs just west of the confluence of Castaic Creek and the Santa Clara River.[10]

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8 Flowrate values are based on 2005 revised clear and burn flow rates issued by LACDPW.

9 The Project Site is 430.4 acres, however the total tributary drainage area to the Project Site is larger. 589 acres matches the total drainage area of all tributaries (**Table 5.9.1-2**). The total was used since the analysis point was taken at the confluence point of Hasley Canyon Creek and Castaic Creek.

10 Values based on 2005 revised capital flood flow rates issued by LACDPW.

The entire watershed of the Santa Clara River basin at the Pacific Ocean is 1,634 square miles in area. The watershed drains portions of the Los Padres National Forest from the north, the Angeles National Forest from the northeast and east, and the Santa Susana Mountains from the south and southeast.

Downstream of the existing Valencia Water Reclamation Plant (WRP), the Santa Clara River is perennial to approximately 5 miles downstream of the Los Angeles County/Ventura County line near Rancho Camulos. Flows in the Santa Clara River also can be affected by groundwater dewatering operations or by diversions for agriculture or groundwater recharge. Throughout the Santa Clara River channel, complex surface water/groundwater interactions lead to areas of alternating gaining and losing river segments. In particular, downstream of the Los Angeles County/Ventura County line, the Santa Clara River flows through the Piru groundwater basin, which forms a dry gap where dry-season streamflow is lost to groundwater.

As with most Southern California streams, flows in the Santa Clara River are highly episodic. For the gauged period between 1953 and 1996, annual flow at the Los Angeles County/Ventura County line gauge ranged between 253,000 acre-feet (1969) and 561 acre-feet (1961). Annual peak flows at the County line between 1953 and 1996 ranged from 68,800 cfs (1969) to 109 cfs (1960). The second highest annual peak, 32,000 cfs in 1966, was less than half of the highest peak (68,800 cfs in 1969).

The reach of the river within and adjacent to the Project Site has multiple channels (braided). High sediment loads, bank erodibility, and intense and intermittent runoff conditions characterize this kind of system. The river has the potential for aggradation (sediment deposition) and degradation (scouring or sediment removal) in various locations along the study reach based upon hydraulic conditions present in the various sub reaches of the river. Velocities and water surface elevations in the river vary from section-to-section of the river based on various hydraulic and hydrologic parameters. In general, velocity and water depth along the river will increase with higher discharge. Velocity and water depth percentage increases do not correspond to the percentage discharge increases because the wide river channel allows flood flows to spread out within the river cross-section thus reducing the increases in velocity and depth.

Tributaries

The majority of the Project Site is located north of Hasley Canyon Creek, with a portion of the Creek flowing across the property at the southwest corner of the site. The Project Site is also located west of Castaic Creek. Tributaries to Hasley Canyon Creek and Castaic Creek that are located primarily or

entirely on the Project Site are described below. The location of these tributaries is depicted on **Figure 5.9.1-1, Existing Tributary Drainages**.[11]

Unnamed Canyon A (Canyon A)

The approximately 0.32-square-mile (203.5 acres) Unnamed Canyon A, also described as Unnamed Tributary 1, watershed is a tributary to the northern bank of Hasley Canyon Creek. Approximately 41.5 acres of the Unnamed Canyon A watershed, or about 20 percent of the watershed area, is located within the Project Site (see **Figure 5.9.1-1**). The watershed is aligned generally in a north to south direction, until the terminus point to Hasley Canyon Creek. The length of Canyon A watershed is approximately 4,143 feet, with an average slope of 7.4 percent. The origin of this canyon has been impacted by existing development. The uppermost portion of the watershed, which accounts for approximately 57 percent, receives drainage from a residential development north of the Project Site. The development discharges through an existing storm drain system "PD 2513,"[12] to the remaining portion of the watershed. The downstream portion of the watershed is characterized by a narrow sloping valley floor surrounded by rugged and steep foothills. The upper portion of Canyon A averages less than 100 feet in width, and widens considerably near its terminus at Hasley Canyon Creek. Unnamed Canyon A/Unnamed Tributary 1 is jurisdictional. See **Section 5.3, Biological Resources**.

Unnamed Canyon B (Canyon B)

The 0.15-square mile-(95.3 acres) Unnamed Canyon B watershed is a tributary to the northern bank of Hasley Canyon Creek. Approximately 83.7 acres of the watershed, or about 88 percent of the watershed area, is located within the Project Site (see **Figure 5.9.1-1**). The watershed is aligned generally in a north to south direction. The length of Canyon B watershed is approximately 3,835 feet, with an average slope of 9.9 percent. The upper portion of Unnamed Canyon B is characterized by a narrow sloping valley floor surrounded by rugged and steep foothills, and widens to approximately 250 feet in width. Unnamed Canyon B/Unnamed Tributary 2 is jurisdictional. See **Section 5.3, Biological Resources**.

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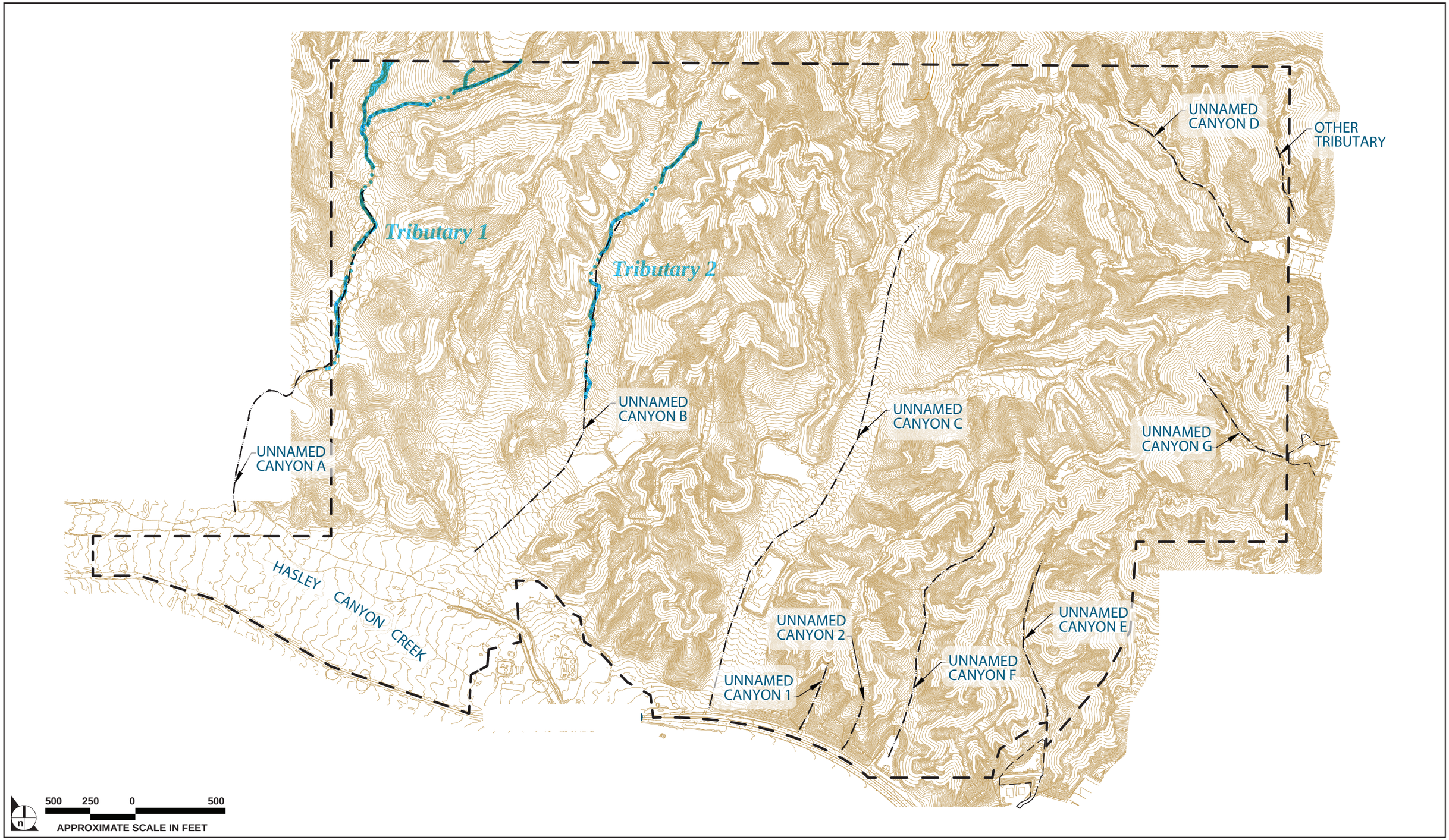
11 The unnamed canyons referenced in this section are referred to as unnamed drainages or unnamed tributaries elsewhere in the document.

12 "PD 2513," along with subsequent references to "PD xxxx" in this EIR, represents the Los Angeles County Storm Drain System standard County storm drain system naming practice, website: http://dpw.lacounty.gov/fcd/stormdrain/index.cfm, July 2014.



SOURCE: Hunsaker & Associates, April 2014

FIGURE **5.9.1-1**

Existing Tributary Drainages

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At the confluence of the main to the western stem, the canyon widens to an approximate width of 350 feet near its terminus at Hasley Canyon Creek. Approximately 6 acres, or 6 percent of the watershed, has been graded along the east portion of the watershed area.

Unnamed Canyon C (Canyon C)

The 0.33-square-mile (211.2 acres) Canyon C watershed is a tributary to the northern bank of Hasley Canyon Creek. Approximately 196 acres of the watershed, or about 93 percent of the watershed area, is located within the Project Site (see **Figure 5.9.1-1**). The watershed is aligned generally in a north to south direction and joins Hasley Canyon Creek. The length of the Canyon C watershed is approximately 4,600 feet, with an average slope of 8.6 percent.

The watershed has primarily been graded within the Project Site. Approximately 170 acres, or 80 percent of the watershed, has been graded. A small portion of the watershed remains in a natural condition, located in the upper portions of the watershed. The natural portion of the watershed is characterized by a narrow sloping valley floor surrounded by rugged and steep foothills, and widens to approximately 200 feet in width. The watershed discharges to non-County maintained catchment areas. From the catchment areas, Canyon C drains to an existing reinforced concrete box structure maintained by the LACFCD. The existing tributary has not been identified as jurisdictional.

Unnamed Canyon D (Canyon D)

The 0.05-square-mile (30.8 acres) Canyon D watershed is a tributary to the western bank of Castaic Creek. Approximately 30 acres of the watershed, or about 97 percent of the watershed area, is located within the Project Site (see **Figure 5.9.1-1**). The watershed is aligned generally in a west to east direction and terminates at an existing 39 inch reinforced concrete pipe (RCP) storm drain system, PD 2435-Unit 2. The length of the Canyon D watershed is approximately 1,406 feet, with an average slope of 13 percent.

The watershed has primarily been graded within the Project Site. Approximately 30 acres, or 97 percent of the watershed, has been graded. A small portion of the watershed remains in a natural condition, located in the upper portion of the watershed. The natural portion consists of two narrow forks, averaging approximately 50 feet in width each. The watershed discharges into an existing County maintained debris basin. The existing tributary has not been identified as jurisdictional.

Unnamed Canyon E (Canyon E)

The 0.02-square-mile (11.8 acres) Unnamed Canyon E watershed consists of multiple natural subareas that individually flow to existing non-County maintained catchment areas. The entire watershed is

located within the Project Site (see **Figure 5.9.1-1)**. Each subarea is aligned generally in a north to south direction. The length of each subarea is approximately 600 feet, with an average slope of 15 percent. Each subarea is a narrow fork approximately 50 feet in width. From the catchment areas, Canyon E drains to an existing reinforced concrete box structure maintained by the LACFCD. The existing tributary has not been identified as jurisdictional.

Unnamed Canyon F (Canyon F)

The 0.01-square-mile (6.9 acre) Unnamed Canyon F watershed is a tributary to the northern bank of Hasley Canyon Creek. The watershed is entirely located within the Project Site (see **Figure 5.9.1-1**), and has been primarily graded with manufactured slopes. Unnamed Canyon F watershed consists of multiple natural subareas that individually flow to existing non-County maintained debris basins. Each subarea is aligned generally in a north to south direction. Each subarea is approximately 300 feet in length, with an average slope of 50 percent. From the debris basins, flow from the watershed outlets to an existing storm drain system, PD 2498, which ultimately discharges to Hasley Canyon Creek. The existing tributary has not been identified as jurisdictional.

Unnamed Canyon G (Canyon G)

The 0.02-square-mile (10.6 acres) Canyon G watershed is a tributary to the western bank of Castaic Creek. Approximately 10 acres of the watershed, or about 95 percent of the watershed area, is located within the Project Site (see **Figure 5.9.1-1**), and has been primarily graded with manufactured slopes. The watershed is aligned generally in a west to east direction and terminates at an existing debris basin maintained by LACFCD. The length of the Canyon G watershed is approximately 800 feet, with an average slope of 50 percent. From the debris basin, flow from the watershed outlets to an existing storm drain system, PD 2435, which ultimately discharges to Castaic Creek. The existing tributary has not been identified as jurisdictional.

Unnamed Canyon H (Canyon H)

The 0.02-square mile (9.8 acres) Unnamed Canyon H watershed is a natural watershed located within the Project Site. The Canyon drains to an existing storm drain system that ultimately discharges to Lower Castaic Creek. The total area is tributary to Lower Castaic Creek through PD 2435-Unit 2. The existing tributary has not been identified as jurisdictional.

Project Site

Information is provided below regarding the existing drainage characteristics of the Project Site, as well as the amount of runoff that flows through and from the Project Site into Hasley Canyon Creek.

The Tributary Area for the Project Site is approximately 580 acres and lies completely within unincorporated Los Angeles County. The Tributary Area is comprised of eight drainage areas (described in **Subsection 5.9.1.2,** above) that independently drain toward Hasley Canyon Creek or Castaic Creek (Tributary Area) (see **Figure 5.9.1-1, Existing Tributary Drainages**). Runoff flows to and through the Project Site via sheet flows and natural concentrated flows. All runoff from the Tributary Area eventually discharges to either Hasley Canyon Creek or Castaic Creek either directly or to existing storm drain systems. There are currently three existing debris basins and seven storm drain systems located adjacent to the Project Site (**Figure 5.9.1-4, Existing and Proposed Project Site Drainage,** below).

Annual rainfall in this area is typically low and occurs generally in the winter months. Runoff sources occur both on and off-site, with the headwaters of the streams in the steep upper canyons near the ridgelines in off-site areas. The combination of soil characteristics and high magnitude low frequency storms, which are typical of the region, produce conditions conducive to rapid accumulation of surface water and high storm peak runoffs.

Capital flood runoff quantities for the drainage areas are provided in **Table 5.9.1-1, Existing Drainages and Runoff Discharge**. In accordance with LACDPW requirements, the burned and bulked storm event (the capital storm) was used to calculate the discharge. Under existing conditions, burned and bulked flows from the eight drainage areas total approximately 1,660 cfs. The calculated total debris volume during a capital storm is approximately 55,550 cubic yards.

Drainage Areas identify the acreage tributary to each Unnamed Canyon identified above. Drainage areas A and B within the Project Site drain directly to Hasley Canyon Creek. Drainage area C drains to an existing reinforced concrete box culvert that runs underneath Hasley Canyon Road and outlets into the Hasley Canyon Creek. Drainage area D drains to an existing County maintained debris basin, which outlets to an existing County storm drain pipe that ultimately discharges to Lower Castaic Creek. Drainage area E drains to existing non-County catchment basins, which ultimately outlet to an existing County maintained reinforced concrete box, and discharges to Hasley Canyon Creek. Drainage area F drains to an existing non-County debris basin, which outlets to an existing County storm drain pipe that discharges to Hasley Canyon Creek. Drainage area G drains to an existing debris basin, which outlets to an existing storm drain system that ultimately discharges to Lower Castaic Creek. Drainage H will predominantly remain in a natural condition. The tributary currently drains to an existing debris basin, which outlets to an existing storm drain and discharges to Lower Castaic Creek.

Table 5.9.1-1
Existing Drainages and Runoff Discharge

Drainage Area	Acreage	Debris Producing Acreage	Q50c (cfs)[1]	Q50bb (cfs)[2]	Debris Volume (cy)[3]
A	203.5	92.2	485	581	11,099
B	95.3	95.3	176	272	12,103
C	211.2	211.2	408	631	29,972
D	30.8	0	52	55	0
E	11.8	11.8	29	45	1,499
F	6.9	6.9	18	27	876
G	10.6	0	28	29	0
H	9.8	0	20	21	0
Totals	**579.9[4]**	**417.4**	**1216**	**1661**	**55,549**

Source: Land Design Consultants, Inc., Hydrology Report, VTTM 52584 (February 2014), revised August 2014.

[1] *Q50c–50-year rainfall intensity clear flow*

[2] *Q50bb–50-year rainfall intensity burned and bulked flow*

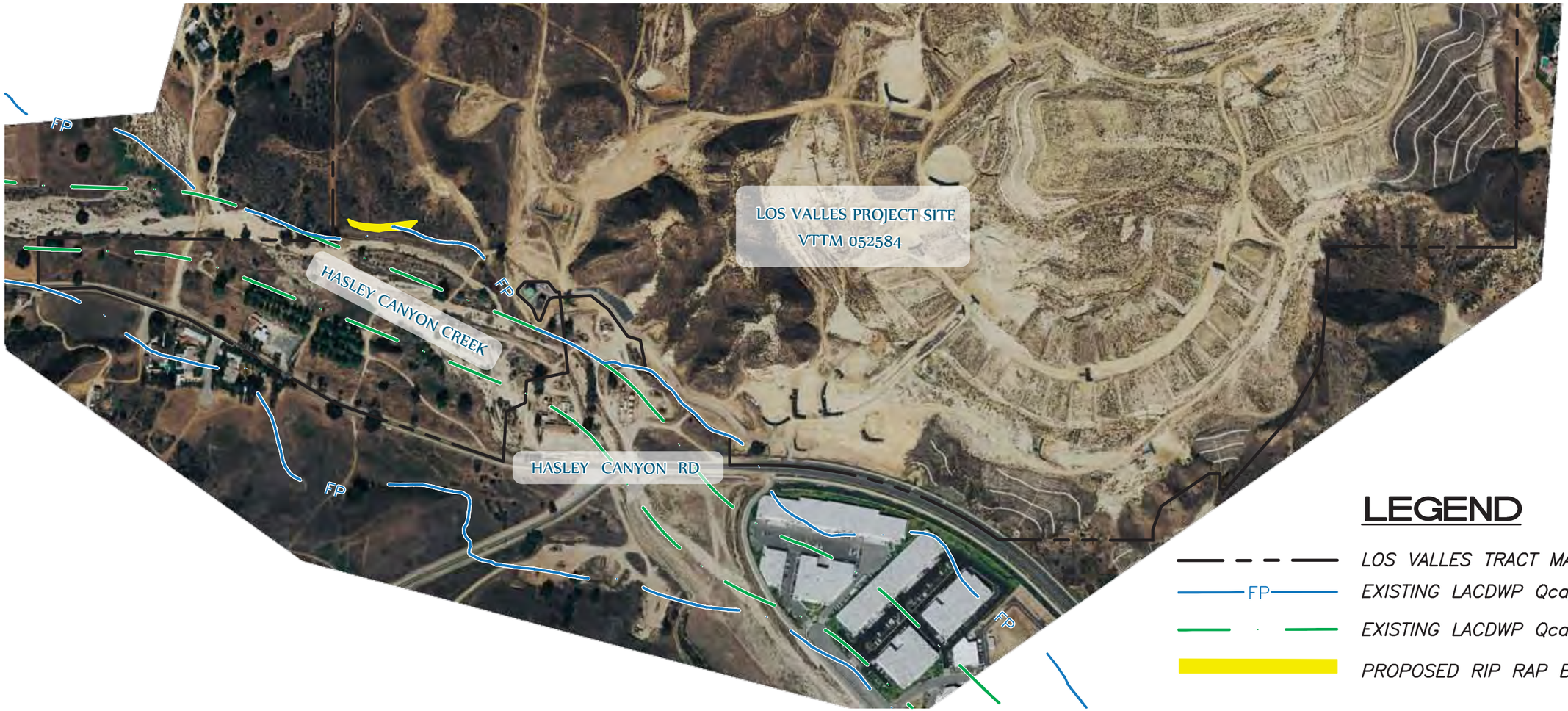
[3] *Debris Volume – Cubic yards are determined by using a debris producing rate of (range 100-130 cy/acre), which is specific for this area, on undeveloped conditions (see the LDC report for debris production area ratios calculations).*

[4] *Basis for total Tributary Area referred to within the report.*

There are no known flow constraints in this portion of the watershed. The Qburn within Castaic Creek downstream of the Project Site is approximately 21,900 cfs at the confluence of Hasley Canyon Creek and Castaic Creek. Existing burned and bulked flow from the Project Site is approximately 1,660 cfs. Therefore, capital flood flows from the Project Site are approximately 7.6 percent of the Castaic Creek discharge rate at this point.

Hasley Canyon Floodplain

A portion of the Project Site lies within the County's capital floodplain for the river (See **Figure 5.9.1-2, Existing County Capital Floodplain Boundaries**) and within the 100-year floodplain identified by FEMA Flood Insurance Rate Map (FIRM) No. 065037-0800 (October 28, 2008) for the unincorporated areas of Los Angeles County (see **Figure 5.9.1-3, Existing FEMA 100-Year Floodplain Boundary**). The 100-year floodplain boundaries are based on historical runoff records as measured with stream gauges and based upon the theoretical 1 percent probability rainfall event and the resulting 100-year flood rate and floodplain. Mapping the 100-year floodplain is important because FEMA uses the data to establish standards for flood insurance coverage under the Natural Flood Insurance Program (NFIP). Under NFIP criteria, the 100-year flood elevation is the "base flood" and any land that is outside of this 100-year, or base flood, elevation is considered reasonably safe and free from flood hazards.



LEGEND

- LOS VALLES TRACT MAP BOUNDARY
- FP — EXISTING LACDWP Qcap FLOODPLAIN
- EXISTING LACDWP Qcap FLOODWAY
- PROPOSED RIP RAP BANK PROTECTION

500 250 0 500

APPROXIMATE SCALE IN FEET

SOURCE: Hunsaker & Associates, April 2014

FIGURE **5.9.1-2**

Existing County Capital Floodplain Boundaries

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LEGEND

- LOS VALLES TRACT MAP BOUNDARY
- FEMA 100 YR ZONE A FLOODPLAIN
- PROPOSED RIP RAP BANK PROTECTION

500 250 0 500

APPROXIMATE SCALE IN FEET

SOURCE: Hunsaker & Associates, April 2014

FIGURE **5.9.1-3**

Existing FEMA 100-Year Floodplain Boundary

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In the case of Hasley Canyon Creek, there are two sets of agency mapped and adopted floodplain limit lines. The FEMA Flood Insurance Rate Maps (FIRMs) for the 100-year event (5,544 cfs based on FEMA's 2008 Flood Insurance Study) were updated and adopted by FEMA (2008), but FEMA has not mapped a 100-year floodway in this reach of the canyon. In addition, LACDPW has a mapped floodplain and floodway for Hasley Canyon Creek for the capital flood event (±5,100 cfs), which is the LACDPW design storm event. The Project is required to meet both FEMA and LACDPW capital flood events.

Regulatory Framework

Federal

The Clean Water Act

The Project would be subject to federal permit requirements under the federal Clean Water Act (CWA).

In 1972, the federal Water Pollution Control Act (later referred to as the CWA) was amended to require that the discharge of pollutants to "waters of the US" from any point source be effectively prohibited, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. In 1987, the CWA was again amended to add Section 402(p), requiring that the US EPA establish regulations for permitting of stormwater discharges (as a point source) by municipal and industrial facilities and construction activities under the NPDES permit program. The US EPA published final regulations directed at municipal separate storm sewer systems (MS4s) serving a population of 100,000 or more, and stormwater discharges associated with industrial activities, including construction activities, on November 16, 1990. The regulations require that MS4 discharges to surface waters be regulated by a NPDES Permit.[13] The US EPA published final regulations directed at storm water discharges not covered in the Phase I Final Rule, including small construction projects of 1 to 5 acres, on December 8, 1999.[14]

Section 404 of the CWA regulates activities that result in the location of a structure, excavation, or discharge of dredged or fill material into waters of the US, which include wetlands along with non-wetland habitats, such as streams (including intermittent streams), rivers, lakes, ponds, etc. The CWA authorizes the US EPA to permit a state to serve as the NPDES permitting authority in lieu of the US EPA. The state of California has in-lieu authority for an NPDES program. The Porter-Cologne Water Quality Control Act (discussed below) authorizes the State Water Resources Control Board (SWRCB), through its Regional Water Quality Control Board (RWQCB), to regulate and control discharges into

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13 Phase I Final Rule, 55 Fed. Reg. 47990

14 Phase II Final Rule, 64 Fed. Reg. 68722

waters of the state. The SWRCB entered into a memorandum of agreement with the US EPA on September 22, 1989, to administer the NPDES program governing discharges to waters of the US.

To facilitate compliance with federal regulations, the SWRCB has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites (not applicable to the Project), and the other for storm water from construction sites.

Under this Construction General Permit, discharges of stormwater from construction sites with a disturbed area of one or more acres (effective July 1, 2010) are required to either obtain individual NPDES permits for stormwater discharges or to be covered by the Construction General Permit. Coverage under the Construction General Permit is accomplished by completing a construction site risk assessment to determine appropriate coverage level; preparing a Stormwater Pollution Prevention Plan (SWPPP), including site maps, a Construction Site Monitoring Program (CSMP), and sediment basin design calculations; for projects not covered under an adopted Phase 1 or Phase 2 SUSMP, completing a post construction water balance calculation; and completing a Notice of Intent. All of these documents must be electronically submitted to the SWRCB for General Permit coverage. The primary objective of the SWPPP is to identify and apply proper construction, implementation, and maintenance of best management practices (BMPs) to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site during construction. The SWPPP also outlines the monitoring and sampling program required for the construction site to verify compliance with discharge Numeric Action Levels (NALs) set by the Construction General Permit.

Federal Emergency Management Agency

In 1968, Congress passed the National Flood Insurance Act, which resulted in the NFIP administered by FEMA. The intent of this program is to reduce future flood damage through community floodplain management ordinances and to provide protection for property owners against potential losses through an insurance mechanism that requires a premium to be paid for the protection. Through this program, hydrologic analyses are conducted to determine the magnitude of flood risk that exists in various communities throughout the country. FEMA identifies flood zones or areas subject to flooding through its Flood Insurance Rate Maps. The standard for flood protection established by FEMA, and used by the CEQA Guidelines, is the 1-in-100 annual exceedance probability (AEP), commonly referred to as the 100-year flood event.

On a state level, the Flood Plain Management Act encourages the sound development of land subject to recurring flooding, so that such areas are developed with economically-feasible flood control measures in place to prevent human and economic losses caused by excessive flooding. The State of California

encourages local governments to implement effective land use regulations to accomplish floodplain management.

Since October 1990, the County has been a voluntary participant in FEMA's NFIP. As a participant, the County is responsible for the regulation of development in special flood hazard areas within the County. As a compliance requirement of the NFIP, the County enforces regulations upon developments within flood hazard zones to ensure that buildings are erected at a safe elevation to prevent potential damage to property.

United States Army Corp of Engineers

Project improvements (including implementation of biological mitigation) within the jurisdiction of the United States Army Corps of Engineers (USACE) would require permits under Section 404 of the CWA. Section 404 of the CWA regulates activities that result in the location of a structure, excavation, or discharge of dredged or fill material into waters of the US, which include wetlands along with non-wetland habitat, such as streams (including intermittent streams), rivers, lakes, ponds, etc. Hasley Canyon Creek, including that portion of the canyon that flows within and adjacent to the Project Site, is designated by the US Geological Survey (USGS) as waters of the US. Castaic Creek is also considered waters of the US and falls under USACE jurisdiction. Two tributaries, referred to as Tributary # 1 and # 2, within the Project Site are also designated as jurisdictional. Jurisdictional delineations of these tributaries can be found in **Section 5.3, Biological Resources, Figure 5.3-3, Jurisdictional Features**. Construction of the proposed rock rip-rap levee will fall within the USACE's jurisdiction.

State

State Water Regional Control Board

The State Water Regional Control Board regulates wastewater discharges to surface water (rivers, ocean, etc.) and to groundwater. The Water Boards also regulate storm water discharges from construction, industrial, and municipal activities; discharges from irrigated agriculture; dredge and fill activities; the alteration of any federal water body under the 401 certification program; and several other activities with practices that could degrade water quality.

California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) has jurisdiction over Hasley Canyon Creek and the two jurisdictional tributaries within the Project Site. Project improvements under the jurisdiction of CDFW would require permits under sections 1600–1607 of the California Fish and Game Code. Under

this state law, CDFW regulates activities that would alter the flows, beds, channels, or banks of streams[15] and lakes. Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act ("Porter-Cologne" or "the Act") established the State Water Resources Control Board (State Water Board) and divided the state into nine regional basins, each with an RWQCB. The State Water Board is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies.

The Act authorizes the State Water Board to draft state policies regarding water quality in accordance with CWA Section 303. In addition, the Porter-Cologne Act authorizes the State Water Board to issue Waste Discharge Requirements (WDRs) for projects that would discharge to state waters. Porter-Cologne requires that the State Water Board or the RWQCB adopt water quality control plans, otherwise referred to as basin plans, for the protection of water quality. A basin plan must:

- Identify beneficial uses of water to be protected;
- Establish water quality objectives for the reasonable protection of the beneficial uses; and
- Establish a program of implementation for achieving the water quality objectives.

Basin plans also provide the technical basis for determining WDRs, taking enforcement actions, and evaluating clean water grant proposals. Basin plans are updated and reviewed every three years in accordance with Article 3 of Porter-Cologne and CWA Section 303(c).

Local

Los Angeles Regional Water Quality Control Board

The Regional Water Quality Control Board (RWQCB) is the enforcement authority in the Los Angeles Region for the two statewide general permits, and all NPDES storm water and non-storm water permits. Construction sites and discharges are also regulated under local laws and regulations.

The Project is also subject to the waste discharge requirements of the RWQCB Municipal Permit Order No. R4-2012-0175, NPDES No. CAS004001 (amended 2012) (General MS4 Permit). The County of Los Angeles is a Permittee under the General MS4 Permit and, therefore, has legal authority to enforce the terms of the permit within its jurisdiction. The General MS4 Permit is intended to ensure that combinations of source control and treatment control Best Management Practices (BMPs) are

[15] The term "stream" can include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blueline streams, and watercourses with subsurface flows.

implemented to protect the quality of receiving waters. It includes requirements governing the design, construction, and operation of developments.

Los Angeles Department of Public Works, Water Resources Division

The Water Resources Division within LACDPW is responsible for collecting and analyzing hydrologic data to support the design, operation, and maintenance of flood control facilities within Los Angeles County. Among other duties, the Water Resources Division performs hydrology and sedimentation studies; collects stream flow, precipitation, and evaporation data; forecasts rainfall runoff; and analyzes flood flows. The data collected by the Water Resources Division is used in conjunction with design standards developed by LACDPW to ensure that flood control facilities are adequately sized, maintained, and operated. The Water Resources Division operates and maintains County flood control facilities, including open flood control channels, underground storm drains, catch basins, debris retaining structures, and concrete streambed stabilization structures.

The Water Resources Division uses site-specific data to prepare maps of watersheds burned by brush fires, potential mudflow areas, and debris flow zones. Hydrologic and topographic information is used by the Water Resources Division to prepare detailed flood hazard zone maps. These maps are more detailed than the FIRMs used by FEMA, because impervious and burned surfaces are taken into account.

In the Santa Clara River Basin, LACDPW requires that (1) the top elevation of the bank protection must contain the capital flood discharge; (2) the bank protection must be readily accessible for inspection and emergency repair; (3) the bank protection must be constructed of a material resistant to erosive flows; and (4) the bank protection must extend to or below the anticipated scour elevation for the capital flood event. Lining of the natural channel bottom is typically not required.

County of Los Angeles Hydrology Manual

Drainage and flood control in the vicinity of the Project Site is regulated by the LACDPW. LACDPW has jurisdiction over regional drainage facilities and local drainage facilities within the unincorporated portions of the County. The LACDPW Hydrology Manual requires that a storm drain conveyance system be designed for a minimum 25-year storm event and the combined capacity of a storm drain and street flow system accommodate flows from a 50-year storm event. Areas with sump conditions[16] are required to have a storm drain conveyance system capable of conveying flows from a 50-year storm event and in urban areas must be designed for the capital flood. The County also limits the allowable discharge into

16 Sumps are structures that capture runoff.

existing storm drain facilities. Any proposed drainage improvements of County-owned storm drain facilities, such as catch basins and storm drain lines, require review and approval from the LACFCD. The LACDPW Hydrology Manual also provides various analysis tools and calculation methodologies required for hydrologic evaluations.[17]

County of Los Angeles Low Impact Development Ordinance and Standards Manual

The LID Ordinance aims to improve water quality in the County by amending and expanding on the existing Standard Urban Stormwater Mitigation Plan (or SUSMP) requirements of capturing the first 0.75-inch of rain from a storm event for new and re-development projects that (1) require a building permit and (2) add or replace 500 square feet of impervious surface. The ordinance includes a set of site design approaches and best management practices (or BMPs) that are designed to address runoff and pollution at the source. These LID practices can effectively remove nutrients, bacteria, and metals while reducing the volume and intensity of stormwater flows.

LID strategies and goals include leading stormwater management strategies that seek to mitigate the impacts of runoff and stormwater pollution as close to the source as possible. Los Angeles County has prepared a 2014 LID Standards Manual to comply with the requirements of the General MS4 Permit for stormwater and non-stormwater discharges from the MS4 within the coastal watersheds of Los Angeles County. The LID Standards Manual provides guidance for the implementation of stormwater quality control measures in new development and redevelopment projects in unincorporated areas of the County with the intention of improving water quality and mitigating potential water quality impacts from stormwater and non-stormwater discharges.

Santa Clara River and Major Tributaries Drainage Policy

The LACDPW has determined that the Santa Clara River Basin is a major source of sediment for coastal beaches. In addition, groundwater recharge provides a significant amount of water for the Santa Clarita Valley and should be maintained. Based on these needs, LACDPW developed a drainage policy for the Santa Clara River and its Major Tributaries as follows:[18]

- The design of flood protection facilities for the Santa Clara River shall be based on:
  - the Department capital flood flow rates (50-year rainfall discharge, bulked only);
  - soft bottom waterways with levees; and

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17 2006 Los Angeles County Department of Public Works Hydrology Manual,

18 LACDPW Sedimentation Manual, 1993

  - protective levees and additional facilities, such as drop structures or stabilizers, as required shall be designed using LACDPW criteria.

- The design of flood protection facilities for tributary drainages to the Santa Clara River that have existing flood control improvements shall be compatible with these existing facilities.

- The soft bottom drainages shall be designed to maintain equilibrium between sediment supply to the drainage and sediment transport through the drainage. In cases where a soft bottom drainage is subject to significant deposition due to high sediment supply or significant erosion due to lack of sediment supply, then the drainage concept will be developed in consultation with LACDPW to comply with applicable requirements for tentative Project Site map approval.

County General Plan

Section 5.10, Land Use and Planning, of this Draft EIR provides a consistency analysis of the Los Angeles County General Plan policies pertaining to hydrologic conditions. Refer to **Table 5.10-1** for a list of the hydrologic policies included in the General Plan and the consistency analysis for each policy.

Santa Clarita Valley Area Plan

Section 5.10, Land Use and Planning, of this Draft EIR provides a consistency analysis of the Santa Clarita Valley Area Plan (SCVAP 2012) policies that pertain to hydrologic conditions. Refer to **Table 5.10-2** for a list of the SCVAP 2012 policies related to hydrologic conditions and the consistency analysis for each policy.

5.9.1.2 ENVIRONMENTAL IMPACTS

Methodology

This analysis of hydrology impacts is based on information from the Hydrology Report (**Appendix 5.9.1-1**). The report was prepared based on a review of documents from and methodologies specified by the LACDPW.

As described in **Section 4.0, Project Description,** the Project assumes proposed future channel modifications along approximately 1,400 feet of Hasley Creek within the Newhall Ranch property. The proposed modifications (defined in this EIR as the Planned Channel Improvements) consist of one or more grade stabilization structures within the natural channel bottom and bank protection on the sides of the channel. Such proposed flood control improvements would mean that the entire watercourse downstream from the Project Site, all the way to the Pacific Ocean, would not be susceptible to the long term erosive impacts of hydromodification. At that time, on-site hydromodification treatment control would no longer be necessary on the Project Site.

If the Planned Channel Improvements are not constructed prior to the completion of Project grading, interim hydromodification controls would be necessary. If interim controls are necessary, construction of 484 homes and two Retention Basins would occur in the Retention Areas. Full buildout of the Project would be implemented only when the Planned Channel Improvements are completed.

In general, full buildout of the Project is expected to be slightly more impactful from a hydrology perspective because, due to the 13 housing unit reduction, full buildout contains slightly more impervious area (approximately 4 percent). The increase in developed home sites under full buildout may be correlated to a proportional increase in flow rates. As such, the hydrologic impacts quantified in this EIR are for the full build out condition (i.e., the Project) and the analysis below focuses on the Project as a whole.

Method of Drainage Analysis

The engineering term for the methods used to properly size pipes and channels is "hydraulic analysis." In order to determine the proper sizes of pipes and channels, assumptions must be made regarding the amount of rainfall to design for and the amount and type of development that would take place in a drainage basin. An estimate must also be made of how often that amount of rainfall could be surpassed. This is referred to as the event exceedance probability, or its reciprocal value, return period. For example, a storm that has a 10 percent exceedance probability is a storm that has a 10 percent chance of exceeding a particular rainfall runoff in any given year. The reciprocal of this number (1/10) is also known as a 10-year return period storm. An important concept to keep in mind is that a pipe or channel is "designed" for a rate of flow (measured in cfs), not a volume of flow (measured in cubic feet or acre-feet). A dam or a lake is designed for storing or containing a fixed volume of water. A pipe of a fixed size, on the other hand, can carry different flow rates, depending on the pressure placed on the water.

In designing a storm drain system, the size of a pipe that would safely carry a predicted rate of flow (expressed in cfs) must be calculated. A 1-foot-square box that is 1-foot deep (a cubic foot) can hold 7.5 gallons of water. From this fact, the amount of storm water passing through a pipe or channel in one second can be calculated by multiplying the cross sectional area of the flow in the pipe (in square feet) by the rate of storm flows through the pipe in feet per second (fps). This three-dimensional rate of flow is referred to as "cubic feet per second," or cfs.

With the above concepts in mind, the effects of development on natural ground can be considered. Buildings, driveways, patios, sidewalks, and roads all create new impervious covers to the natural ground, and prevent water from being absorbed or infiltrating into the ground. The water that would

normally infiltrate into the ground would, therefore, run off at higher than normal flow rates. Thus, the surface discharge from developed areas is greater than from undeveloped areas.

LACDPW requires that all designs utilize exceedance probability calculations for design and analysis. By employing this methodology, this impact analysis meets LACDPW design standards.

Explanation of Design Hydrology

The following provides additional discussion of the effects of soil type, imperviousness, and burning and bulking on storm runoff quantities.

Effects of Soil Type and Amount of Imperviousness on Runoff Rates

The rate of runoff is directly related to the type of soil (see **Section 5.6, Geology and Soils**, for further discussion regarding on-site soils). Certain soil types accept water faster (are more permeable) than other soils. Therefore, the types of soils present on a site are used in the calculations of runoff. Different soil types have very different water infiltration (or absorption) rates. If a sandy soil (highly permeable) is paved over, the coefficient of runoff would greatly increase, whereas if a clay soil (not highly permeable) is paved over, runoff values would go up, but not as high as in the case of sandy soil because the sandy soil absorbs water faster. In small storms, some soils can absorb 100 percent of the rainfall. For example, soil type 015, Tujunga Fine Sandy Loam, can completely absorb a 0.5-inch per hour (in/hr) storm and almost completely absorb a heavy/intense 1.0 in/hr storm, thereby yielding extremely low runoff rates. For a 200-acre parcel, different soil types such as the very pervious 015 (Tujunga Fine Sandy Loam) or the highly impervious 012 (Ramona Clay Loam), will produce radically different runoff quantities for the same rainfall events. For example, an intense storm releasing 1.0 in/hr of water will be quickly absorbed by the very pervious soil type 015 (Tujunga Fine Sandy Loam), and, therefore, the water runoff rate from the parcel would be 20 cfs. For the same size parcel on a very impervious soil, such as soil type 012 (Ramona Clay Loam), the water runoff rate for a 1.0 in/hr storm would increase to 168 cfs.

Effects of Burning and Bulking

In an undeveloped watershed, capital flood flow rates assume a burned condition, which causes the coefficient of runoff to increase. Further, after increasing the coefficient of runoff for burning, the flow rate is then multiplied by a bulking factor, which is used to account for the amount of mud and debris that would be contained within the flow from the burned watershed. In the case of the Project, the increase in runoff coefficient, or flow rates, to account for burning is the equivalent of 10 to 20 percent. Furthermore, application of the bulking factor to account for debris production would increase runoff quantities by 40 to 50 percent over and above the burned flow rate. Computer modeling for the Project

was used to estimate the runoff for the 50-year capital storm events. For the post-developed condition, the analysis considered burned hydrology but no additional bulking factors were used for those portions of the Project Site where sediment-trapping devices are proposed upstream of the Project Site.

Effects of Development

As previously mentioned, in general development places impervious/non-permeable materials over soils that had previously absorbed storm water. Once the impervious materials are placed over the soil, little direct infiltration occurs and runoff discharge increases. Because development does not typically completely cover the ground surface, portions of each developed parcel (e.g., front, side, and rear yards, landscaping, open space, etc.) remain pervious to infiltration by storm water. In general, the percentage of non-permeable land within a project site varies depending on development type. For example, approximately 42 percent of a single-family lot would be comprised of non-permeable surfaces compared to 68 percent of a multi-family lot. Therefore it is expected that a greater amount of stormwater runoff would be absorbed on a single-family lot compared to a multi-family lot. **Table 5.9.1-2, Specific Land Uses Percentage of Non-Permeable Surface Area,** provides the percentage of land which would be impervious for land uses included in the Project.

Table 5.9.1-2
Percent Imperviousness for Selected Land Uses*

Land Use	Percent Imperviousness
Single-Family Residential	42 percent
Park	15 percent
Roadway	10 percent
Open Space/Site Grading	0 percent

* *Los Angeles County Department of Public Works, Water Resources Division, Hydrology Manual, Proportion Impervious Data, Appendix D, June 2006.*

Project Design Elements/Project Design Features

Project Design Elements

Construction

During construction, temporary BMPs will be furnished to comply with NPDES standards to minimize pollutant discharge from a construction site and a SWPPP will be submitted to the Los Angeles RWQCB. Erosion control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap or filter sediment once it has been mobilized. A SWPPP would be developed as required by, and in compliance with, the MS4 Permit. The MS4 Permit requires the SWPPP to include BMPs to be selected and implemented based on the determined Project risk level to effectively control erosion and sediment to the Best Available Technology Economically Achievable (BAT) and/or Best Conventional Pollutant Control Technology (BCT). See **Section 5.9.2, Water Quality**, for additional discussion of the MS4 Permit. During all construction phases, the MS4 Permit will require temporary erosion control BMPs to be implemented to retain soil and sediment on the Project Site.

Operation

The general site design, incorporating best management design practices, will utilize treatment control facilities. The treatment control facilities will be distributed throughout the Project Site to provide water quality treatment control and also to provide runoff character modification (adjusting peaks, volumes, and durations).

Treatment control facilities will be distributed throughout the site at strategic locations to capture stormwater quality flows and, if interim controls are necessary, to meet regulatory hydromodification requirements. Treatment control BMPs are referred to as structural systems capable of detaining and treating stormwater runoff within a major tributary in the watershed. The treatment control facilities will be designed to alter the runoff from the proposed conditions watershed to mimic the flow characteristics of the natural conditions watershed for all storm events in such a way that the flow frequency spectrum of the proposed conditions watershed will essentially match the flow frequency spectrum of the natural conditions watershed.

Runoff from the developed portions of the Project Site would be conveyed to either Hasley Canyon Creek or Lower Castaic Creek through a combination of grading, storm drain pipes, catch basins, outlet structures, and rock rip-rap lining along Hasley Canyon Creek. The proposed modifications to Project Site tributaries and other proposed drainage improvements are described below, and their locations are illustrated in **Figure 5.9.1-4, Existing and Proposed Project Site Drainage**. A detailed set of drainage

plans can be found in **Appendix 5.9.1-1. Figure 5.9.1-4** also illustrates the post-development drainage patterns for the Project Site. As required by the LACDPW, all on-site drainage systems carrying runoff from developed areas and storm drains under major and secondary highways, open channels (main channels), debris carrying systems, and sumps would be designed for the 50-year capital flood. The rock rip-rap levee would represent construction within the FEMA and County floodplain boundary.

Specific hydrologic project design features (PDFs) relating to the operation of the Project are included below under the **Project Design Features** header.

Tributaries

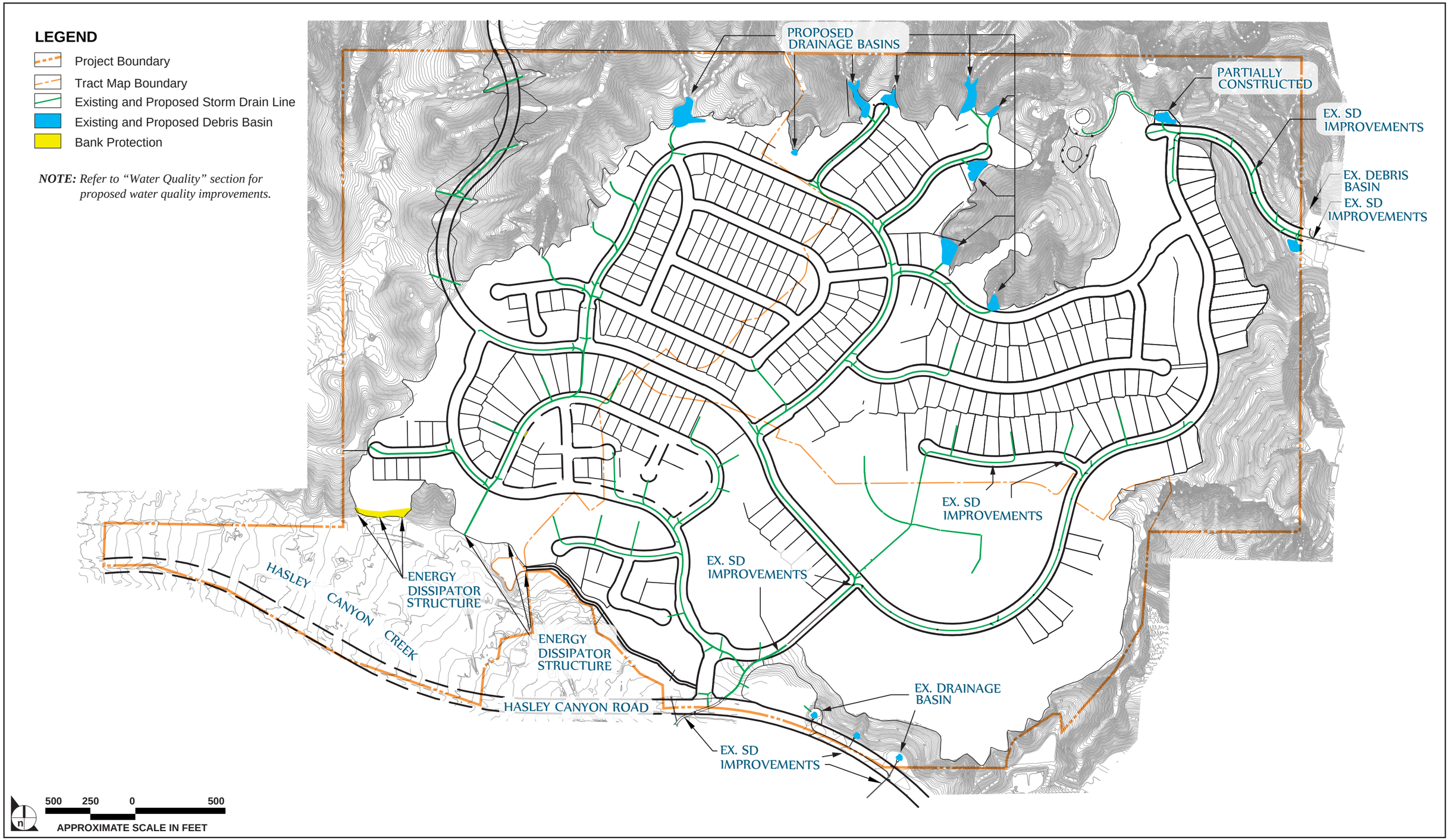
Proposed modifications to tributaries located on the Project Site are described below.

Unnamed Canyon A

The majority of Unnamed Canyon A (jurisdictional Unnamed Tributary #1, refer to **Section 5.3, Biological Resources,** for further information) will largely remain unimproved following implementation of the Project (see **Figure 5.9.1-4**). The main stem of the drainage will entirely remain in its natural condition, which accounts for approximately 4,143 feet. A portion of the eastern fork of the drainage, located approximately 500 feet below the PD 2513 outlet point, would be graded to accommodate the Project development. Drainage from seasonal flows through the graded portions of the watershed would be conveyed by buried storm drain (see **Figure 5.9.1-4**). Approximately 0.01-acre federal jurisdiction (270 feet), or 0.14-acre state jurisdiction of existing drainage would be converted to buried storm drain.

Unnamed Canyon B

The middle to upper portion of Canyon B (jurisdictional Unnamed Tributary #2, refer to **Section 5.3, Biological Resources,** for further information) would be graded to accommodate development of the Project, and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 5.9.1-4**). Approximately 2,715 lineal feet of existing drainage would be converted to buried storm drain. The northern drainage of Canyon B would remain unimproved within the boundary of the Project Site (see **Figure 5.9.1-4**). Approximately 0.28-acre federal jurisdiction, (1,800 feet), and 1.81-acre state jurisdiction of existing drainage would be converted to buried storm drain.



SOURCE: Hunsaker & Associates, April 2014

FIGURE **5.9.1-4**

Existing and Proposed Project Site Drainage

1154.001•10/15

Unnamed Canyon C

Unnamed Canyon C would primarily be graded to accommodate development of the Project, and the seasonal flows through the drainage would be conveyed by buried storm drain (see **Figure 5.9.-4**). Approximately 3,868 lineal feet of existing drainage would be converted to buried storm drain. The northern drainage of Canyon C would remain unimproved within the Project boundary (see **Figure 5.9.1-4**).

Unnamed Canyon D

Unnamed Canyon D has primarily been graded to accommodate required manufactured slopes. Additional grading would occur to accommodate development of the remaining pads within the Project. The drainage from seasonal flows through the graded portions of the watershed would be conveyed by buried storm drain (see **Figure 5.9.1-4**). Approximately 1,000 lineal feet of existing drainage would be converted to buried storm drain. The northern drainage of Canyon D would remain unimproved within the Project boundary (see **Figure 5.9.1-4**).

Unnamed Canyon E

After proposed grading, drainage from Unnamed Canyon E becomes tributary to Unnamed Canyon C, and has been accounted for within the proposed Unnamed Canyon C watershed.

Unnamed Canyon F

Unnamed Canyon F has primarily been graded to accommodate required manufactured slopes. Additional grading would occur to accommodate development of the water quality features within the Project. Seasonal flows from the proposed graded portions of the watershed would drain directly to the water quality features for the Project. Refer to the Water Quality section located in 5.9.2 of this Draft EIR.

Unnamed Canyon G

Unnamed Canyon G has primarily been graded to accommodate required manufactured slopes for the Project. No additional grading would occur to accommodate the Project.

Unnamed Canyon H

As approximately 1,045 feet of existing drainage would be preserved, Unnamed Canyon H will remain in natural condition with buildout of the Project. (See **Figure 5.9.1-4**).

Project Design Features

During construction, sediment and erosion control measures would be implemented to retain sediment on the Project Site; these PDFs are developed in coordination with the County and included in the Erosion Control Plan that is approved by the County and may include:

- Perimeter protection to prevent sediment discharges through silt fences, fiber rolls, gravel bag berms, sand bag barriers, and compost socks
- Storm drain inlet protection
- Sediment capture and drainage control through sediment traps, storm drain inlet protection, and sediment basins
- Velocity reduction through check dams, sediment basins, and outlet protection/velocity dissipation devices
- Reduction in off-site sediment tracking through stabilized construction entrance/exit, construction road stabilization, and entrance/exit tire wash
- Slope interruption at permit-prescribed intervals (fiber rolls, gravel bag berms, sand bag berms, compost socks, biofilter bags)
- The Project is required to comply with the RWQCB Municipal Permit General MS4 Permit, and with the state's General Construction Activity Storm Water Permit, California State Water Resources Control Board Order No. 2009-0009 DWQ, National Pollutant Discharge Elimination System (NPDES) No. CAS000002, adopted September 2, 2009, as amended and further modified by Order No. 2010-0014 on November 16, 2010, and Order No. 2012-0006 on July 17, 2012
- The on-site storm drains (pipes and reinforced concrete boxes) and open channels shall be designed and constructed to meet the storm flows, as required by the LACDPW.
- Catch basins would be provided to intercept flows beyond the 10-, 25-, and 50-year storms and at strategic locations to minimize flooding at street intersections and at sump locations.
- Debris basins shall be constructed pursuant to LACDPW requirements to intercept storm flows from undeveloped areas before they discharge into the developed portions of the Project Site.
- Low flow pipes would be provided to reduce pollution impacts by intercepting first flush runoff from developed portions of the Project Site. Pollutants expected to be generated on the Project Site, their

potential water quality impacts, and water quality control are addressed subsequently within **Section 5.9.2, Water Quality**.

- Energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters shall be installed along Hasley Canyon Creek as required by LACDPW at outlet locations to reduce velocities of runoff into the channel to prevent erosion.

- Bank stabilization would be constructed along portions of the existing northern bank of Hasley Canyon Creek. Subsequent re-vegetation installed after bank stabilization is in place would create more vegetated corridor than presently occurs under existing conditions.

The Applicant will also be responsible for the following Plan Check requirements in accordance with County procedures.

- The Applicant shall be responsible for obtaining permits for affected areas; all necessary permits, agreements, and/or letters of exemption from the FEMA, USACE and/or CDFW for project-related development within their respective jurisdictions must be obtained and submitted to the local Building and Safety District Office.

- Modification to the grading design, as determined through the Conditional Letter of Map Revision (CLOMR) process, may be required for proposed placement of the rip rap bank stabilization and proposed grading within the floodplain.

- During construction, by October 1st of each year, the field engineer must submit a separate erosion control plan for construction activities to the County describing the erosion control measures that will be implemented during the rainy season (October 1 through April 15).

- Final project hydrology and debris production calculations shall be prepared by a project engineer to verify the requirements for debris basins and/or desilting inlets.

- To reduce debris being discharged from the site, debris basins shall be designed and constructed pursuant to LACDPW Flood Control requirements to intercept flows from undeveloped areas entering into the developed portions of the Project Site.

A final developed condition hydrology analysis (LACDPW Drainage Concept Report [DCR] and Final Design Report [FDR]) shall be prepared in conjunction with final project design when precise engineering occurs. This final analysis shall confirm that all elements of the storm drain system conform to the policies and standards of the LACDPW, and LAFCO as applicable.

If hydromodification is required on site interim hydromodification control requirements (i.e., interim controls), required prior to completion of the planned channel improvements, would be constructed on the approximately 6.2 acre Retention Areas near the main entry to the Project off of Hasley Canyon Road. The Retention Areas are comprised of approximately 2.5 acres in the southwest portion of the Project Site to the west of the Project entrance (where 13 homes are otherwise proposed to be constructed) and approximately 3.7 acres in the southeast portion of the Project Site to the east of the Project entrance (where open space, proposed to contain an vineyard, is otherwise proposed). These Retention Areas may vary in size to assure that the required hydromodification control requirements are met after taking into account the infiltration capacity of the soil underlying the Project Site.

5.9.1.2 ENVIRONMENTAL IMPACTS

Significance Thresholds

The potential for the Project to result in impacts associated with hydrology is based on the CEQA significance thresholds specified by the Los Angeles County Department of Regional Planning. These significance thresholds are based in part on Appendix G of the *State CEQA Guidelines* and are as follows:

Threshold 5.9.1-1 **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?**

Threshold 5.9.1-2 **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

Threshold 5.9.1-3 **Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

Threshold 5.9.1-4 **Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map, or other flood hazard delineation map, or within a floodway or floodplain?**

Threshold 5.9.1-5 **Would the project place structures, which would impede or redirect flood flows, within a 100-year flood hazard area, floodway, or floodplain?**

Threshold 5.9.1-6 **Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?**

Threshold 5.9.1-7 **Would the project place structures in areas subject to inundation by seiche, tsunami, or mudflow?**

The Project includes the construction of 497 single-family dwelling units and associated amenities. The housing structures would not be constructed in an area susceptible to inundation by, seiche, tsunami, or mudflow, nor would any of the structures be exposed to significant risks including injury or death as a result of flooding or the failure of a levee or dam. While Hasley Canyon Creek traverses the western portion of the Project Site, no structures would be placed near the floodway and thus, future flows would not be impeded or redirected. Castaic Dam, located approximately seven miles northeast of the Project Site would not expose people or structures to significant risk. Therefore, no further analysis of **Threshold 5.9.1-4, Threshold 5.9.1-5, Threshold 5.9.1-6,** and **Threshold 5.9.1-7** is necessary.

Impact Analysis

Threshold 5.9.1-1 **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?**

Additional analysis concerning erosion and siltation can be found in **Section 5.9.2, Water Quality**.

Construction

The primary concern during construction of the Project is potential erosion and sedimentation impacts during site clearing and grading, and excavation at the edge of Hasley Canyon Creek to install the bank stabilization. Erosion and sedimentation caused by construction activities are dependent upon climatic and site conditions, as well as the degree of soil disturbance during construction. Erosion within the streambed would depend upon the volume of perennial and natural flows. Site clearing and grading operations, in particular, would have the greatest potential for discharging sediment downstream during storm events.

As noted above, energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters are proposed to be installed along Hasley Canyon Creek to reduce velocities of runoff into the channel. During the construction phase, prior to construction of proposed energy dissipaters, impacts

that could occur without construction mitigation would be expected to include localized erosion and increased localized sedimentation as a result of changes to creek velocity and water surface elevation.

Increases in sedimentation and debris production on the Project Site, and erosion and sedimentation in the creek beds during construction, although temporary, would result in a significant impact without mitigation. Implementation of the PDFs above would reduce impacts by ensuring compliance with the terms of necessary permits and through the preparation of and compliance with an erosion control plan. These measures would reduce impacts associated with substantially altering the existing drainage pattern in a manner which would result in substantial erosion or siltation on- or off-site, to less than significant levels during construction.

Operation

In accordance with the specifications of the Hydrology Report for the Project, runoff from the approximately 580-acre Tributary Area would be collected. Runoff would gravity-flow toward Hasley Canyon Creek or Castaic Creek in a drainage pattern similar to existing conditions, where water flows have naturally formed paths of least resistance and concentrate at existing topographic depressions or cut channels through the Project Site.

There are currently eight drainage areas within the approximately 580-acre Tributary Area in which the Project Site lies. After grading and development, the resulting drainage areas would convey storm runoff through a series of desilting basins, catch basins, inlets, and storm drains and continue to flow southerly towards Hasley Canyon Creek or southeasterly towards Castaic Creek. As a result, there would be no substantial alteration in the existing drainage pattern of Hasley Canyon Creek or Castaic Creek, in a manner which would result in substantial erosion or siltation on- or off-site. Therefore, the Project would not alter a stream or river such that substantial erosion or siltation would occur on or off site.

Site Erosion

Following completion of construction, erosion is not anticipated to be a concern because as part of the construction the Project Site would be largely covered with impermeable and non-erodible surfaces and landscaping. Placement of the rock rip-rap levee along the northern bank of Hasley Canyon Creek would result in a long-term beneficial impact because the rip-rap would stabilize a portion of the creek's bank and thereby reduce future erosion of the bank that could potentially occur on the Project Site. As a result, there would be no substantial alteration to the existing drainage pattern of the Project Site in a manner which would result in substantial erosion or siltation on or off site. The impacts of the Project under this criterion would be less than significant.

Riverbed Scouring and Floodplain

In-stream velocities are indicators of potential riverbed scouring. Potential for erosion within Hasley Canyon Creek can be evaluated by reviewing changes to hydraulic shear stress or flow velocities, in conjunction with potentially erodible materials. In Los Angeles County, velocities are the preferred indicator for potential streambed erosion.

In natural riverine systems, such as Hasley Canyon Creek and its tributaries, frequent discharges (on the order of the average annual 85th percentile and two-year flows) from the proposed development after construction dictate stream geomorphology. Extended and frequent discharges at these critical flow rates would potentially impact stream health. The PDFs listed above would capture runoff from small, frequent storms and infiltrate flows. This means that water from infiltration areas would not be released for the smaller 85th percentile storms; therefore, erosive impacts would be reduced to less than significant levels.

To reduce storm flow velocities during storm events and to prevent erosion at storm water discharge points into the Creek, the hydrology report includes energy dissipaters consisting of rip-rap at affected storm system outlets in the Creek. These energy dissipaters would slow the rate of flow of discharge into the Creek in order to prevent erosion of the stream channel.

The proposed rock rip-rap levee would encroach into the existing FEMA 100-year floodplain and County floodplain. This action would trigger FEMA review in the form of the Conditional Letter of Map Revision (CLOMR)/Letter of Map Revision (LOMR) floodplain map revision process. Additionally, some banks located out of the floodplain may need stabilization because of lateral migration of the riverbed, and the need to protect for the capital flood discharge. Any grading within the FEMA or County floodplain may have a potentially significant impact; however, rip rap bank stabilization and grading within the floodplain, if required and as determined through the CLOMR process will require modifications to the grading design to be made in order to reduce the impact to a less than significant level.

Erosion at Drainage Discharge Points

The General Permit notes that increased volume, velocity, and discharge duration of storm water runoff from developed areas could potentially accelerate downstream erosion and impair stream habitat in natural drainage systems. As a result, the permit stipulates, "Permittees shall implement hydrologic control measures, to prevent accelerated downstream erosion and to protect stream habitat in natural drainage systems. The purpose of the hydrologic controls is to minimize changes in post-development hydrologic storm water runoff discharge rates, volume, velocities, and duration. This shall be achieved by maintaining the project's pre-project storm water runoff flow rates and durations." As discussed above,

PDFs would include energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters installed along Hasley Canyon Creek as required by LACDPW at outlet locations to reduce velocities of runoff into the channel to prevent erosion. Therefore, impacts related to erosion at drainage discharge points would be less than significant.

Threshold 5.9.1-2 **Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

There are currently eight drainage areas within the approximately 580-acre Tributary Area in which the Project Site lies. After grading and development, the resulting eight drainage areas would convey storm runoff through a series of desilting basins, catch basins, inlets and storm drains and continue to flow southerly towards Hasley Canyon Creek, or southeasterly towards Lower Castaic Creek. The drainage and runoff discharge calculations for the Project under existing conditions are shown in **Table 5.9.1-1**, above. The development of the Project would slightly decrease the amount of runoff from those areas of the Project Site, (see **Table 5.9.1-3**). Specifically, as compared with the existing condition, the post-development clear flow runoff would slightly decrease from and through the Project Site, and burned and bulked runoff and debris flow rates would be reduced. Post-development runoff volumes by drainage area are presented in **Table 5.9.1-3, Post-Development Drainages and Runoff Discharge**.

Table 5.9.1-3
Post-Development Drainages and Runoff Discharge

Drainage Areas	Acreage	Debris Producing Acreage	Q50c (cfs)[1]	Q50bb (cfs)[2]	Debris Volume (cy)[3]
A	207.1	87	338	504	11,391
B	72.9	8.2	145	171	880
C	236.6	0	444	446	0
D	36.0	0	78	85	0
E	0	0	0	0	0
F	6.2	0	15	17	0
G	15.3	0	31	35.1	0
H	9.8	0	17	20	0
Totals	**583.9**	**95.2**	**1,068**	**1278**	**12,271**

Source: LDC, Hydrology Report for Los Valles, VTTM 52584 (February 2014).

[1] *Q50c–50-year rainfall intensity clear and burned flow*

[2] *Q50bb–50-year rainfall intensity burned and bulked flow*

[3] *Debris Volume – Debris Producing acreage is multiplied by the area's debris producing rate. (Range: 100 to 130 cy/ac). Debris Producing rates were taken from the LACDPW Sedimentation Manual.*

The post-development burned and bulked discharge quantities would total 1,278 cfs for the Tributary Area during a 50-year capital storm.

A comparison of existing peak discharge quantities from **Table 5.9.1-1** and post-development peak discharge from **Table 5.9.1-3** is provided below, in **Table 5.9.1-4**.

Table 5.9.1-4
Comparison of Acreage and Discharge – Existing Condition and Project

	Acreage	Debris Producing Acreage	Q50c (cfs)	Q50bb (cfs)	Debris Volume (cy)
Existing	579.9	417	1,216	1,661	55,549
Proposed	583.9	95	1,068	1,278	12,271
Net Effect	0.01%	(-77%)	(-14%)	(-25%)	(-78%)

Source: LDC, Drainage Concept for Los Valles, VTTM 52584 (February 2014).

Table 5.9.1-4 provides post development peak discharge assuming full buildout (497 homes) of the Project. As stated in the methodology discussion, the difference in area between the Project and the interim controls would be approximately four percent (the Project having approximately four percent

more developed area). With or without the interim controls (i.e., hydromodification), the debris producing acreage and debris volumes would not change. However, the Q50c and Q50bb would be expected to be approximately four percent more with Project compared to with interim controls.

As shown, there would be a 383 cfs (25 percent) reduction in burned and bulked discharge from the tributary watershed, specific to the Project Site, under post-development conditions. This reduction in discharge would occur due to coverage of much of the Project Site with pavement, roofs, vegetation, and other non-erosive surfaces resulting in less erodible material on the Project Site. It also would be largely the result of the debris or mini-debris basins proposed to be constructed at upstream locations and the two existing basins proposed to remain. The debris basins would capture sediment and debris in upstream runoff and allow debris to settle out from the runoff before it would discharge into the storm system through the developed portion of the Project Site. With these improvements in place, the Project would reduce runoff flow rates through the Project Site and into Hasley Canyon Creek or Castaic Creek. Furthermore, since storm flows from upstream areas would be channeled through the Project Site in facilities designed for the 50-year capital storm, and since on-site runoff would be accommodated in facilities designed for the 25-year urban design storm, pursuant to LACDPW requirements, no on-site or upstream flooding due to inadequately designed storm drainage facilities would occur.

The Project would alter the drainage pattern of the Project Site as impervious surfaces on the Project Site would decrease the amount of clear flow runoff from and through the Project Site. The PDFs described above would reduce erosion and siltation during construction and operation.

As described in the PDFs above, a final developed condition hydrology analysis shall be prepared in conjunction with final project design when precise engineering occurs. This final analysis shall confirm that all elements of the storm drain system conform to the policies and standards of the LACDPW and LAFCO as applicable. Compliance with all measures included in the Project's Hydrology Report and Final Design Report and the additional PDFs listed above will ensure potential impacts remain less than significant.

Threshold 5.9.1-3 Would the project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Post-developed burned and bulked discharge from the Tributary Area will be reduced from existing conditions as shown in **Table 5.9-4**, due to increased impervious surfaces and proposed debris basins located on-site. It should be noted that although hydromodification and the associated Retention Basins will not be required once the planned channel improvements are installed, debris and water quality basins will remain as part of the Project in all cases (including once hydromodification is no longer necessary.) The debris basins would capture sediment and debris from upstream runoff and allow debris

to settle out from the runoff before it would discharge into the storm system through the developed portion of the Project Site. With these improvements in place, peak flow from the Project would not increase compared to current conditions, since the burned and bulked runoff rates would be reduced, the Project would not exceed the capacity of the existing stormwater drainage systems. **Section 5.9.2, Water Quality** provides analysis of the potential for the Project Site to generate additional polluted runoff.

For proposed drainage systems, runoff from the Project will be conveyed through underground stormwater conveyance infrastructure. The design of the underground stormwater conveyance infrastructure will comply with LACDPW requirements for "Storm Drains and Urban Flood Protection" to minimize flood hazards. The final engineered design of the storm drains will be evaluated and approved by LACDPW to ensure design is compliant with LACDPW requirements for storm drains and urban flood protection.[19] Since proposed buried storm drains would be designed to convey the 100-year and capital flood events, the Project would not exceed the capacity of the planned stormwater drainage systems and would not result in a significant flooding hazard.

As a result, any potentially significant impacts relating to post-development drainages and discharges would be reduced to a less than significant level. Thus, with the implementation of the Project Design Features above, the Project would not create or contribute runoff flow rates that would exceed the capacity of existing or planned storm water drainage systems and Project impacts under this criterion would be less than significant.

Water quality impacts and mitigation measures due to runoff water from the project can be found subsequently within **Section 5.9.2**.

5.9.1.3 CUMULATIVE IMPACTS

The boundary of the approximate 128,000-acre tributary watershed to Hasley Canyon Creek and Castaic Creek in which the Project Site is located is the appropriate geographic area for such an analysis at the cumulative project level. Therefore, attention is focused in this cumulative impact analysis on the potential flood impacts of the buildout of the tributary watershed in which the Project Site is situated.

The County of Los Angeles General Plan provides for additional development within the tributary watershed. Pursuant to LACDPW requirements, all future drainage facilities in the tributary watershed must be designed for either the capital storm or the 25-year urban design storm (storm drains under major and secondary highways, open channels, debris carrying systems, and sumps must be designed for the capital storm). LACDPW also prohibits increases in off-site post-development storm flows and increases in storm flow velocities. As a result of compliance with LACDPW requirements, overall storm

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[19] LACDPW Hydrology Manual, 2006

runoff discharge quantities from the watershed under post-development runoff conditions would be less than or equal to existing conditions largely because the runoff would include less debris than is typical of undeveloped watersheds and flow velocities would not increase. On-site drainage facilities would be built for burned and bulked flows from undeveloped areas, thus they would have adequate capacity to accommodate off-site flows as the off-site portions of the drainage areas develop. That is, the drainage facilities would be built to the greater design capacity of the undeveloped areas, and would have sufficient capacity for reduced drainage as areas in the watershed are developed.

The analyses demonstrate that development of the Project, which must comply with all County requirements, would not create any significant impacts. Project design would be in compliance with all applicable site design requirements to ensure that the Project conditions will cause no incremental contribution to the cumulative impact of watershed-wide development.

Because the cumulative project drainage improvements in Los Angeles County would be required to conform to the requirements of LACDPW in order to accommodate the capital flood from the affected watershed, no potentially significant cumulative project flooding impacts are expected to occur. The development criteria imposed on each project by LACDPW would ensure no potentially significant cumulative impacts.

Other projects within the tributary watershed would not only be subject to the same general requirements as the Project, but to other requirements that LACDPW Water Resources Division may specifically identify for such projects based on their unique topographic and geologic characteristics. All development within the watershed of Hasley Canyon Creek and Castaic Creek and within unincorporated Los Angeles County is required to comply with the LACDPW Water Resources Division requirements, which are designed to ensure that upstream or downstream flooding does not occur, and to ensure that downstream erosion and sedimentation do not occur. Therefore, no significant unavoidable cumulative flooding, erosion, and sedimentation impacts would occur. Compliance with these requirements ensures consistency with the County's Qcap model.

5.9.1.4 MITIGATION MEASURES

With implementation of PDFs above, no mitigation measures would be required.

5.9.1.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of PDFs above, potential impacts associated with hydrology would be less than significant.

5.9.2 Water Quality

INTRODUCTION

This section of the Draft EIR discusses the Project's potential impacts on Water Quality during construction and operation of the Project. This analysis is based on the Water Quality Technical Report prepared by Pace Advanced Civil Engineering, Inc. (**Appendix 5.9.2-1**) (Water Quality Technical Report). Hydrology and water supply impacts of the Project are discussed within subsections **5.9.1, Hydrology,** and **5.15.1, Water Supply** of this Draft EIR.

5.9.2.1 ENVIRONMENTAL SETTING

Existing Conditions

The 430.4-acre Project Site is located in unincorporated Los Angeles County, on the northwesterly portion of the Santa Clarita Valley. The Project Site is located at the eastern end of the upper Santa Clara River hydrologic area. The Santa Clara River Valley East Groundwater Subbasin lies within this hydrologic area and is the source of the local groundwater used for water supply in the Santa Clarita Valley. Rainfall over the Project Site generates runoff flows that percolate through permeable soils into the Saugus Formation aquifer (located beneath the Project Site) both on-site and in adjacent drainages. No on-site sewage septic tanks are known to be in use on the Project Site.

Drainage

The southern portion of the Project Site includes the main channel and floodplain of the Hasley Canyon Creek drainage area. Four small canyons drain southward (See **Figure 5.9.1-1, Existing Tributary Drainages**) via sheet flows and natural concentrated flows, across the Project Site into Hasley Canyon Creek, then into Castaic Creek to the east, and finally into the Santa Clara River. All of the streams on the property, including Hasley Canyon Creek, are seasonally intermittent.

South Coast Hydrologic Region

The South Coast Hydrologic Region (SCHR) covers approximately 6.78 million acres (10,600 square miles) of the Southern California watershed that drains to the Pacific Ocean. The SCHR is bound in the west by the Pacific Ocean and the watershed divide near the Ventura-Santa Barbara County line. The northern boundary corresponds to the crest of the Transverse Ranges through the San Gabriel and San Bernardino Mountains and the eastern boundary lies along the crest of the San Jacinto Mountains and low-lying hills of the Peninsular Range that form a drainage boundary with the Colorado River

Hydrologic Region (CRHR). The SCHR continues south until reaching Mexico. Significant geographic features include the coastal plain, the central Transverse Ranges, the Peninsular Ranges, and the San Fernando, San Gabriel, Santa Ana River, and Santa Clara River valleys.[1]

The SCHR has 56 delineated groundwater basins. Twenty-one basins are in subregion 4 (Los Angeles),[2] eight basins in subregion 8 (Santa Ana), and 27 basins in subregion 9 (San Diego). The Los Angeles subregion encompasses most of Ventura and Los Angeles counties. Within this subregion, the Ventura River Valley, Santa Clara River Valley, and Coastal Plain of Los Angeles basins are divided into subbasins. The basins in the Los Angeles subregion underlie 1.01 million acres (1,580 square miles) or about 40 percent of the total surface area of the subregion.

The Project Site is located within Los Angeles subregion, within the boundaries of the Santa Clara River Valley East Subbasin.

Santa Clara River Valley East Subbasin

The Santa Clara River Valley East Subbasin is 66,200 acres (103 square miles) and is bordered on the north by the Piru Mountains, on the west by impervious rocks of the Modelo and Saugus Formations and a constriction in the alluvium, on the south by the Santa Susana Mountains, and on the south and east by the Gabriel Mountains.[3] The majority of surface water is drained by the Santa Clara River, Bouquet Creek, and Castaic Creek. Average annual precipitation ranges from 14 to 16 inches.

The Santa Clara River originates in the northern slopes of the San Gabriel Mountains at Pacifico Mountain and travels west into Ventura County, discharging into the Pacific Ocean near the City of Ventura. The river runs approximately 100 miles from the headwaters near Acton to the ocean. The upper portion of the river's watershed area is approximately 644 square miles. Ninety percent of this area is mountainous with steep canyons; while the remaining 10 percent is alluvial valleys. The area is mostly undeveloped with a large portion in the Angeles National Forest. Some mixed-use developed areas are concentrated in or near the City of Santa Clarita and development continues to occur in areas adjacent to the river.

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1 South Coast Hydrologic Region, http://www.water.ca.gov/pubs/groundwater/bulletin_118/california's_groundwater__bulletin_118_-_update_2003_/bulletin118_4-sc.pdf accessed 2014.

2 The Los Angeles subregion contains the Ventura, Santa Clara, Los Angeles, and San Gabriel River drainages, Santa Ana encompasses the Santa Ana River drainage, and San Diego includes the Santa Maria River, San Luis Rey River and the San Diego River and other drainage systems.

3 California Department of Water Resources, http://www.water.ca.gov/pubs/groundwater/bulletin_118/basindescriptions/4-4.07.pdfm accessed 2014.

The Santa Clara River and its tributaries are ephemeral streams characterized by alluvial soils. Discharge occurs quickly during rainfall events and diminishes quickly after rainfall has ceased. As in other county watersheds, the mountain and foothill areas are susceptible to debris-laden flows during intense rainfall, especially when a watershed is recovering from fire. The Project Site is located within the Santa Clara River Valley East Subbasin, which is approximately 1,634 square miles in area. The Project would discharge stormwater runoff into the storm drains and water quality control facilities directly into Santa Clara River Reach 5[4], which extends from the Blue Cut gaging station to the West Pier Highway 99 Bridge. **Figure 5.9.2-1, Santa Clara River Reaches**, illustrates the general boundaries of the reach of the Santa Clara River.

Significant Pollutants from 303(d) Listing

Under Section 303(d) of the 1972 Clean Water Act, areas are required to declare a list of water quality-limited segments. Watercourses on this list do not meet water quality standards, even after installing the minimum level of pollutant control technology on point sources, and must develop action plans, known as Total Maximum Daily Loads[5] (TMDL), to improve water quality.

A TMDL is a written plan that describes how an impaired water body will meet water quality standards. It contains:

- a measurable feature to describe attainment of the water quality standard(s);
- a description of the required actions to remove the impairment;
- an allocation of responsibility among dischargers to act in the form of actions on water quality conditions for which each discharger is responsible.

Stormwater runoff is a significant concern in California. The Project's major downstream watercourse, Reach 4 (A and B) of the Santa Clara River, is a "Dry Gap" and therefore not listed on the 303(d) list of the Los Angeles Regional Water Quality Control Board (RWQCB), however, the reach adjacent to the Project Site, Reach 5, into which the Project's stormwater runoff discharge would flow, and reaches further

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4 The Santa Clara River is divided into reaches for purposes of establishing beneficial uses and water quality objectives. However, there are two reach classifications: one established by the LA Regional Water Quality Control Board (LARWQCB) and one established by the United States Environmental Protection Agency (US EPA). Both of these reach classifications are used by the LARWQCB and the US EPA in various documents, which at times is a source of confusion. This report will use the LARWQCB reach numbers as shown on Figure 5.9.2-1, Santa Clara River Reaches.

5 A TMDL is a number that represents the assimilative capacity of a receiving water to absorb a pollutant. The TMDL is the sum of the individual wasteload allocations for point sources, load allocations for nonpoint sources plus an allotment for natural background loading, and a margin of safety.

downstream, including Reach 1 and 3, are identified as contaminated on the 303(d) list.[6] This 303(d) listing raises a significant concern for certain pollutant runoff from the Project Site, specifically those found in Reach 1, 3, and 5, including ammonia, chloride, coliform bacteria, iron, total dissolved solids (TDSs), and other toxic pollutants[7] which are further described below.

The Project would discharge runoff to Santa Clara River Reach 5. **Table 5.9.2-1, 2010 CWA Section 303(d) List of Water Quality Limited Segments – Santa Clara River**, lists the water quality impairments for the Santa Clara River at and downstream of the Project Site as reported in the 2010 CWA Section 303(d) List of Water Quality Limited Segments. States are required to submit the Section 303(d) list and TMDL priorities to the United States Environmental Protection Agency (US EPA) for approval. The 2010 Section 303(d) list was approved by the US EPA on October, 11, 2011. Reach 5 of the Santa Clara River is listed for chloride, coliform bacteria, and iron. Reach 3 (downstream of the Project Site) is listed for ammonia, chloride, TDSs, and toxicity. Reach 1 is listed for toxicity.

Non-Point Source Pollutants

A net effect of urbanization can be to increase pollutant export. However, an important consideration in evaluating stormwater quality from a project is to assess if it impairs the beneficial use of the receiving waters. Non-point source pollutants have been characterized by the following major categories, discussed below, in order to assist in determining the pertinent data and their use. Receiving waters can assimilate a limited quantity of various constituent elements, however there are thresholds beyond which the measured amount becomes a pollutant and results in an undesirable effect on water quality. Background of these standard water quality categories provides an understanding of typical urbanization impacts.

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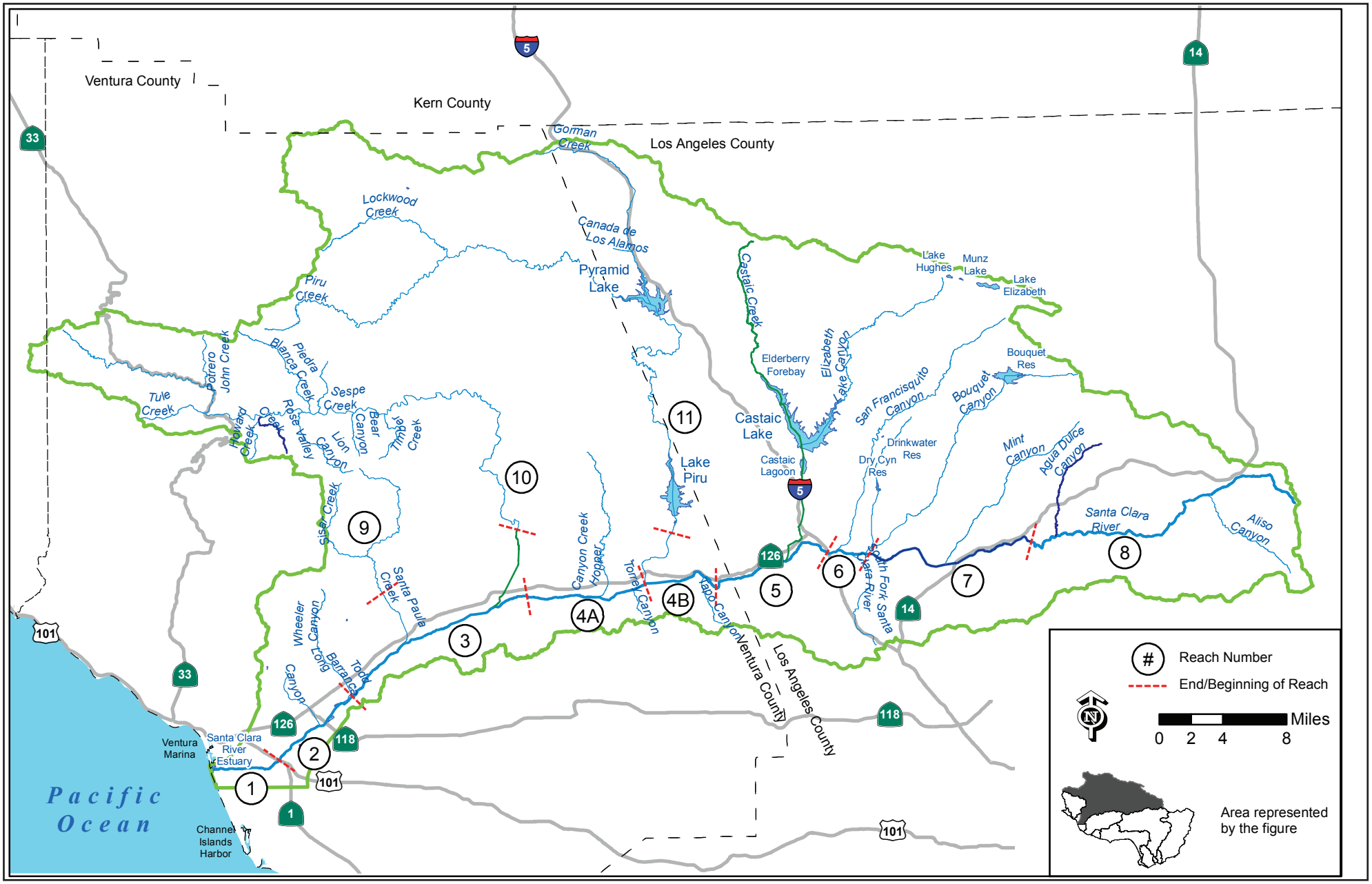
6 California Environmental Protection Agency State Water Resources Control Board, 2010 California 303(d) list. http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml Note: This is the most recent document available, hearings regarding the 2012 update are ongoing as of this writing (July 2014).

7 Toxic pollutants are defined as those pollutants or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism can, on the basis of information available, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions or physical deformation in such organism or their offspring. The quantities and exposures necessary to cause these effects can vary widely.
State Water Resources Control Board – 'Water Words – Glossary and Definitions', website: http://www.waterboards.ca.gov/publications_forms/available_documents/water_words.shtml, August 2014.



SOURCE: Los Angeles County Department of Public Works, 2014

FIGURE **5.9.2-1**

Santa Clara River Reaches

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Table 5.9.2-1
2010 CWA Section 303(d) List of Water Quality Limited Segments – Santa Clara River

SCR Reach[1]	Geographic Description & Distance from Project to Upstream End of Reach	Pollutants	TMDL Status/Proposed or US EPA Approved TMDL Completion Date	Potential Sources
5	Blue Cut gaging station to West Pier Highway 99 Bridge (9 miles)	1) Chloride	1) US EPA addressing/ Approved TMDL/2005	1) Unspecified Nonpoint Source
		2) Coliform Bacteria	2) Requires TMDL/2019	2) Unspecified Nonpoint Source
		3) Iron	3) Requires TMDL/2021	3) Source Unknown
3	Freeman Diversion to A Street (31 miles)	1) Ammonia	1) US EPA addressing /Approved TMDL/2004	1) Unspecified Point and Nonpoint Source
		2) Chloride	2) US EPA addressing /Approved TMDL/2002	2) Unspecified Point and Nonpoint Source
		3) TDSs	3) Requires TMDL/2015	3) Source Unknown
		4) Toxicity	4) Requires TMDL/2021	4) Source Unknown
1	Estuary to Highway 101 Bridge (10 miles)	1) Toxicity	1) Requires TMDL/2019	1) Source Unknown

[1] *SCR reaches upstream of the Project Site have not been included.*
[2] *Reach 3 is downstream of the Dry Gap in Reach 4.*
Source: California Environmental Protection Agency State Water Resources Control Board, 2010 303(d) List

Sediment

Sediment is made up of tiny soil particles that are washed or blown into surface waters. It is the major pollutant by volume in surface water. Suspended soil particles can cause the water to look cloudy or turbid. The fine sediment particles also act as a vehicle to transport other pollutants including nutrients, trace metals, and hydrocarbons. Construction sites are typically the largest source of sediment for urban areas under development. Another major source of sediment is streambank erosion, which may be accelerated by increases in peak rates and volumes of runoff due to urbanization.

Nutrients

Nutrients are a major concern for surface water quality. Phosphorous and nitrogen are of special concern because they can cause algal blooms and excessive vegetative growth. Of the two, phosphorus is usually the limiting nutrient that controls the growth of algae in lakes. The orthophosphorous form of phosphorus is readily available for plant growth. The ammonium form of nitrogen can also have severe effects on surface water quality. The ammonium is converted to nitrate and nitrite forms of nitrogen in a process called nitrification. This process consumes large amounts of oxygen, which can impair the

dissolved oxygen levels in water. The nitrate form of nitrogen is very soluble and is found naturally at low levels in water. When nitrogen fertilizer is applied to lawns or other areas in excess of plant needs, nitrates can leach below the root zone, eventually reaching ground water. Orthophosphate from auto emissions also contributes phosphorus in areas with heavy automobile traffic. As a general rule of thumb, nutrient export is greatest from development sites with the most impervious area. Other problems resulting from excess nutrients are surface algal scums; water discolorations; odors; toxic releases; and overgrowth of plants. Common measures for nutrients are total nitrogen, organic nitrogen, total Kjeldahl nitrogen (TKN), nitrate, ammonia, total phosphate, and total organic carbon (TOC).

Trace Metals

Trace quantities of many metals are important constituents of most waters. Many of these metals are also classified as pollutants in larger quantities. The presence of any of these metals in excessive quantities will interfere with many beneficial uses of the water because of their toxicity. The most common trace metals found in urban runoff are lead, zinc, and copper. Fallout from automobile emissions is also a major source of lead in urban areas. A large fraction of the trace metals in urban runoff are attached to sediment and this effectively reduces the level that is immediately available for biological uptake and subsequent bioaccumulation. Metals associated with the sediment normally settle out rapidly and accumulate in the soils. Also, urban runoff events typically occur over a shorter duration, thereby reducing the amount of toxic exposure to the aquatic environment. The toxicity of trace metals in runoff varies with the hardness[8] of the receiving water. As total hardness of the water increases, the threshold concentration levels for adverse effects decreases due to the already high mineral content of the receiving waters.

Oxygen-Demanding Substances

Aquatic life is dependent on the dissolved oxygen (DO) in the water, and when organic matter is consumed by microorganisms, DO is consumed in the process. A rainfall event can deposit large quantities of oxygen-demanding substance in lakes and streams. The biochemical oxygen demand of typical urban runoff is on the same order of magnitude as the effluent from an effective secondary wastewater treatment plant. A problem resulting from low DO occurs when the rate of oxygen-

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8 Hard water is water that has a high mineral content, generally magnesium, calcium or iron salts. Hard water is generally not considered to be harmful to human health, but can pose serious problems in industrial settings, where water hardness is monitored to avoid costly breakdowns in boilers, cooling towers, and other equipment that handles water. In domestic settings, hard water is often indicated by a lack of suds formation when soap is agitated in water, and by the formation of mineral deposits (limescale) in kettles, water heaters, kitchen and bathroom hot-water fixtures, etc.

demanding material exceeds the rate of replenishment. Oxygen demand is estimated by direct measure of DO, and indirect measures such as biochemical oxygen demand (BOD), chemical oxygen demand (COD), oils and greases, and total organic carbon (TOC).

Bacteria

Bacteria levels in undiluted urban runoff exceed public health standards for water contact recreation almost without exception. Studies have found that total coliform counts exceeded US EPA water quality criteria at almost every site, and almost every time it has rained. The coliform bacteria that are detected may not be a health risk on their own, but are often associated with human pathogens.

Oil and Grease

Oil and grease contain a wide variety of hydrocarbons, some of which could be toxic to aquatic life in low concentrations. These materials initially float on water and create the familiar rainbow-colored film. Hydrocarbons have a strong affinity for sediment and quickly become absorbed by it. The major source of hydrocarbons in urban runoff is through leakage of crankcase oil and other lubricating agents from automobiles. Hydrocarbon levels are highest in the runoff from parking lots, roads, and service stations. Residential land uses generate less hydrocarbons export, although illegal disposal of waste oil into stormwater flows can be a local problem.

Other Toxic Pollutants (Toxicity)

Priority pollutants (a set of pollutants regulated by EPA) are generally related to hazardous wastes or toxic chemicals and sometimes can be detected in stormwater. Priority pollutant scans have been conducted in previous studies of urban runoff, which evaluated the presence of over 120 toxic chemicals and compounds. The scans rarely revealed toxins that exceeded the current safety criteria. The urban runoff scans were primarily conducted in suburban areas not expected to have many sources of toxic pollutants (with the possible exception of illegally disposed or applied household hazardous wastes). Measures of priority pollutants in stormwater include phthalate (plasticizer compound); phenols and creosols (wood preservatives); pesticides and herbicides; oils and greases; and metals.

Surface Water

Standard parameters that assess the quality of stormwater provide a method of measuring impairment. A background of these typical characteristics assists in understanding water quality requirements. The quantity of a material in the environment and its characteristics determine the degree of availability as a pollutant in surface runoff. In an urban environment, the quantity of certain pollutants in a given

area is a function of the intensity of the land use. For instance, a high volume of automobile traffic makes a number of potential pollutants (such as lead and hydrocarbons) more available. The availability of a material, such as a fertilizer, is a function of the quantity and the manner in which it is applied. Applying fertilizer in quantities that exceed plant needs leaves the excess nutrients available for loss to surface or ground water.

The physical properties and chemical constituents of water traditionally have served as the primary means for monitoring and evaluating water quality. Evaluating the condition of water through a water quality standard refers to its physical, chemical, or biological characteristics. Water quality parameters for stormwater comprise a long list and are classified in many ways. In many cases, the concentration of an urban pollutant, rather than the annual load of that pollutant, is needed to assess a water quality problem. Some of the physical, chemical, or biological characteristics that evaluate the quality of the surface runoff are described below.

Dissolved Oxygen

Dissolved oxygen in the water has a pronounced effect on the aquatic organisms and the chemical reactions that occur. It is one of the most important biological water quality characteristics in the aquatic environment. The dissolved oxygen concentration of a water body is determined by the solubility of oxygen, which is inversely related to water temperature, pressure, and biological activity. Dissolved oxygen is a transient property that can fluctuate rapidly in time and space. Dissolved oxygen represents the status of the water system at a particular point and time of sampling. The decomposition of organic debris in water is a slow process and the resulting changes in oxygen status respond slowly also. The oxygen demand is an indication of the pollutant load and includes measurements of biochemical oxygen demand or chemical oxygen demand.

Biochemical Oxygen Demand (BOD)

The biochemical oxygen demand (BOD) is an index of the oxygen-demanding properties of the biodegradable material in the water. Samples are taken from the field and incubated in the laboratory at 20 degrees Celsius, after which the residual dissolved oxygen is measured. The BOD value commonly referenced is the standard five-day values. These values are useful in assessing stream pollution loads and for comparison purposes.

Chemical Oxygen Demand

The chemical oxygen demand (COD) is a measure of the pollutant loading in terms of complete chemical oxidation using strong oxidizing agents. It can be determined quickly because it does not rely on

bacteriological actions as with BOD. COD does not necessarily provide a good index of oxygen demanding properties in natural waters.

Total Dissolved Solids (TDS)

TDS concentration is determined by evaporation of a filtered sample to obtain residue whose weight is divided by the sample volume. The TDS of natural waters varies widely. There are several reasons why TDS is an important indicator of water quality. Dissolved solids affect the ionic bonding strength related to other pollutants such as metals in the water. TDS are also a major determinant of aquatic habitat. TDS affects saturation concentration of dissolved oxygen and influences the ability of a water body to assimilate wastes. Eutrophication[9] rates depend on total dissolved solids.

pH

The pH of water is the negative log, base 10, of the hydrogen ion (H+) activity. A pH of 7 is neutral; a pH greater than 7 indicates alkaline water; a pH less than 7 represents acidic water. In natural water, carbon dioxide reactions are some of the most important in establishing pH. The pH at any one time is an indication of the balance of chemical equilibrium in water and affects the availability of certain chemicals or nutrients in water for uptake by plants. The pH of water directly affects fish and other aquatic life and generally toxic limits are pH values less than 4.8 and greater than 9.2.

Alkalinity

Alkalinity is the opposite of acidity, representing the capacity of water to neutralize acid. Alkalinity is also linked to pH and is caused by the presence of carbonate, bicarbonate, and hydroxide, which are formed when carbon dioxide is dissolved. A high alkalinity is associated with a high pH and excessive solids. Most streams have alkalinities less than 200 milligrams per liter (mg/l) and ranges of alkalinity of 100 to 200 mg/l seem to support well-diversified aquatic life.

Specific Conductance

The specific conductivity of water, or its ability to conduct an electric current, is related to the amount of TDS in the water. Testing to measure conductivity can be performed quickly and inexpensively and can be used to assess TDS concentrations. Specific conductivities in excess of 2,000 ohms/cm indicate a TDS level too high for most freshwater fish.

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9 Eutrophication is the ecosystem response to the addition of artificial or natural substances, mainly phosphates, through detergents, fertilizers, or sewage, to an aquatic system

Turbidity

The clarity of water is an important indicator of water quality that relates to the ability of photosynthetic light to penetrate. Turbidity is an indicator of the property of water that causes light to become scattered or absorbed. Suspended clays and other organic particles cause turbidity. It can be used as an indicator of certain water quality constituents such as predicting the sediment concentrations.

Nitrogen (N)

Sources of nitrogen in stormwater are from the additions of organic matter to water bodies or chemical additions. Ammonia and nitrate are important nutrients for the growth of algae and other plants. Excessive nitrogen can lead to eutrophication since nitrification consumes dissolved oxygen in the water. Nitrogen occurs in many forms. Organic Nitrogen breaks down into ammonia, which eventually becomes oxidized to nitrate-nitrogen (N/N), a form available for plants. High concentrations of nitrate-nitrogen in water can stimulate growth of algae and other aquatic plants, but if phosphorus (P) is present, only about 0.30 milligram per liter (mg/l) of nitrate-nitrogen is needed for algal blooms. Some fish life can be affected when N/N exceeds 4.2 mg/l. There are a number of ways to measure the various forms of aquatic nitrogen. Typical measurements of nitrogen include Kjeldahl nitrogen (organic nitrogen plus ammonia); ammonia; nitrite plus nitrate; nitrite; and nitrogen in plants. The principal water quality criteria for nitrogen focus on nitrate and ammonia.

Phospho*r*us (P)

Phosphorus is an important component of organic matter. In many water bodies, phosphorus is the limiting nutrient that prevents additional biological activity from occurring. The origin of this constituent in urban stormwater discharge is generally from fertilizers and other industrial products. Orthophosphate is soluble and is considered to be the only biologically available form of phosphorus. Since phosphorus strongly associates with solid particles and is a significant part of organic material, sediments influence concentration in water and are an important component of the phosphorus cycle in streams. The primary methods of measurement include detecting orthophosphate and total phosphorus.

Existing Surface Waters

Surface waters at the Project Site include the intermittent or ephemeral drainage flows of two "blueline streams" identified in **Section 5.3, Biological Resources,** as "Tributary #1", and "Tributary #2" located in the northwest, and central areas of the Project Site, respectively. These natural drainages convey rainfall flows from ridgelines to lower elevations. Tributary #1 supports riparian habitat. Tributary #1 and Tributary #2 are protected under the jurisdictions of the US Army Corps of Engineers (USACE), the

California Department of Fish and Wildlife (CDFW) and the Los Angeles RWQCB. There are eight additional canyon drainages mapped on the subject (refer to **Figure 5.9.1-1, Existing Tributary Drainages**); however none of these tributaries have been found to be jurisdictional. Further, past grading of the Project Site has largely removed or significantly altered these drainages. Soils and rock, and their respective permeability at the Project Site, are continuous to surrounding lands.

The major drainage feature in the vicinity of the Project Site is Hasley Canyon Creek which traverses the southwest corner of the Project Site, flowing west to east. Hasley Canyon Creek receives primary on-site drainage flows from Tributary #1, in addition to westerly off-site flows of 11,500 cubic feet per second (cfs) from an upstream drainage area of approximately 4,500 acres. Hasley Canyon Creek supports scattered riparian vegetation and provides a sandy, meandering streambed that is deemed degraded riparian habitat (refer to **Section 5.3, Biological Resources,** for more information). Hasley Canyon Creek is a floodway under regulatory protection of the Los Angeles County Flood Control District. Hasley Canyon Creek water quality is also protected under the jurisdictions of USACE, CDFW, and the RWQCB.

Groundwater

The Project Site is located at the eastern end of the upper Santa Clara River hydrologic area, as defined by the California Department of Water Resources (DWR). The Santa Clara River Valley East Groundwater Subbasin lies within this hydrologic area and is the source of the local groundwater used for water supply in the Santa Clarita Valley. The local groundwater supplies are obtained from surficial alluvial deposits. The alluvium is underlain by bedrock units consisting of the Saugus Formation in the vicinity of the Project Site and other geologic units in the eastern and northern portions of the Santa Clarita Valley.

The Los Angeles RWQCB has set numerical objectives for water quality to protect local beneficial uses of groundwater. Maximum groundwater elevation on-site occurs along Hasley Canyon Creek at 40 to 50 feet below ground surface. The Saugus Formation aquifer depth under the Project Site ranges from a shallow zone of 500 feet to 1,000 feet below ground surface to a deep zone of 2,000 feet to 2,500 feet below ground surface. The Saugus Formation aquifer water resource is used for area agriculture and industrial needs as well as a recharge zone for area runoff and discrete surface discharges of treated wastewaters. Rainfall over the Project Site generates runoff flows that percolate through permeable soils into the Saugus Formation aquifer both on-site and in adjacent drainages.

No on-site sewage septic tanks are known to be in use on the Project Site. As part of the Prior Entitlements, a 750,000 water tank was constructed on the Project Site and a water well was constructed, dedicated and accepted by LACWWD 36.

Regulatory Framework

Federal

Clean Water Act

In 1972, the Federal Water Pollution Control Act (later referred to as the CWA) was amended to require that the discharge of pollutants to "waters of the US" from any point source be effectively prohibited, unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. In 1987, the CWA was again amended to add Section 402(p), requiring that the US EPA establish regulations for permitting of stormwater discharges by municipal and industrial facilities and construction activities under the NPDES Permit Program. The US EPA published final regulations directed at Municipal Separate Storm Sewer Systems (MS4) serving a population of 100,000 or more, and stormwater discharges associated with industrial activities, including construction activities, on November 16, 1990. The regulations require that MS4 discharges to surface waters be regulated by a NPDES Permit.[10]

In addition, the CWA requires the states to adopt water quality standards for water bodies and have those standards approved by the US EPA. Water quality standards consist of designated beneficial uses for a particular water body (e.g., wildlife habitat, agricultural supply, fishing etc.), along with water quality objectives necessary to support those uses. Water quality objectives can be numerical concentrations or levels of constituents, such as lead, and suspended sediment, or narrative statements that represent the quality of water needed to support a particular use. Because California had not established a complete list of acceptable water quality criteria, US EPA Region IX (in which California lies) established numeric water quality criteria applicable to all receiving waters for certain toxic constituents in the form of the California Toxic Rules.[11]

National Pollutant Discharge Elimination System

In 1972, the CWA was amended to prohibit the discharge of pollutants to waters of the United States unless the discharge is in compliance with a NPDES permit. The CWA focused on tracking point sources, primarily from wastewater treatment facilities and industrial waste dischargers, and required implementation of control measures to minimize pollutant discharges. The CWA was amended again in 1987, adding Section 402(p) to provide a framework for regulating municipal and industrial storm water

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10 Phase I Final Rule, 55 Fed. Reg. 47990

11 40 CFR Section 131.38

discharges. In November 1990, the US EPA published final regulations that established requirements for specific categories of industries, including construction projects that encompass greater than or equal to 5 acres of land. The Phase II Rule became final in December 1999, expanding regulated construction sites to those greater than or equal to 1 acre. The regulations require that stormwater and non-stormwater runoff associated with construction activity, which discharges either directly to surface waters or indirectly through municipal separate storm sewer systems (MS4), must be regulated by an NPDES permit.

The US EPA has delegated management of California's NPDES program to the State Water Resources Control Board (SWRCB) and the nine regional board offices; the Project Site is located within the jurisdiction of the Los Angeles RWQCB, also referred to as Region 4. The NPDES program was established in 1972 to regulate the quality of effluent discharged from easily detected point sources of pollution such as wastewater treatment plants and industrial discharges. The 1987 amendments to the CWA[12] recognized the need to address non-point-source stormwater runoff pollution and expanded the NPDES program to operators of MS4s, construction projects, and industrial facilities.

The State of California is required by Section 303(d) of the CWA[13] to provide the US EPA with a list of water bodies considered by the state to be impaired (i.e., not meeting water quality standards and not supporting their beneficial uses). The list also identifies the pollutant or stressor causing impairment, and establishes a schedule for developing a control plan to address the impairment, typically a TMDL. The TMDL specifies the amount of the target pollutant that the water body can sustain on a daily or annual basis and is established by amending the water quality control plan. TMDLs are prepared by the RWQCBs and result in amendments to the Water Quality Control Plan (WQCP), which must be approved by the US EPA. The 303(d) list is used by the US EPA to prepare the biennial federal CWA Section 305(b) Report on Water Quality.

State

Porter-Cologne Water Quality Control Act

The California Porter-Cologne Act of 1970[14] is largely responsible for creating the state's extensive regulatory program for water pollution control. As discussed above, preparation of water management plans has been delegated to the individual states by the US EPA. Pursuant to the Porter-Cologne Act, the

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12 US Code, Title 33, Section 402(p), Clean Water Act, National Pollution Discharge Elimination System, Municipal and Industrial Stormwater Discharges.

13 US Code, Title 33, Section 303(d), Clean Water Act, Water Quality Standard and Implementation Plans, (1972).

14 California Water Code, Porter-Cologne Water Quality Act, (1970 as amended), Sec. 13000-14958.

responsibility for protection of water quality in California rests with the SWRCB. In turn, the SWRCB has delegated the regulation of the hydrologic basin to nine RWQCBs to regulate the nine hydrologic basins in the state. The Porter-Cologne Act gives the SWRCB and RWQCB broad powers to protect water quality by regulating waste discharges to water and land and by requiring cleanup of hazardous conditions.

State Water Quality Control Board

The SWRCB administers the NPDES General Permit for Storm Water Discharges associated with Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ; as amended by Order No. 2010-0014-DWQ; NPDES General Permit No. CAS000002).[15] To obtain coverage under this General Permit, dischargers are required to electronically file the Permit Registration Documents (PRDs), which include a notice of intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other compliance-related documents required by this General Permit, and mail the appropriate permit fee to the SWRCB. It is expected that as the storm water program develops, the RWQCBs may issue General Permits or Individual Permits containing more specific permit provisions. When this occurs, the Statewide General Permit will no longer regulate those dischargers.

The PRDs must be submitted to the SWRCB prior to the beginning of construction for projects disturbing 1 acre or more of land, or whose projects disturb less than 1 acre but are part of a larger common plant of development that in total disturbs one or more acres, to be covered under the General Permit. The General Permit requires that a SWPPP identify potential sources of pollution and specify runoff controls, or best management practices (BMPs), during construction for the purpose of minimizing the discharge of pollutants in stormwater from the construction area. In addition, the SWPPP must identify post-construction control measures and a monitoring plan.

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15 California Environmental Protection Agency, State Water Resources Control Board, General Permit For Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2010-0014-DWQ, NPDES No. CAS000002.

Regional

Los Angeles Regional Water Quality Control Board

The Project Site is located within the Los Angeles Region, which is governed by the Los Angeles RWQCB, also known as Region 4.[16] The Los Angeles RWQCB has jurisdiction over the majority of the Ventura and Los Angeles Counties. The Los Angeles RWQCB has adopted a Water Quality Control Plan[17] (Basin Plan) in accordance with criteria contained in the CWA, California Porter-Cologne Water Quality Control Act, and other pertinent state and federal rules and regulations. The intent of the Basin Plan is to provide definitive guidelines and give direction to the scope of Los Angeles RWQCB activities that will optimize the beneficial uses of the state waters within the Los Angeles Basin by preserving and protecting the quality of these waters. The intended beneficial use of water determines the water quality objectives. For example, drinking water must be of higher quality than the water used to irrigate pastures. Both of these are beneficial water uses, but the quality requirements for irrigation water are different from those for drinking water.

The Los Angeles RWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements for appropriate persons and groups; these can include individuals, communities, or businesses whose waste discharges may affect water quality. These requirements can be either State Waste Discharge Requirements for discharge to land, or federally delegated NPDES permits for discharges to surface water. Dischargers are required to meet water quality objectives and thus protect beneficial uses. Additional information regarding these approvals is summarized above under the NPDES subsection.

Local

County General Plan

Section 5.10, Land Use and Planning, of this Draft EIR provides a consistency analysis of the Los Angeles County General Plan policies pertaining to water quality. Refer to **Table 5.10-1** for a list of the water quality policies included in the General Plan and the consistency analysis for each policy.

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16 The State Water Resources Control Board has jurisdiction throughout California. Created by the State Legislature in 1967, the Board protects water quality by setting statewide policy, coordinating and supporting the Regional Water Board efforts, and reviewing petitions that contest Regional Board actions. There are nine regional water quality control boards that exercise rulemaking and regulatory activities by basins. Region 4 includes Los Angeles and Ventura counties and small portions of Kern and Santa Barbara counties.

17 Los Angeles Regional Water Quality Control Board, *Water Quality Control Plan*, 1994.

Santa Clarita Valley Area Plan

Section 5.10, Land Use and Planning, of this Draft EIR provides a consistency analysis of the Santa Clarita Valley Area Plan (SCVAP 2012) policies that pertain to water quality. Refer to **Table 5.10-2** for a list of the policies included in the SCVAP 2012 that pertain to water quality and the consistency analysis for each policy.

County of Los Angeles Low Impact Development Ordinance and Standards Manual

The Low Impact Development (LID) Ordinance aims to improve water quality in the County by amending and expanding on the existing Standard Urban Stormwater Mitigation Plan (or SUSMP) requirements of capturing the first 0.75-inch of rain from a storm event for new and re-development projects that (1) require a building permit and (2) add or replace 500 square feet of impervious surface. The ordinance includes a set of site design approaches and best management practices (or BMPs) that are designed to address runoff and pollution at the source. These LID practices can effectively remove nutrients, bacteria, and metals while reducing the volume and intensity of stormwater flows. For a more detailed discussion of the LID Ordinance, including the LID Standards Manual (LID Manual) see **Section 5.9.1.**

5.9.2.2 ENVIRONMENTAL IMPACTS

Methodology

This analysis of water quality impacts is based on information from the Water Quality Technical Report. The report was prepared based on a review of documents from and methodologies specified by the Los Angeles County Department of Public Works (LACDPW), including the LID Manual and the SUSMP Manual, for use in developing BMPs for the Project. The analysis of water quality impacts identifies the types of pollutants potentially associated with construction and operation of the Project and considers their effects on water quality, taking into account Project Design Features (PDFs), including BMPs, that would minimize pollutants in stormwater runoff. Further, Project consistency with relevant regulatory permits/requirements is evaluated to demonstrate how compliance would protect water quality.

As described in **Section 4.0, Project Description,** the Project assumes proposed future channel modifications along approximately 1,400 feet of Hasley Creek within the Newhall Ranch property. The proposed modifications (defined in this EIR as the Planned Channel Improvements) consist of one or more grade stabilization structures within the natural channel bottom and bank protection on the sides of the channel. Such proposed flood control improvements would mean that the entire watercourse downstream from the Project Site, all the way to the Pacific Ocean, would not be susceptible to the long

term erosive impacts of hydromodification. At that time, on-site hydromodification treatment control would no longer be necessary on the Project Site.

If the Planned Channel Improvements are not constructed prior to the completion of Project grading, interim hydromodification controls would be necessary. If interim controls are necessary, construction of 484 homes and two Retention Basins would occur in the Retention Areas. Full buildout of the Project would be implemented only when the Planned Channel Improvements are completed.

In general, full buildout of the Project is expected to be slightly more impactful from a water quality perspective because, due to the 13 housing unit reduction, full buildout contains slightly more impervious area (approximately 4 percent). The increase in developed home sites under full buildout may be correlated to a proportional increase in flow rates. As such, the water quality impacts quantified in the Water Quality Report are for the full build out condition and the analysis below focuses on the Project as a whole. The water quality improvements and impacts of the associated hydromodification controls are also discussed below where they differ from the Project.

Project Design Elements/Project Design Features

Project Design Elements

As indicated above, runoff from the Project would discharge to Santa Clara River Reach 5. Runoff from the developed portions of the Project Site would be conveyed to either Hasley Canyon Creek or Lower Castaic Creek through a combination of grading, storm drain pipes, catch basins, outlet structures, and rock rip-rap lining along Hasley Canyon Creek. The proposed modifications to Project Site tributaries and other proposed drainage improvements are described in **Section 5.9.1, Hydrology.**

Construction

During construction, temporary BMPs will be furnished to comply with NPDES standards to minimize pollutant discharge from a construction site and a SWPPP will be submitted to the Los Angeles RWQCB. Erosion control BMPs are designed to prevent erosion, whereas sediment controls are designed to trap or filter sediment once it has been mobilized. A SWPPP would be developed as required by, and in compliance with, the Construction General Permit (General Permit). The General Permit requires the SWPPP to include BMPs to be selected and implemented based on the determined project risk level to effectively control erosion and sediment to the Best Available Technology Economically Achievable (BAT) and/or Best Conventional Pollutant Control Technology (BCT). During all construction phases, the General Permit will require temporary erosion control BMPs to be implemented to retain soil and sediment on the Project Site. These measures are included below as PDFs.

Operation

The general site design, incorporating best management design practices, will utilize treatment control facilities. The treatment control facilities will be distributed throughout the Project Site to provide water quality treatment control and also to provide runoff character modification (adjusting peaks, volumes, and durations).

Treatment control facilities will be distributed throughout the Project Site at strategic locations to capture stormwater quality flows.

Treatment control BMPs are referred to as structural systems capable of detaining and treating stormwater runoff within a major tributary in the watershed. The treatment control facilities will be designed to alter the runoff from the proposed conditions watershed to mimic the flow characteristics of the existing conditions watershed for all storm events in such a way that the flow frequency spectrum of the proposed conditions watershed will essentially match the flow frequency spectrum of the existing conditions watershed. The operational PDFs included below will ensure that the Project's runoff will not exceed the existing runoff conditions. As indicated in **Section 5.9.1 Hydrology**, if the interim controls are necessary (i.e., hydromodification), Retention Basins will be included on the Project Site. Upon full buildout of the Project, these Retention Basins would be removed, however, all stormwater pollutant treatment facilities and designs described below would be retained to ensure continuous full stormwater pollutant treatment.

Project Design Features

The Erosion Control Plan prepared for the Project and approved by the County includes PDFs relevant to water quality. These PDFs will be implemented as part of the County's standard plan checking process.

Construction

These PDFs would apply during construction of the Project (and would be included with the interim controls).

Erosion PDFs may include:

- Re-vegetate exposed areas as quickly as possible
- Excavation and grading activities would be scheduled during dry weather periods to the extent feasible.

- Stockpiled soil would be covered with secured tarps or plastic sheeting or sprayed with a soil stabilizer when not in active use.
- Minimize disturbed areas
- Divert runoff from downstream drainages with earth dikes, temporary drains, slope drains, etc.
- Reduce velocity through outlet protection, check dams, and slope roughening/terracing
- Implement dust control measures, such as sand fences, watering, etc.
- Stabilize all disturbed areas with blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, and/or other erosion resistant soil coverings or treatments
- Stabilize construction entrances/exits with aggregate underdrains with filter cloth or other comparable method
- Place sediment control BMPs at appropriate locations along the Project Site perimeter and at all operational internal inlets to the storm drain system at all times during the rainy season (sediment control BMPs may include filtration devices and barriers, such as fiber rolls, silt fence, straw bale barriers, and gravel inlet filters, and/or with settling devices, such as sediment traps or basins)
- Eliminate or reduce, to the extent feasible, non-storm water discharges (e.g., pipe flushing, fire hydrant flushing, over-watering during dust control, vehicle and equipment wash down, etc.) from the construction site through the use of appropriate sediment control BMPs.
- Physical stabilization through hydraulic mulch, soil binders, straw mulch, bonded and stabilized fiber matrices, compost blankets and erosion control blankets (i.e., rolled erosion control products)
- Limiting the area and duration (<14 days) of exposure of disturbed soils.
- Soil roughening of graded areas (through track walking, scarifying, sheepsfoot rolling, or imprinting) to slow runoff, enhance infiltration, and reduce erosion
- Vegetative stabilization through temporary seeding and mulching to establish interim vegetation
- Wind erosion (dust) control through the application of water or other dust palliatives as necessary to prevent and alleviate dust nuisance

Additionally, sediment PDFs would be implemented. Sediment control measures may include:

- Perimeter protection to prevent sediment discharges through silt fences, fiber rolls, gravel bag berms, sand bag barriers, and compost socks
- Storm drain inlet protection
- Sediment capture and drainage control through sediment traps, storm drain inlet protection, and sediment basins
- Velocity reduction through check dams, sediment basins, and outlet protection/velocity dissipation devices
- Reduction in off-site sediment tracking through stabilized construction entrance/exit, construction road stabilization, and entrance/exit tire wash
- Slope interruption at permit-prescribed intervals (fiber rolls, gravel bag berms, sand bag berms, compost socks, biofilter bags)
- The project is required to comply with the RWQCB Municipal Permit (General Permit) Order No. R4-2012-0175, NPDES No. CAS004001 (adopted November 8, 2012), and with the state's General Construction Activity Storm Water Permit, California State Water Resources Control Board Order No. 2009-0009 DWQ, National Pollutant Discharge Elimination System (NPDES) No. CAS000002, adopted September 2, 2009, as amended and further modified by Order No. 2010-0014 on November 16, 2010, and Order No. 2012-0006 on July 17, 2012

Operation

- On-site storm drains (pipes and reinforced concrete boxes) and open channels shall be designed and constructed to meet the storm flows, as required by the LA County Department of Public Works (LACDPW).
- Catch basins shall be provided to intercept flows beyond the 10-, 25-, and 50-year storms and at strategic locations to minimize flooding at street intersections and at sump locations.
- Debris basins shall be constructed pursuant to LACDPW requirements to intercept storm flows from undeveloped areas before they discharge into the developed portions of the Project Site.
- Low flow pipes shall be provided to reduce pollution impacts by intercepting first flush runoff from developed portions of the Project Site.

- Energy dissipaters consisting of either rip-rap or larger standard impact type energy dissipaters shall be installed along Hasley Canyon Creek as required by LACDPW at outlet locations to reduce velocities of runoff into the channel to prevent erosion.

- Bank stabilization shall be constructed along portions of the existing northern bank of Hasley Canyon Creek. Subsequent revegetation installed after bank stabilization is in place would create more vegetated corridor than presently occurs under existing conditions.

- Water quality control treatment basins shall be placed at appropriate locations within the site to treat stormwater runoff from developed areas and reduce or eliminate pollutant loadings.

- Additional source control and treatment control BMPs, such as vegetated swales and buffers, may be utilized within the Project Site to compliment the overall water quality control design.

The following operation PDF would be necessary until the Planned Channel Improvements are constructed:

- Hydromodification control treatment basins will be utilized to retain excess runoff volumes if any portion of the downstream receiving waters is susceptible to hydromodification.

In addition, the homeowners association (HOA) shall implement covenants, conditions and restrictions (CC&Rs) providing for a regular street sweeping program, a public education program regarding the proper application, storage, and disposal of pesticides, fines for littering, and the provision of storm drain stenciling stating "No Dumping-Drains to Waterways." Common area litter control shall include a litter patrol, covered trash receptacles, emptying of trash receptacles in a timely fashion, and noting trash violations by tenants/homeowners and reporting the violations to the owner/HOA for investigation.

If hydromodification controls are constructed and subsequently determined to be unnecessary due to construction of the Planned Channel Improvements, the Retention Basins could be removed. However, the PDFs listed above would be retained as part of the Project to reduce potential water quality impacts.

Significance Thresholds

The potential for the Project to result in impacts associated with water quality is based on the CEQA significance thresholds specified by the Los Angeles County Department of Regional Planning. These significance thresholds are based in part on Appendix G of the *State CEQA Guidelines* and are as follows:

Threshold 5.9.2-1: Would the project violate any water quality standards or waste discharge requirements?

Threshold 5.9.2-2: **Would the project generate construction or post-construction runoff that would violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality?**

Threshold 5.9.2-3: **Would the project conflict with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84 and Title 22, Ch. 22.52)?**

Threshold 5.9.2-4: **Would the project result in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance?**

Threshold 5.9.2-5: **Would the project use onsite wastewater treatment systems in areas with known geological limitations (e.g. high groundwater) or in close proximity to surface water (including, but not limited to, streams, lakes, and drainage course)?**

Threshold 5.9.2-6 **Would the project add water features or create conditions in which standing water can accumulate that could increase habitat for mosquitoes and other vectors that transmit diseases such as the West Nile virus and result in increased pesticide use?**

Threshold 5.9.2-7: **Would the project otherwise substantially degrade water quality?**

The Project includes the construction of 497 single-family dwelling units and associated amenities. The Project Site is not within an Area of Special Biological Significance and the Project does not propose any on-site wastewater treatment systems. As such, the Project would not result in point or nonpoint source pollutant discharges into State Water Resources Control Board-designated Areas of Special Biological Significance, or result in the use of onsite wastewater treatment systems in areas with known geological limitations. Therefore, no further analysis of **Thresholds 5.9.2-4** and **5.9.2-5,** is necessary.

Impact Analysis

Threshold 5.9.2-1: Would the project violate any water quality standards or waste discharge requirements?

Construction Impacts

Project construction activities, such as excavation and trenching for foundations and utilities, soil compaction, cut and fill activities, and grading, would temporarily disturb soils. Disturbed soils are susceptible to high rates of erosion from wind and rain, resulting in sediment transport from the Project Site. Erosion and sedimentation affect water quality through interference with photosynthesis, oxygen exchange, and the respiration, growth, and reproduction of aquatic species. Other pollutants, such as nutrients, trace metals, and hydrocarbons, can attach to sediment and be transported with sediment to downstream locations. Sediment-associated pollutants could also cause or contribute to degradation of water quality.

The delivery, handling, and storage of construction materials and wastes, as well as the use of construction equipment, could also introduce a risk for stormwater contamination that could impact water quality. Spills or leaks from heavy equipment and machinery can result in oil and grease contamination, and some hydrocarbon compound pollution associated with oil and grease can be toxic to aquatic organisms at low concentrations. Staging areas or building sites can be sources of pollution because of the use of paints, solvents, cleaning agents, and metals during construction. Impacts associated with metals in stormwater include toxicity to aquatic organisms, such as bioaccumulation, and the potential contamination of drinking supplies. Thus, construction impacts on water quality are potentially significant and could lead to exceedance of water quality objectives or criteria.

All construction activities, including installation and realignment of utilities, would be subject to existing regulatory requirements, including compliance with the State General Construction Activity Storm Water Permit and the provisions in the General Permit addressing control of construction phase water impacts. The General Permit requires the discharger to perform a risk assessment for the Project (with differing requirements based upon the determined level) and to prepare and implement a SWPPP, which must include erosion and sediment control BMPs that would meet or exceed measures required by the determined risk level of the General Permit, as well as BMPs that control the other potential construction-related pollutants, a Construction Site Monitoring Program that identifies monitoring and sampling requirements for "non-visible" pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the Project Site discharges directly to a water body listed on the 303(d) list for sediment.

Pesticide use (including herbicides and fungicides) associated with site preparation work (as opposed to pesticide use for landscaping) is another potential construction activities source of stormwater contamination. Pesticide impacts to water quality include toxicity to aquatic species and bioaccumulation in larger species. Larger pollutants, such as trash, debris, and organic matter, are additional pollutants that could be associated with construction activities. Impacts include health hazards and aquatic ecosystem damage associated with bacteria, viruses, and vectors and physical changes to the aquatic ecosystem.

During project construction, BMPs would be implemented in compliance with the Construction General Permit and the general waste discharge requirements. The Project would reduce or prevent erosion and sediment transport and transport of other potential pollutants from the Project Site during the construction phase through implementation of BMPs meeting BAT/BCT in order to prevent or minimize environmental impacts and to ensure that discharges during the project construction phase would not cause or contribute to any exceedance of water quality standards in the receiving waters. All discharges from qualifying storm events would be sampled for turbidity and pH and results would be compared to numeric thresholds for corrective action to ensure that BMPs are functioning as intended.[18] If discharge sample results fall outside of these action levels, a review of causative agents and the existing site BMPs would be undertaken, and maintenance and repair on existing BMPs would be performed and/or additional BMPs would be provided to ensure that future discharges meet these criteria.

The construction-phase BMPs would assure effective control of not only sediment discharge, but also of pollutants associated with sediments, such as nutrients, heavy metals, and certain pesticides, including legacy pesticides. In addition, compliance with BAT/BCT requires that BMPs used to control construction water quality are updated over time as new water quality control technologies are developed and become available for use, including updated performance standards and testing protocols as they become available. Therefore, compliance with the BAT/BCT performance standard ensures mitigation of construction water quality impacts over time.

Prior to the issuance of grading permits, the Applicant would provide the County Engineer with evidence that a Notice of Intent (NOI) has been filed with the SWRCB. Such evidence would consist of a copy of the NOI stamped by the SWRCB or RWQCB, or a letter from either agency stating that the NOI has been filed and a copy of the Project Site's applicable Waste Discharge Identification (WDI) number.

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18 Numeric thresholds (referred to as Numeric Action Levels) are derived from US EPA.

Construction on the Project Site may require dewatering. For example, dewatering may be needed if water has been standing on-site and needs to be removed for construction, vector control, or other reasons. Further, dewatering may be necessary if groundwater is encountered during grading, or to allow discharges associated with testing of water lines, sprinkler systems, and other facilities. In general, the Construction General Permit authorizes construction dewatering activities and other construction-related non-stormwater discharges as long as they (1) comply with Section III.C of the General Permit, (2) do not cause or contribute to violation of any water quality standards, (3) do not violate any other provisions of the General Permit, (4) do not require a non-stormwater permit as issued by some RWQCBs, and (5) are not prohibited by a Basin Plan provision.

PDFs, as described above, would be implemented to protect receiving waters from dewatering and construction related non-stormwater discharges. Such discharges would be implemented in compliance with the Los Angeles RWQCB's General Waste Discharge Requirements (WDRs) under Order No. R4-2008-0032 (NPDES No. CAG994004) governing construction-related dewatering discharges within the project development areas. Typical BMPs for construction dewatering include infiltration of clean groundwater; on-site treatment using suitable treatment technologies; on-site or transport off-site for sanitary sewer discharge with local sewer district approval; or use of a sedimentation bag for small volumes of localized dewatering. Compliance with these WDRs further assures that the impacts of these discharges are not significant.

As described above, through implementation of BMPs and source controls meeting BAT/BCT to prevent or minimize environmental impacts and to ensure that discharges during the Project's construction phase would not cause or contribute to any exceedance of water quality standards in the receiving waters, the Project would comply with federal and state legally required water quality standards and waste discharge requirements with respect to construction-related runoff. As such, impacts associated with Project construction would be less than significant.

Operational Impacts

Mean annual runoff volumes are expected to increase with development of the Project Site. The increase can be explained by the increase in imperviousness associated with development of the Project Site, as well as by the decrease in infiltration capacity of existing site soils associated with the compaction of site soils during construction. To address this increase in runoff volume, Project PDFs (described above) include site design, source control, and treatment control BMPs in compliance with the Standard Urban Storm Water Mitigation Plan (SUSMP) and LID Ordinance requirements. The design PDFs, especially the provision of recreation areas and vegetated slopes (totaling approximately 225 acres of open space under the Project) and water quality BMPs within the Project Site, reduce the impacts of the Project on increases

in stormwater runoff volume. In addition to water quality improvements, the treatment and volume control BMPs would also provide runoff volume reduction. For this Project, multiple basins will be designed to capture stormwater and retain the captured volume, or slowly release the water in such a way that it mimics pre-project flow characteristics; peak, volume, and duration. In addition, debris basins would be constructed throughout the Project Site to protect receiving waters from potential pollutants and to reduce potential water quality impacts to a level required to ensure impacts remain less than significant. Through implementation of the PDFs, including BMPs and source controls, the Project would comply with federal and state legally required water quality standards and waste discharge requirements with respect to operation-related runoff.

If hydromodification is necessary, two Retention Basins would be constructed near the Project entrance to treat stormwater. The basins used for hydromodification control may include the bioretention or biofiltration elements and thus may be integrated treatment control stormwater quality systems. From a water quality perspective, although minor, the change in impervious surface (approximately 4 percent) does change the volume of flows and potentially the ability to impact downstream receiving waters. Therefore, the interim controls would have fewer water quality impacts than would full buildout of the Project, although both would result in less than significant impacts to water quality.

In addition to being used during the construction phase, pesticides would be applied to common landscaped areas, residential lawns and gardens, and agricultural amenities. Pesticides that have been commonly found in urban streams include the organophosphate pesticides chlorpyrifos and diazinon. Diazinon and chlorpyrifos are two pesticides of concern due to their potential toxicity in receiving waters. The US EPA banned all indoor uses of diazinon in 2002 and stopped sales for all outdoor non-agricultural use in 2004. While the Project includes a proposed vineyard and orchard, neither amenity would be a large scale commercial use, thus diazinon would not be expected to be used at the Project Site. The US EPA has also phased out most indoor and outdoor residential uses of chlorpyrifos and has stopped all non-residential uses where children may be exposed. Use of chlorpyrifos on the Project Site is not expected.

The water quality risks posed by a pesticide relate to the quantity of the pesticide used, its runoff characteristics, and its relative toxicity in water and sediment. As urban diazinon applications are phased out, the use of some alternatives may inadvertently pose new water quality risks. Given what is known about alternative pesticide use trends, pyrethroids may be the alternatives that pose the greatest concerns for water quality. Although pyrethroids tend to be toxic to *Ceriodaphnia dubia* (water fleas) test organisms at concentrations in water comparable to diazinon, pyrethroids do not dissolve well in water but instead adhere well to surfaces, including particles in the environment. At equilibrium, pyrethroid concentrations in sediment are reported to be about 3,000 times greater than dissolved concentrations in water.

Thus, BMPs targeting reductions and removal of sediment loads would be effective to reduce and remove pyrethroids as well.

Source control measures, such as education programs for homeowners' associations, owners and occupants, in the proper application, storage, and disposal of pesticides, are the most promising strategies for controlling the pesticides that would be used post development. Structural treatment controls are less practical because of the variety of pesticides and wide range of chemical properties that affect their ability to treat these compounds. However, most pesticides are relatively insoluble in water and therefore tend to adsorb to the surfaces of sediment, which would be stabilized with development, or if eroded, would be settled or filtered out of the water column in the water quality treatment PDFs. Thus, treatment in the bioretention and vegetated swales should achieve some removal of pesticides from stormwater as Total Suspended Soils (TSS) is reduced.

While pesticides are subject to degradation, they vary in how long they maintain their ability to eradicate pests. Some break down almost immediately into nontoxic byproducts, while others can remain active for longer periods of time. While pesticides that degrade rapidly are less likely to adversely affect non-targeted organisms, in some instances it may be more advantageous to apply longer-lasting pesticides if it results in fewer applications or smaller amounts of pesticide use. While pesticide use is likely to occur due to maintenance of landscaped areas, including the proposed vineyard and orchard, the chemicals would be properly stored and applied by an experienced landscape professional, minimizing adverse water quality impacts caused by accidental discharge or misuse. Additionally, as discussed above, removal of sediments in the PDFs would also remove sediment-adsorbed pesticides.

Based on the incorporation of site design, source control, and treatment control BMPs pursuant to SUSMP and LID requirements, the Project's potential post-development impacts associated with pesticides are considered less than significant.

Operational use of the Project could lead to an increase in trash and debris on the Project Site and entering the local receiving waters. Trash refers to any human-derived materials including paper, plastics, metals, glass, and cloth. Debris is defined as any organic material transported by stormwater, including leaves, twigs, and grass clippings. Debris can be associated with the natural condition.

During wet weather events, gross debris deposited on paved surfaces can be transported to storm drains, where it eventually can be discharged to receiving waters. Trash and debris can also be mobilized by wind and transported directly into waterways, imposing an oxygen demand on the water body as organic matter decomposes. Urbanization could significantly increase trash and debris loads if left unchecked. However, the PDFs, including source control and treatment BMPs, would minimize the

adverse impacts of trash and debris. Source controls such as street sweeping, public education, fines for littering, and storm drain stenciling can be effective in reducing the amount of trash and debris that is available for mobilization during wet and dry weather events. Common area litter control would include a litter patrol, covered trash receptacles, emptying of trash receptacles in a timely fashion, and noting trash violations by tenants/homeowners and reporting the violations to the owner/HOA for investigation. The PDFs would remove or prevent the release of floating materials, including solids, liquids, foam, or scum, from runoff discharges and would prevent impacts on dissolved oxygen in the receiving water due to decomposing debris. Based on these considerations, post-development trash and debris would not significantly impact the receiving waters of the Project.

Methylene Blue Activated Substances (MBAS), which is related to the presence of detergents in runoff, may be incidentally associated with urban development due to commercial and/or residential vehicle washing or other outdoor washing activities. Surfactants disturb the surface tension, which affects insects and can affect gills in aquatic life.

The presence of soap in Project Site's runoff would be controlled through the source control PDFs, including a public education program on residential car washing. Other sources of MBAS, such as cross connections between sanitary and storm sewers, are unlikely given modern sanitary sewer installation methods and inspection and maintenance practices. Therefore, MBAS are not expected to significantly impact the receiving waters of the Project.

PDFs include site design/LID, source control, and treatment control BMPs in compliance with the SUSMP and LID requirements, as described above. Treatment control PDFs would treat runoff from the entire urban portion of the Project Site. Sizing criteria contained in the Los Angeles County MS4 Permit and the SUSMP requirements would be met for all treatment control BMPs.

As described above, through implementation of the PDFs, including BMPs and source controls, the Project would comply with federal and state legally required water quality standards and waste discharge requirements with respect to operation-related runoff. On this basis, the impact of project operational-related runoff is considered less than significant.

Threshold 5.9.2-2: Would the project generate construction or post-construction runoff that would violate applicable stormwater NPDES permits or otherwise significantly affect surface water or groundwater quality?

Construction Impacts

The Project includes the construction of 497 single-family residential homes on a 430.4-acre site. Approximately 7.6 million cubic yards of combined cut and fill would be required to construct the Project and is proposed to be balanced on the Project Site. As the Project Site is larger than one acre, the Project would be required to comply with the State General Construction Activity Storm Water Permit and the provisions in the General Permit that address control of construction phase water quality.

During construction, pollutant export from the Project Site could increase significantly as a result of soil disturbance and construction operations. Construction-related activities that expose soils to potential mobilization by rainfall/runoff and wind are primarily responsible for sediment releases. Such activities include removal of vegetation from the Project Site, grading of the Project Site, and trenching for infrastructure improvements. Environmental factors that affect erosion include topographic, soil, and rainfall characteristics. Non sediment-related pollutants associated with waste construction materials (e.g., paint, stucco, etc.); chemicals, liquid products, and petroleum products used in building construction or the maintenance of heavy equipment; and concrete-related pollutants are also of concern during construction. Unless adequate erosion controls are installed and maintained at the Project Site during construction, significant quantities of sediment may be delivered to the downstream receiving waters, resulting in a significant water quality impact.

Construction impacts due to project development would be minimized through compliance with the General Permit. This permit requires the discharger to perform a risk assessment for the Project (with differing requirements based upon the determined level) and to prepare and implement a SWPPP, which must include erosion and sediment control BMPs that would meet or exceed measures required by the determined risk level of the General Permit, as well as BMPs that control the other potential construction-related pollutants. A Construction Site Monitoring Program that identifies monitoring and sampling requirements during construction is a required component of the SWPPP. Erosion and sediment control BMPs are further discussed above under **Threshold 5.9.1-1.**

Examples of BMPs that could be employed include the following:

Waste and Materials Management

Management of the following types of materials, products, and wastes: solid, liquid, sanitary, concrete, hazardous, and equipment-related wastes. Management measures include covered storage and secondary containment for material storage areas, secondary containment for portable toilets, covered dumpsters, dedicated and lined concrete washout/waste areas, proper application of chemicals, and proper disposal of all manners of wastes.

- Protection of soil, landscaping and construction material stockpiles through covers, the application of water or soil binders, and perimeter control measures.

A spill response and prevention program would be incorporated as part of the SWPPP and spill response materials would be available and conspicuously located at all times on-site.

Non-Stormwater Management

- BMPs or good housekeeping practices to reduce or limit pollutants at their source before they are exposed to stormwater, including such measures as: water conservation practices, vehicle and equipment cleaning and fueling practices, and street sweeping. All such measures would be recorded and maintained as part of the Project's SWPPP.

- If construction dewatering or discharges from other specific construction activities such as water line testing, and sprinkler system testing are required, comply with the requirements of the Los Angeles RWQCB's General Waste Discharge Requirements (WDRs) under Order No. R4-2008-0032 (NPDES No. CAG994004) governing construction-related dewatering discharges.

Training Education

- Inclusion of General Permit defined "Qualified SWPPP Developers" (QSD) and "Qualified SWPPP Practitioners" (QSP). QSDs and QSPs shall have required certifications and shall attend SWRCB sponsored training.

- Training of individuals responsible for SWPPP preparation, implementation, and permit compliance, including contractors and subcontractors.

- Signage (bilingual, if appropriate) to address SWPPP-related issues (such as site cleanup policies, BMP protection, washout locations, etc.).

Inspections, Maintenance, Monitoring, and Sampling

- Performing routine site inspections and inspections before, during (for storm events >0.5 inch), and after storm events.

- Preparing and implementing Rain Event Action Plans (REAPs) prior to any storm event with 50 percent probability of producing 0.5 inch of rainfall, including performing required preparatory procedures and site inspections.
- Implementing maintenance and repairs of BMPs as indicated by routine, storm-event and REAP inspections.
- Implementation of the Construction Site Monitoring Plan for non-visible pollutants, if a leak or spill is detected.
- Sampling of discharge points for turbidity and pH, at minimum, three times per qualifying storm event and recording and retention of results.

During the Project construction, BMPs would be implemented in compliance with the General Permit and the general waste discharge requirements in the Dewatering General WDRs. The Project would reduce or prevent erosion and sediment transport and transport of other potential pollutants from the Project Site during the construction phase through implementation of BMPs meeting BAT/BCT in order to prevent or minimize environmental impacts and to ensure that discharges during the project construction phase would not cause or contribute to any exceedance of water quality standards in the receiving waters.

The construction-phase BMPs would assure effective control of not only sediment discharge, but also of pollutants associated with sediments, such as nutrients, heavy metals, and certain pesticides, including legacy pesticides. In addition, compliance with BAT/BCT requires that BMPs used to control construction water quality are updated over time as new water quality control technologies are developed and become available for use. Therefore, compliance with the BAT/BCT performance standard ensures mitigation of construction water quality impacts over time and impacts would be less than significant.

Operational Impacts

The Project will include stormwater management requirements and quality control measures. If necessary, hydromodification controls will be implemented. The stormwater quality control measures and hydromodification treatment requirements will provide for multiple basins distributed throughout the Project Site. During the interim condition, 6.2 acres of Retention Area at the Project entrance will also provide stormwater treatment. If and when on site hydromodification is no longer necessary (i.e., upon completion of the Planned Channel Improvements), the various debris basins located throughout the Project Site will provide stormwater treatment. Although the Retention Areas will be developed under the Project (with 13 homes on the west and the orchard), stormwater quality control measures will continue to be implemented on the Project Site. The full design spectrum of storms will be considered to address possible alterations to the downstream flow frequency statistics and stream power characteristics. As such, impacts would be less than significant. The potential post-

construction/operational impacts related to runoff significantly affecting surface and/or groundwater quality are discussed in detail below, under **Threshold 5.9.2-3.**

Threshold 5.9.2-3: Would the project conflict with the Los Angeles County Low Impact Development Ordinance (L.A. County Code, Title 12, Ch. 12.84 and Title 22, Ch. 22.52)?

The Los Angeles County LID Ordinance is a design strategy using naturalistic, on-site BMPs to lessen the impacts of development on stormwater quality and quantity. The goal of the LID ordinance is to mimic the undeveloped runoff conditions of the development site with the post-development conditions. The LID Manual sets forth requirements for LID stormwater management, and identifies projects to which LID requirements apply. The LID Manual updates and incorporates earlier stormwater regulations such as:

- Development Planning for Storm Water Management: A Manual for the Standard Urban Storm Water Mitigation Plan (SUSMP Manual, September 2002);
- Technical Manual for Stormwater Best Management Practices in the County of Los Angeles (2004 Design Manual, February 2004);
- Stormwater Best Management Practice Design and Maintenance Manual (2010 Design Manual, August 2010); and
- Low Impact Development Standards Manual (2009 LID Manual, January 2009).

It also supersedes the Water Quality section of the Los Angeles County Hydrology Manual (June 2006).

The LID Manual categorizes projects as Designated or Non-Designated Projects. Designated Projects are required to meet a more stringent set of requirements for stormwater management. Designated Projects are projects that meet one of the criteria as set forth in the LID Ordinance, including, but not limited to projects that would develop an area equal to 1 acre or greater of disturbed area and that would add more than 10,000 square feet of impervious surface area to the development site. As a development Project that will result in more than 1 acre of disturbance and more than 10,000 square feet of impervious area, the Project is a Designated Project under the LID Ordinance.

Stormwater Management Requirements for Designated Projects

Designated Projects are required to treat 100 percent of the Stormwater Quality Design Volume (SWQD) through retention BMPs unless it is technically infeasible to do so. In the case of the Project, it has not yet been determined whether retention BMPs are technically feasible. In the case that retention BMPs are not

technically feasible for the Project Site, alternate stormwater Quality Control Measures will be selected to ensure that the County water quality control standards and requirements are satisfied.

Stormwater Quality Control Measures

The LID Manual indicates that retention-based stormwater quality control measures should be selected for the project unless retention is found to be technically infeasible. If retention is technically infeasible, alternative measures may be selected. For the Project, the retention-based BMP selected for the Project Site is assumed to be bioretention, and the alternative is biofiltration. These two measures are similar in design and thus can be expected to provide similar levels of treatment.

Bioretention facilities consist of shallow basins with a specially prepared soil mixture in the bottom of the basin. The soil is planted with suitable vegetation. Stormwater runoff is delivered to the basin from the surrounding developed site, typically through a system of storm drains, and the stormwater accumulates in the soil and also pools above the soil. Stormwater gradually percolates through the bioretention soil and infiltrates into the underlying native soil. Pollutants and sediments are removed from the water by a variety of physical, chemical, and biological processes within the bioretention soil, reducing the load of pollutants infiltrating into the ground.

Biofiltration is a measure similar to bioretention, but with adaptations to allow biofiltration to be utilized on sites that are technically unsuitable for bioretention. Biofiltration facilities consist of shallow basins. In the bottom of the basin is a layer of specially prepared biofiltration soil similar to the soil used in bioretention facilities. The soil is planted with suitable vegetation. An important distinction between bioretention and biofiltration is that below the soil in a biofiltration facility there is a layer of gravel and system of perforated pipes within the gravel. In a bioretention facility the soil sits directly on the native soil. Stormwater is delivered to the biofiltration basin by the project's storm drain system and accumulates in and above the biofiltration soil. The stormwater then gradually percolates through the biofiltration soil and into the gravel layer, where the water enters the perforated pipes and is conveyed off-site. Thus during the design storm[19] the biofiltration facility results in both subsurface and surface discharge of treated stormwater whereas the bioretention facility results in subsurface discharge only.

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19 For the purposes of this analysis runoff volumes and pollutant loads are estimated for the 85th percentile storm ('design storm') as defined by the LA County SUSMP, which amounts to 1.05 inches of rainfall in a 24-hour period. The 85th percentile storm is one of the BMP design storms proscribed in the LA County SUSMP, and thus represents a relatively frequent storm. In comparison, while generally more intense, a 100-year storm has a 1 percent chance of happening in a given year, whereas an 85th percentile storm has a likelihood of almost 99 percent of occurring annually.

For both systems, as for all stormwater quality control measures, surface discharge will occur during storms larger than the design storm, depending on soils, slopes, and other site conditions.

Hydromodification Controls

Until the Planned Channel Improvements are constructed, hydromodification will be necessary on the Project Site. The LID Manual requires that designated projects that discharge to susceptible receiving waters provide hydromodification control measures for flows ranging from the 2-year design storm to the 100-year design storm.

Hydromodification control is achieved by limiting the total volumes of stormwater discharge during storms to those of the pre-development level. This is achieved by capturing discharge volumes in excess of the pre-project conditions and retaining the excess volume for reuse and infiltration.

Multiple basins will be provided on site designed to capture stormwater and retain and reuse or infiltrate stormwater runoff volumes in excess of those resulting from the existing conditions. It should be noted that although hydromodification and the associated Retention Basins may not be necessary, debris and water quality basins will continue to be included as part of the Project. The debris basins would capture sediment and debris in upstream runoff and allow debris to settle out from the runoff before it would discharge into the storm system through the developed portion of the Project Site. The basins used for hydromodification control may include the bioretention or biofiltration elements, if integrated stormwater management basins are used. Alternatively, separate basins may be used to treat hydromodification and water quality.

The stormwater quality control measures and hydromodification treatment requirements specified in the County LID manual will be satisfied by the final engineering design for the Project which will provide for multiple basins distributed throughout the Project Site. The full design spectrum of storms will be considered to address possible susceptibility to alterations to the downstream flow frequency statistics and stream power characteristics.

If and when the Planned Channel Improvements are completed and on site hydromodification is no longer necessary, then the volume retention elements of the Los Valles water quality treatment system may be removed as redundant water quality facilities. However, stormwater treatment would continue to occur on the Project Site at the multiple basins as described in the preceding section. As such, bioretention and biofiltration will be used to treat stormwater flows during after buildout of the Project consistent with the County's LID Manual.

As the Project would be consistent with Los Angeles County LID Ordinance, impacts would be less than significant.

Threshold 5.9.2-6 Would the project add water features or create conditions in which standing water can accumulate that could increase habitat for mosquitoes and other vectors that transmit diseases such as the West Nile virus and result in increased pesticide use?

Basins designed on the Project Site are designed specifically to be drained or infiltrated within a time limit, (i.e.; 72 hours) that precludes proliferation of mosquitos), thus standing water would not accumulate. Spadefoot toad ponds located on the Project Site would be designed to hold water for approximately 8 to 10 weeks, during the rainy season. While it is unlikely that these temporary ponds would increase the habitat for mosquitoes, if necessary the use of *Bacillus thuringiensis* ssp. *Israelensis* (Bt) would be used to control the mosquito population.[20] As such the Project would not increase habitat for mosquitoes and other vectors that transmit diseases. Impacts would be less than significant.

Threshold 5.9.2-7 Would the project otherwise substantially degrade water quality?

The Project's surface runoff water quality, after PDFs, both during construction and post-development, will comply with adopted regulatory requirements that are designed by the Los Angeles RWQCB to assure that regional development does not adversely affect water quality, including SUSMP requirements; General Permit and General Dewatering Permit requirements; and benchmark Basin Plan water quality objectives, California Toxic Rules criteria, and TMDLs. Based on compliance with those requirements and as discussed in the above analysis for the pollutants of concern in groundwater and/or surface water discharge, the Project would not result in a violation of any groundwater quality standards or waste discharge requirements or otherwise substantially degrade water quality. On this basis, the Project's direct impact on groundwater and surface water quality is considered less than significant.

5.9.2.3 CUMULATIVE IMPACTS

Runoff generated from construction and operation activities from the majority of the Related Projects would not drain into Hasley Canyon Creek, and therefore would not combine with the Project to create a cumulative impact related to water quality. Related Projects would be required to comply with the County's LID Ordinance and ensure all water features would not result in conditions conducive to mosquito habitats, as well as include mitigation measures to minimize the effects of stormwater runoff

[20] Bt is a non-chemical treatment, it is a bacterium that kills only mosquitos, gnats, and black fly.

which could impact the quality of surface water and groundwater and/or violate water quality standards including NPDES permits.

As with the Project, any future urban development occurring in the Santa Clara River watershed must also comply with adopted regulatory requirements that are designed by the Los Angeles RWQCB to assure that regional development does not adversely affect water quality, including Los Angeles County MS4 Permit and SUSMP requirements; General Permit and General Dewatering Permit requirements; and benchmark Basin Plan water quality objectives, California Toxic Rules criteria, and TMDLs. All development in unincorporated areas of the County would be required to adhere to the requirements of the Los Angeles County LID Ordinance. Further, the City of Santa Clarita has adopted its own low impact development standards regarding water use and quality which projects within the City's boundaries would be required to implement.

Therefore, with regulatory compliance, cumulative impacts on surface water quality from the Project and future related projects in the Santa Clara Watershed are considered less than significant.

5.9.2.4 MITIGATION MEASURES

No mitigation measures are required.

5.9.2.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the construction and operation PDFs discussed above, impacts on water quality would be less than significant.